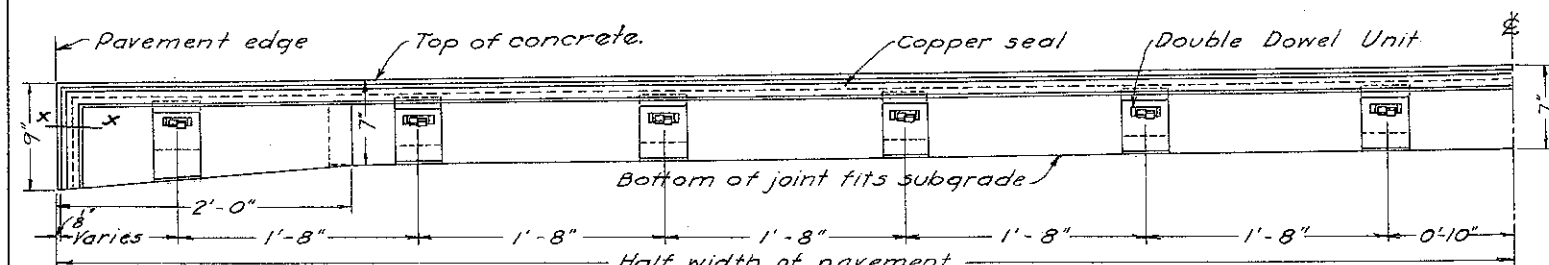


TRANSVERSE JOINTS

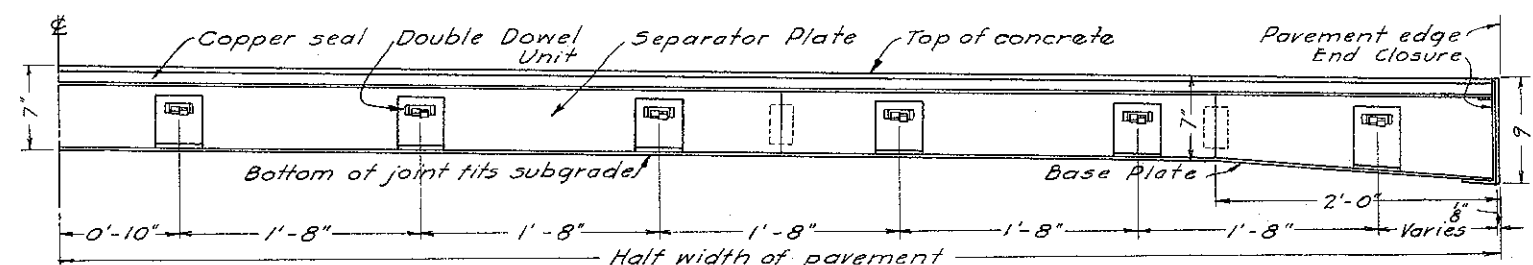
FED. RD. DIST. NO.	STATE	PROJECT	FISCAL YEAR

