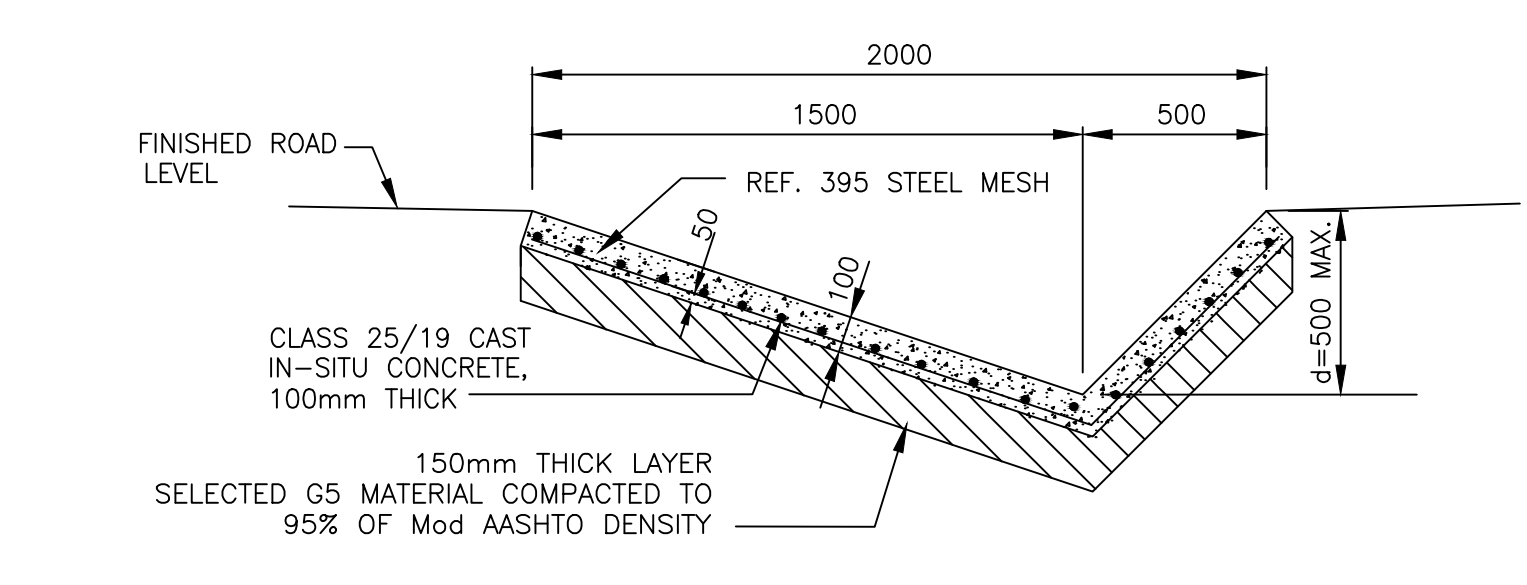
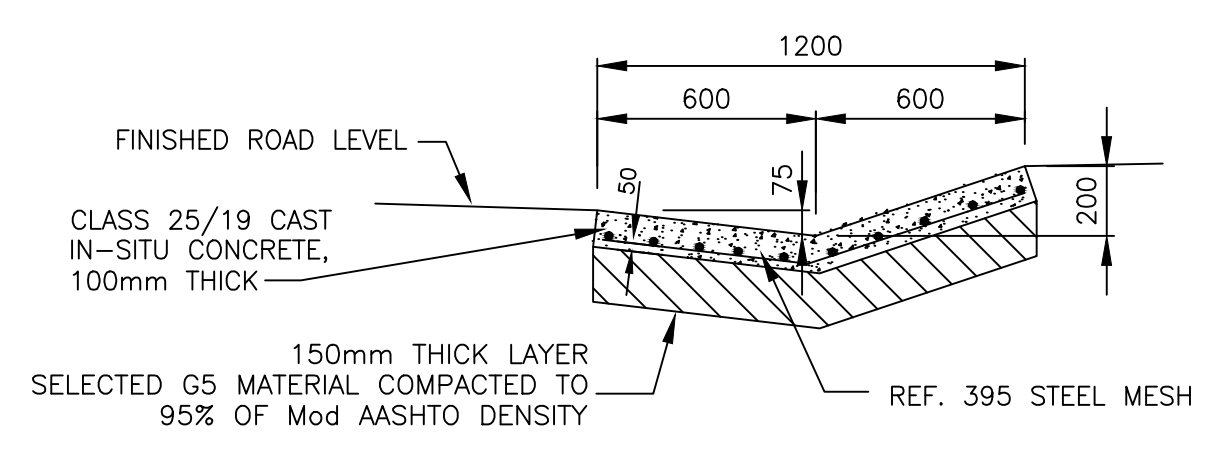


