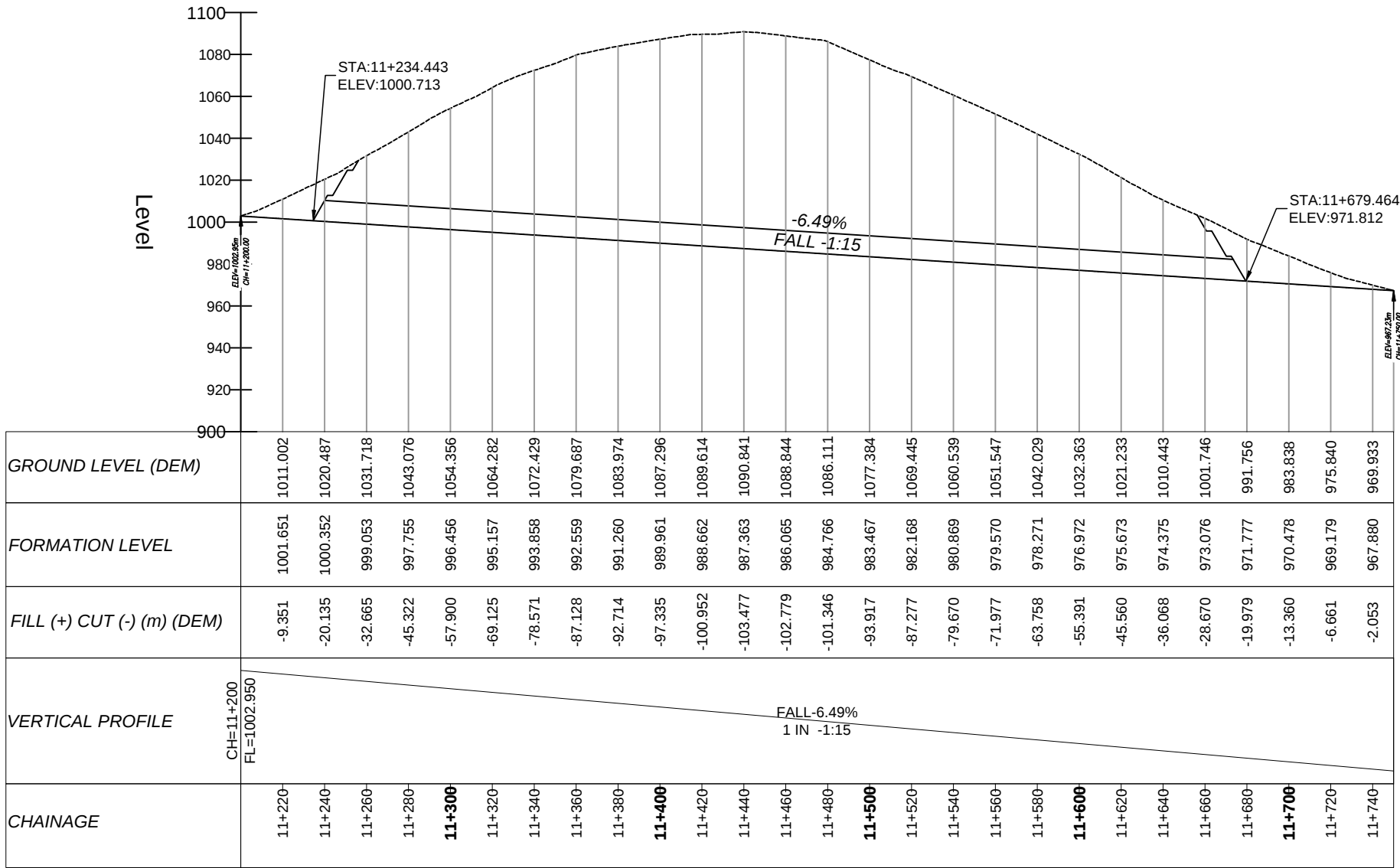
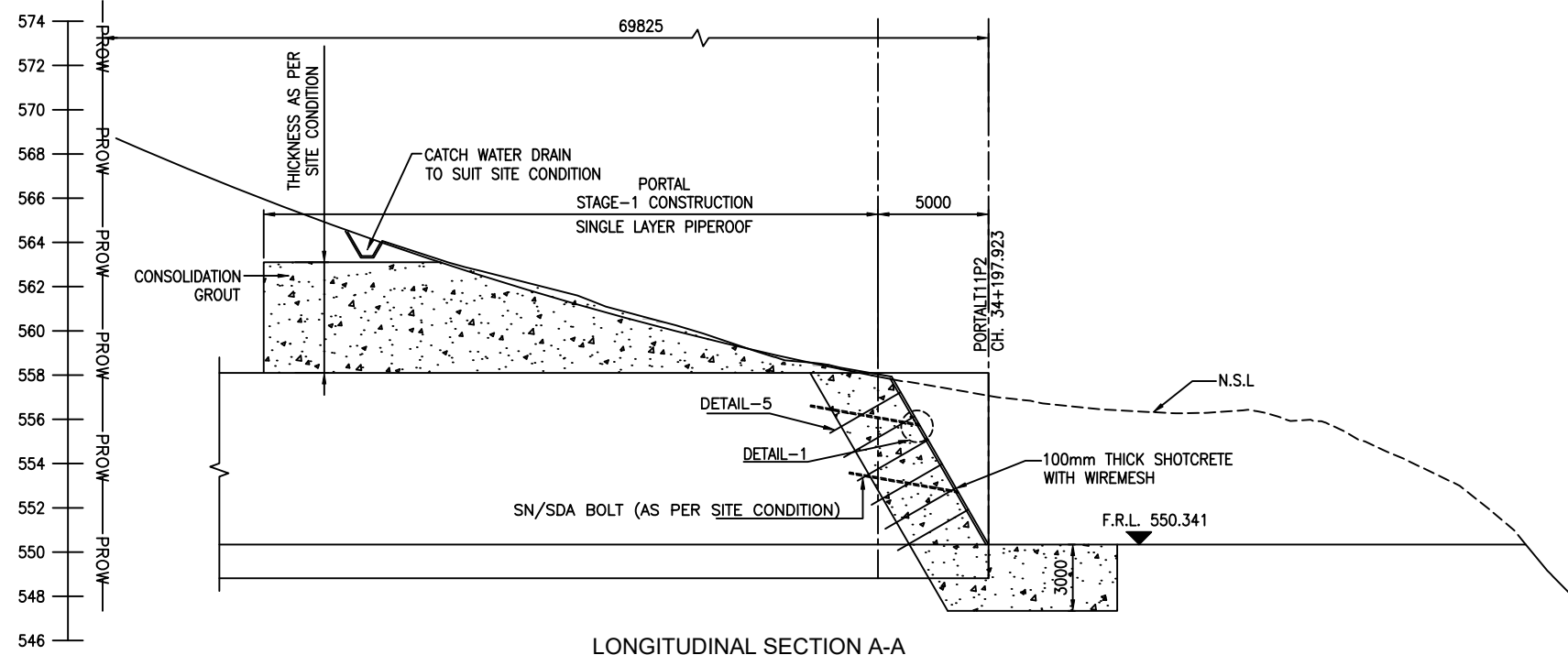




