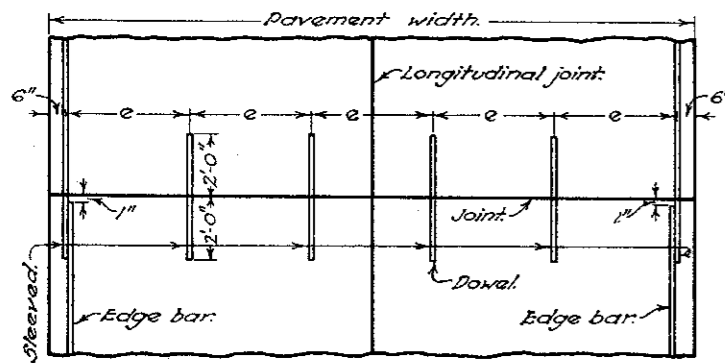
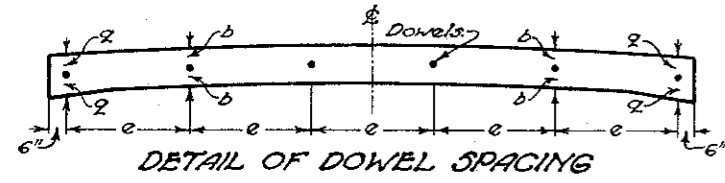


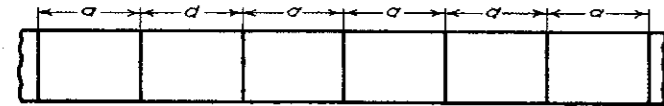
TRANSVERSE JOINTS



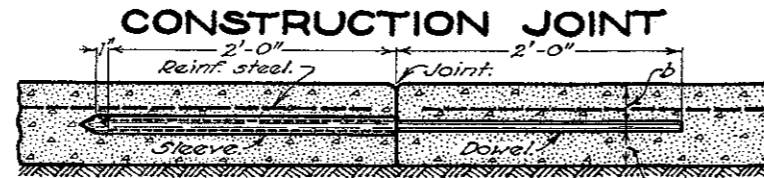
PLAN OF JOINT



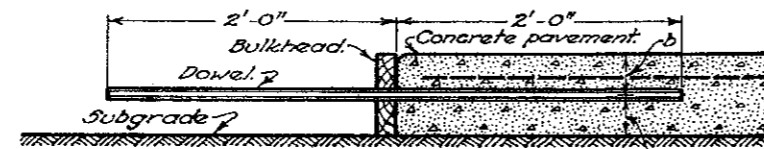
DETAIL OF DOWEL SPACING



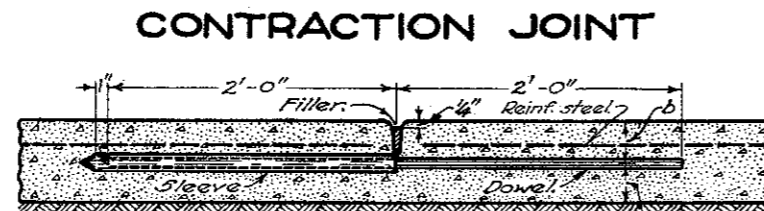
DETAIL OF JOINT SPACING



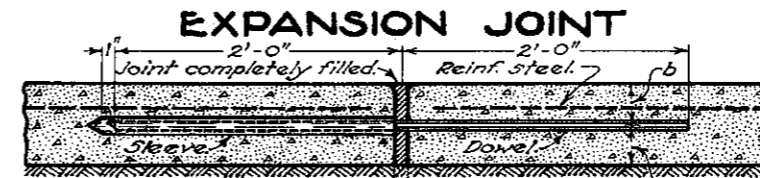
DETAIL OF DOWEL JOINT



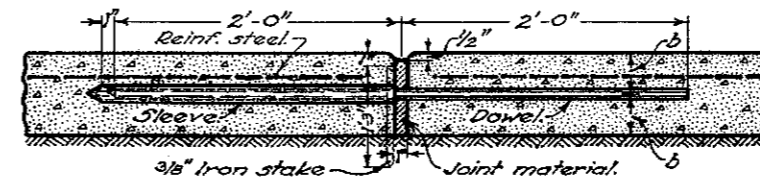
DETAIL OF BULKHEAD



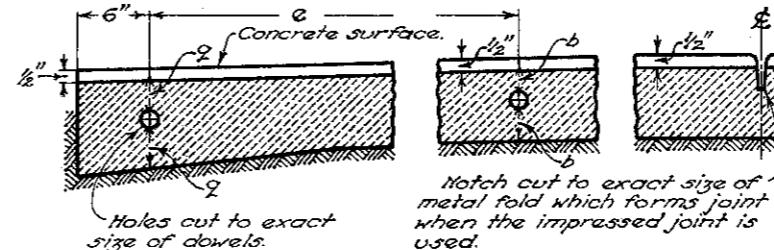
DETAIL OF IMPRESSED CONTRACTION JOINT
(To conform to Impressed Longitudinal Joint)



DETAIL OF Poured EXPANSION JOINT



DETAIL OF PREMOULDED EXPANSION JOINT



PLAN OF PREMOULDED EXPANSION JOINT MATERIAL

TRANSVERSE JOINTS

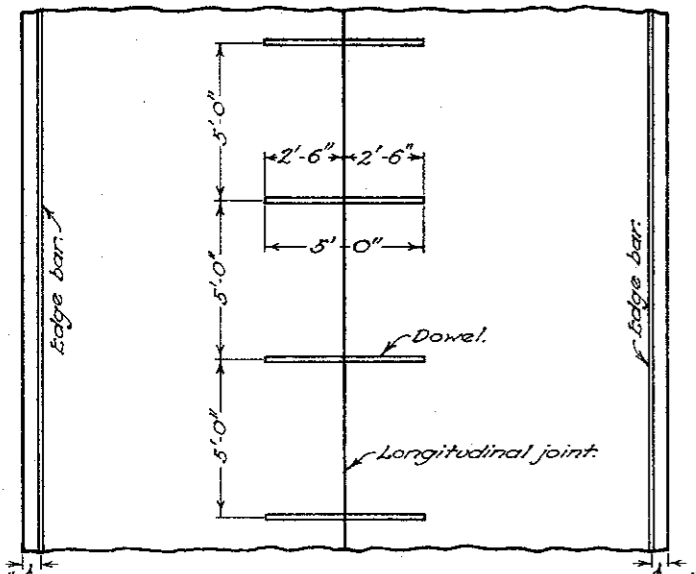
GENERAL:
 All dowels and edge bars to be 3/4" round, smooth bars with neat fitting, sliding sleeves on one end; sleeves shall be of metal.
 All dowels and edge bars shall be supported by means of an approved device.
 All joints to be edged with a beading tool of 1/4" radius.
 If the width of the pavement exceeds 24', additional sleeved dowel bars shall be placed to preclude of dimension "e" exceeding 4.5 feet.
 The spacing for joint "a" will be 30 feet for a gravel aggregate or resurfacing and 40 feet for a broken stone or slag aggregate. Whenever the contraction joint exceeds 40 feet the edge bar shall be painted as per specifications.

