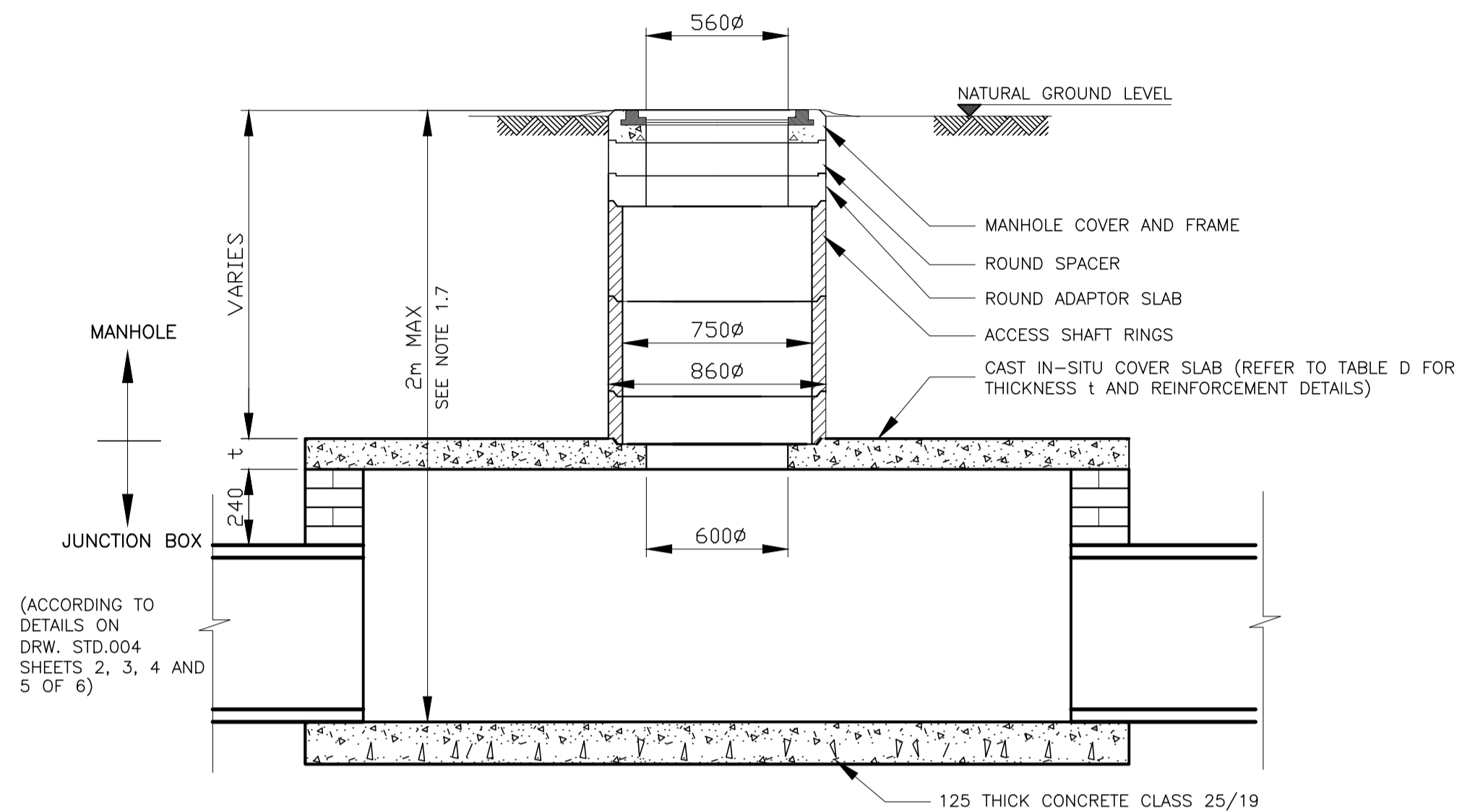
