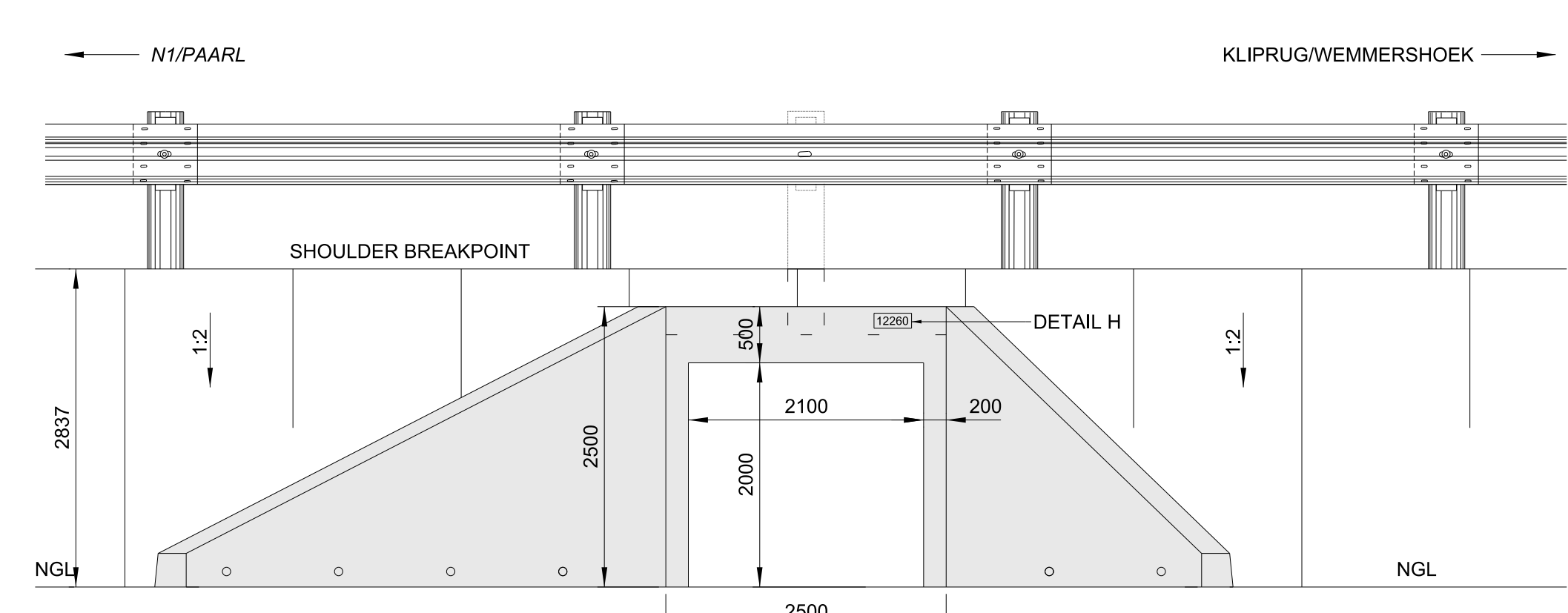