CONSTRUCTION JOINTS:
 All bulkheads to be constructed to permit edge bars to be continuous through joints.
 Care shall be taken in removing bulkhead and placing adjacent concrete, to see that the dowel bars are embedded in the concrete without being bent.
 Joints to be completely filled with Asphalt Filler F-1.

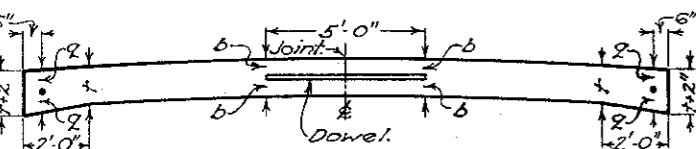
CONTRACTION JOINTS:
 To be placed as per General Specifications unless otherwise specifically mentioned on the plans.
 Care shall be taken to see that the ends of the sleeves on the dowels will come directly under the contraction joint.

EXPANSION JOINTS:
 To be placed as per General Specifications unless otherwise specifically mentioned on the plans.
 If the pavement is constructed between the dates of September 15th and May 15th expansion joints shall be constructed at each third joint as per specifications. Between May 15th and September 15th every fourth joint.
 If the pre-moulded expansion joint material is not in a single piece, the adjoining portion of it shall be cut so that when laid all ends will be closely joined.

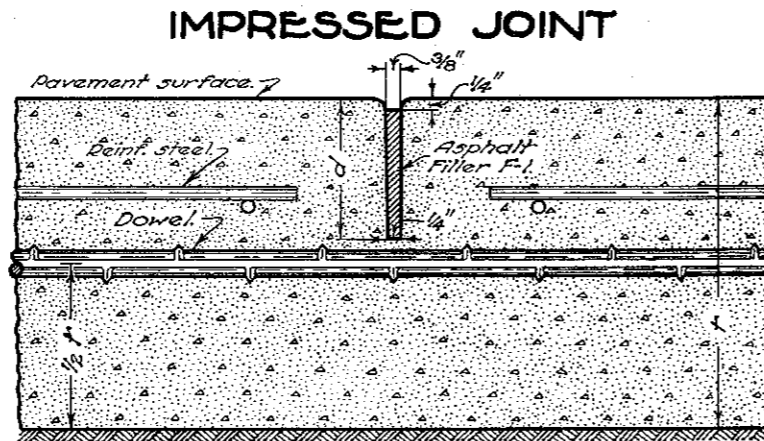
LONGITUDINAL JOINTS



PLAN OF JOINT



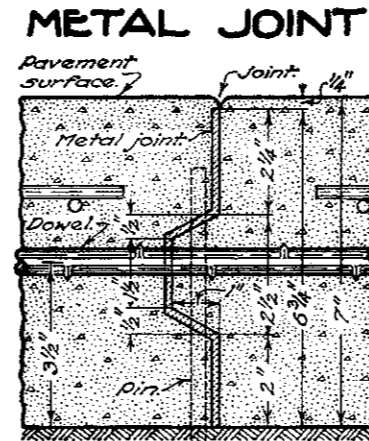
DETAIL OF JOINT



DETAIL OF JOINT

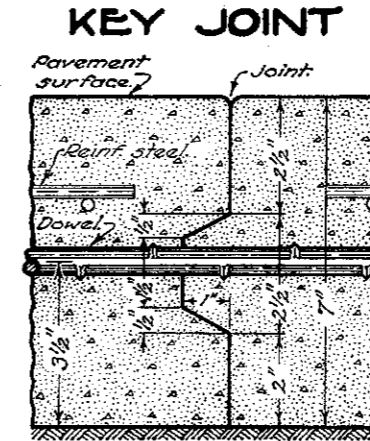
t	6"	7"	8"	9"	10"
d	2 1/2"	3"	3 1/2"	3 1/2"	3 1/2"

Description: This joint 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 of distortion or injury to the concrete. The groove thus formed shall be on the center line of the pavement unless otherwise shown on the plans, and of the dimensions as detailed above. After the joint is formed it must be protected from dirt and foreign matter until the filler is placed. The joint shall be filled to within 1/4 inch of the top with Asphalt Filler F-1. The asphalt filler shall be handled in such manner that it will be confined to the joint and in no wise mar the surface of the pavement.



DETAIL OF JOINT

Note: This joint is designed for 7" pavement. When a greater or less thickness is used the joint shall be proportionally designed to extend within 1/4 inch of the surface of the pavement. Other deformations may be used if approved by the engineer.



DETAIL OF JOINT

Note: This joint is designed for 7" pavement. When a greater or less thickness is used the joint shall be proportionally designed. Other deformations may be used if approved by the engineer.

LONGITUDINAL JOINTS

GENERAL:
 Edge bars to be 3/4" round, smooth bars when called for on the plans and when spliced they must be lapped 24". Edge bars to be painted before being placed, whenever the spacing of transverse joints exceed 40'.
 Dowels to be 1/2" round, deformed bars placed 5 foot centers extending across joint.
 Edge bars shall be supported by means of an approved device. On all concrete resurfacing projects, dowel bars and sleeves to be securely wired to the mesh reinforcing.
 All joints to be edged with a beading tool of 1/8" radius.

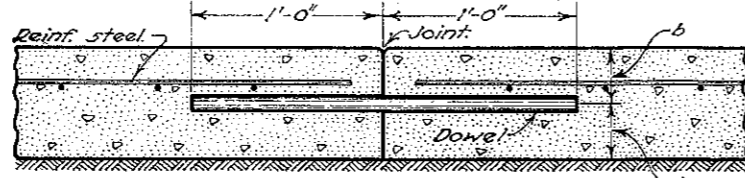
METAL JOINTS:
 Metal joints to be used only when called for on the plans and shall be completely filled with Asphalt Filler F-1.

KEY JOINTS:
 Key joint to be used only when called for on the plans and shall be painted with two coats of Asphalt Filler F-1.
 Joints shall be completely filled with Asphalt Filler F-1.

BUREAU OF CONSTRUCTION OHIO MAY-1934
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JOINTS REINF. CONC. PAVEMENT
 STANDARD CONSTRUCTION T-71 J.
 DRAWING
 APPROVED *E.H.* CHIEF ENGR. CONST.