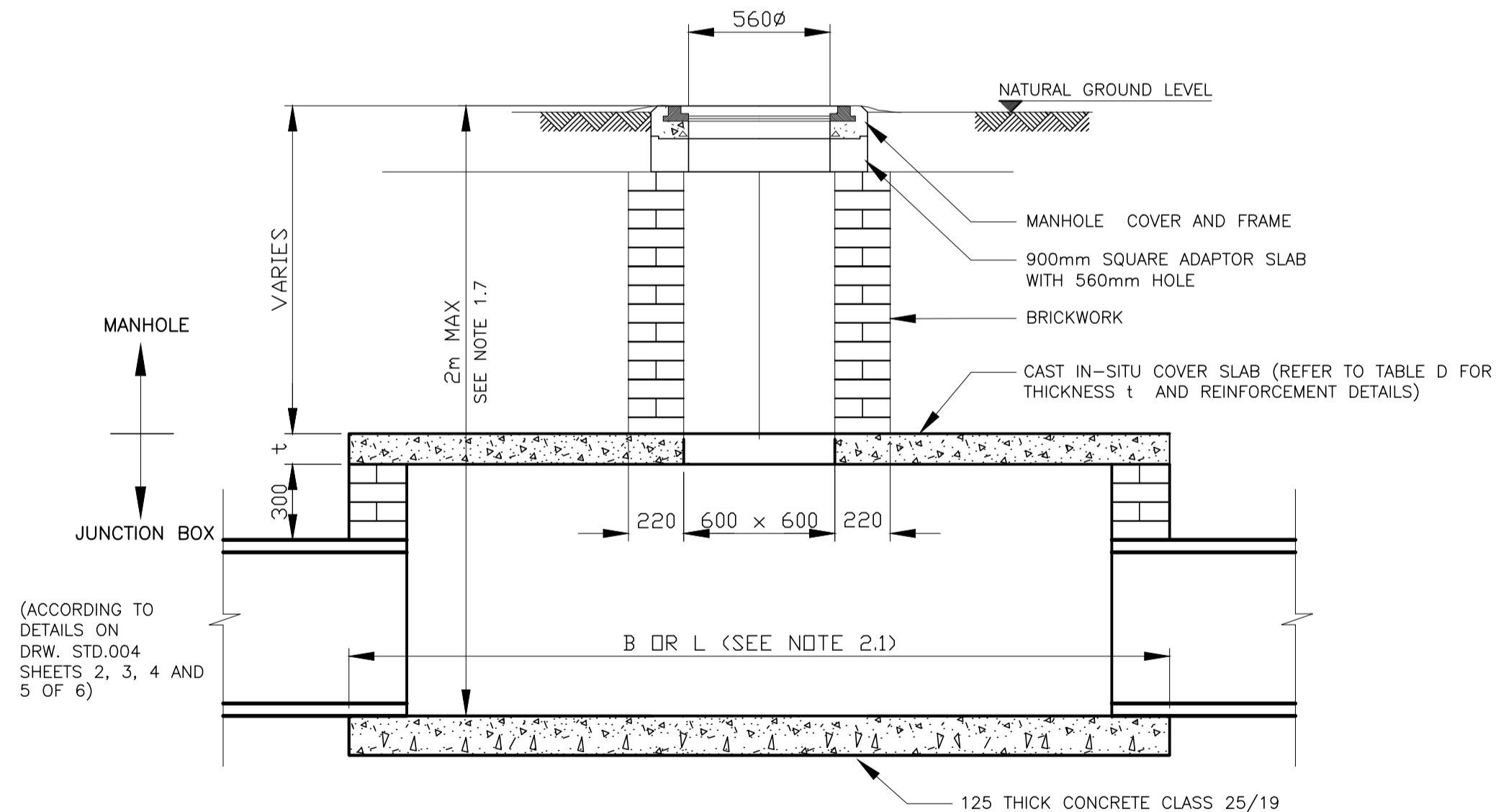