EXPANSION JOINT

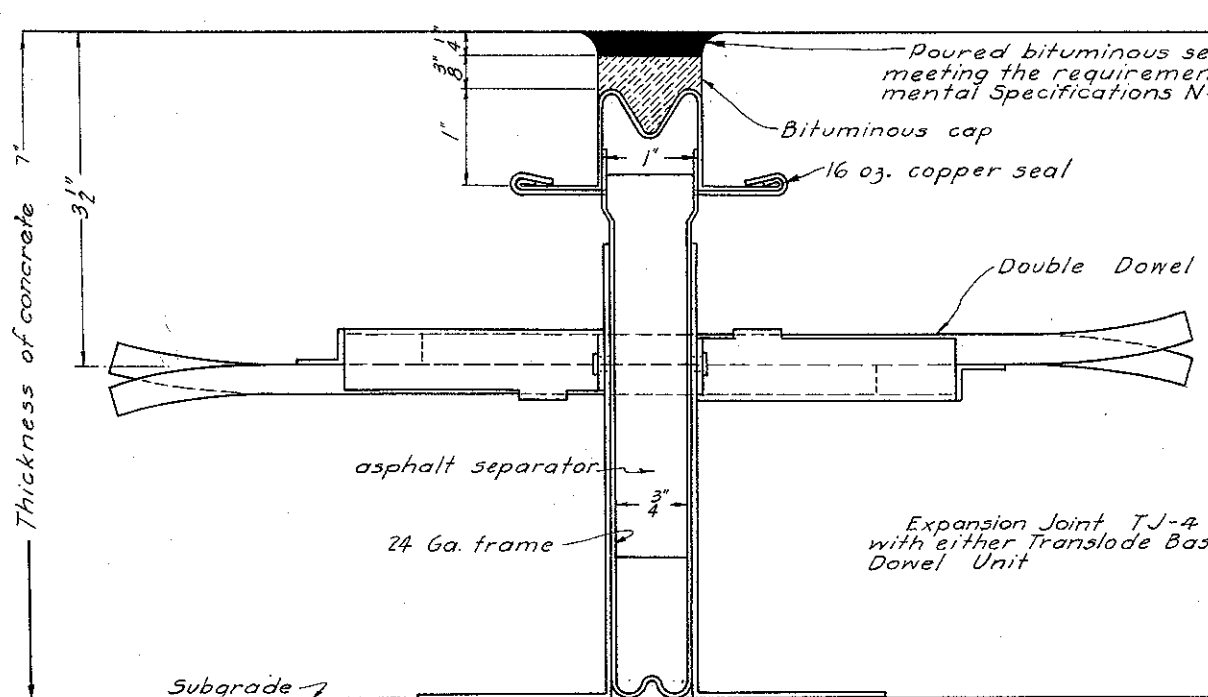
CONSTRUCTION JOINT



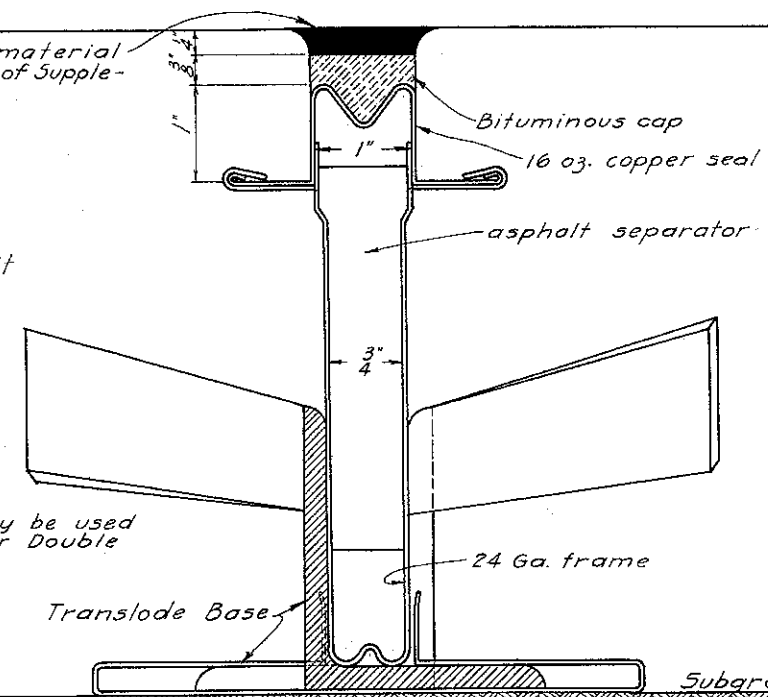
ELEVATION OF JOINT



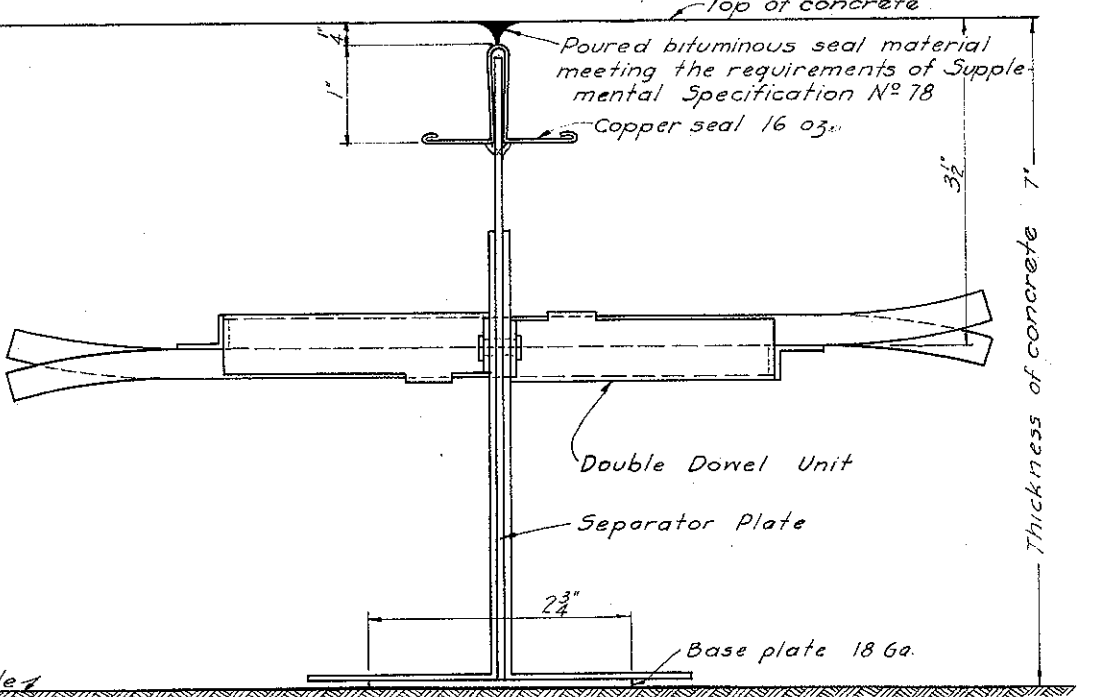
ELEVATION OF JOINT