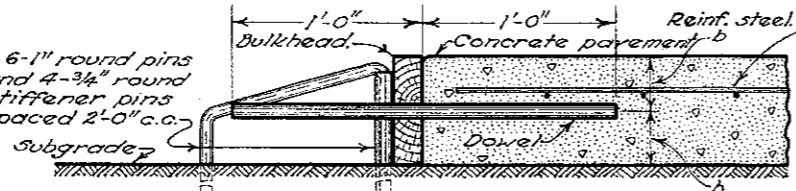
TRANSVERSE JOINTS

CONSTRUCTION JOINT



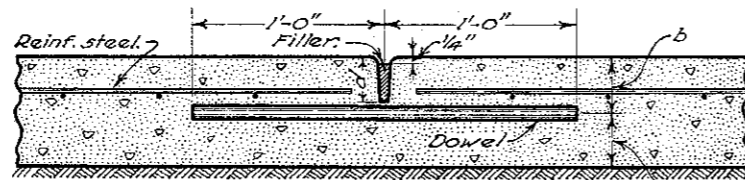
DETAIL OF DOWEL JOINT

6" round pins and 4-3/4" round stiffener pins spaced 2'-0" c.c.



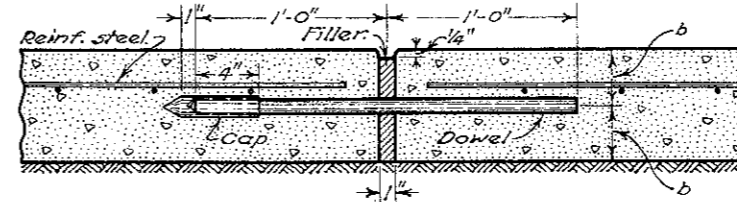
DETAIL OF BULKHEAD

CONTRACTION JOINT

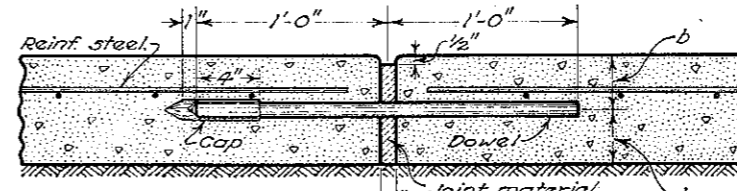


DETAIL OF IMPRESSED CONTRACTION JOINT
(To conform to Impressed Longitudinal Joint.)

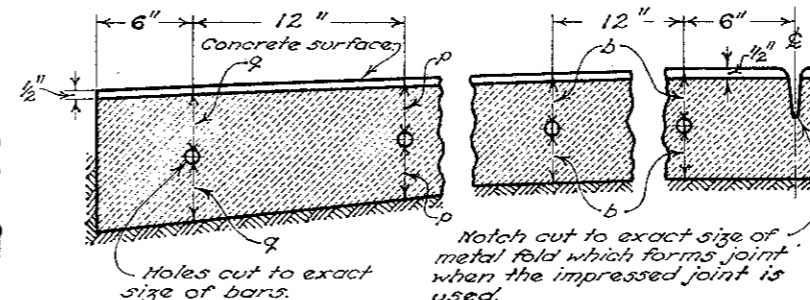
EXPANSION JOINT



DETAIL OF POURED EXPANSION JOINT



DETAIL OF PREMOULDED EXPANSION JOINT



PLAN OF PREMOULDED EXPANSION JOINT MATERIAL

TRANSVERSE JOINTS

GENERAL:-

All dowels and edge bars to be 3/4 inch round, smooth bars. The entire dowel and that part of the edge bar that extends beyond the joint shall be greased or otherwise treated to prevent bonding.

All dowels and edge bars shall be supported by means of an approved device to insure the same being installed accurately, perpendicular to the joint.

Edge bars when spliced, must be lapped 24 inches.

All joints to be edged with a beading tool of 1/4 inch radius. If the width of the pavement varies from the 20 foot width as shown herewith, the spacing of the dowels and edge bars will be as shown on the typical section.

CONSTRUCTION JOINTS:-

All bulkheads to be constructed to permit edge bars and dowels to extend through joints.

Care shall be taken in removing bulkhead and placing adjacent concrete to see that the edge bars and dowels are embedded in the concrete without being bent.

CONTRACTION JOINTS:-

To be placed as per standard construction drawing unless otherwise specifically shown on the typical section.

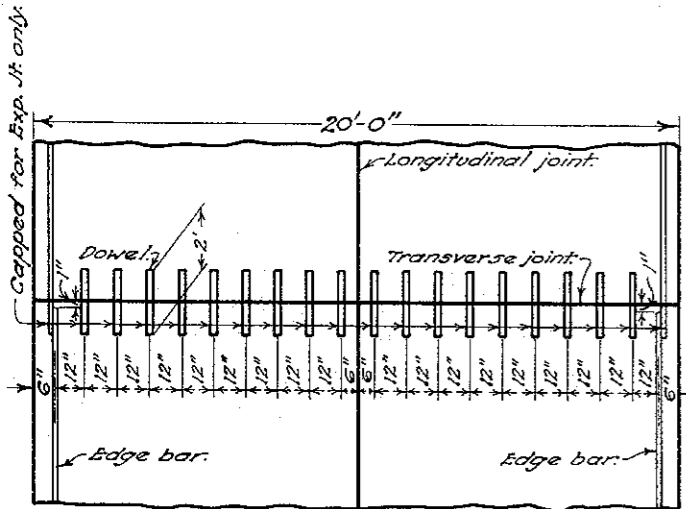
EXPANSION JOINTS:-

To be constructed as shown herewith of Asphalt Filler F-1 or bituminous pre-moulded expansion joint material, or as specifically shown on the typical section.

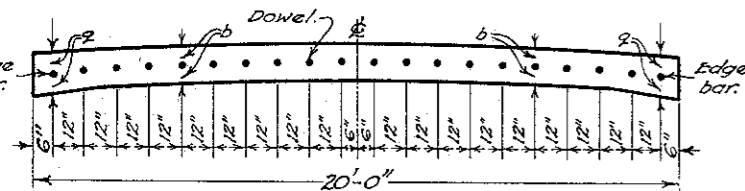
If the pre-moulded expansion joint material is in two pieces, they shall be cut so that when placed in position their ends shall be closely joined.

All dowels and edge bars shall be equipped with neat fitting metal caps on one end.

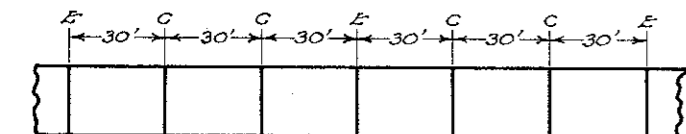
On concrete re-surfacing projects the pre-moulded expansion joint material is to be cut to fit neatly over and around the ends of the old pavement for each expansion joint.