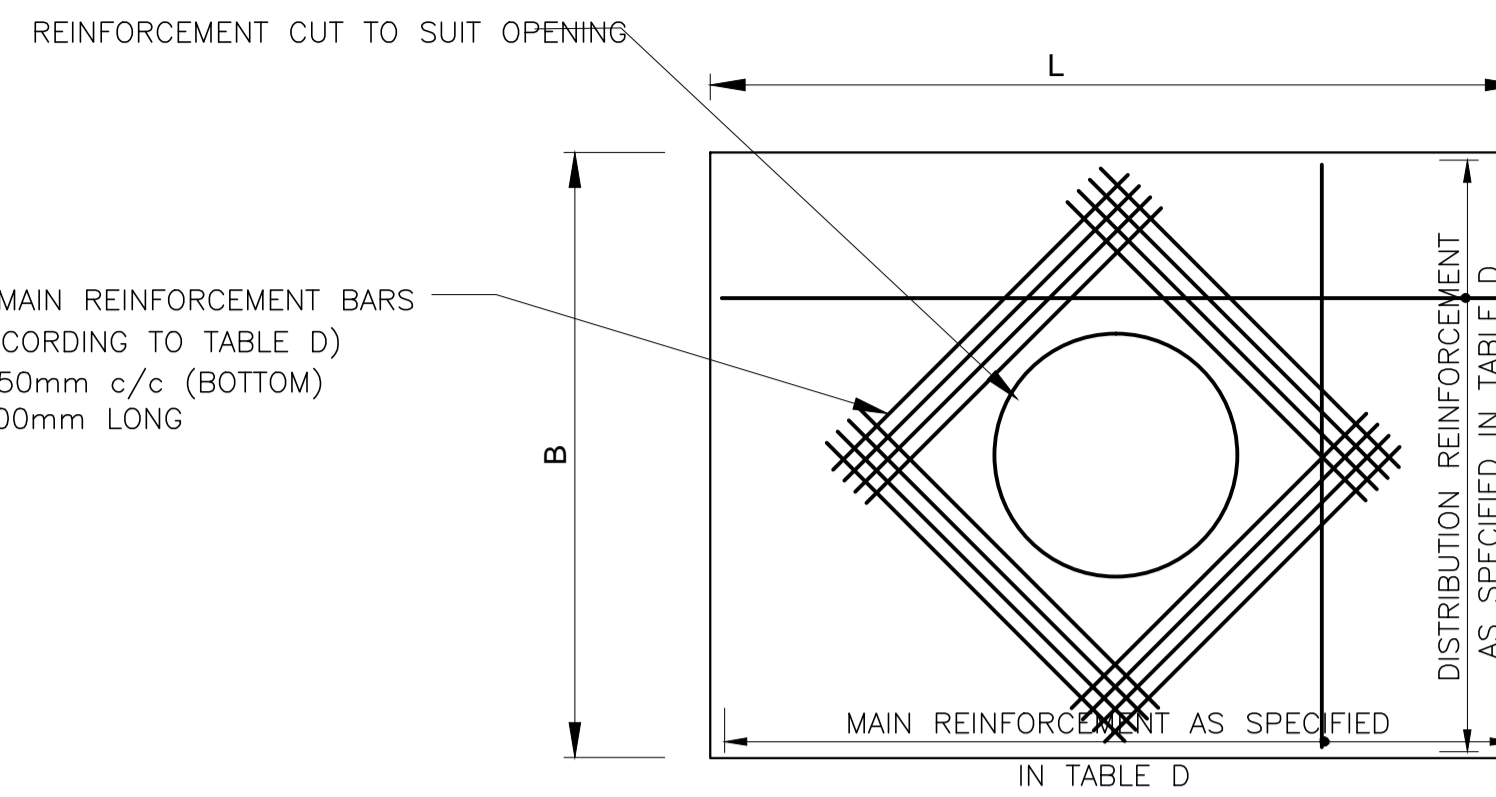
TYPICAL CROSS SECTION THROUGH JUNCTION BOX AND MANHOLE