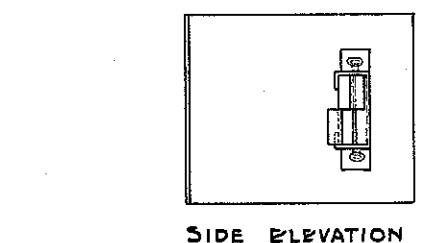
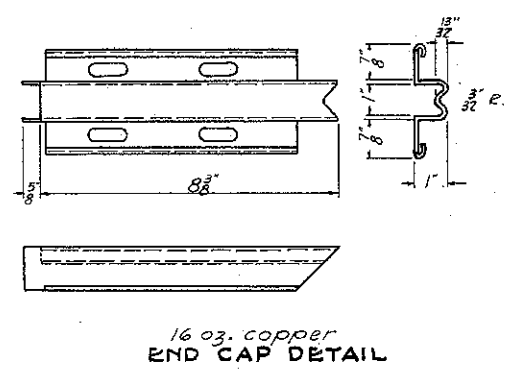
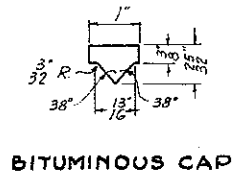
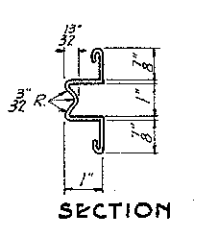
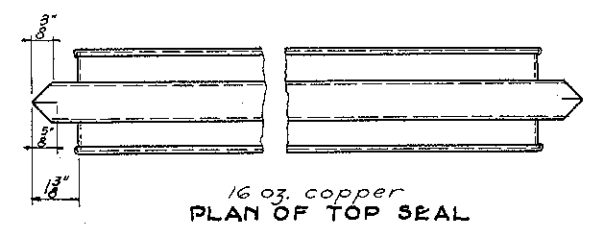
TYPICAL SECTION OF JOINT