PLAN OF JOINT



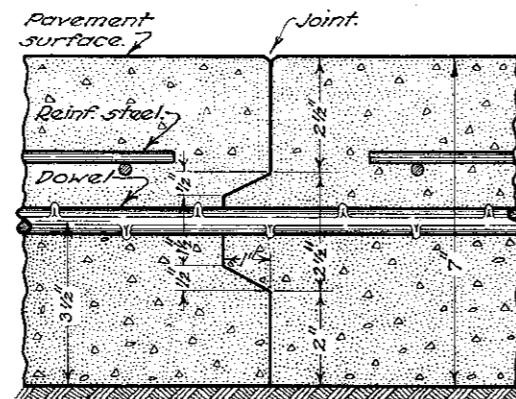
DETAIL OF DOWEL SPACING



DETAIL OF JOINT SPACING

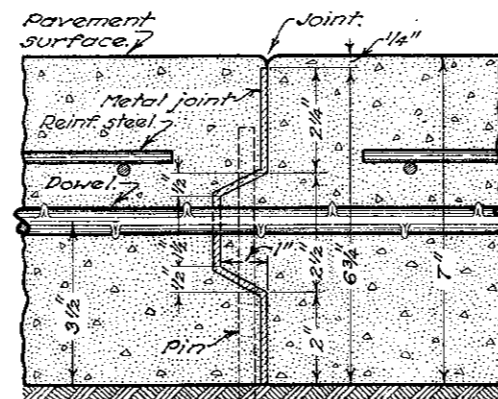
LONGITUDINAL JOINTS

KEY JOINT



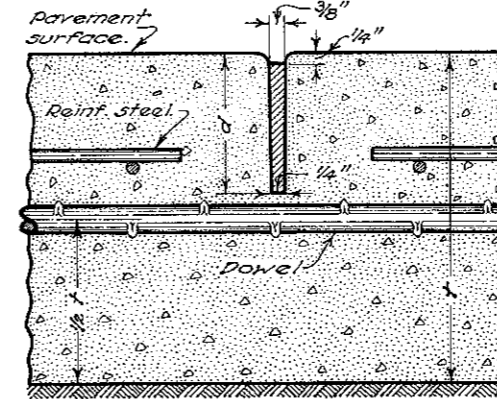
DETAIL OF JOINT

METAL JOINT



DETAIL OF JOINT

IMPRESSED JOINT



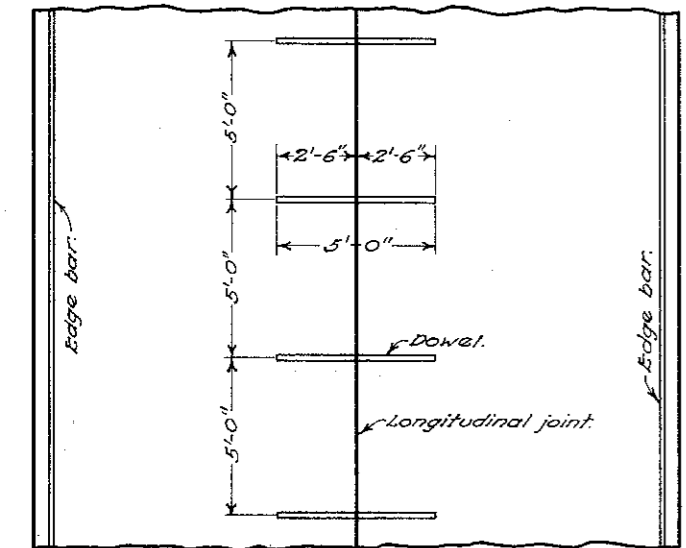
DETAIL OF JOINT

t	6"	7"	8"	9"	10"
d	2 1/2"	3"	3 1/2"	3 1/2"	3 1/2"

Note:- This joint is designed for 7" pavement. When a greater or less thickness is used the joint shall be proportionally designed. Other deformations may be used if approved by the engineer.

Note:- This joint is designed for 7" pavement. When a greater or less thickness is used the joint shall be proportionally designed to extend within 1/2 inch of the surface of the pavement. Other deformations may be used if approved by the engineer.

Description:- This joint 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 of distortion or injury to the concrete. The groove thus formed shall be on the center line of the pavement unless otherwise shown on the plans, and of the dimensions as detailed above. After the joint is formed it must be protected from dirt and foreign matter until the filler is placed. The joint shall be filled to within 1/4 inch of the top with Asphalt Filler F-1. The asphalt filler shall be handled in such manner that it will be confined to the joint and in no wise mar the surface of the pavement.



PLAN OF JOINT



DETAIL OF JOINT

LONGITUDINAL JOINTS

GENERAL:-

Dowels to be 1/2 inch round, deformed bars placed 5 foot centers extending across joint.

Dowels shall be supported by means of an approved device.

On concrete re-surfacing projects, the dowel bars are to be securely wired to the reinforcing.

All joints to be edged with a beading tool of 1/4 inch radius.

METAL JOINTS:-

Metal joints to be used only when called for on the plans.

KEY JOINTS:-

Key joints to be used only when called for on the plans.

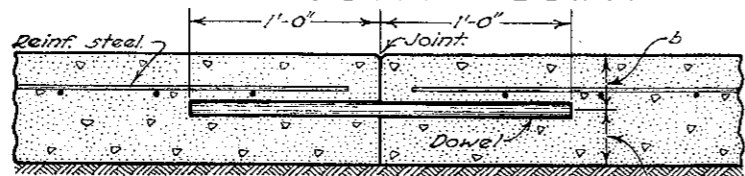
Key joints used in part width construction shall be painted with two coats of Asphalt Filler F-1 before the adjoining slabs are poured.

BUREAU OF LOCATION & DESIGN
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DEPARTMENT OF HIGHWAYS
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REINF. CONC.
PAVEMENT**
STANDARD
CONSTRUCTION T-71 J.
DRAWING
APPROVED _____ CHIEF ENGINEER