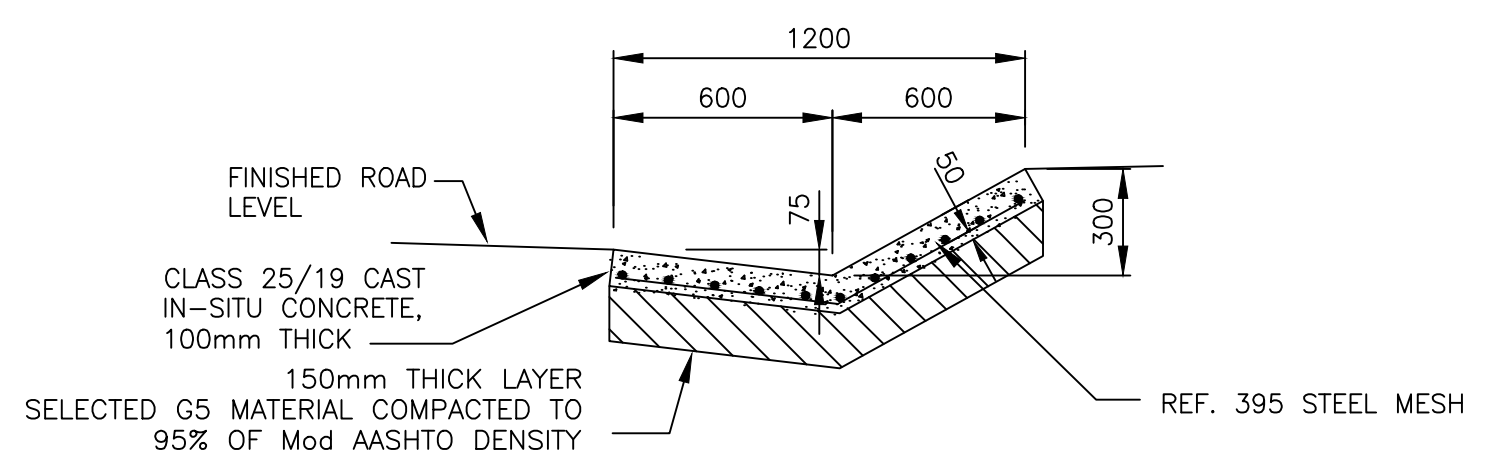
TYPICAL ROAD SECTION



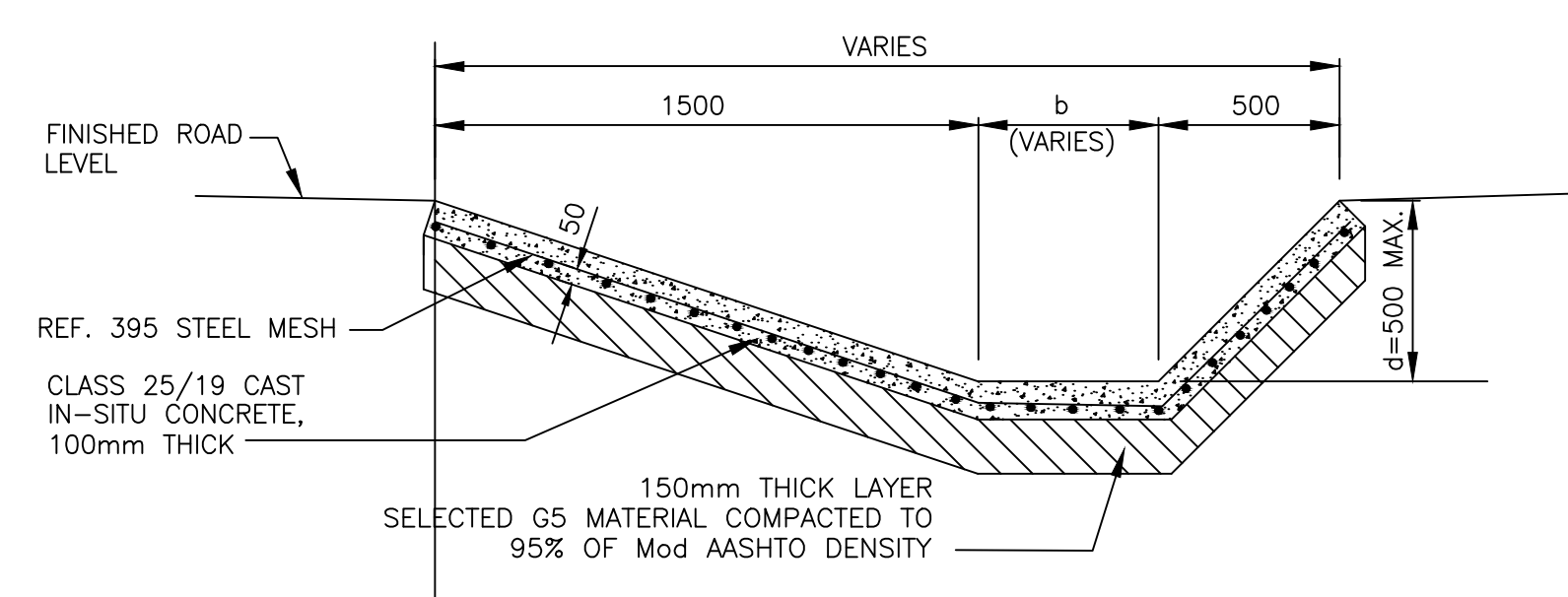