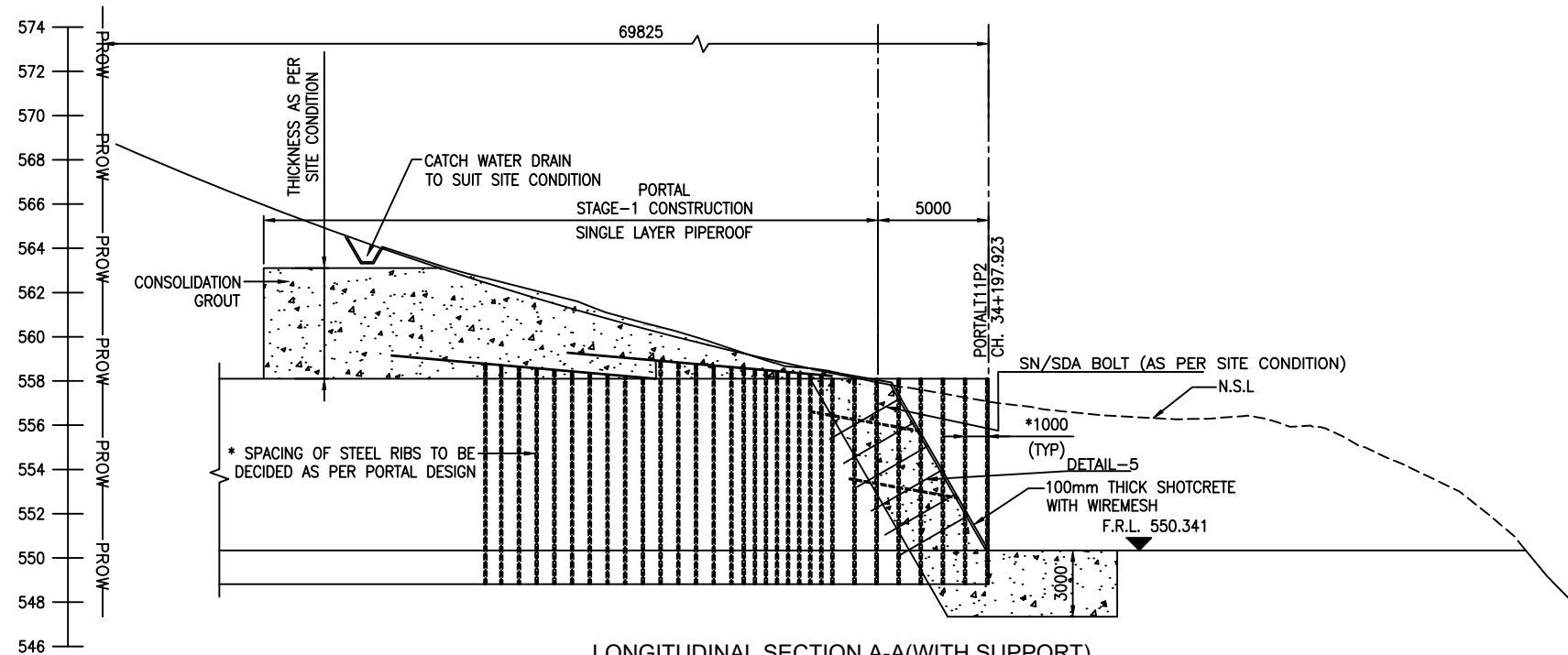
TUNNEL-1 - LONGSECTION
SCALE: H 1:2000,V 1:2000. DATUM: 900.000