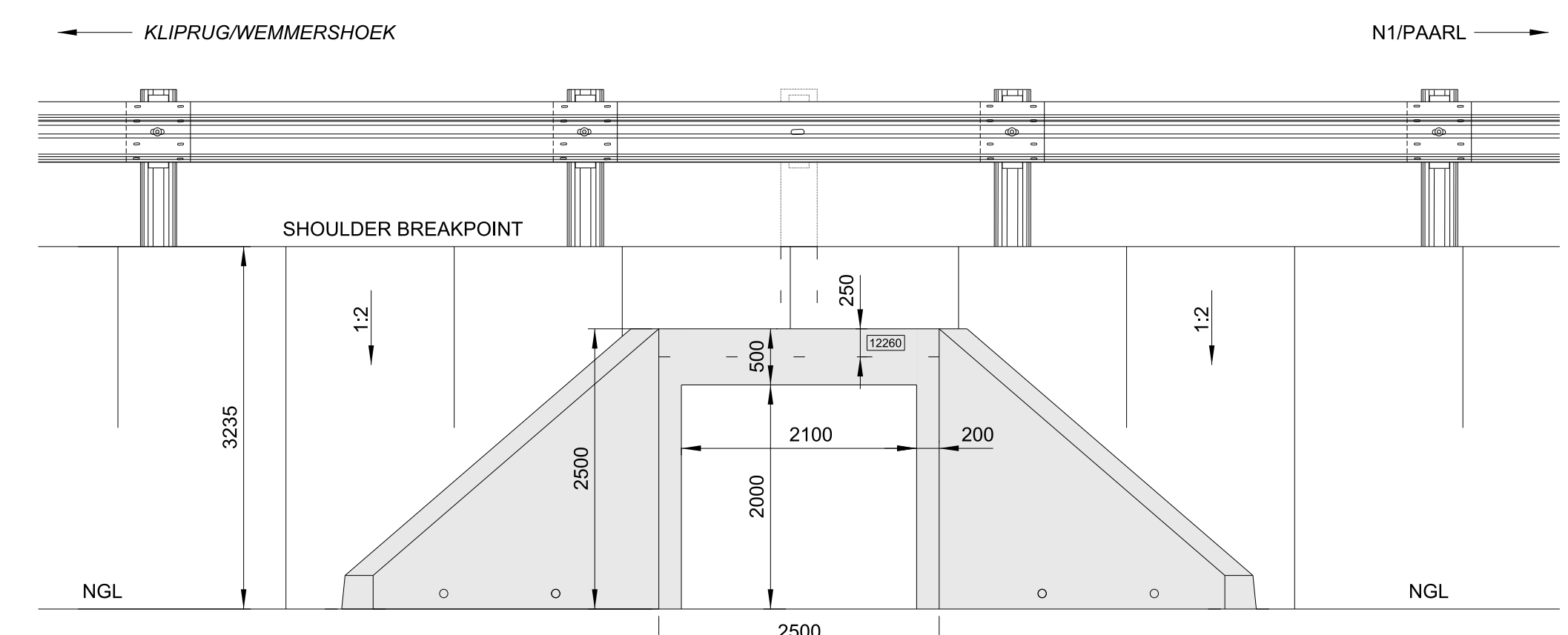