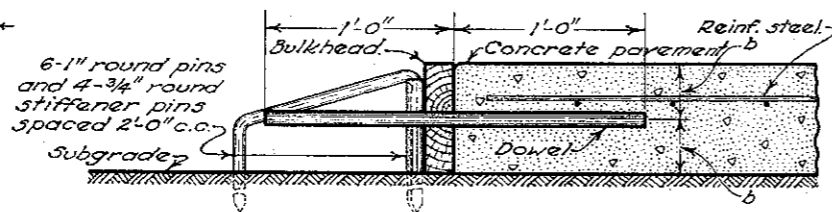
JULY-1934
10-1-34
10-3-34

TRANSVERSE JOINTS

CONSTRUCTION JOINT

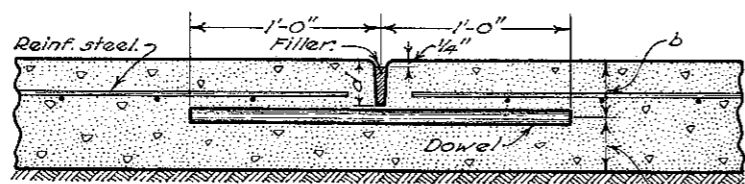


DETAIL OF DOWEL JOINT



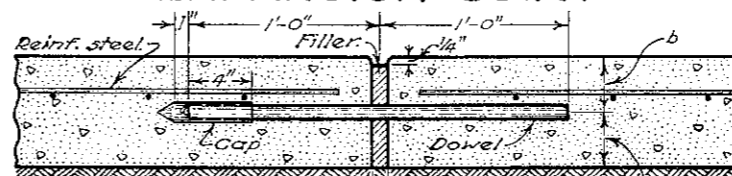
DETAIL OF BULKHEAD

CONTRACTION JOINT

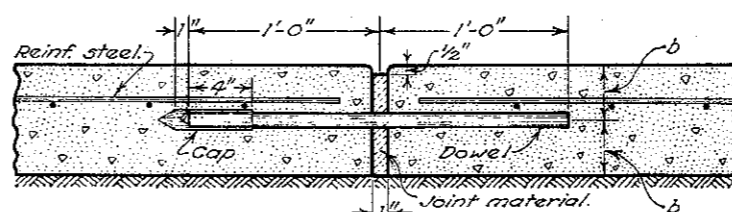


DETAIL OF IMPRESSED CONTRACTION JOINT
(To conform to Impressed Longitudinal Joint.)

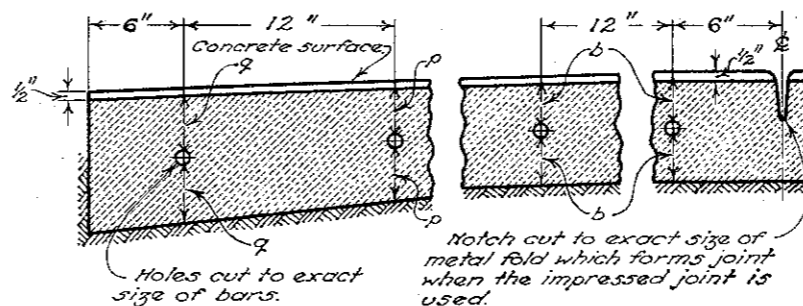
EXPANSION JOINT



DETAIL OF POURED EXPANSION JOINT



DETAIL OF PREMOULDED EXPANSION JOINT



PLAN OF PREMOULDED EXPANSION JOINT MATERIAL

TRANSVERSE JOINTS

GENERAL:-

All dowels and edge bars to be 3/4 inch round, smooth bars. The entire dowel and that part of the edge bar that extends beyond the joint shall be greased or otherwise treated to prevent bonding.

All edge bars shall be supported by means of approved devices spaced not more than 5 feet center to center to insure the same being installed accurately. Edge bars, when spliced, must be lapped 24 inches.

All dowels shall be assembled in a unit for either construction, contraction or expansion joints, prior to placing and of a unit width not less than the distance between longitudinal joints. Sufficient support shall be provided to hold the dowels accurately perpendicular to the joint; in no case less than five (5) supports to the unit on each side of the joint.

All joints to be edged with a beading tool of 1/4 inch radius. If the width of the pavement varies from the 20 foot width as shown herewith, the spacing of the dowels and edge bars will be as shown on the typical section.

CONSTRUCTION JOINTS:-

All bulkheads to be constructed to permit edge bars and dowels to extend through joints.

Care shall be taken in removing bulkhead and placing adjacent concrete to see that the edge bars and dowels are embedded in the concrete without being bent.

CONTRACTION JOINTS:-

To be placed as per standard construction drawing unless otherwise specifically shown on the typical section.

EXPANSION JOINTS:-

To be constructed as shown herewith of Asphalt Filler F-1 or bituminous pre-moulded expansion joint material, or as specifically shown on the typical section.

If the pre-moulded expansion joint material is in two pieces, they shall be cut so that when placed in position their ends shall be closely joined.

All dowels and edge bars shall be equipped with neat fitting metal caps on one end.

On concrete re-surfacing projects the pre-moulded expansion joint material is to be cut to fit neatly over and around the ends of the old pavement for each expansion joint.

LONGITUDINAL JOINTS

GENERAL:-

Dowels to be 1/2 inch round, deformed bars placed 5 foot centers extending across joint.

Dowels shall be supported by means of a satisfactory device.

On concrete re-surfacing projects, the dowel bars are to be securely wired to the reinforcing.

All joints to be edged with a beading tool of 1/4 inch radius.

METAL JOINTS:-

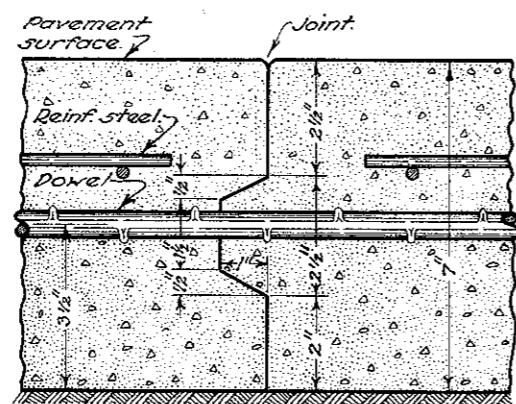
Metal joints to be used only when called for on the plans.

KEY JOINTS:-

Key joints to be used only when called for on the plans. Key joints used in part width construction shall be painted with two coats of Asphalt Filler F-1 before the adjoining slabs are poured.

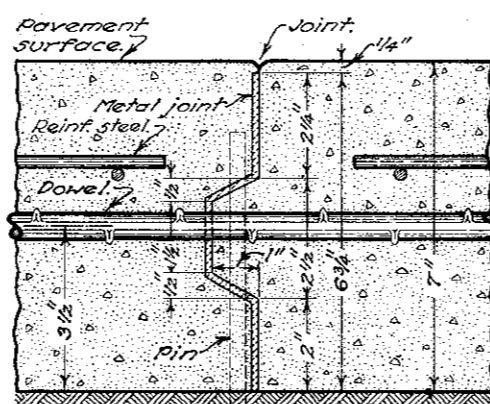
LONGITUDINAL JOINTS

KEY JOINT



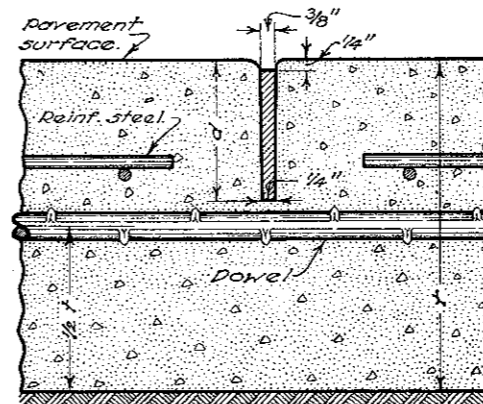
DETAIL OF JOINT

METAL JOINT



DETAIL OF JOINT

IMPRESSED JOINT



DETAIL OF JOINT

t	6"	7"	8"	9"	10"
d	2 1/2"	3"	3 1/2"	3 1/2"	3 1/2"