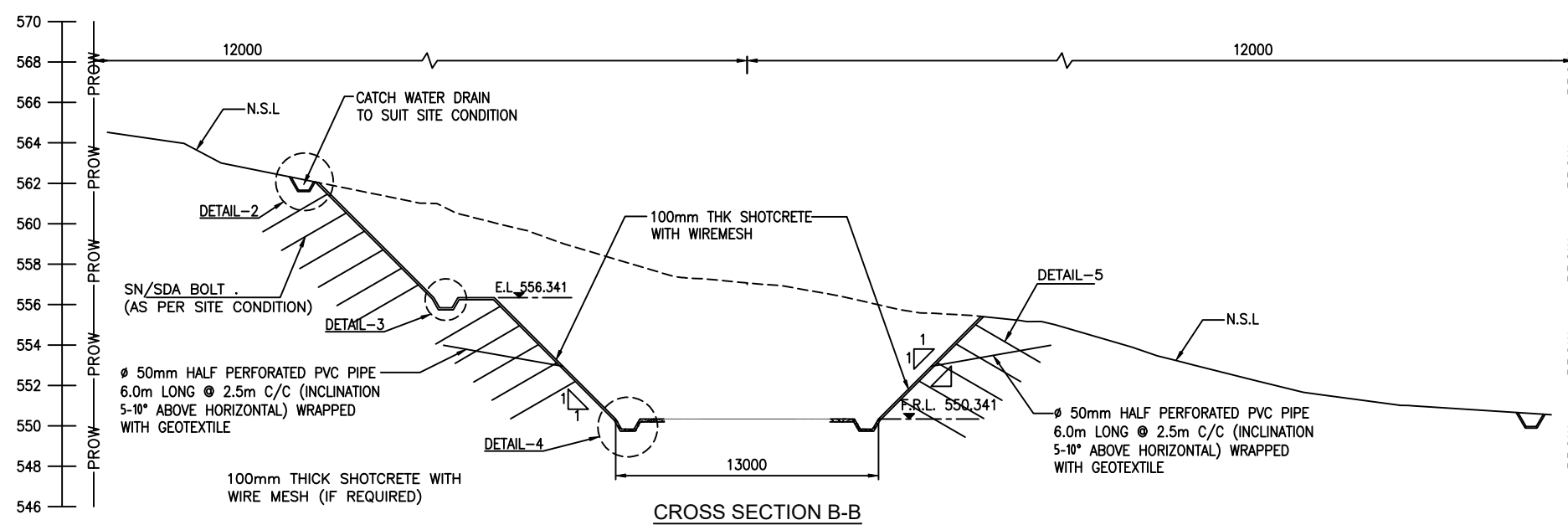
Rev.No.	Description For Revision.	Design Consultant:	Client:	Project :	Design By : PB	Title: PLAN & PROFILE OF TUNNEL		
		Xplorer Consultancy Services Pvt. Ltd. in joint venture Dsd Infratech Management Pvt. Ltd, in Association With Maverick Mernok & Construction 511, Tower b, ithum, plot-A40 Sector-62, Noida Uttar Pradesh 201301	National Highway & Infrastructure Development Corp. Ltd. (NHIDCL) 1st & 2nd Floor, Tower A, World Trade Centre, Nauroji Nagar, New Delhi 110029	Consultancy Services For Preparation Of DPR And Providing Services For Pre-Construction Activities in Respect of Widening And Up-Gradation Of Existing Carriageway into 2L+PS Configuration From Reshi(Km 96.254) To Rhenock (Km 101.554) Along NH-717A & From Rhenock (Km 0.00) To Rongli Bazaar (Km 15.300) Along NH-717B in the States Of Sikkim".	Drawn By : MK			
					Checked By : JS	Dwg No:XPL/DSD/SK/KM15.3/P&P/TUNNEL		
					Approved By : VY			
					Scale :- NTS	Sheet: - 1 of 1	Date : Dec-2024	A2