TYPE 4: LARGE SIDE DRAIN WITH NO ERF ACCESS



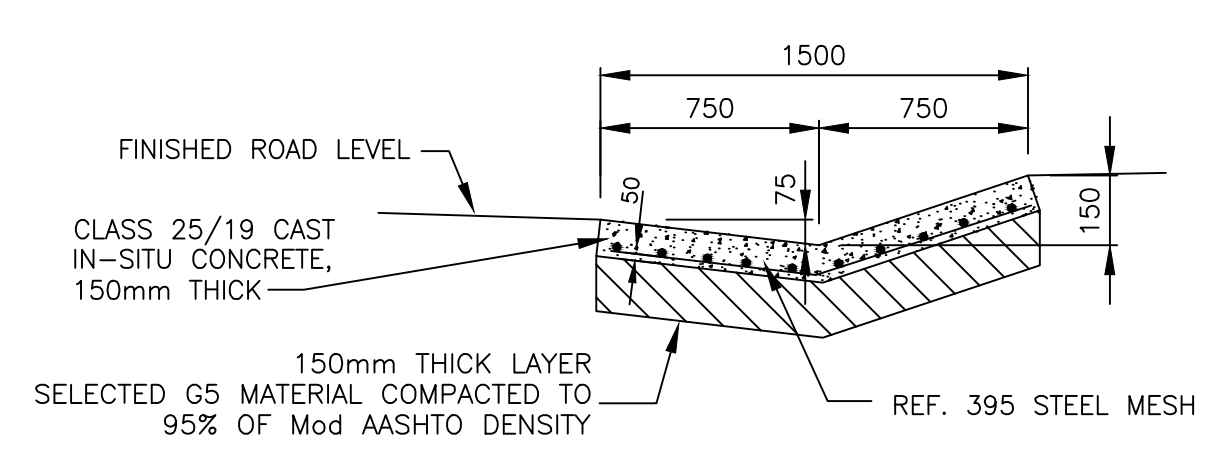
TYPE 1.1: SMALL SIDE DRAIN ALLOWING ERF ACCESS



