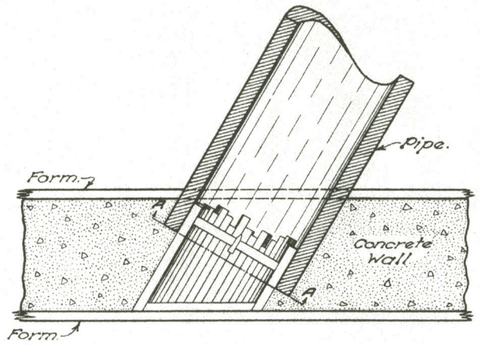
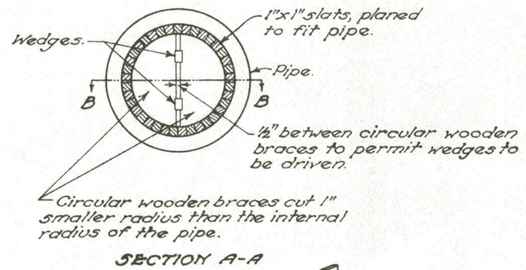
CONSTRUCTION METHODS

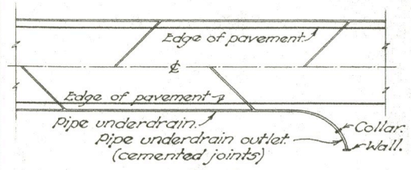


SECTION B-B
Through wall and pipe.