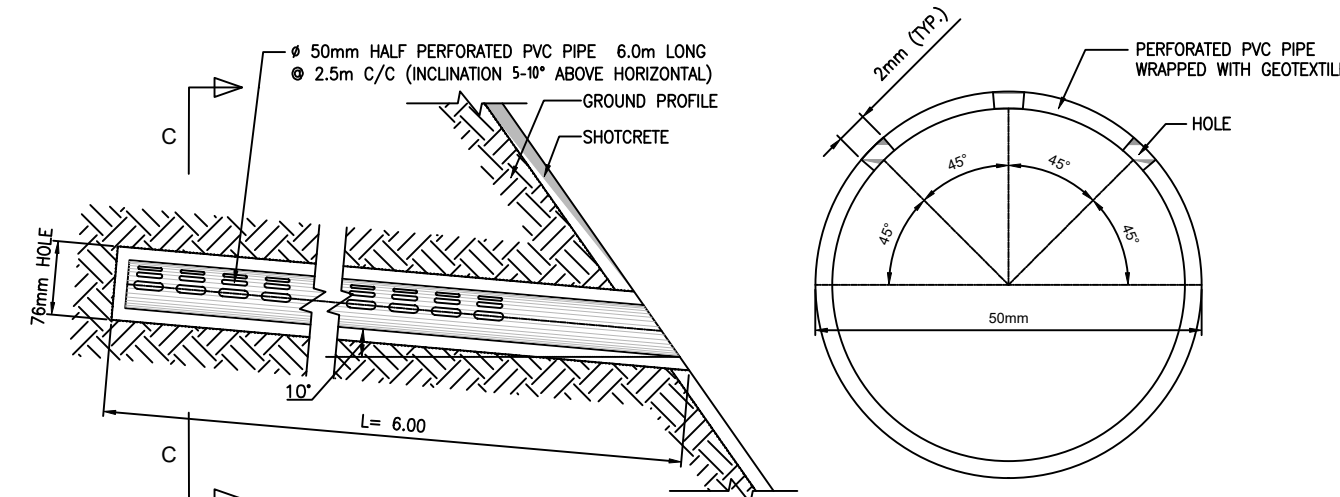
LONGITUDINAL SECTION A-A



LONGITUDINAL SECTION A-A(WITH SUPPORT)



CROSS SECTION B-B



DETAIL 1 TYPICAL DRAINAGE HOLE DETAIL

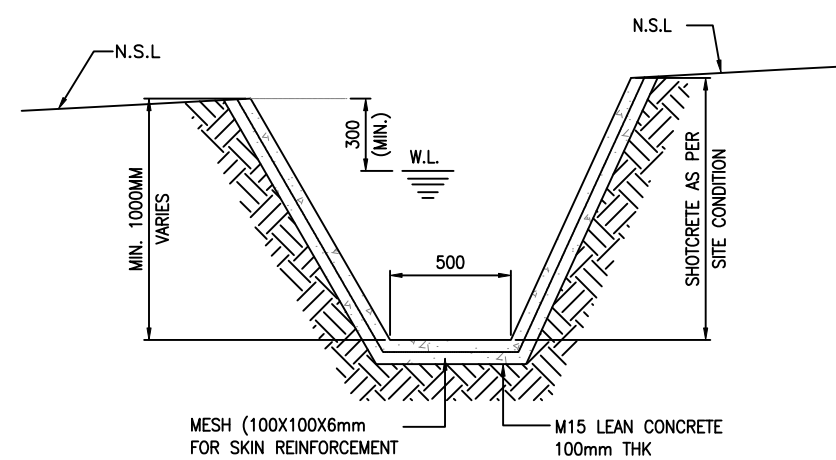
SECTION C-C

MATERIAL:

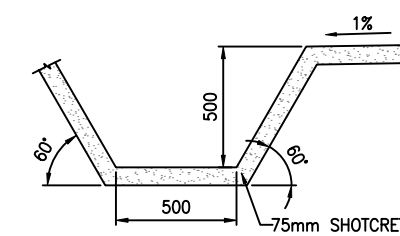
- SHOTCRETE
 - GRADE M30 (IS456-2000)
- LEAN CONCRETE
 - CONCRETE GRADE M15 (IS456-2000)
- WIRE MESH
 - SIZE 150mmx150mmx6mm

LEGEND:

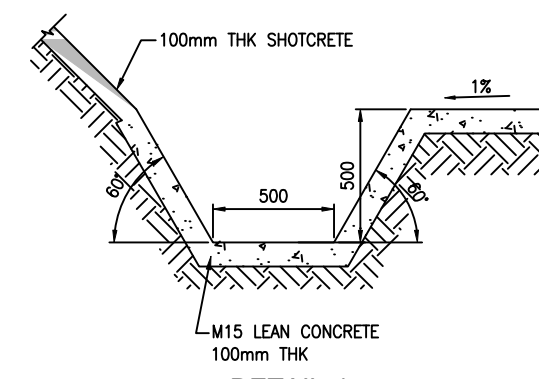
- N.S.L. NATURAL SOIL LEVEL
- F.R.L. FORMATION LEVEL
- THK THICKNESS
- TYP TYPICAL



