

# FIRST ESTATE CHANNEL REALIGNMENT

## MAMRE ROAD

## ORCHARD HILLS, NSW

### DRAWING LIST:

DRAWING NO.	DRAWING TITLE
CO12042.00-C 100	DRAWING LIST & GENERAL NOTES
CO12042.00-C 200	EROSION & SEDIMENT CONTROL PLAN AND DETAILS - SHEET 1
CO12042.00-C 201	EROSION & SEDIMENT CONTROL PLAN - SHEET 2
CO12042.00-C 400	CHANNEL REALIGNMENT PLAN
CO12042.00-C 401	LOT 5 FILLING WORKS PLAN
CO12042.00-C 410	CHANNEL LONGITUDINAL SECTION
CO12042.00-C 440	CHANNEL CROSS SECTIONS - SHEET 1
CO12042.00-C 441	CHANNEL CROSS SECTIONS - SHEET 2
CO12042.00-C 450	CHANNEL DETAILS

### GENERAL NOTES:

- G1 THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANTS' DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCY SHALL BE REFERRED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
- G2 ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT AND CURRENT STANDARDS AUSTRALIA CODES AND WITH THE BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITIES EXCEPT WHERE VARIED BY THE PROJECT SPECIFICATION.
- G3 ALL DIMENSIONS SHOWN SHALL BE VERIFIED BY THE BUILDER ON SITE. ENGINEER'S DRAWINGS SHALL NOT BE SCALED FOR DIMENSIONS. ENGINEER'S DRAWINGS ISSUED IN ANY ELECTRONIC FORMAT MUST NOT BE USED FOR DIMENSIONAL SETOUT. REFER TO THE ARCHITECT'S DRAWINGS FOR ALL DIMENSIONAL SETOUT INFORMATION.
- G4 DURING CONSTRUCTION THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVERSTRESSED. TEMPORARY BRACING SHALL BE PROVIDED BY THE BUILDER TO KEEP THE WORKS AND EXCAVATIONS STABLE AT ALL TIMES.
- G5 UNLESS NOTED OTHERWISE ALL LEVELS ARE IN METRES AND ALL DIMENSIONS ARE IN MILLIMETRES.
- G6 ALL WORKS SHALL BE UNDERTAKEN IN ACCORDANCE WITH ACCEPTABLE SAFETY STANDARDS & APPROPRIATE SAFETY SIGNS SHALL BE INSTALLED AT ALL TIMES DURING THE PROGRESS OF THE JOB.
- G7 WORKS ARE TO IMMEDIATELY HALT IN AREAS WHERE ABORIGINAL OBJECTS OR ARCHAEOLOGICAL RELICS ARE FOUND, AND RELATIVE AUTHORITIES CONSULTED.
- G8 TREE FELLING AND RELOCATION OF FAUNA TO BE IN ACCORDANCE WITH THE BIO-DIVERSITY REPORT
- G9 PROVIDE SECURITY/CONSTRUCTION FENCING TO ALL CONSTRUCTION WORKS

### ELECTRONIC INFORMATION NOTES:

1. THE ISSUED DRAWINGS IN HARD COPY OR PDF FORMAT TAKE PRECEDENCE OVER ANY ELECTRONICALLY ISSUED INFORMATION, LAYOUTS OR DESIGN MODELS.
2. THE CONTRACTOR'S DIRECT AMENDMENT OR MANIPULATION OF THE DATA OR INFORMATION THAT MIGHT BE CONTAINED WITHIN AN ENGINEER-SUPPLIED DIGITAL TERRAIN MODEL AND ITS SUBSEQUENT USE TO UNDERTAKE THE WORKS WILL BE SOLELY AT THE DISCRETION OF AND THE RISK OF THE CONTRACTOR.
3. THE CONTRACTOR IS REQUIRED TO HIGHLIGHT ANY DISCREPANCIES BETWEEN THE DIGITAL TERRAIN MODEL AND INFORMATION PROVIDED IN THE CONTRACT AND/OR DRAWINGS AND IS REQUIRED TO SEEK CLARIFICATION FROM THE SUPERINTENDENT.
4. THE ENGINEER WILL NOT BE LIABLE OR RESPONSIBLE FOR THE POSSIBLE ON-GOING NEED TO UPDATE THE DIGITAL TERRAIN MODEL, SHOULD THERE BE ANY AMENDMENTS OR CHANGES TO THE DRAWINGS OR CONTRACT INITIATED BY THE CONTRACTOR.

