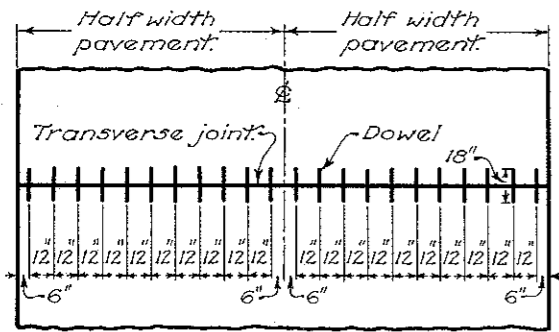
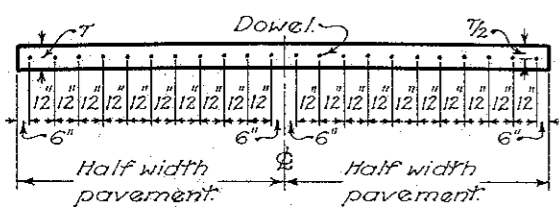


# TRANSVERSE JOINTS

## DOWEL SPACING

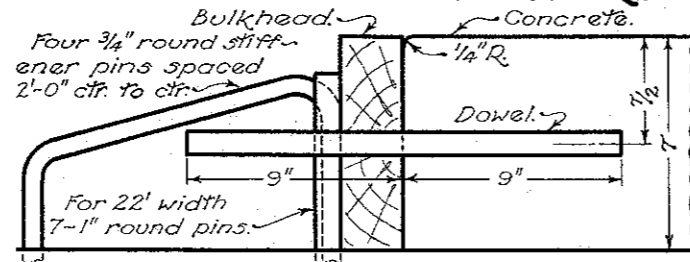


PLAN



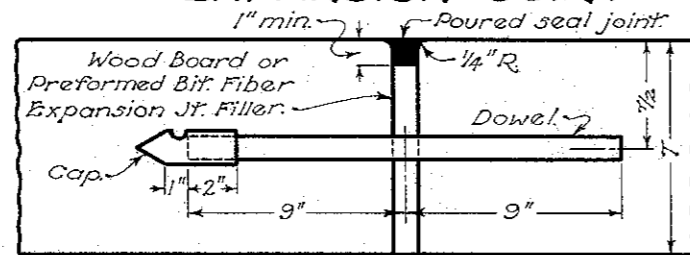
CROSS SECTION

## CONSTRUCTION JOINT

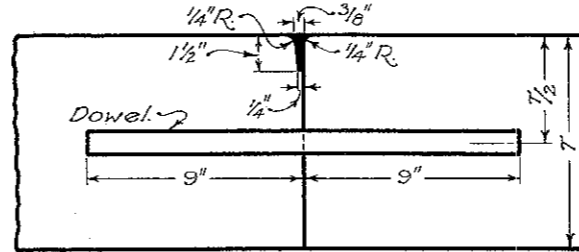


DETAIL OF BULKHEAD

## EXPANSION JOINT

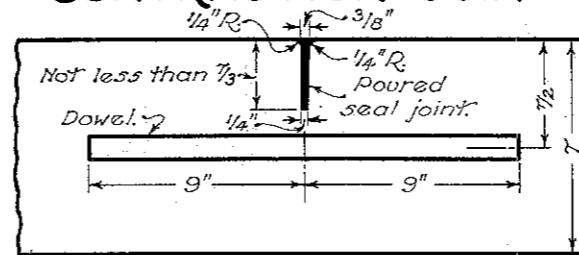


DETAIL OF JOINT



DETAIL OF JOINT

## CONTRACTION JOINT



IMPRESSED JOINT

## NOTES

**GENERAL:**—The types of expansion joint material shown are to be considered as alternates. The type used on any project is optional with the contractor.

Joint arrangements at intersections shall be as shown on the plans or in accordance with working drawings to be 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 joint 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 spaced from 500 to 600 feet on centers when the air temperature is 75°F or above at the time of placing, and from 300 to 400 feet on centers when the air temperature is below 75°F. However, the actual spacing within these limitations shall be as directed by the Engineer.

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 or bored in the filler material, and shall be 15/16 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 1 inch round, smooth, straight bars, free from burring and flattening at ends. The entire dowel shall be thoroughly coated before placing in the pavement using either bituminous material 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, contraction and 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.