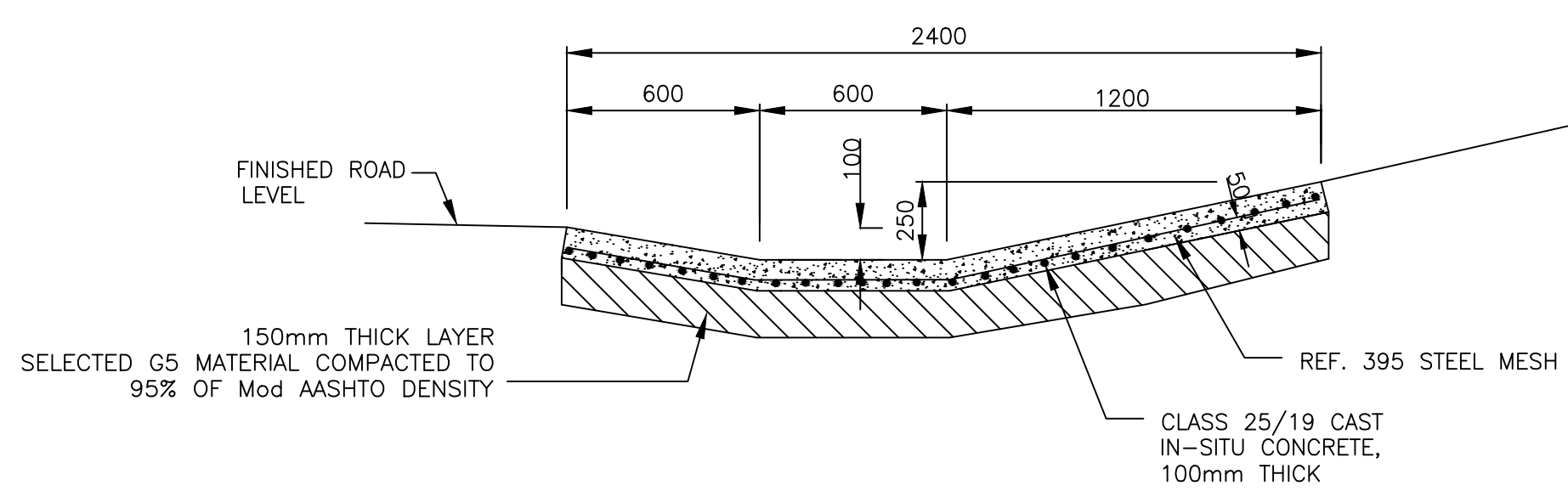
TYPE 2: SMALL SIDE DRAIN WITH NO ERF ACCESS