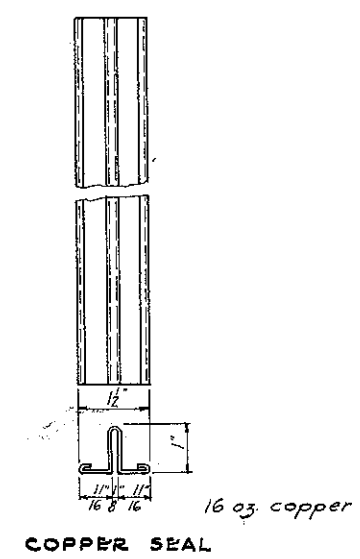
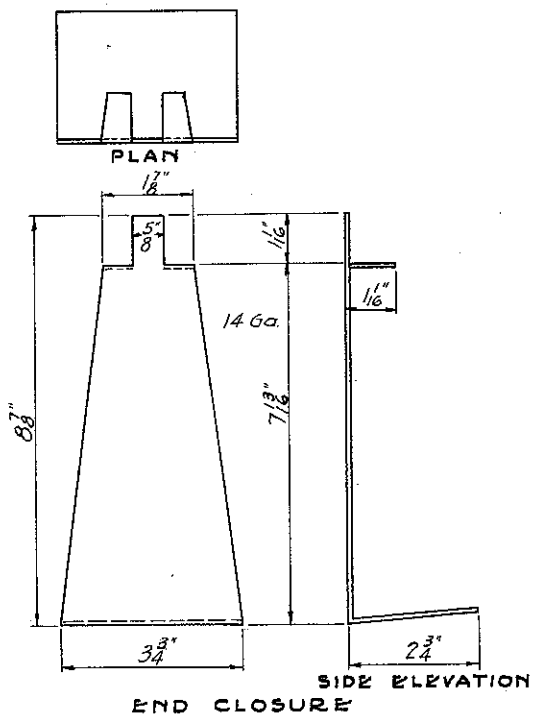
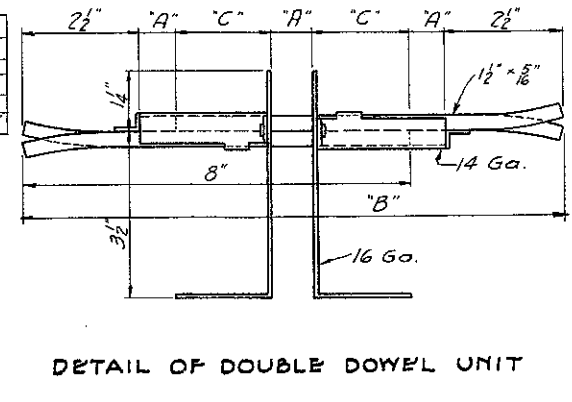
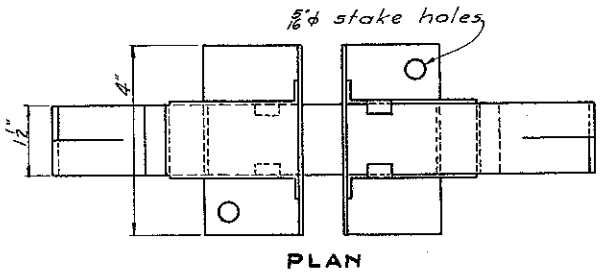
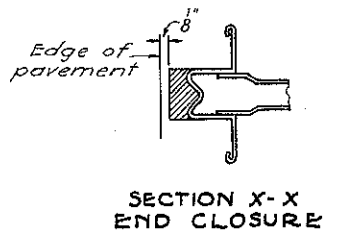
TYPICAL SECTION OF JOINT