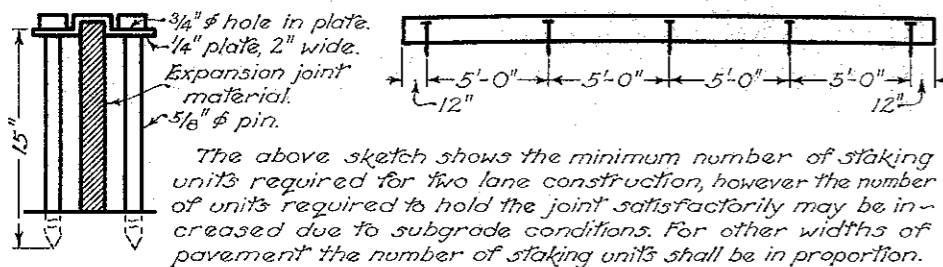
**CONSTRUCTION JOINTS:**—A bulkhead shall be constructed to permit dowels to extend through the joint. Care shall be taken in removing bulkhead and placing adjacent concrete to see that the dowels are embedded in the concrete without being bent.

A groove for sealing shall be formed by impressing a device or bar into the newly deposited concrete placed after the removal of the bulkhead. 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 shall be protected from dirt or foreign matter until the joint seal is placed.

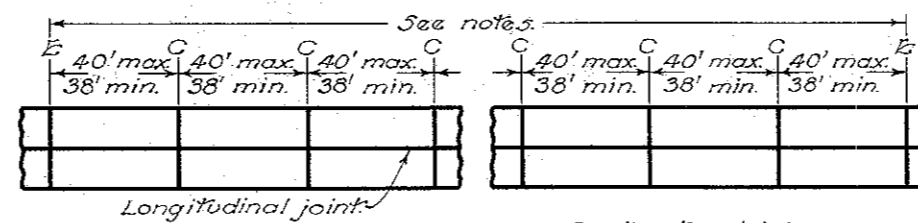
**CONTRACTION JOINTS:**—Impressed contraction joints shall be formed by impressing a device or bar into the newly deposited concrete before initial setting. The device or bar shall be removed as soon as the concrete is in such condition as to preclude distortion or injury to the concrete. The groove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

**POURED JOINT SEAL:**—The material for filling impressed joints and sealing expansion joints shall meet the requirements of Supplemental Specification M-110.23. The filler shall be handled in such a manner that it will be confined to the joint.

## SUGGESTED METHOD OF STAKING EXPANSION JOINT



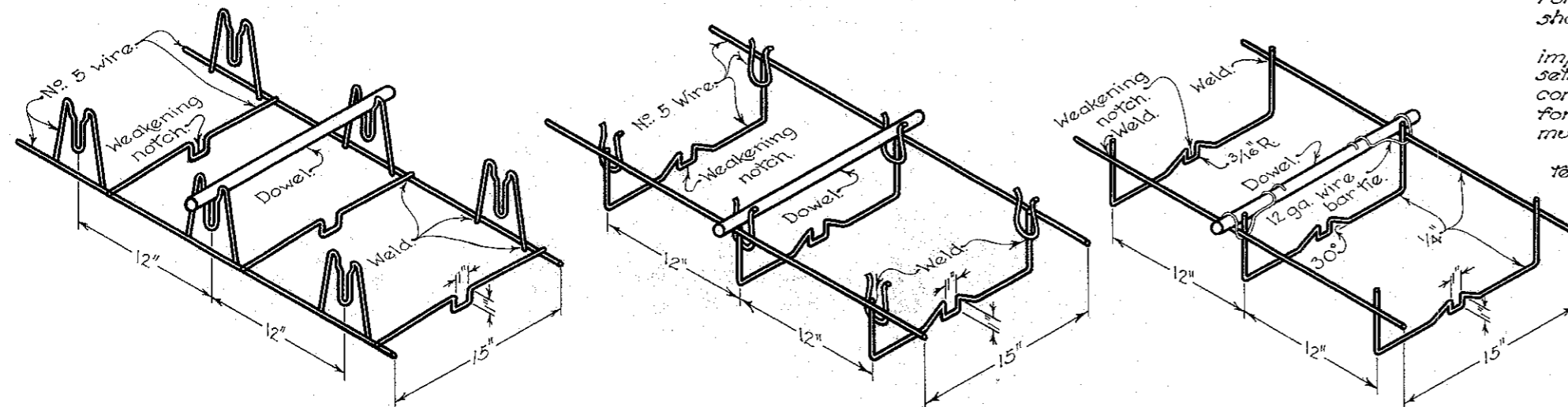
## ARRANGEMENT OF TRANSVERSE JOINTS



Longitudinal joint.

C = Contraction joint.  
E = Expansion joint.

## DOWEL SUPPORT UNITS



BUREAU OF LOCATION AND DESIGN  
OHIO DEPARTMENT OF HIGHWAYS

DATE  
2-16-48

## PAVEMENT JOINTS

STANDARD  
CONSTRUCTION  
DRAWING

D.J.  
NO. 1

APPROVED *[Signature]* CHIEF ENGINEER