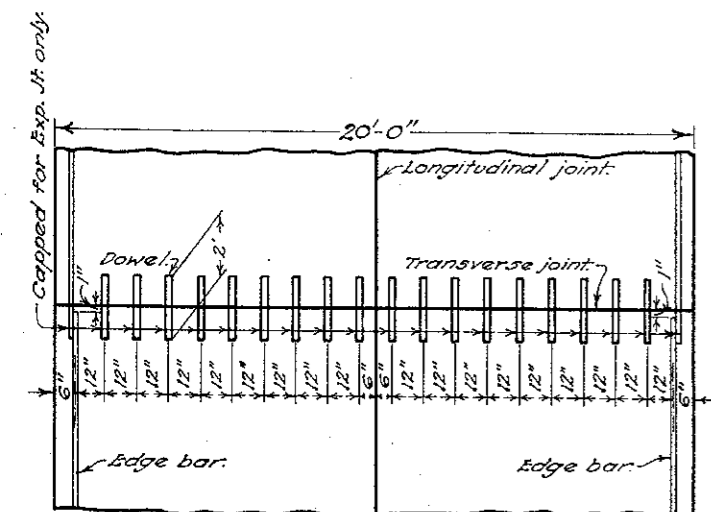
Note:- This joint is designed for 7" pavement. When a greater or less thickness is used the joint shall be proportionally designed. Other deformations may be used if approved by the engineer.

Note:- This joint is designed for 7" pavement. When a greater or less thickness is used the joint shall be proportionally designed to extend within 1/4 inch of the surface of the pavement. Other deformations may be used if approved by the engineer.

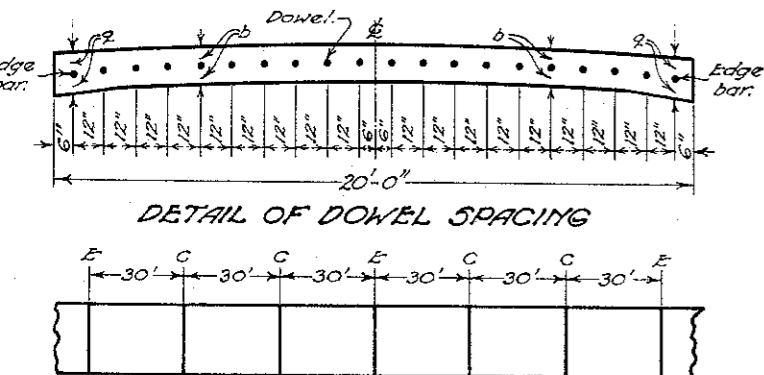
Description:- This joint shall be formed by impressing a device or bar into the newly deposited concrete before initial setting. The device or bar shall be removed as soon as the concrete is in such condition as to preclude distortion or injury to the concrete. The groove thus formed shall be on the center line of the pavement unless otherwise shown on the plans, and of the dimensions as detailed above. After the joint is formed it must be protected from dirt and foreign matter until the filler is placed. The joint shall be filled to within 1/4 inch of the top with Asphalt Filler F-1. The asphalt filler shall be handled in such manner that it will be confined to the joint and in no wise mar the surface of the pavement.

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DEPARTMENT OF HIGHWAYS
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PAVEMENT**
STANDARD
CONSTRUCTION T-71 J.
DRAWING
APPROVED *H.L.R.* CHIEF ENGINEER