TYPICAL SECTION OF JOINT



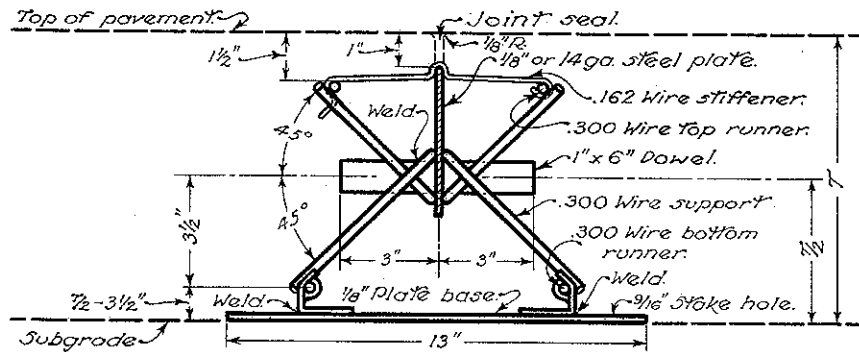
Dimension "A" for expansion joint	1 1/2"
"B" "	1 1/2"
"C" "	1 1/2"
"A" construction	1 1/2"
"B" "	1 1/2"
"C" "	1 1/2"



TJ-4

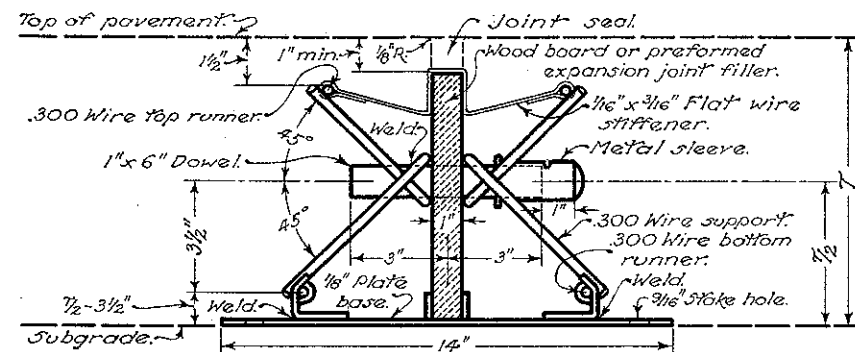
TRANSVERSE JOINTS

CONTRACTION JOINT



The junction of all wires shall be welded except stiffeners.
SECTION THROUGH JOINT

EXPANSION JOINT



The junction of all wires shall be welded except stiffeners.
SECTION THROUGH JOINT

NOTES

GENERAL:—The welded dowel assembly shall be fabricated in such a manner as to form a rigid truss-like framework with sufficient strength to hold the dowels and joint material in proper position during concrete placing and finishing operations. The dowels shall be parallel to the surface and centerline of the pavement.

The bottom runners of the dowel assembly and the bottom of the expansion material shall be shaped to the section of the pavement.

ASSEMBLY:—The dowels shall be welded to the wire supports to provide a weld on opposite sides of the joint at alternate dowels.

The joint assembly shall be continuous between longitudinal joints and shall be held in place by 1/2" x 15" minimum length steel pins driven into the subgrade through 9/16" holes in the base plate. The 1/8" x 1 1/2" steel base plates shall be spaced at intervals not to exceed 3'-6".

Dowel cages are dimensioned for pavement lanes of even foot widths. Where other widths are specified, standard cages may be used with dowel spacings adjusted as follows:

The 6" dowel spacing shall be maintained at the longitudinal joint. The spacing at the outer edge of the lane may be increased up to 12". Where an odd width of lane occurs and the dowel spacing at the outside edge of the lane would exceed 12" when using a standard cage, a dowel shall be placed 6" from the outer edge of the lane and held rigidly in proper position by a method satisfactory to the Engineer, or a dowel cage of greater length than required may be used by cutting the assembly and splicing to attain the required length. In all cases, the steel plate or joint material shall be full length for the width of the lane.

The joint assembly shown hereon is for use with uniform depth pavement. The joint assembly for variable depth pavement shall be in accordance with the design shown on the plan.

DOWELS:—Load transfer device shall consist of 1" round smooth, straight steel dowel bars welded to the stress reducing supports as shown in the details. The free ends of the dowels shall be thoroughly coated with rust inhibitor, or just prior to assembling the joint shall be coated with either bituminous material 5C-2 or 3 or an oil such as SAE 140, or equal.