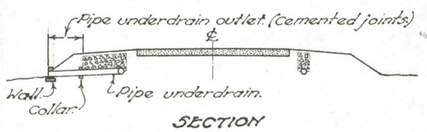


SECTION A-A

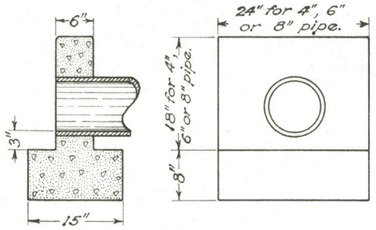
BARRELLING CONCRETE WALL



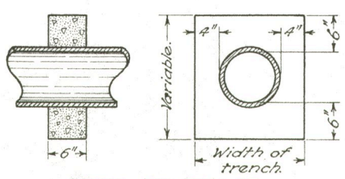
PLAN



SECTION

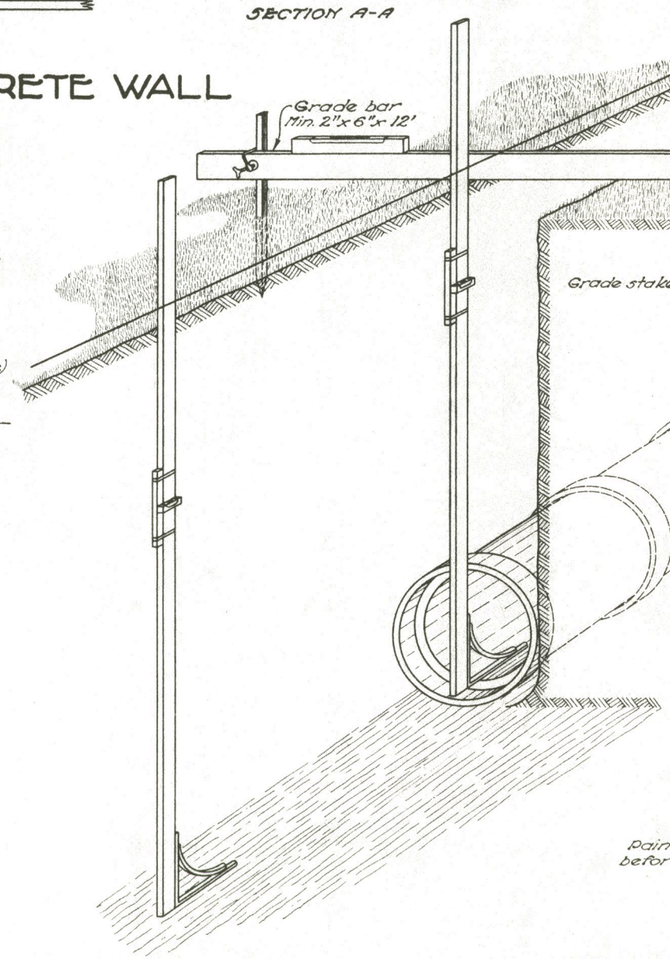


DETAIL OF WALL

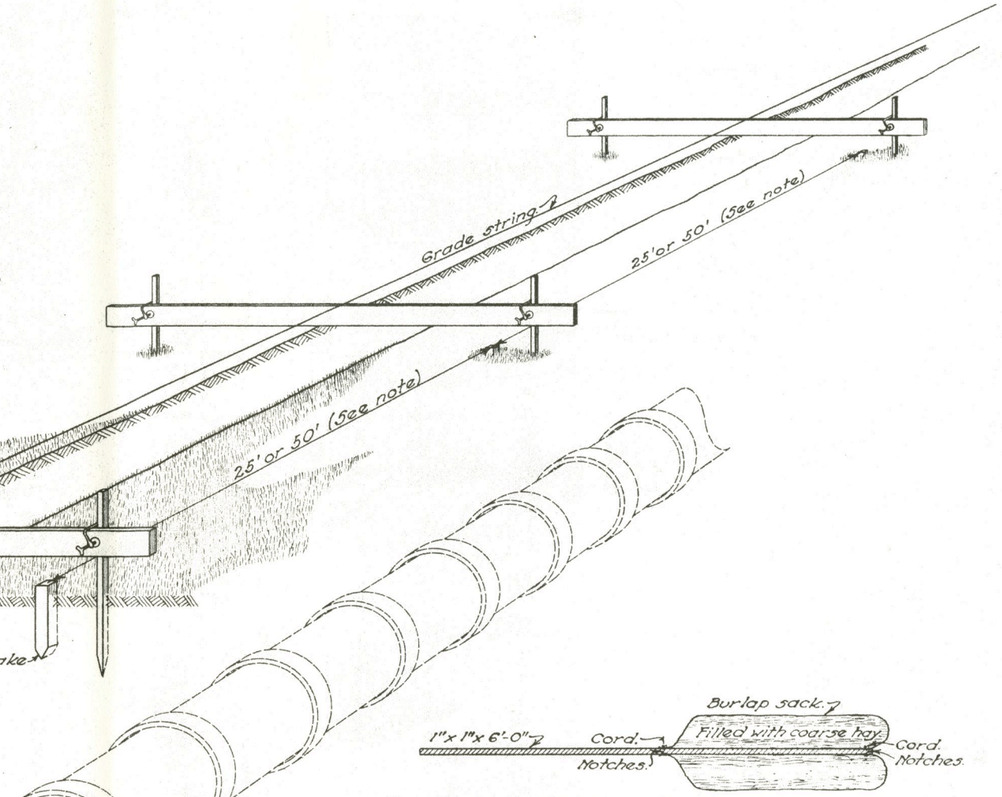


DETAIL OF COLLAR

PIPE UNDERDRAIN OUTLET

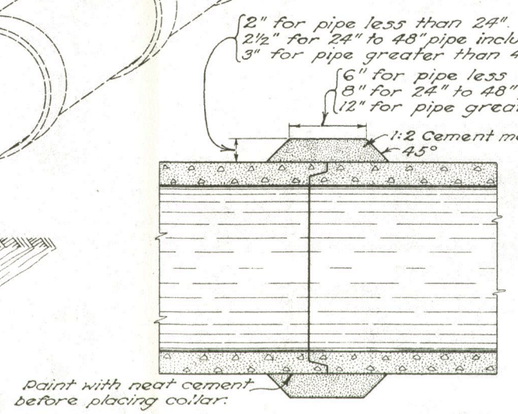


LAYING PIPE

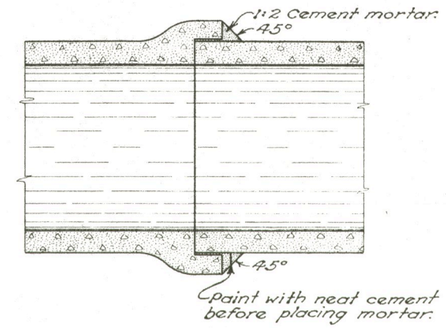


SECTION OF POSSUM

POSSUM



COLLAR JOINT



BELL AND SPIGOT JOINT

PIPE JOINTS

NOTES

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PIPE JOINTS:—
When the construction item calls for sealed joints, they shall conform to the appropriate details shown for pipe joints.

PIPE UNDERDRAIN OUTLET:—
0.15 cu. yds. of concrete (@5½ mix) required for one collar and wall and shall be included in the price bid per lin. ft. of pipe underdrain outlet.

BUREAU OF LOCATION & DESIGN
OHIO
DEPARTMENT OF HIGHWAYS

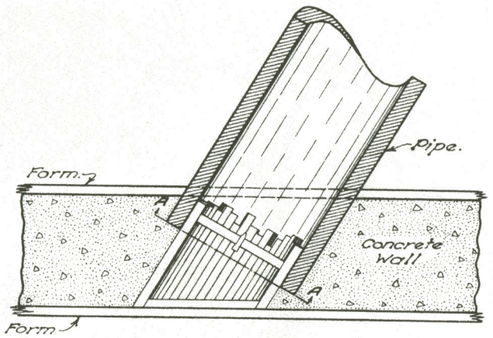
DRAINS AND SEWERS

STANDARD CONSTRUCTION DRAWING I-1,2,3,4&5

APPROVED K. L. R. CHIEF ENGINEER

SEPT. 1933
REVISED
SEPT. 1933
APRIL 1934
MAY-1934

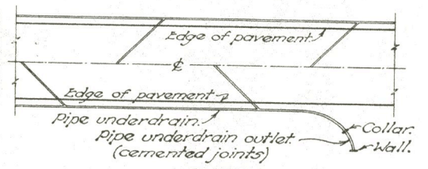
CONSTRUCTION METHODS



SECTION B-B
Through wall and pipe.