JULY-1934
10-1-34
10-3-34
11-1-35

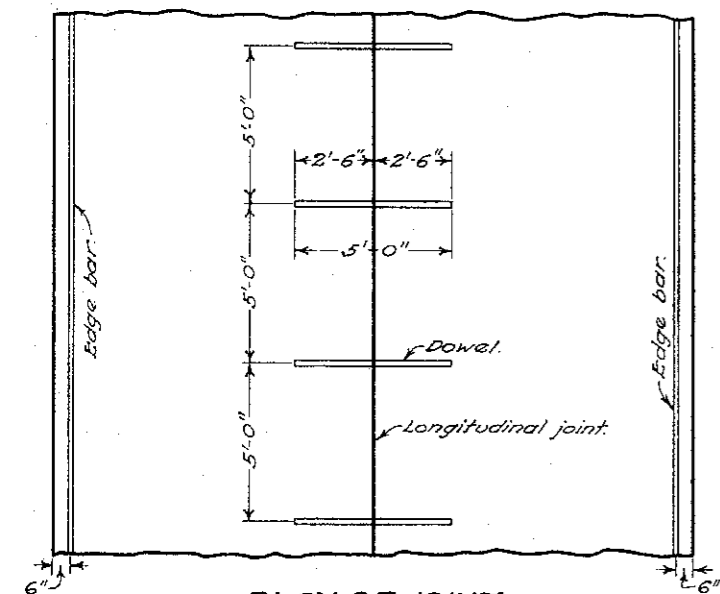


PLAN OF JOINT

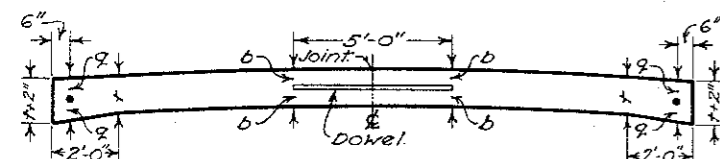


DETAIL OF DOWEL SPACING

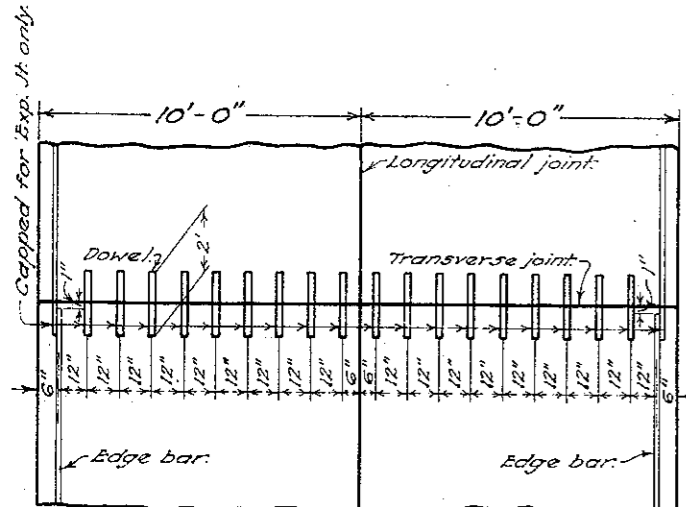
DETAIL OF JOINT SPACING



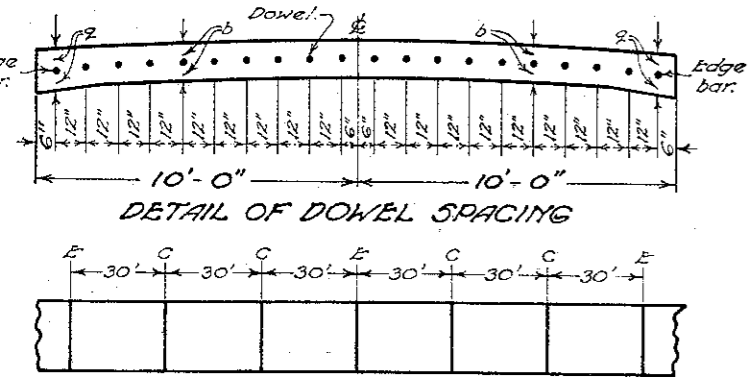
PLAN OF JOINT



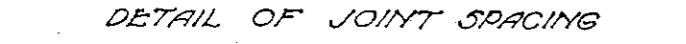
DETAIL OF JOINT



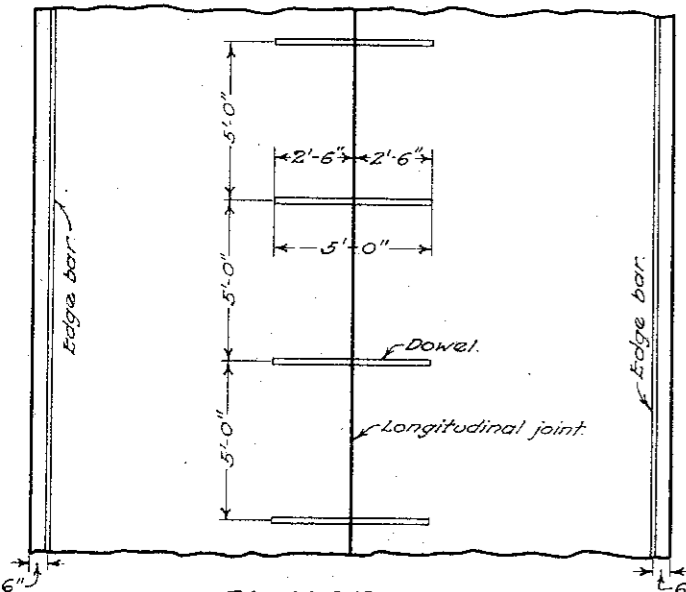
PLAN OF JOINT



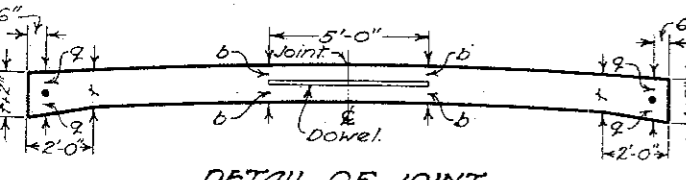
DETAIL OF DOWEL SPACING



DETAIL OF JOINT SPACING

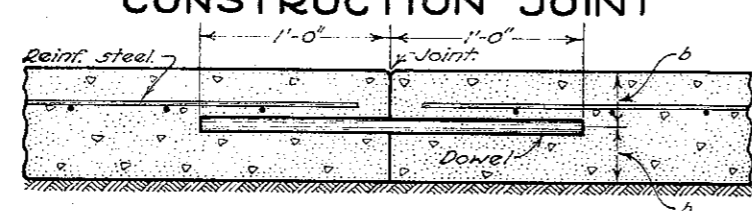


PLAN OF JOINT

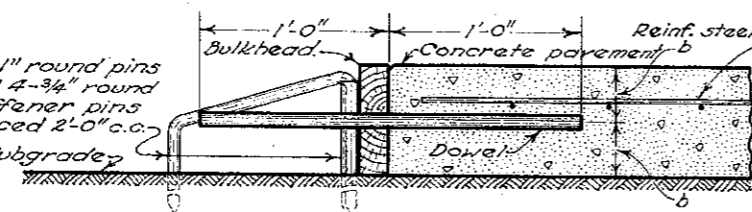


DETAIL OF JOINT

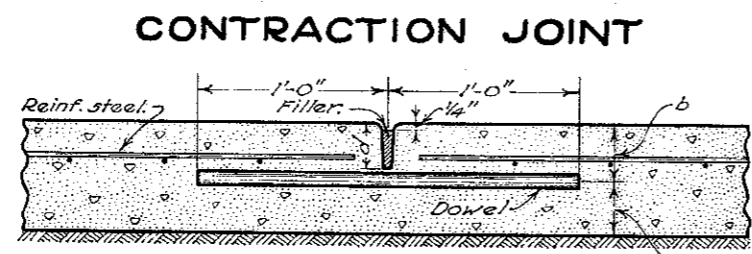
TRANSVERSE JOINTS



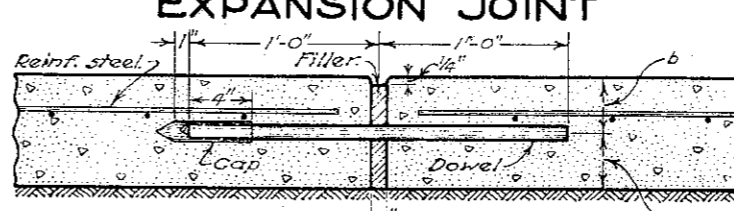
DETAIL OF DOWEL JOINT



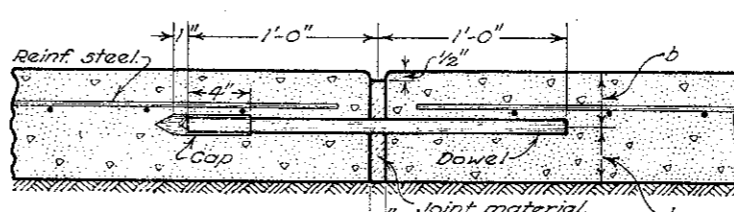
DETAIL OF BULKHEAD



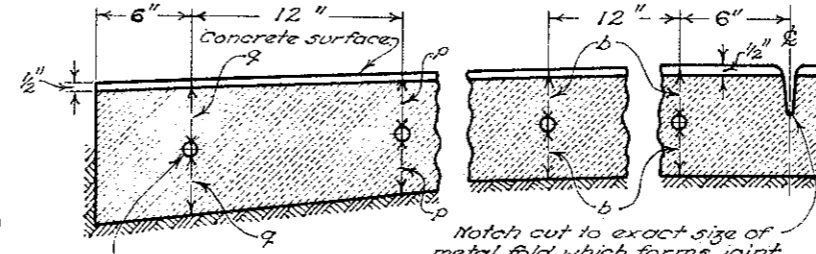
DETAIL OF IMPRESSED CONTRACTION JOINT
(To conform to Impressed Longitudinal Joint.)