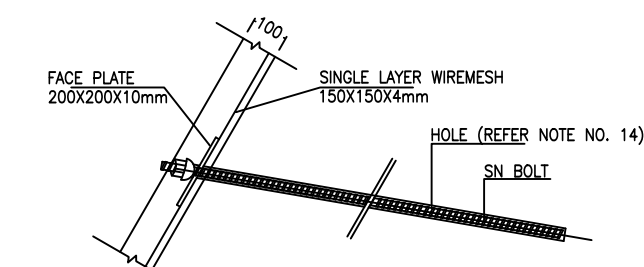
DETAIL-2



DETAIL 3



DETAIL-4



DETAIL-5 OF SN BOLT

NOTES:-

- ALL DIMENSIONS ARE EXPRESSED IN MILLIMETERS AND ELEVATIONS IN METERS UNLESS OTHERWISE SPECIFIED.
- NO DIMENSION SHOULD BE MEASURED FROM THE DRAWING.
- ALLUVIAL-COLLUVIAL DEPOSIT WILL BE REMOVED AND FILLED WITH LEAN CONCRETE IF EXPOSED BELOW THE BASE SLAB DURING CONSTRUCTION.
- SEPARATE DRAWINGS SHALL BE REFERRED FOR PORTAL DRAINAGE SYSTEM.
- SEPARATE DRAWINGS SHALL BE REFERRED FOR FALSE PORTAL DESIGN.
- SEPARATE DRAWINGS SHALL BE REFERRED FOR APPROACH ROAD.
- DRAWING IS BASED ON THE ALIGNMENT AND SURVEY REPORT.
- THE INFLUENCE OF THE PORTAL DEVELOPMENT ON ANY UPCOMING/ONGOING CONSTRUCTION OR VICE-VERSA IS OUTSIDE THE SCOPE OF THE CURRENT DESIGN.
- INITIAL TRIAL AT THE SITE SHALL BE DONE WITH DIFFERENT GROUT MIX TO ACHIEVE UNIFORM STRENGTH OF 2MPa (3 DAYS STRENGTH) OF GROUND.
- SPACING OF GROUTING HOLES SHALL BE DECIDED AS PER OBSERVED GROUT REACH BETWEEN THE HOLES.
- DESIGN MIXED SHALL BE ADOPTED AS PER PERMITTIVITY OF THE GROUND, AS DIRECTED BY ENGINEER-IN-CHARGE.
- PRE EXCAVATION GROUTING/CONSOLIDATION GROUTING SHALL BE CARRIED OUT TO STABILIZE THE EXCAVATION OF BOTTOM SLOPE AS WELL AS DURING THE CONSTRUCTION OF THE PORTAL.
- CONSOLIDATION GROUT SHALL BE IN ACCORDANCE WITH IS:6066.
- THE CATCH WATER DRAIN SHALL BE MODIFIED BASED ON THE MEASURED INFLOW AT THE SITE, OR AS DIRECTED BY ENGINEER-IN-CHARGE.
- PROVISIONS OF ROCKFALL BARRIER TO BE PROVIDED AS PER SITE CONDITIONS AND SHALL BE DECIDED BY ENGINEER-IN CHARGE.
- SURFACE DRAIN IN FORM OF DRAINAGE DITCHES & TRENCHES SHALL BE PROVIDED AT THE TOP & TOE OF THE SLOPE CUTS RESPECTIVELY TO ALLOW THE COLLECTION IN CONVEYANCE OF SURFACE WATER TO SELECTIVE POINTS OF DISCHARGE.
- MONITORING OF SLOPE STABILITY SHALL BE CARRIED OUT AS RECOMMENDED.
- EXCAVATION BOUNDARY SHALL BE ADJUSTED AS PER ACTUAL TOP LEVEL OF GROUND IN CONSULTATION WITH ENGINEER.
- WIRE MESH FOR SHOTCRETE SHALL BE 150X150X6mm SIZE AS PER IS:1786-2008.
- MINIMUM OVERLAP LENGTH OF WIRE MESH SHALL BE 2 SQUARES OF MESH (300MM).
- THE LENGTH AND THE DIRECTION OF ROCK BOLTS MAY BE ALTERED AS PER GEOLOGY ENCOUNTERED IN CONSULTATION WITH THE GEOLOGIST AND THE ENGINEER IN CHARGE.
- SURFACE DRAIN IN FORM OF DRAINAGE DITCHES & TRENCHES SHALL BE PROVIDED AT THE TOP & TOE OF THE SLOPE CUTS RESPECTIVELY TO ALLOW THE COLLECTION IN CONVEYANCE OF SURFACE WATER TO SELECTIVE POINTS OF DISCHARGE.
- MONITORING OF SLOPE STABILITY SHALL BE CARRIED OUT AS RECOMMENDED.
- LOOSE MATERIAL SHALL BE REMOVED BEFORE SHOTCRETING. SURFACE SHALL BE CLEAN WITH WATER BEFORE SHOTCRETE.
- THE DRILL HOLE DIAMETER FOR ROCK BOLT SHALL BE DRIVEN OF SLIGHTLY LARGER DIA. MORE THEN THE ROCK BOLT DIA. AS PER IS:1448.
- PULL OUT TEST SHOULD BE CONDUCTED AT SITE AS PER PROCEDURE GIVEN IN IS:11309 FOR ASSESSING ROCK BOLT LOAD BEARING CAPACITY SHALL BE TESTED FOR 1.1 TIMES THE WORKING CAPACITY

PRESENT GEOLOGICAL CONDITION				
BOREHOLE	CO-ORDINATES	DESCRIPTION	RMR	ROCK MASS CLASS
BH-316	X - 3459914.35 Y - 661375.635	OVERBURDEN	-	V
		SW SILTSTONE	30	IV
		SANDSTONE	40	III

RMR	THICKNESS OF SHOTCRETE	WIREMESH
<40	100mm	1 LAYER 150X150X4mm
>40	75mm	1 LAYER 150X150X4mm
FOR SOIL LAYER 100mm THICKNESS SHALL BE PROVIDED WITH 1 LAYER OF WIREMESH		

Rev.No.	Description For Revision.	Design Consultant:	Client:	Project :	Design By : PB	Title:		
		 XPLORER CONSULTANCY SERVICES PVT. LTD. In JV with DSD In Association with M  NHIDCL NATIONAL HIGHWAY & INFRASTRUCTURE DEVELOPMENT CORP. LTD. 1st & 2nd Floor, Tower A, World Trade Centre, Nauroji Nagar, New Delhi – 110029			Drawn By : MK	TUNNEL PORTAL SECTION		
					Checked By : JS			
					Approved By : VY	Dwg No: XPL/DSD/SK/KM15.3/TPS		
					Scale :- NTS	Sheet: - 1 of 1	Date : June-2025	A2