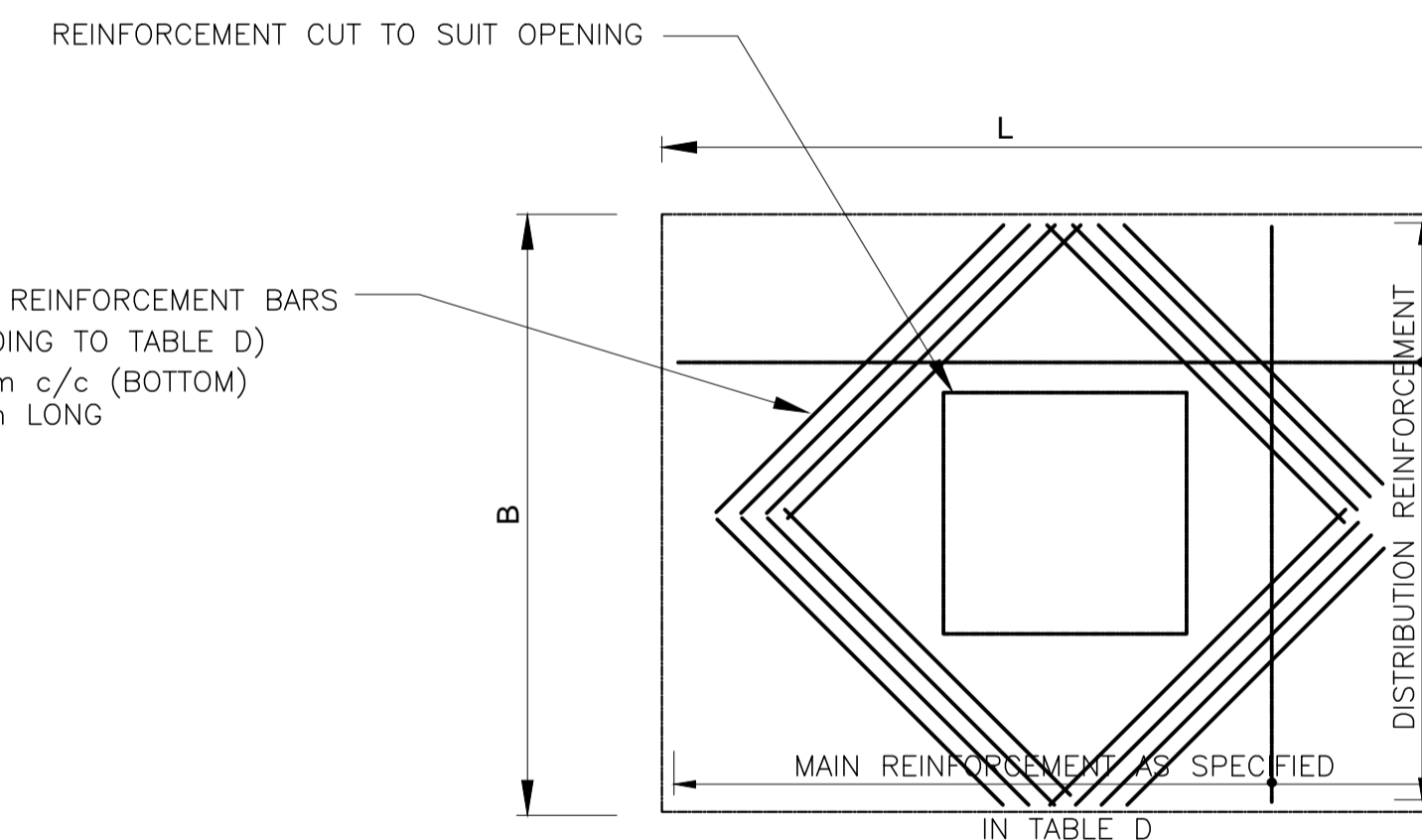