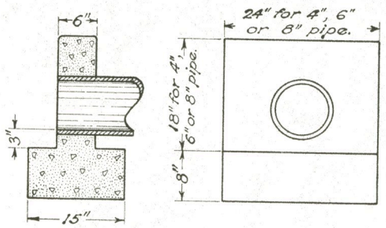
SECTION A-A

BARRELLING CONCRETE WALL

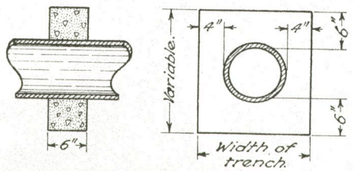


PLAN

SECTION

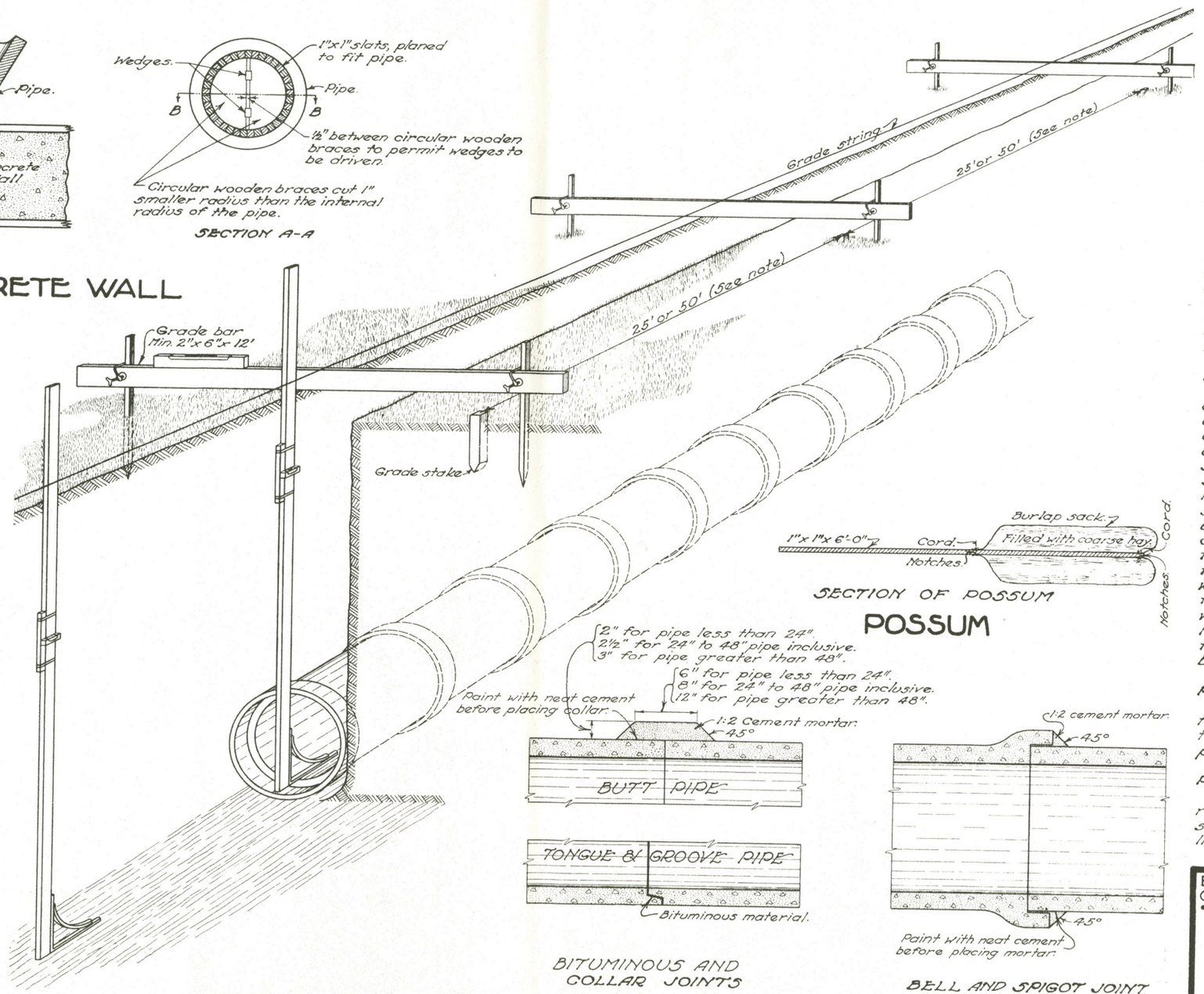


DETAIL OF WALL



DETAIL OF COLLAR

PIPE UNDERDRAIN OUTLET



SECTION OF POSSUM

POSSUM

BITUMINOUS AND COLLAR JOINTS

BELL AND SPIGOT JOINT

LAYING PIPE

PIPE JOINTS

NOTES

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BUREAU OF LOCATION & DESIGN
OHIO DEPARTMENT OF HIGHWAYS

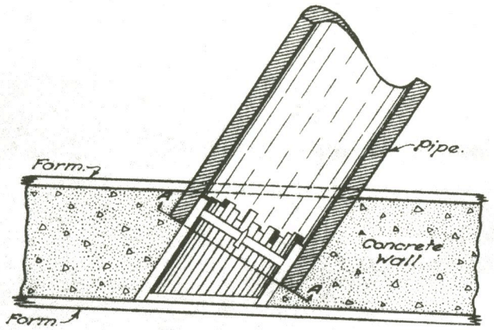
9-1933
4-1934
5-1934
1-1-'36

DRAINS AND SEWERS

STANDARD CONSTRUCTION DRAWING I-1,2,3,4 & 5

APPROVED K.L.R. CHIEF ENGINEER

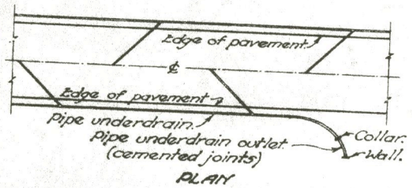
CONSTRUCTION METHODS



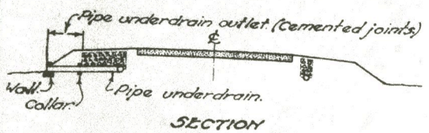
SECTION B-B
Through wall and pipe.