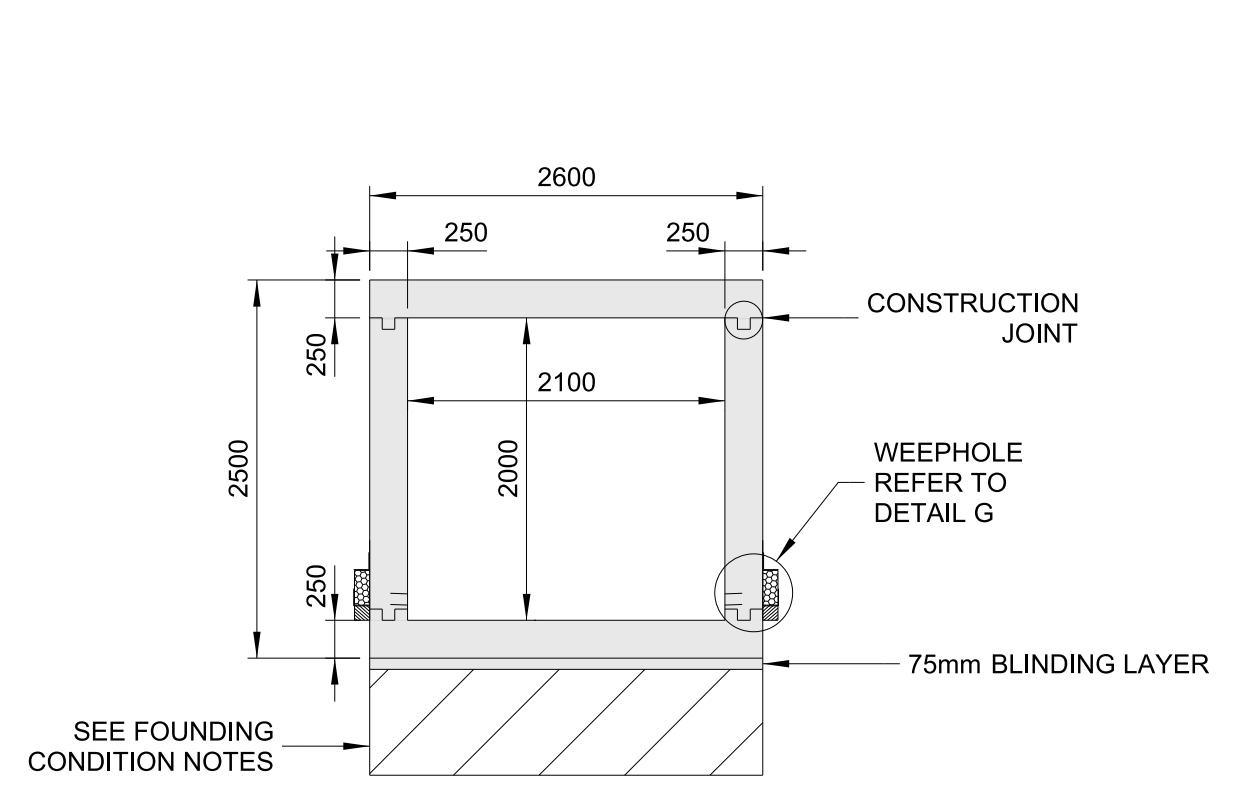
LONGITUDINAL SECTION A-A
SCALE 1:50



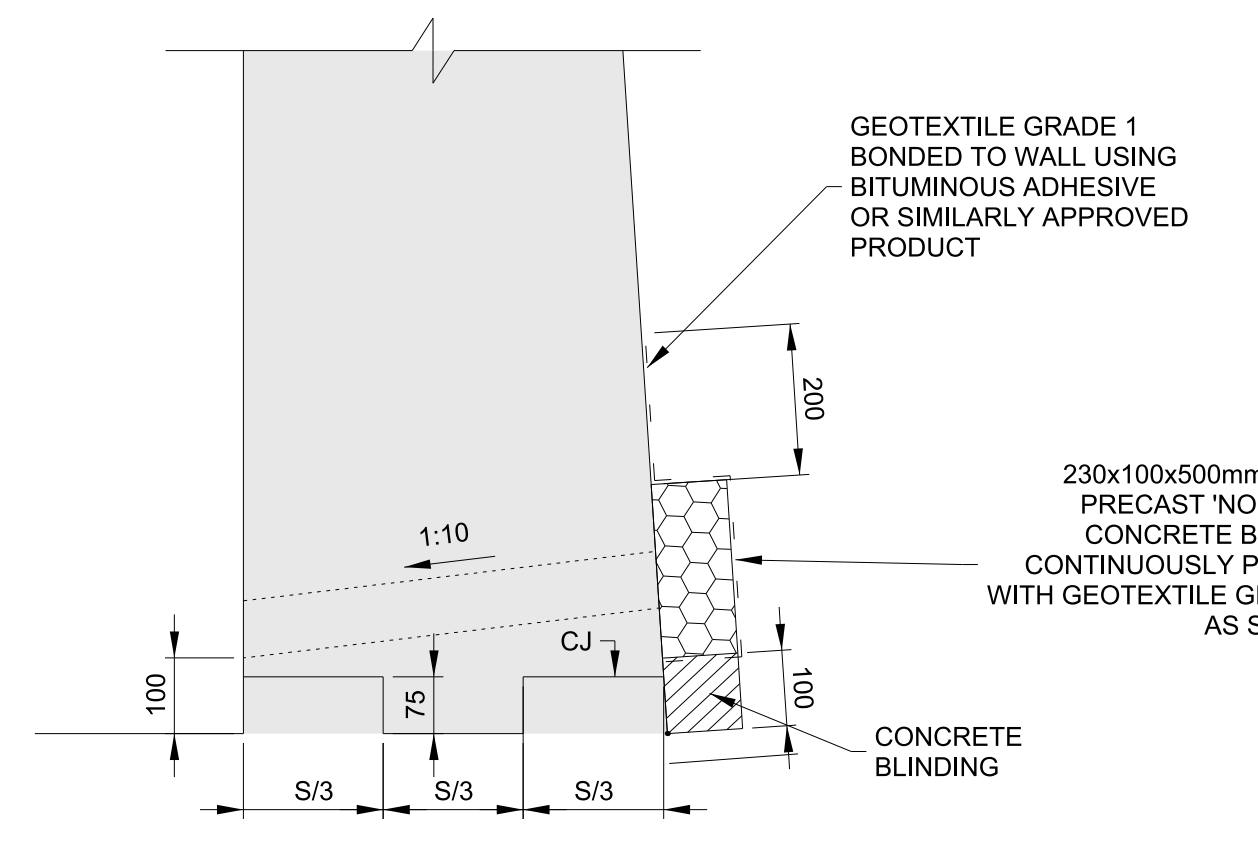
OUTLET ELEVATION
SCALE 1:50



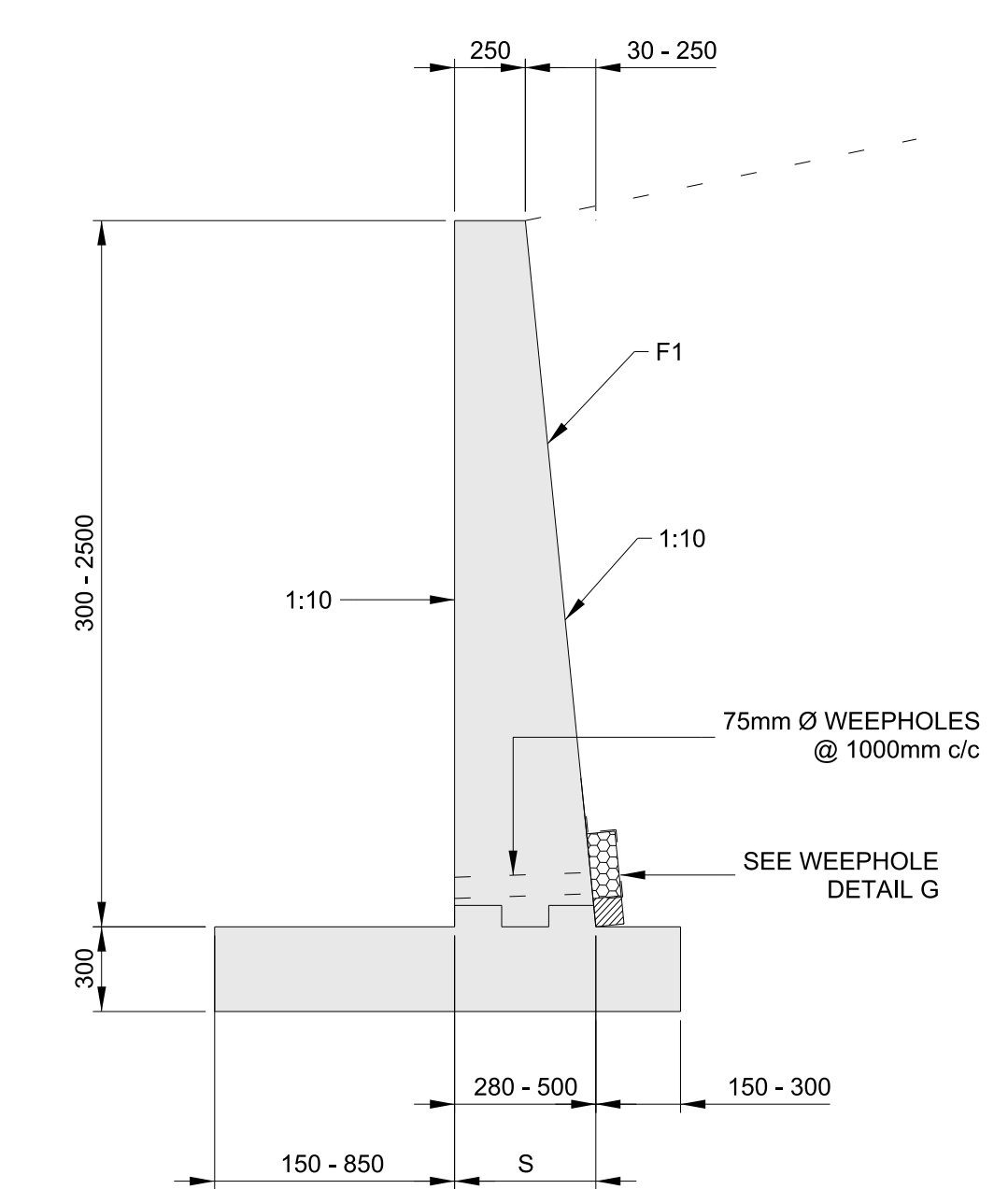
INLET ELEVATION
SCALE 1:50



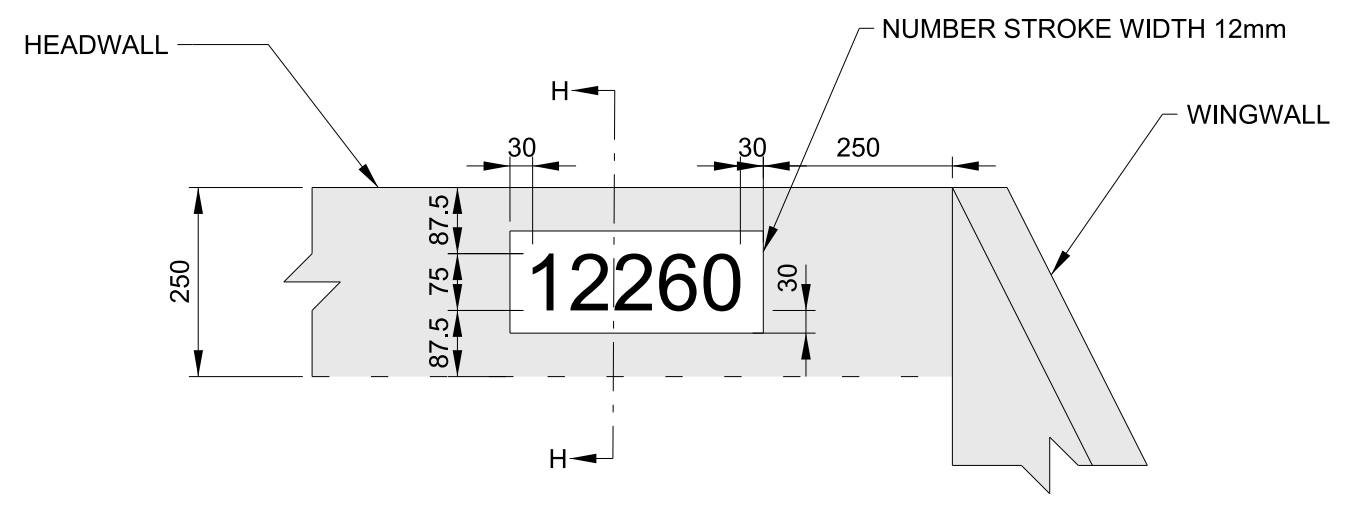
SECTION G-G
SCALE 1:50



DETAIL G