EXPANSION JOINTS:—Wood board, Sec. M-10.03 and preformed expansion joint filler, Sec. M-10.02 shall be considered as alternates. The type used on any project is optional with the contractor.

Expansion joints shall be used only at intersections as designated on the plan, and at structures against which the pavement abuts. Two expansion joints shall be placed on each side of each structure at approximately 15' and 65' intervals from the end of the approach slab, or in the case of a skewed approach slab, approximately 15' and 65' from the point of the approach slab farthest from the structure.

Expansion material shall be held rigidly in position by the use of a continuous 12 gauge metal cap or shield, and by flat wire stiffeners as shown in details spaced at intervals not to exceed 3'-0". The metal cap shall be removed immediately after the final pass of the finishing machine. When two adjacent lanes are poured simultaneously the metal cap shall be continuous across the longitudinal joint.

The free ends of the dowels shall be equipped with a metal sleeve approximately 3" long, fastened to the dowel with a rust inhibiting adhesive to prevent displacement during handling or in placing pavement. The adhesive shall permit longitudinal movement of the dowel when subjected to the expansion and contraction stresses of the finished pavement. The closed end of the metal sleeve shall be 1" from the end of the dowel to allow for longitudinal dowel movement with pavement expansion.

Dowel holes shall be punched or drilled into the joint filler of the proper size to insure tight fitting dowels.

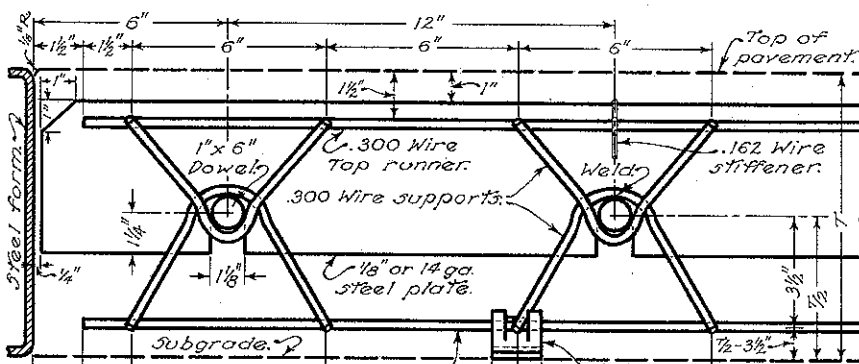
Joints in monolithic curbs shall be constructed of the same type of filler material as used in the expansion joints.

CONTRACTION JOINTS:—A steel plate 1/8" thick or 14 gauge, shall be used in contraction joints. If 14 gauge metal plate is used the upper edge shall be folded to provide a double thickness for a depth of 1/2". The plate shall have 1/8" width slots in the bottom of the plate to accommodate the 1" dowels. The plate shall be held rigidly in place by the assembly and wire stiffeners spaced at 3' intervals. The number of brace stakes may be reduced for contraction joints if it is demonstrated that the joint assembly can be held in place as prescribed during placing of concrete.

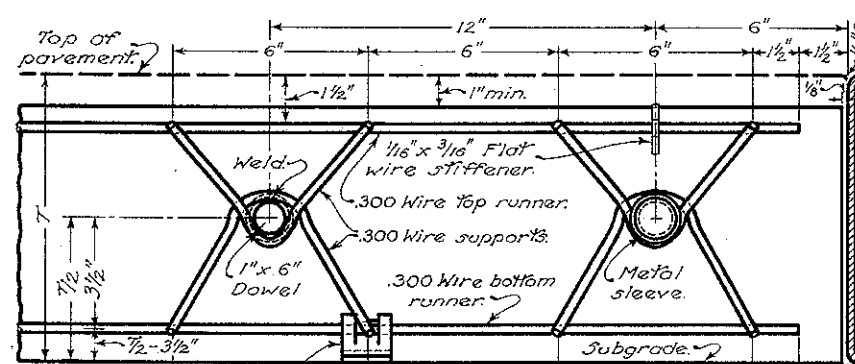
Contraction joints shall be spaced at intervals of 60' in reinforced Portland cement concrete pavement. Contraction joints will not be permitted in concrete base courses.

