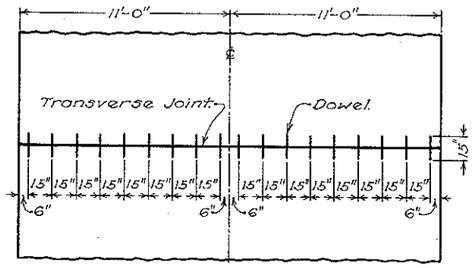
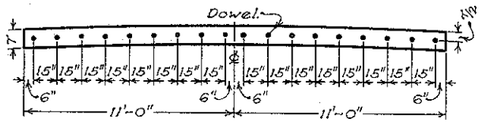
PAVEMENT JOINTS

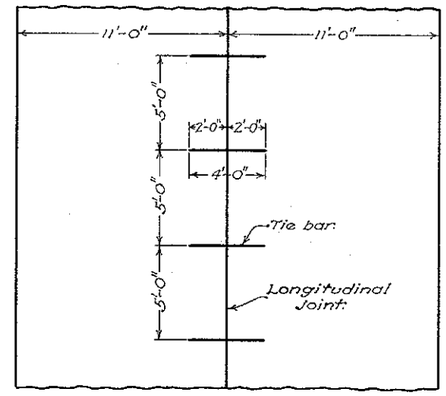
DOWEL SPACING



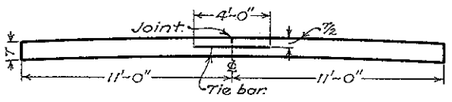
PLAN



CROSS SECTION



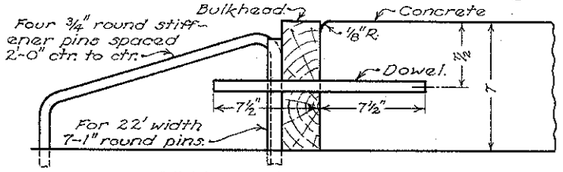
PLAN



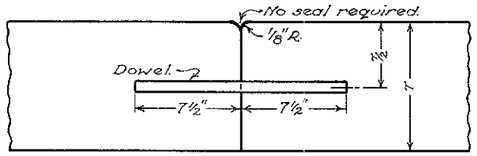
CROSS SECTION

NOTE :— If wire units are not available another approved method for holding the dowels in place may be used.

CONSTRUCTION JOINT

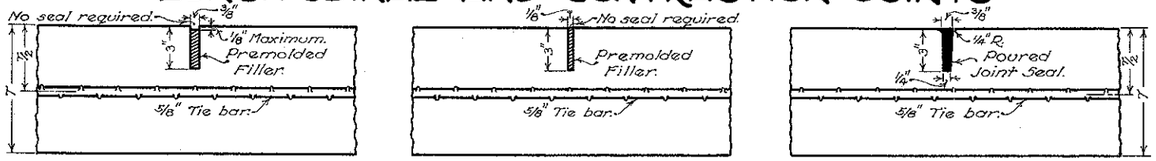


DETAIL OF BULKHEAD



DETAIL OF JOINT

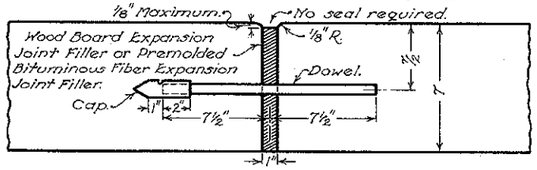
LONGITUDINAL AND CONTRACTION JOINTS



3/8" PREMOLDED JOINT — 1/8" PREMOLDED JOINT — IMPRESSED JOINT

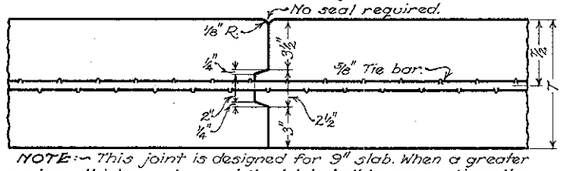
NOTE :— Tie bars as shown above shall be used in longitudinal joints only. When "T" is less than 7" the depth of joint shall be 1/2 - 5/8" in lieu of the 3" dimension shown.

EXPANSION JOINTS



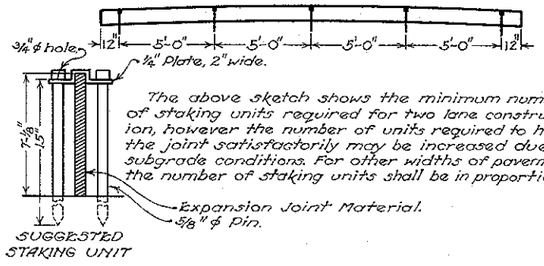
DETAIL OF JOINT

LONGITUDINAL KEY JOINT



NOTE :— This joint is designed for 9" slab. When a greater or less thickness is used the joint shall be proportionally designed. Other deformations may be used if approved by the Engineer.

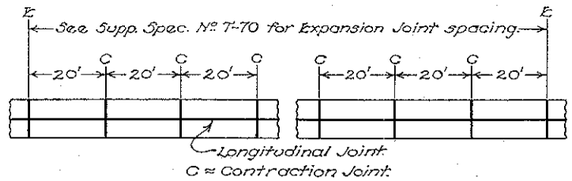
METHOD OF STAKING JOINTS



The above sketch shows the minimum number of staking units required for two lane construction, however the number of units required to hold the joint satisfactorily may be increased due to subgrade conditions. For other widths of pavement, the number of staking units shall be in proportion.