DETAIL OF POURED EXPANSION JOINT

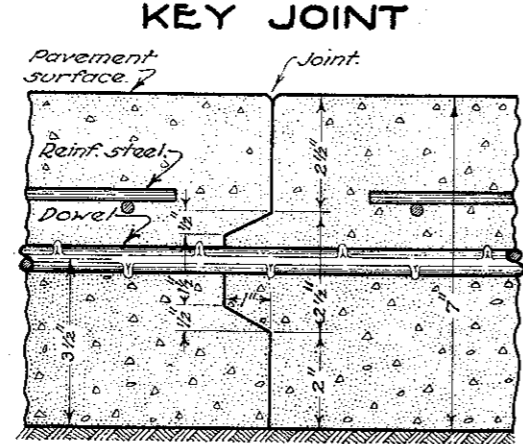


DETAIL OF PREMOULDED EXPANSION JOINT

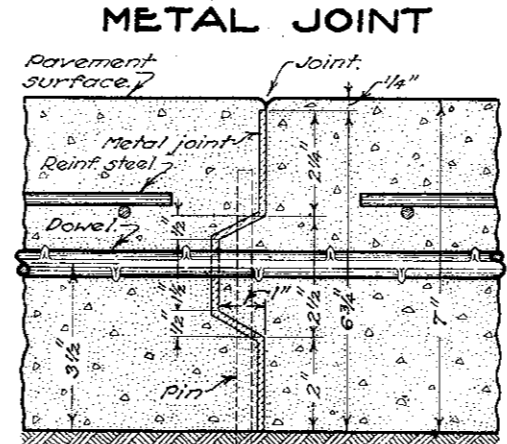


PLAN OF PREMOULDED EXPANSION JOINT MATERIAL

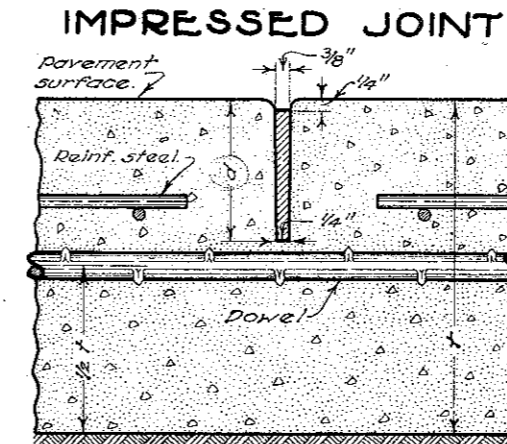
LONGITUDINAL JOINTS



DETAIL OF JOINT



DETAIL OF JOINT



DETAIL OF JOINT

t	6"	7"	8"	9"	10"
d	2 1/2"	3"	3 1/2"	3 1/2"	3 1/2"

Note:—This joint is designed for 7" pavement. When a greater or less thickness is used the joint shall be proportionally designed. Other deformations may be used if approved by the engineer.

Note:—This joint is designed for 7" pavement. When a greater or less thickness is used the joint shall be proportionally designed to extend within 1/4 inch of the surface of the pavement. Other deformations may be used if approved by the engineer.

Description:—This joint 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 of distortion or injury to the concrete. The groove thus formed shall be on the center line of the pavement unless otherwise shown on the plans, and of the dimensions as detailed above. After the joint is formed it must be protected from dirt and foreign matter until the filler is placed. The joint shall be filled to within 1/4 inch of the top with Asphalt Filler F-1. The asphalt filler shall be handled in such manner that it will be confined to the joint and in no wise mar the surface of the pavement.

TRANSVERSE JOINTS

GENERAL:—All dowels and edge bars to be 3/4 inch round, smooth bars. The entire dowel and that part of the edge bar that extends beyond the joint shall be greased or otherwise treated to prevent bonding.

All edge bars shall be supported by means of approved devices spaced not more than 5 feet center to center to insure the same being installed accurately. Edge bars, when spliced, must be lapped 24 inches.

All dowels shall be assembled in a unit (unit to remain in place in pavement) for either construction, contraction or expansion joints, prior to placing and of a unit width not less than the distance between longitudinal joints. Sufficient support shall be provided to hold the dowels accurately perpendicular to the joint, in no case less than five (5) supports to the unit on each side of the joint.

On all re-surfacing projects, dowels may be spaced vertically at a uniform distance above the surface of present pavement. The dowels in the widening section may be a separate unit.

All joints to be edged with a beading tool of 1/4 inch radius.

If the width between longitudinal joints of the pavement varies from the 10 feet as shown here-with, the spacing of the dowels will be as shown on the typical section.

CONSTRUCTION JOINTS:—All bulkheads to be constructed to permit edge bars and dowels to extend through joints.

Care shall be taken in removing bulkhead and placing adjacent concrete to see that the edge bars and dowels are embedded in the concrete without being bent.

CONTRACTION JOINTS:—To be placed as per standard construction drawing and in accordance with the specifications unless otherwise shown on the typical sections.

EXPANSION JOINTS:—To be constructed as shown herewith of Asphalt Filler F-1 or bituminous pre-moulded expansion joint material, or as specifically shown on the typical section.

If the pre-moulded expansion joint material is in two pieces, they shall be cut so that when placed in position their ends shall be closely joined.

All dowel and edge bars shall be equipped with neat fitting metal caps on one end.

On concrete re-surfacing projects, the pre-moulded expansion joint material is to be cut to fit neatly over and around the ends of the old pavement for each expansion joint.

LONGITUDINAL JOINTS

GENERAL:—Dowels to be 1/2 inch round, deformed bars placed 5 foot centers extending across joint. Dowels shall be supported by means of a satisfactory device.

On concrete re-surfacing projects, the dowel bars are to be securely wired to the reinforcing. All joints to be edged with a beading tool of 1/4 inch radius.

METAL JOINTS to be used only when called for on the plans.

KEY JOINTS to be used only when called for on the plans.

Key joints used in part width construction shall be painted with two coats of Asphalt Filler F-1 before the adjoining slabs are poured.

BUREAU OF LOCATION & DESIGN
OHIO
DEPARTMENT OF HIGHWAYS
JOINTS REINF. CONC. PAVEMENT
STANDARD CONSTRUCTION T-71 J.
DRAWING
APPROVED *K.L.P.* CHIEF ENGINEER

JULY-1934
10-1-34
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11-1-35
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