WEEPHOLE DETAIL
SCALE 1:10

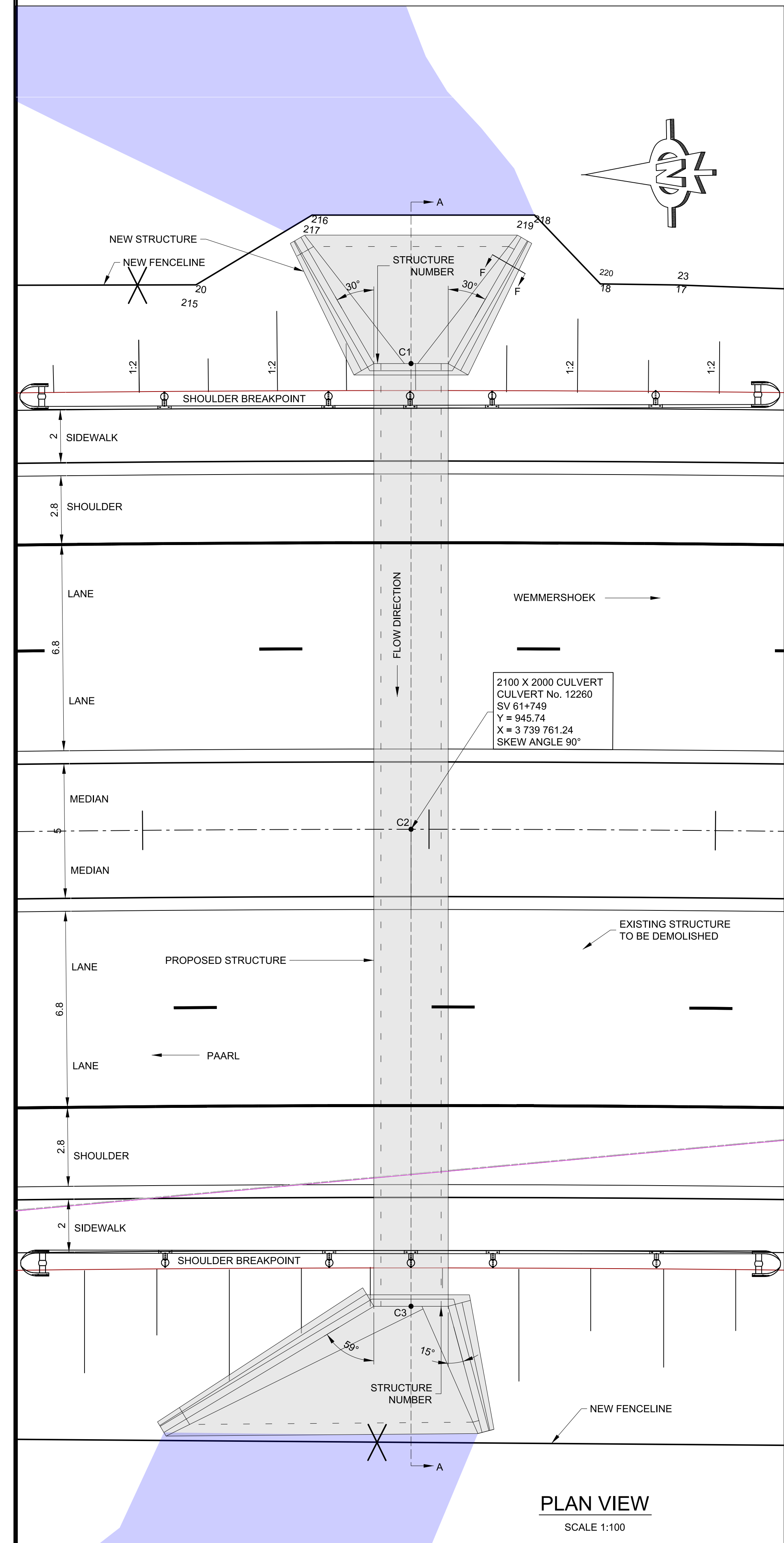


SECTION F-F
SCALE 1:25



DETAIL H
SCALE 1:10

HYDRAULIC INFORMATION CULVERT 12260	
EFFECTIVE CATCHMENT AREA (km ²)	2,712
DESIGN FLOOD (yrs)	20
DESIGN FLOOD Q _d (m ³ /s)	9,328
HYDROLOGICAL METHOD	RATIONAL METHOD ALTERNATIVE 3
STREAM AVERAGE SLOPE (m/m)	13,9
DESIGN FLOW VELOCITY (m/s)	3,66
LEVEL OF Q _d AND LEVEL OF SBP (m)	130,94 - 132,191
FREEBOARD AT CULVERT	FREEBOARD LEVEL DICTATED BY ROAD GEOMETRY



PLAN VIEW
SCALE 1:100

GENERAL NOTES:

- THE CULVERTS ARE DESIGNED ACCORDING TO TMH7 PARTS 1-3 CODE OF PRACTICE FOR THE DESIGN OF HIGHWAY BRIDGES AND CULVERTS IN SOUTH AFRICA, AS AMENDED IN 1988.
- SINGLE CAST INSITU PORTAL CULVERT 2100mm X 2000mm
- FILL HEIGHTS
MIN FILL HEIGHT = 355 mm
MAX FILL HEIGHT = 845 mm
- DESIGN TABLE (WCS/604/C5)
FILL HEIGHT = 500 mm
DESIGN SPAN = 2100 mm

DESIGN LOADING AND CONDITIONS ON CULVERTS:

- PRIMARY TRAFFIC LOADING ON CULVERTS (TMH7 PART 2 - 2.6.6):
(1) NA LOADING
(2) NB 36 LOADING
(3) NC LOADING
- VERTICAL EARTH LOADING ON CULVERTS (TMH7 PART 2 - 2.3.3)
(1) FILL HEIGHT VARIES FROM 0 TO 6 METERS ABOVE TOP OF CULVERT
- HORIZONTAL EARTH PRESSURE ON CULVERTS (TMH7 PART 2 - 2.4):
(1) SOIL TYPE I - 5,6 kN/m² PER METER DEPTH
(2) SOIL TYPE II - 7,8 kN/m² PER METER DEPTH
(3) SURCHARGE PRESSURE OF NA, NB36 AND NC HIGHWAY TRAFFIC LOADING
- NO ALLOWANCE WAS MADE FOR HORIZONTAL WATER PRESSURE BEHIND THE WALLS AND SHOULD BE RELIEVED BY MEANS OF A PROPER DRAINAGE SYSTEM AND WEEPHOLES.

MATERIAL DENSITIES:

- SOIL = 2000 kg/m³
- CONCRETE = 2600 kg/m³

FOUNDING CONDITIONS:

- CULVERTS WERE DESIGNED BOTH FOR YIELDING AND UNYIELDING FOUNDATION CONDITIONS.
- UNSATURABLE FOUNDING MATERIAL SHALL BE REPLACED WITH COMPACTED GRANULAR MATERIAL/MASS CONCRETE UP TO MINIMUM DEPTH OF 500mm AND TO A WIDTH OF 500mm BEYOND THE FOUNDATION LIMIT OR SPECIFIED BY THE ENGINEER

MATERIAL SPECIFICATION:

1. CONCRETE	CLASS	CHARACTERISTIC STRENGTH (MPA)	MIN CEMENTITIOUS CONTENTS
(1) BLINDING LAYER	15/20	15	300 kg/m ³
(2) SLABS AND WALLS	30/20	30	

2. REINFORCEMENT	TYPE	YIELD STRENGTH (MPA)	MIN RADIUS
(1) MILD STEEL BARS (R)		250	2 x DIAM
(2) HIGH TENSILE STEEL BARS (Y)		450	3 x DIAM

CONSTRUCTION:

- ALL EXPOSED SHARP EDGES TO HAVE 20 x 20mm CHAMFERS.
- CONCRETE COVER TO REINFORCING: 50mm FOR ALL STRUCTURAL ELEMENTS, 75mm ELSEWHERE
- CONCRETE FINISH:
NON-VISIBLE SURFACES - F1
VISIBLE SURFACES - F2
UNFORMED SURFACES - U2
- STRUCTURE NUMBER TO BE INSCRIBED ON OUTSIDE FACE OF HEADWALL AS PER DETAIL WCS/608/D1
- HEADWALL TO BE 50mm ABOVE THE FILL SLOPE AND NOT MORE THAN 50mm ABOVE THE SHOULDER BREAK POINT.

THIS DRAWING TO BE READ IN CONJUNCTION WITH SECTION 2200 OF THE COLTO DOCUMENT 'STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE WORKS FOR STATE ROAD AUTHORITIES'.

NO.	DATE	ADDITIONS AND AMENDMENTS	DESIGNED BY:	MNCEDI OJI
VI	12/12/19		CHECKED BY:	WESSEL LOURENS
			DRAWN BY:	MNCEDI OJI
			CHECKED BY:	WESSEL LOURENS



PROJECT DESIGN CO-ORDINATOR
DATE: _____

WESTERN CAPE GOVERNMENT
DEPARTMENT OF TRANSPORT AND PUBLIC WORKS

APPROVED
THIS APPROVAL IS FOR PROCEDURAL AND ADMINISTRATIVE REVIEW PURPOSES ONLY AND DOES NOT ATTRACT LEGAL LIABILITY OF ANY KIND FROM WHATSOEVER OR HOWEVER ARISING
PROVINCIAL ROADS ENGINEER
DATE: _____

PROPOSED CULVERT REPLACEMENT 12260 ON MAIN ROAD 201 AT KM 61,749

GENERAL ARRANGEMENT

P.R.E.'s FILE No.	SCALE
TPW 16/6/4/14 - MR0201	AS SHOWN
CONTRACT No.	WCG STRUCTURE PLAN No.
C1120	12260-02
ORIGINAL PAPER SIZE.	WCG INDEX No.
A0	A93/683