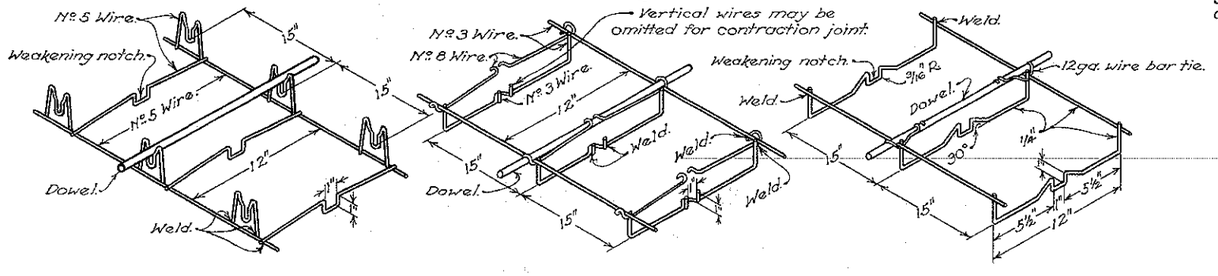
SUGGESTED STAKING UNIT

ARRANGEMENT OF TRANSVERSE JOINTS



C = Contraction Joint.
E = Expansion Joint.

DOWEL SUPPORT UNITS



NOTES

GENERAL:— Expansion, contraction and longitudinal joints shown are to be considered as alternates; the type to be used on any project shall be optional with the contractor, except as hereinafter noted for longitudinal key joints. The type of joint selected by the contractor and all operations and materials for installing the joints shall be approved by the Engineer.

The spacing of expansion and contraction joints shall be according to Supplemental Specification 7-70.

Longitudinal joints shall be used where shown on the typical section.

Joint arrangements at intersections shall be as shown on the plans or in accordance with working drawings furnished by the State.

Special care shall be exercised in edging joints that the width of the opening does not exceed that shown.

A positive method to maintain required alignment shall be used in connecting the expansion joints at longitudinal joints. The expansion material shall meet in a vertical joint. Longitudinal keys and keyways, where used shall be omitted for the thickness of the expansion joint.

EXPANSION JOINTS:— Expansion joints shall be constructed of materials as shown herewith meeting the requirements of Supp. Spec. 7-70.

Expansion joint material shall be accurately and rigidly held in place by means approved by the Engineer. A steel plate for holding joint material during installation will not be required.

The expansion joint material shall be shaped to fit the section of the pavement.

Dowel holes shall be punched in the filler material, and shall be 1/16 inch round holes to insure tight fitting dowels.

Each dowel bar shall be equipped with a neat fitting metal cap on one end.

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

DOWELS:— All dowels shall be 3/4 inch round, straight, smooth bars, free from burring and flattening at ends. The entire dowel shall be thoroughly coated before placing in the pavement using either Bituminous Material, Section M-5.11 SC-2 or heavier, or an oil such as 600W or equal.

Prior to placing, all dowels shall be assembled in a unit which is to remain in place for construction or expansion joints. The length of the unit shall be not less than the distance between longitudinal joints and sufficient support shall be provided to hold the dowels accurately perpendicular to the joint. Expansion joint material shall be forced over the lower cross wires so as to fit snugly on the subgrade. The design of the dowel support unit may be as shown herewith or may be an approved equal, and it shall be shop assembled. When the lane width varies from 11 feet, the spacing of the dowels shall be 15 inches and the 6 inch end spaces shall be equally increased or decreased and shall be less than 10 1/2 inches but not less than 3 inches.

CONSTRUCTION JOINTS:— A bulkhead shall be constructed to permit dowels to extend through the joint. Care shall be taken in removing bulkhead and placing adjacent concrete to see that the dowels are embedded in the concrete without being bent.

TIE BARS:— Tie bars for longitudinal joints shall be 5/8 inch round, deformed bars. A satisfactory device shall be used to hold the tie bars in proper position. If tie bars are bent, no portion of the bend shall extend into the first slab poured. Immediately prior to placing the second slab, bent tie bars shall be straightened by means of a pipe slipped over the free end of the bar.

CONTRACTION AND LONGITUDINAL JOINTS:— Premolded contraction and longitudinal joint material for 3/8 inch and 1/8 inch premolded joints shall meet the requirements of Sections M-10.1 and M-10.13 respectively of the general specifications. The top edge of contraction joint material shall be shaped to fit the surface of the pavement. The 3/8 inch and 1/8 inch premolded joints shall not be edged.

Impressed contraction and longitudinal joints shall be formed by impressing a device or bar into the newly deposited concrete before initial setting. The device or bar shall be removed as soon as the concrete is in such condition as to preclude distortion or injury to the concrete. The groove thus formed shall be of the dimensions detailed. After the joint is formed it must be protected from dirt and foreign matter until the filler is placed.

LONGITUDINAL KEY JOINT:— The longitudinal joint between adjoining slabs poured in separate operations shall be a key joint. Key joints shall be painted with two coats of bituminous material as per Federal Specifications SS-A-674 with Amend. 1, Type II before adjoining slabs are poured.

POURED JOINT SEAL:— The bituminous material for filling impressed joints shall meet the requirements of Section M-5.4 F-1 of the general specifications. The filler shall be handled in such a manner that it will be confined to the joint and in nowise mar the surface.

BUREAU OF LOCATION & RIGHT OF WAY
OHIO DEPARTMENT OF HIGHWAYS

DATE 2-20-43

PAVEMENT JOINTS

STANDARD CONSTRUCTION DRAWING — PCJ No. 2

APPROVED M.D.S. CHIEF ENGINEER