SECTION A-A

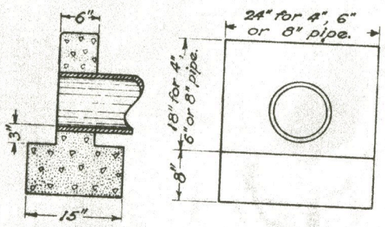
BARRELLING CONCRETE WALL



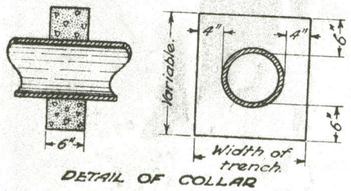
PLAN



SECTION

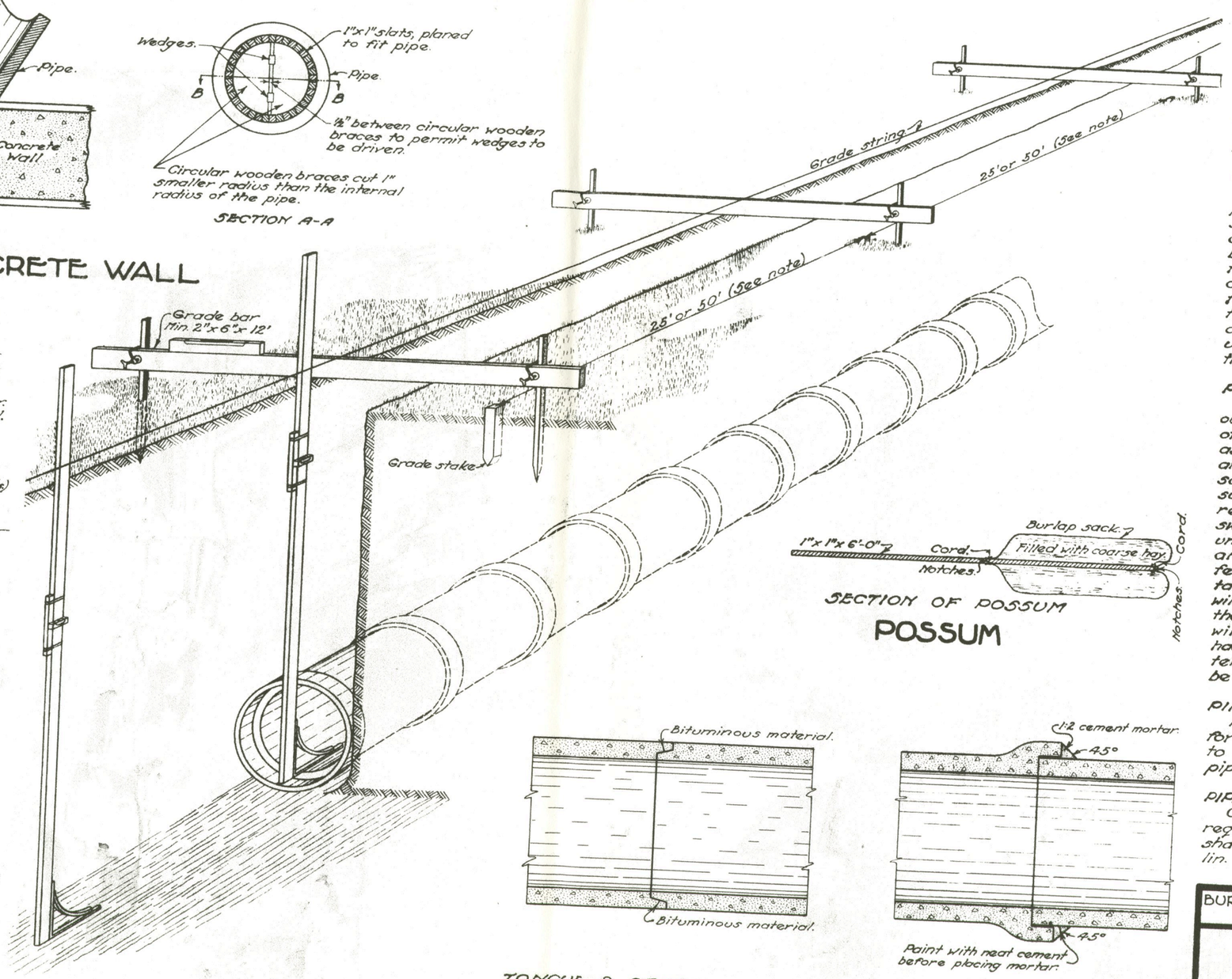


DETAIL OF WALL



DETAIL OF COLLAR

PIPE UNDERDRAIN OUTLET



LAYING PIPE

TONGUE & GROOVE JOINT

BELL AND SPIGOT JOINT

PIPE JOINTS

SECTION OF POSSUM

POSSUM

NOTES

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BUREAU OF LOCATION & RIGHT OF WAY
OHIO DEPARTMENT OF HIGHWAYS

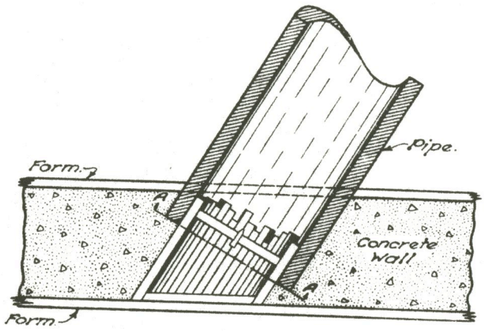
DRAINS AND SEWERS

DATE
9-1933
4-1934
5-1934
1-1-36
3-1-39

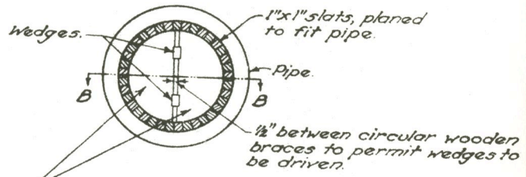
STANDARD CONSTRUCTION DRAWING I-1,2,3,4 & 5

APPROVED [signature] CHIEF ENGINEER

CONSTRUCTION METHODS

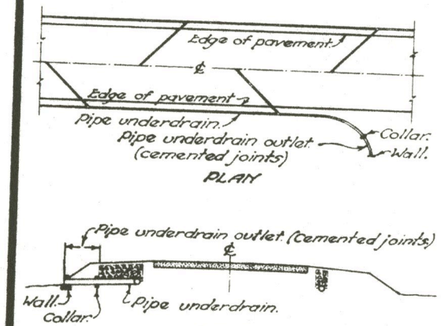


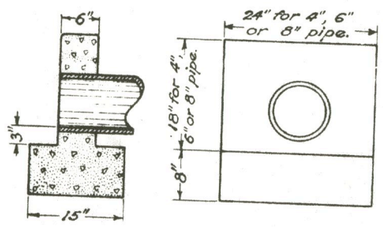
SECTION B-B
Through wall and pipe.