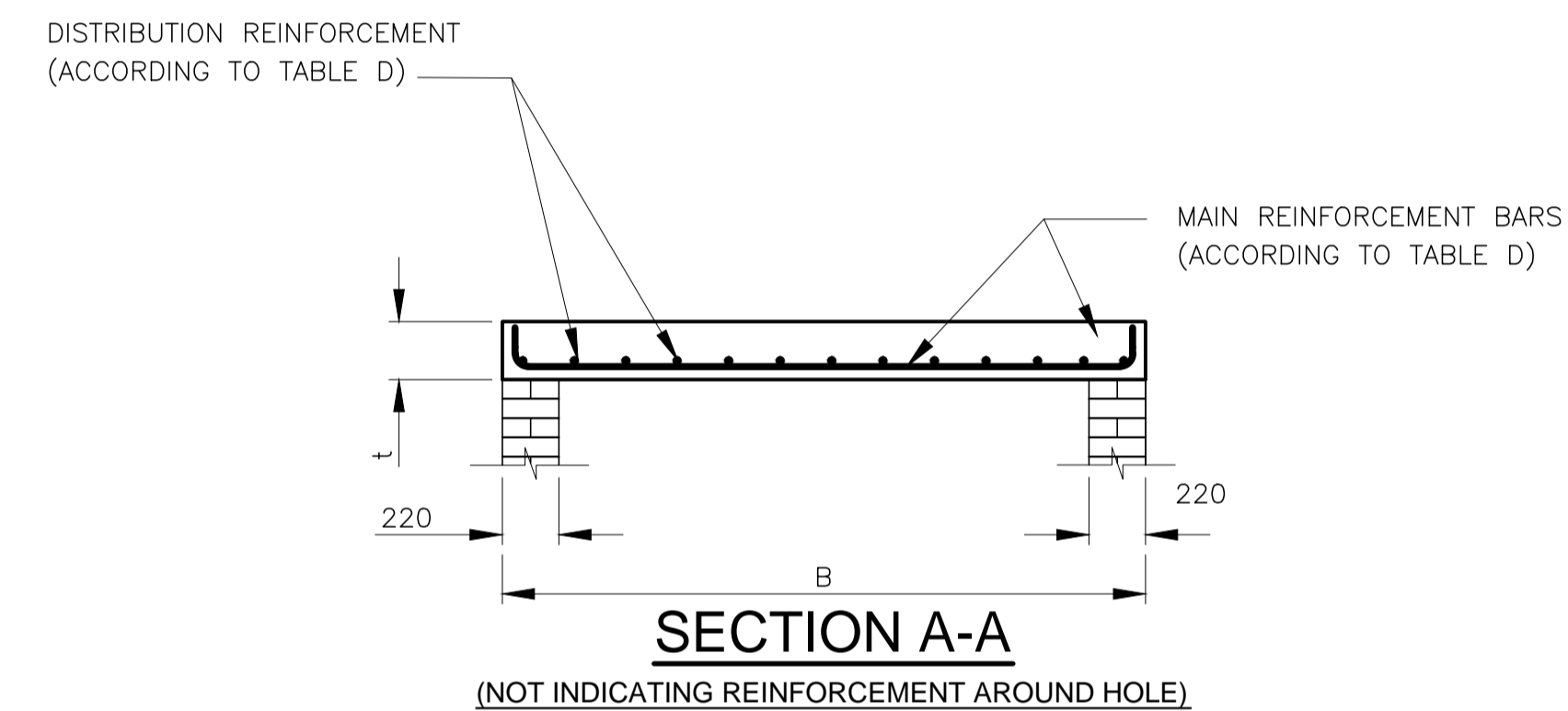
MANHOLE WITH PRECAST SHAFT