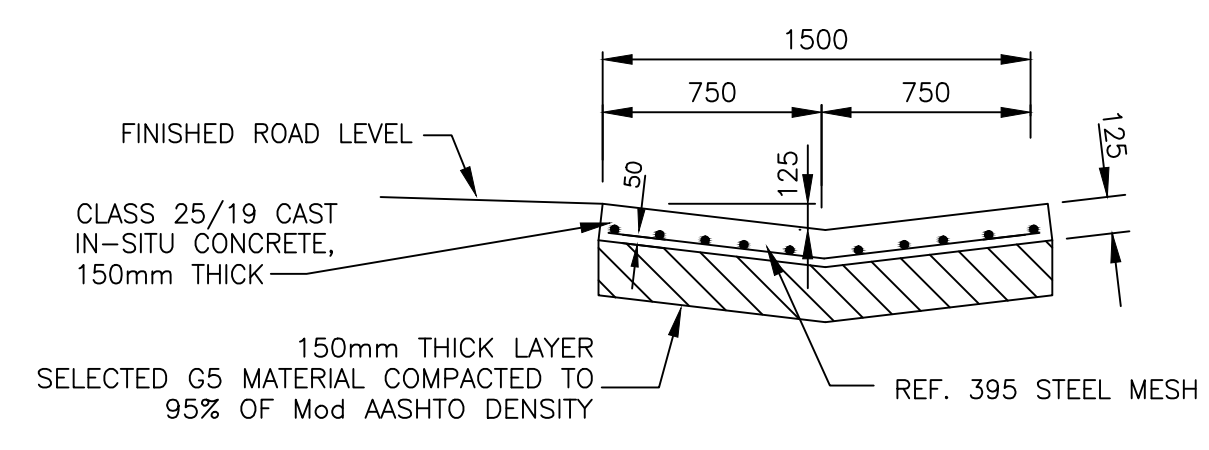
TYPE 5: LARGE SIDE DRAIN WHERE REQUIRED CAPACITY EXCEEDS THAT OF TYPE 4



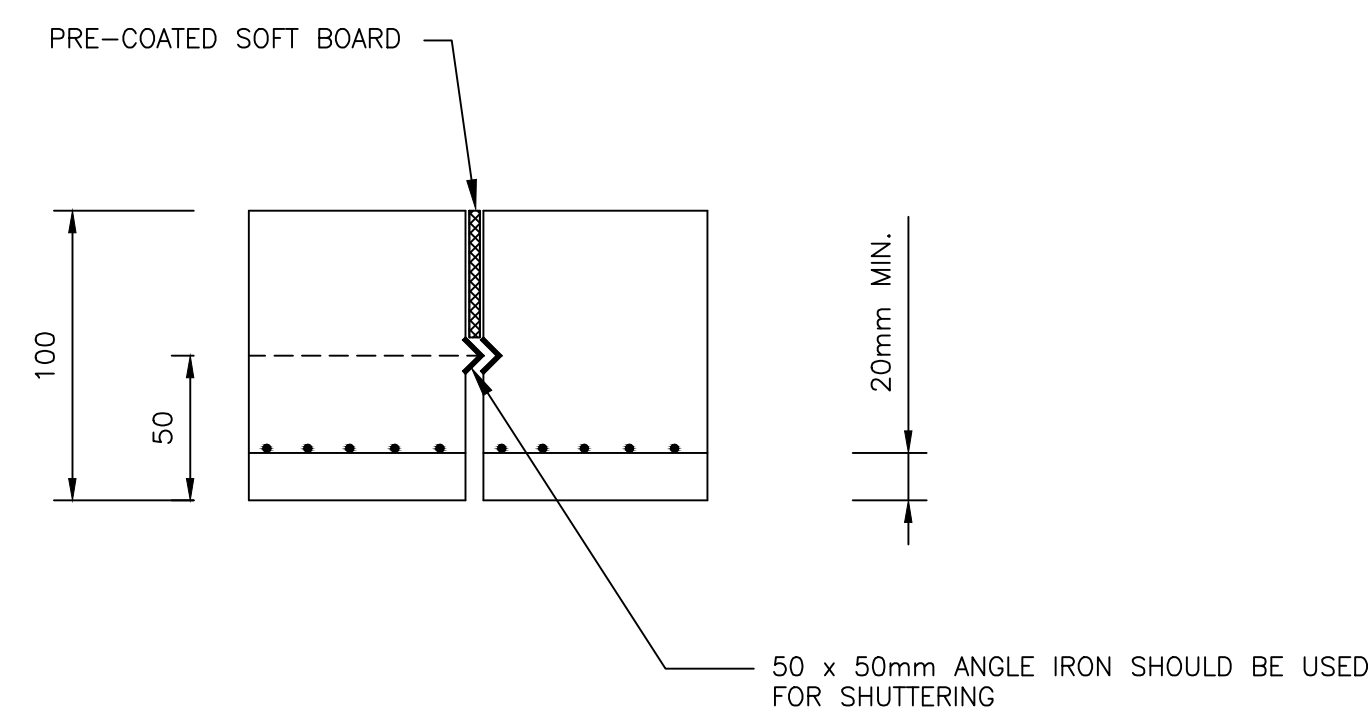
TYPE 1.2: SMALL SIDE DRAIN ALLOWING ERF ACCESS