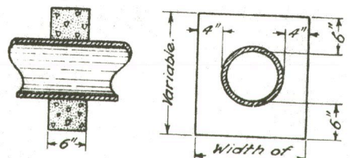
SECTION A-A

BARRELLING CONCRETE WALL



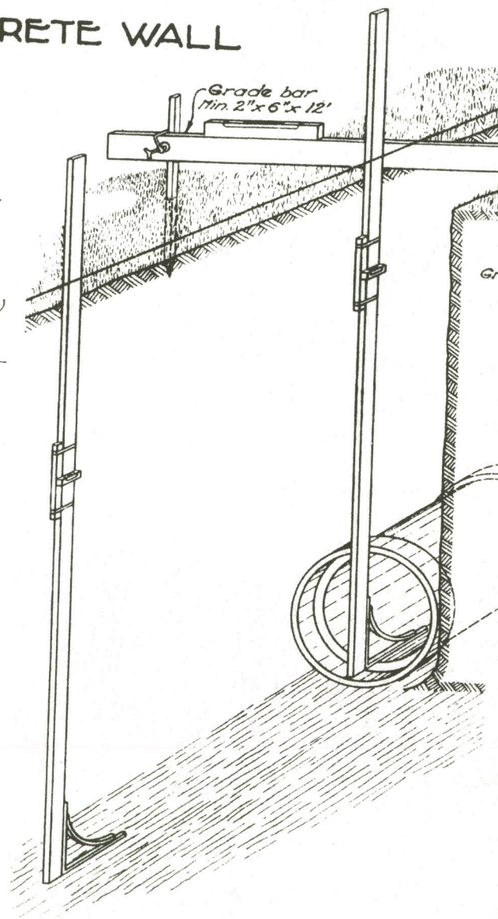


DETAIL OF WALL

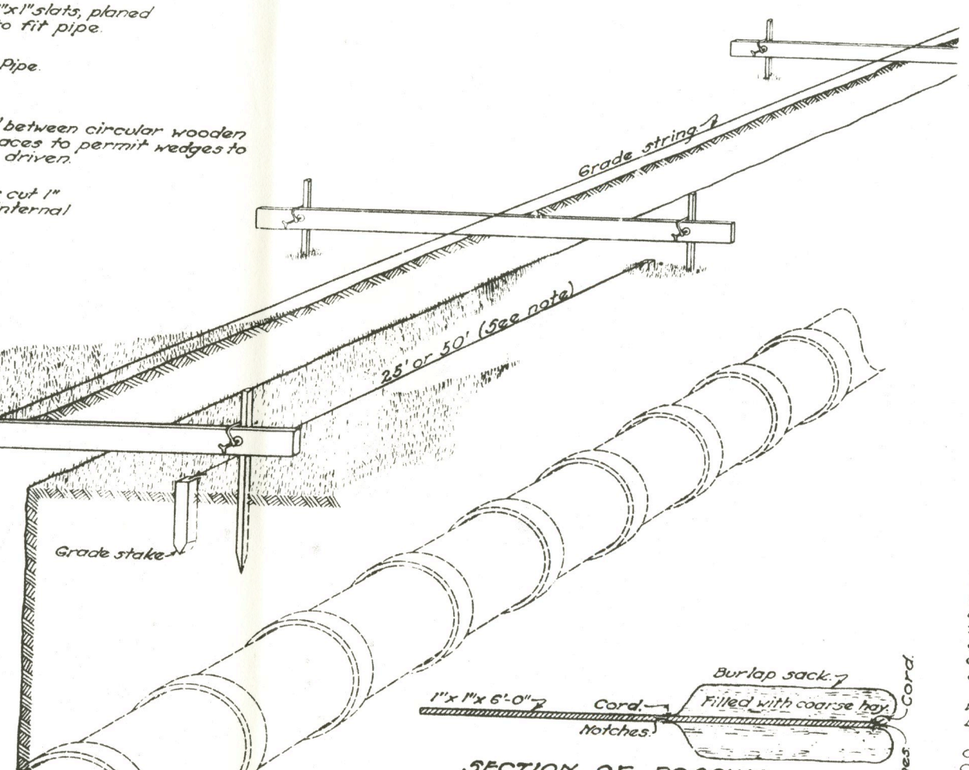


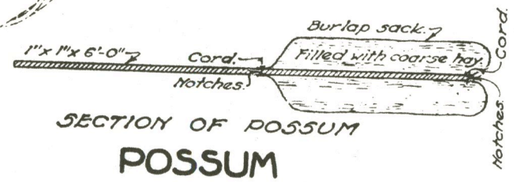
DETAIL OF COLLAR

PIPE UNDERDRAIN OUTLET



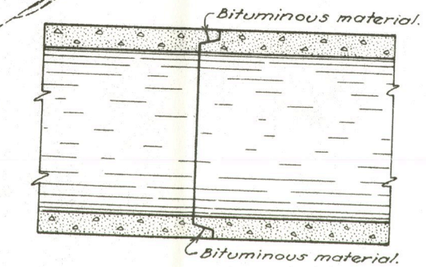
LAYING PIPE



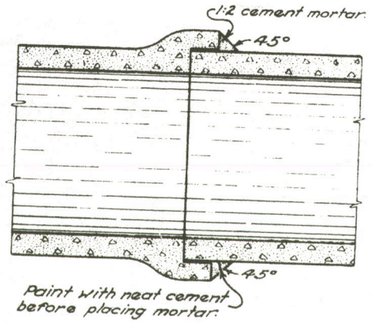


SECTION OF POSSUM

POSSUM



TONGUE & GROOVE JOINT



BELL AND SPIGOT JOINT

PIPE JOINTS

NOTES

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PIPE JOINTS:— When the construction item calls for sealed joints, they shall conform to the appropriate details shown for pipe joints.