MANHOLE WITH MASONRY SHAFT



CAST INSITU COVER SLAB FOR CIRCULAR SHAFT SECTION



CAST INSITU COVER SLAB FOR SQUARE SHAFT SECTION

Span (B) (mm)	Thickness (t) (mm)	Main Reinforcement
Up to 1500	175	Y12 - 120
Up to 2500	200	Y16 - 150
Up to 3000	225	Y16 - 150
> 3000	Design to be submitted	

Distribution reinforcement: Y12 bars @ 200 c/c
Refer to notes for bending details.

NOTES AND SPECIFICATIONS

- MANHOLE**
 - All precast manhole sections shall comply with the relevant requirements of SANS 1294.
 - No step irons shall be required unless otherwise indicated on the drawings.
 - Dimensions of precast manhole sections are approximate and may vary slightly according to different manufacturer's specifications.
 - Position of manholes shall be directly above the PI of adjoining stormwater pipes.
 - The function of the combination precast concrete/cast iron manhole cover is to replace lost cast iron covers, unless otherwise specified.
 - All concrete manhole covers shall have the letters "SW" formed or engraved on top. Each letter shall be 50mm wide, 75mm high and 5mm thick.
 - Where the total depth of the junction box/manhole combination (invert level to finished ground level) exceeds 2.0m, a structural design must be submitted by a professional engineer.
 - All bricks shall comply with SANS 227 and shall be engineering units of class FBS (Face brick Standard) with a nominal compressive strength of 12 MPa.
- CAST IN-SITU COVER SLABS**
 - Measurement B is always smaller than L.
 - Concrete to be class 25/19.
 - Concrete to be cured for a minimum period of 7 days.
 - Minimum cover to reinforcement is 20mm.
 - Type, bar and spacing of reinforcement as specified in Table D.
 - Main reinforcement to be shape code 38, with hook length (A- dimension) not less than t minus 60, except for slabs with a span not exceeding 1000, where no hooks are required and shape code 20 is used.

NR.	DATE	APPROVED	DESCRIPTION	PAR.

DESIGNED P. A. ODEENDAAL Pr.Eng.	DRAWN S. AUDIE
DESIGN CHECKED BY P. A. ODEENDAAL Pr.Eng.	INFRASTRUCTURE TECHNICAL INFORMATION MANAGEMENT D. J. CHALMERS

<input type="radio"/> CONCEPT DRAWING	<input type="radio"/> TENDER DRAWING	<input type="radio"/> APPROVED FOR CONSTRUCTION DRAWING	<input type="radio"/> AS BUILT DRAWING
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PROJECT ENGINEER (CONSULTANT)	INITIALS AND SURNAME	SIGNATURE AND P. No.	DATE
INSPECTOR OF WORKS (CITY OF TSHWANE)	INITIALS AND SURNAME	SIGNATURE AND P. No.	DATE

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CITY OF TSHWANE
ROADS AND TRANSPORT DEPARTMENT
Mr P. L. Lelionkane
STRATEGIC EXECUTIVE DIRECTOR
P.O. BOX 1409
PRETORIA 0001

Ms. L. V. Kegakhe-Phe
EXECUTIVE DIRECTOR
P.O. BOX 1409
PRETORIA 0001

TYPICAL STANDARD DETAILS

JUNCTION BOX AND MANHOLE DETAILS

CONTRACT No.:	PROJECT No.:
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DATE: MAY 2013	SCALE: AS SHOWN	ORIGINAL PAPER SIZE: A1
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DRAWING NO: STD004	SHEET NO: 6 of 7	REVISION
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ROADS AND STORMWATER
For Internal Approval

RECEIVED
SIGNATURE: _____ DATE: _____

DIRECTOR: INFRASTRUCTURE PROVISION

RECEIVED
SIGNATURE: _____ DATE: _____

DIRECTOR: INFRASTRUCTURE CONSTRUCTION/PROJECT/MANAGEMENT

RECEIVED
SIGNATURE: _____ DATE: _____

DIRECTOR: INFRASTRUCTURE/ASSET MANAGEMENT

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DIRECTOR: TRANSPORT INFRASTRUCTURE PLANNING

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DIRECTOR: INTELLIGENT TRANSPORT SYSTEMS AND TRAFFIC ENGINEERING

RECEIVED
SIGNATURE: _____ DATE: _____

DIRECTOR: INFRASTRUCTURE MAINTENANCE MANAGEMENT (IMM)

SCALE: 1:1000