JOINT FINISHING:—Care shall be exercised in edging joints that the proper radius is maintained. Any impression left in the surface of the pavement by the flat part of the edging tool shall be eliminated, but in no case will the addition of grout be permitted for this purpose. Final belt finish shall be applied to the pavement surface adjacent to joints as is required for the balance of the pavement area and particular attention shall be given to straight edging the pavement across the joints to insure no difference in the elevation of the pavement surface on opposite sides of the joints.

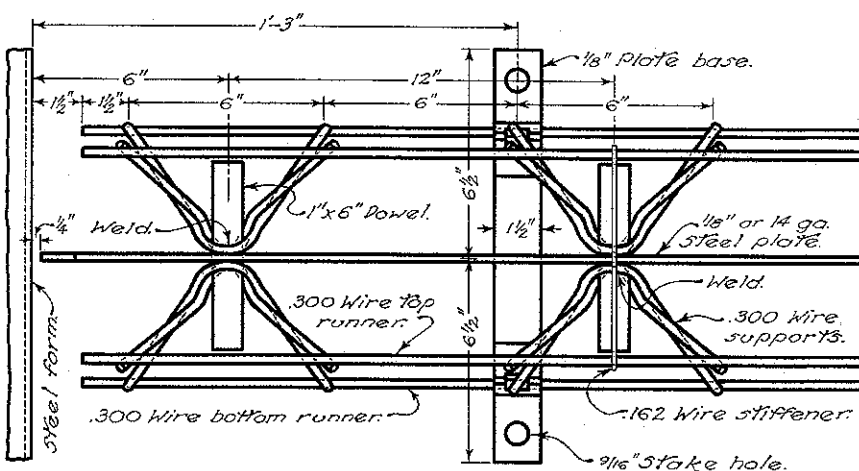
JOINT SEAL:—The material for joint seal shall meet the requirements of Sec. M-10.23 or Sec. M-10.26.



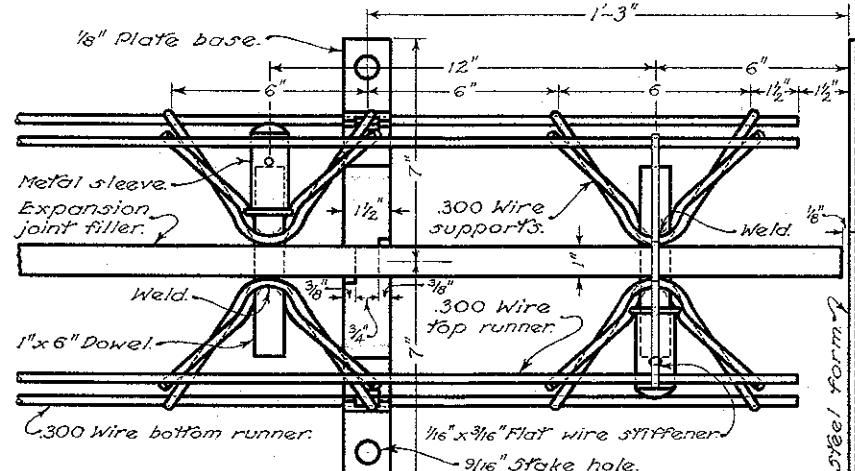
The junction of all wires shall be welded except stiffeners.
SIDE ELEVATION



The junction of all wires shall be welded except stiffeners.
SIDE ELEVATION



The junction of all wires shall be welded except stiffeners.
PLAN



The junction of all wires shall be welded except stiffeners.
PLAN

BUREAU OF LOCATION AND DESIGN OHIO DEPARTMENT OF HIGHWAYS	
PAVEMENT JOINTS	
STANDARD CONSTRUCTION DRAWING	T. J. NO. 4
APPROVED 11/17-3/2/53	CHIEF ENGINEER