ALTERNATE METHOD OF INSTALLATION:— Where tongue and groove pipe, 36" diameter or over is used, the slanting portion of the tongue shall be given one or more coats of Sec. M-5.4 bituminous material before placing. After the pipe has been placed in true alignment and blocked, any opening remaining between the inner surface of the pipe and the slanting portion of the tongue may be filled with stiff cement mortar consisting of one part of cement to two parts of clean sand.

The remaining openings in the joint shall be filled with additional bituminous material by brushing or by pouring.

PIPE UNDERDRAIN OUTLET:— 0.15 cu. yds. of concrete (Class "C") required for one collar and wall and shall be included in the price bid per lineal foot of pipe underdrain outlet.

BUREAU OF LOCATION & RIGHT OF WAY
OHIO DEPARTMENT OF HIGHWAYS

DRAINS AND SEWERS

STANDARD CONSTRUCTION DRAWING I-1,2,3,4 & 5

DATE
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1-1-36
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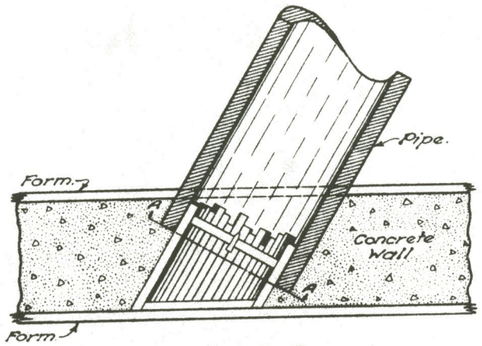
APPROVED M.D.S CHIEF ENGINEER

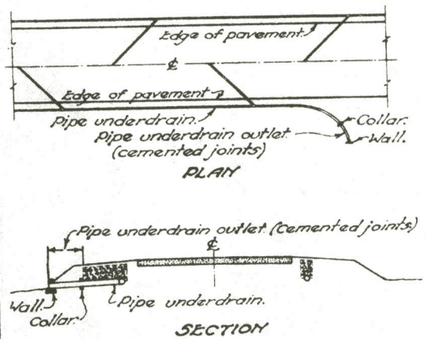
CONSTRUCTION METHODS

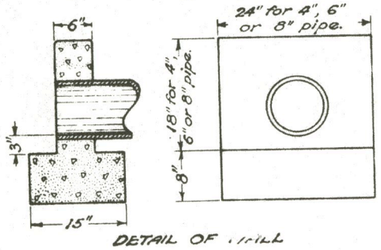


SECTION B-B
Through wall and pipe.