TYPE 3: LARGE SIDE DRAIN ALLOWING ERF ACCESS



TYPE 1.3: SMALL SIDE DRAIN ALLOWING ERF ACCESS



**APPLICABLE TO ALL CHANNELS AND V-DRAINS
SECTION OF JOINTS**

NOTES AND SPECIFICATIONS

- 1. STORMWATER SIDE DRAIN**
- 1.1 MINIMUM LONGITUDINAL SECTION IS 0.67%
- 1.2 MAXIMUM LONGITUDINAL SLOPE SHOULD BE SUCH THAT FLOW VELOCITIES DO NOT EXCEED 3.5 m/s.
- 1.3 MAXIMUM DEPTH FOR TYPE 4 AND 5 SIDE DRAINS IS 500mm, OTHER TYPES AS INDICATED.
- 1.4 UNLINED SIDE DRAINS ARE ONLY PERMITTED WHERE THE FLOW VELOCITY IS LESS THAN 1.5 m/s FOR MINOR STORM (1.2 YEAR RECURRENCE INTERVAL).
- 1.5 IF NOT POSSIBLE TO LIMIT FLOW VELOCITIES IN SIDE DRAINS TO 3.5 m/s, OR AVAILABLE SPACE WITHIN THE ROAD RESERVE RESTRICT THE CONSTRUCTION OF THE REQUIRED SIZE TYPE 5 SIDE DRAIN, PIPES OR CULVERTS MUST BE INSTALLED.
- 1.6 SOFT BOARD FILLED JOINTS (10mm) TO BE PROVIDED AT MAX. 3m CENTRES.
- 1.7 THIS DRAWING ONLY INDICATES THE DETAIL OF SIDE DRAINS AND DOES NOT LIMIT THE USE OF PIPE OR BOX CULVERTS, IF SO REQUIRED BY THE OR DESIGN COST CONSIDERATIONS.
- 1.8 ALSO REFER TO SECTION 504 OF THE STANDARD SPECIFICATIONS FOR MUNICIPAL CIVIL ENGINEERING WORKS, 3rd EDITION, 2005.

AMENDMENTS				
NR.	DATE	APPROVED	DESCRIPTION	PAR.

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DESIGN CHECKED BY P. A. OGDENDAAL Pr.Eng	INFRASTRUCTURE TECHNICAL INFORMATION MANAGEMENT D.J. CHALMERS

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DRAWING APPROVED BY ACTING EXECUTIVE DIRECTOR
Mr Lebepe M.T. (Thabo)

TYPICAL STANDARD DETAILS

DESCRIPTION OF PROJECT
ROAD AND SURFACE DRAINAGE DETAILS FOR LOW-COST DEVELOPMENT ROAD CROSS-SECTION AND SIDE DRAIN

CONTRACT No.:	PROJECT No.:
DATE: FEBRUARY 2017	SCALE: AS SHOWN
DRAWING NO. STD017	SHEET NO. 2 OF 4