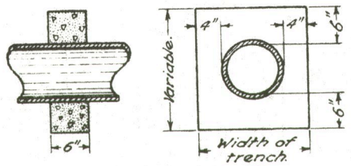
SECTION A-A

BARRELLING CONCRETE WALL



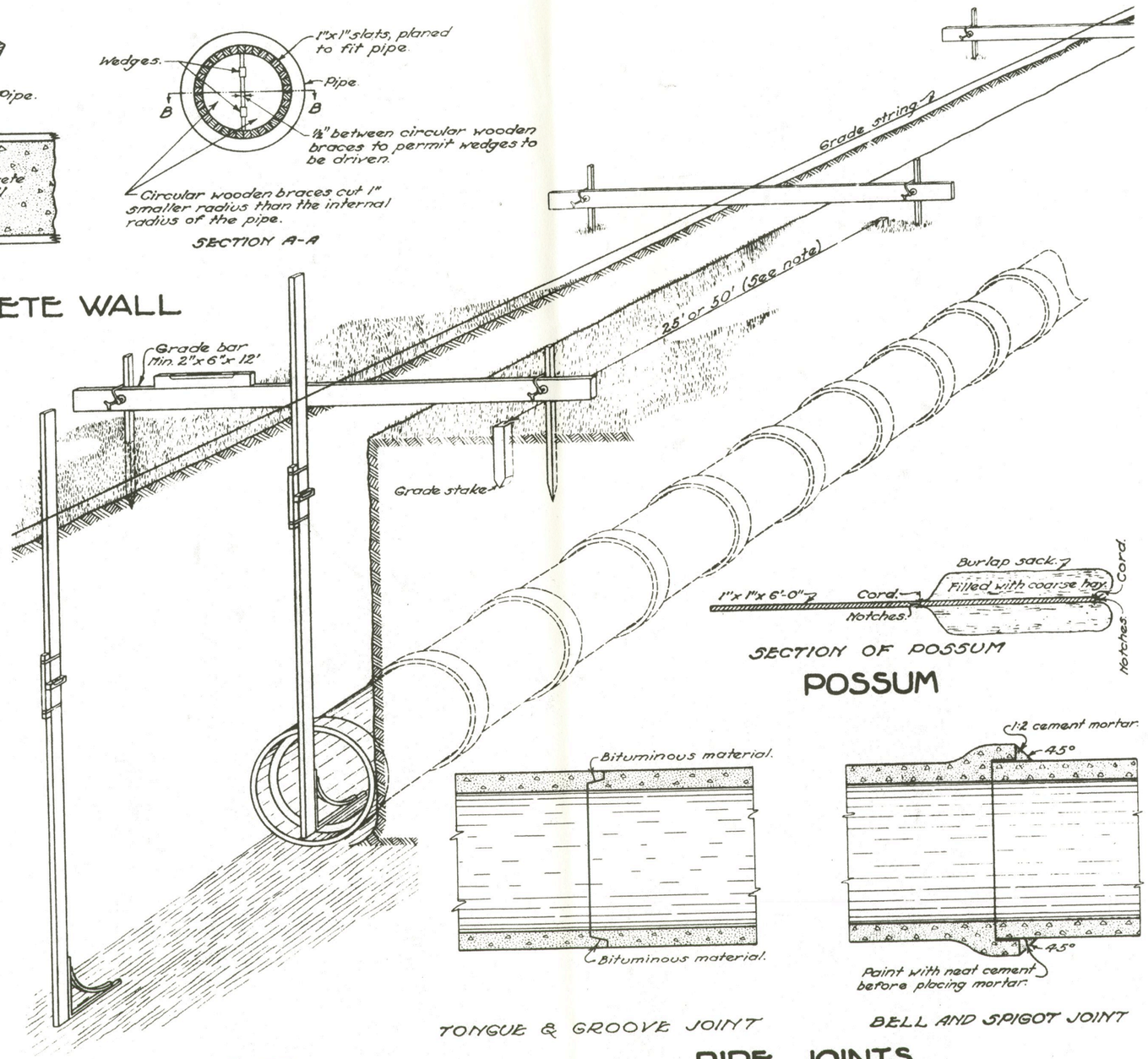


DETAIL OF DRILL



DETAIL OF COLLAR

PIPE UNDERDRAIN OUTLET



LAYING PIPE

SECTION OF POSSUM

POSSUM

TONGUE & GROOVE JOINT

BELL AND SPIGOT JOINT

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GRADE STAKES shall be set at the following intervals:— For grades less than 0.70% – 25 feet. For grades of 0.70% and over – 50 feet.

GRADE POLE shall be a straight pole dressed with corners rounded, size depending on the length but approximately 1"x 2". The pole shall be equiped with a metal bracket on the bottom with a projecting length of 12". Notches shall be cut on the pole for the depth of the flow line below the grade string and for the depth of trench. A spirit level shall be used on the pole to determine when the pole is vertical.

POSSUM or swab is for wiping out any excess mortar from the inside of the pipe and shall be made, and used as follows:— The stem is 1" x 1" x 6'-0" and made of strong wood. The burlap sack shall be filled around the stem in such a manner so that the stem will remain practically central when the swab is in the pipe and the stem is unsupported. The swab, when pulled ahead, shall drag the entire circumference of the pipe so that any mortar which has entered at the joints will be dragged ahead. The length of the stem shall be such that the swab will not pass a joint where the backfill has not been tamped. After every tenth pipe layed, the swab shall be removed and cleaned.

PIPE JOINTS:— When the construction item calls for sealed joints, they shall conform to the appropriate details shown for pipe joints.

ALTERNATE METHOD OF INSTALLATION:— Where tongue and groove pipe, 36" diameter or over is used, the slanting portion of the tongue shall be given one or more coats of Sec.11-5.6 F-1 bitominous material before placing. After the pipe has been placed in true alignment and blocked, any opening remaining between the inner surface of the pipe and the slanting portion of the tongue may be filled with stiff cement mortar consisting of one part of cement to two parts of clean sand.

The remaining openings in the joint shall be filled with additional bituminous material by brushing or by pouring.

PIPE UNDERDRAIN OUTLET:— 0.15 cu. yds. of concrete (Class "C") required for one collar and wall and shall be included in the price bid per lineal foot of pipe underdrain outlet.

BUREAU OF LOCATION & RIGHT OF WAY
OHIO DEPARTMENT OF HIGHWAYS

DRAINS AND SEWERS

STANDARD CONSTRUCTION DRAWING I-1,2,3,4 & 5

APPROVED M.D.S. CHIEF ENGINEER

DATE
9-1933
4-1934
5-1934
1-1-36
3-1-39
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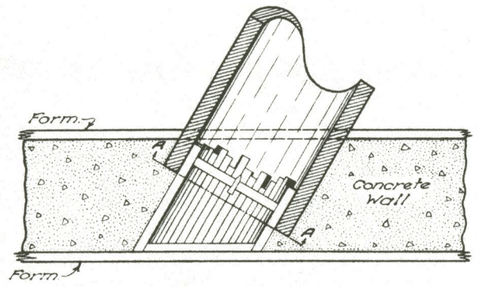
2-20-45

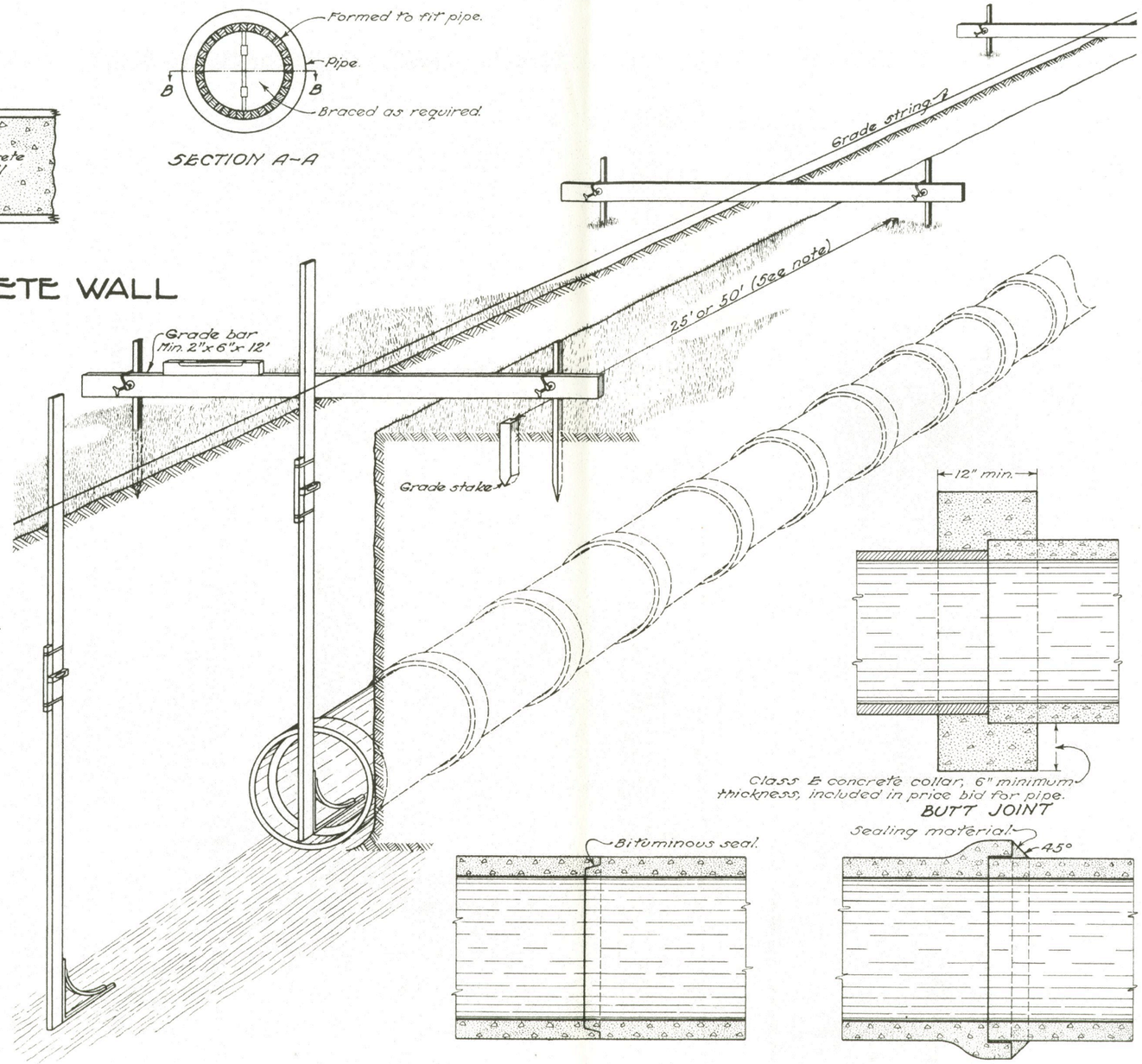
CONSTRUCTION METHODS

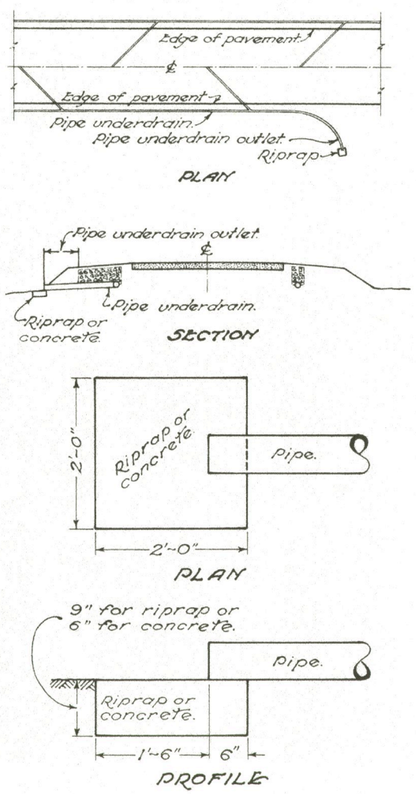


SECTION B-B
Through wall and pipe.

SECTION A-A

BARRELLING CONCRETE WALL





PIPE UNDERDRAIN OUTLET

LAYING PIPE

SEALED PIPE JOINTS

NOTES

BARRELLING OUT CONCRETE WALL:— When necessary that the pipe be barrelled out to the required lengths, it shall be done according to the details shown hereon.

GRADE STAKES shall be set at the following intervals:— For grades less than 0.70% – 25 feet
For grades of 0.70% and over – 50 feet

GRADE POLE shall be a straight pole dressed with corners rounded, size depending on the length but approximately 1"x 2". The pole shall be equipped with a metal bracket on the bottom with a projecting length of 12". Notches shall be cut on the pole for the depth of the flow line below the grade string and for the depth of trench. A spirit level shall be used on the pole to determine when the pole is vertical.

PIPE JOINTS:— When the construction item calls for sealed joints they shall conform to the details shown hereon and to the appropriate sections of the Construction and Material Specifications.

Where called for on the plans, in the proposal or the specifications, pipe of the type and size specified, shall be encased with a minimum of five inches of Class "E" concrete meeting the requirements of Item 5-1. Payment for furnishing and placing the concrete, and for any additional excavation required, shall be included in the price bid per linear foot of the pertinent pipe item.

PIPE UNDERDRAIN OUTLET:— Place type A riprap 9" thick or Class "E" plain concrete slab 6" thick at the outlet end of underdrain pipe as shown. Cost of furnishing and placing riprap or concrete slab shall be included in price bid per lineal foot of outlet pipe.

BUREAU OF LOCATION AND DESIGN
OHIO DEPARTMENT OF HIGHWAYS

DRAINS AND SEWERS

STANDARD CONSTRUCTION DRAWING I-1,2,3,4 & 5

APPROVED [signature] ENGR. L. & D.

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