### SITE PREPARATION NOTES:

1. ALL EARTHWORKS SHALL BE COMPLETED GENERALLY IN ACCORDANCE WITH THE GUIDELINES SPECIFIED BY THE GEOTECHNICAL REPORT GEOTLCOV25265AA-AB PROVIDED BY COFFEY GEOTECHNICS DATED 24.12.14.
2. EXISTING LEVELS ARE BASED ON INFORMATION PROVIDED BY BOXALL TITLED PLAN OF SITE DETAIL AND LEVELS-10116-003 DATED 13 NOVEMBER 2015. STRIP ANY TOP SOIL OR DELETERIOUS MATERIAL AND BLEND INTO BATTER TOPSOIL MATERIAL OR STORE AS DIRECTED.
3. COMPLETE CUT TO FILL EARTHWORKS TO ACHIEVE THE REQUIRED LEVELS AS INDICATED ON THE DRAWINGS WITHIN A TOLERANCE OF +0mm/-10mm THROUGH BUILDING PADS/PAVEMENTS AND +0mm/-20mm ELSEWHERE.
4. TOP 1000mm ROCK BELOW BULK EARTHWORKS LEVEL (BEL) IN AREAS OF CUT TO BE RIPPED AND RECOMPACTED IN ACCORDANCE WITH GEOTECHNICAL ADVICE AS 'SITE WON FILL'.
5. IN AREAS OF FILL, THE TOP 500mm IS TO COMPRISE OF SELECT CRUSHED ROCK, SITE WON FROM AREAS OF CUT IN ROCK.
6. PREPARE STEEP BATTERS TO RECEIVE FILL BY CONSTRUCTING BENCHING TO FACILITATE FILL PLACEMENT AND COMPACTION.
7. AREAS TO RECEIVE FILL (THAT ARE NOT ON BENCHED BATTERS) AND AREAS IN CUT SHALL BE PROOF ROLLED TO IDENTIFY ANY SOFT HEAVING MATERIAL. SOFT MATERIAL SHALL BE BOXED OUT AND REMOVED PRIOR TO FILL PLACEMENT.
8. SITE WON FILL TO BE PLACED IN MAXIMUM 300mm LOOSE LAYERS AND COMPACTED TO 100% STANDARD AND WITHIN 2% OF OPTIMUM MOISTURE CONTENT.
9. IMPORTED FILL SHALL BE PLACED IN MAXIMUM 300mm LOOSE LAYERS AND COMPACTED TO 100% STANDARD AND WITHIN 2% OF OPTIMUM MOISTURE CONTENT.
10. MAXIMUM PARTICLE SIZE TO BE THE SMALLER OF 150mm OR HALF THE (LOOSE) LAYER THICKNESS AND/OR TWO THIRDS THE LAYER THICKNESS AFTER COMPACTION.
11. ALL EARTHWORKS SHALL BE COMPLETED UNDER LEVEL 1 CONTROL IN ACCORDANCE WITH AS 3798-2007.
12. PRIOR TO ANY EARTHWORKS, EROSION CONTROL AS OUTLINED IN THE EROSION AND SEDIMENTATION CONTROL PLAN SHALL BE COMPLETED.
13. EXISTING ROCK, IF ANY, SHALL BE REMOVED BY HEAVY ROCK BREAKING OR RIPPING.
14. MATCH EXISTING LEVELS AT BATTER INTERFACE.
15. CONTRACTOR TO MATCH EXISTING LEVELS AT THE INTERFACE OF EARTHWORKS AND EXISTING SURFACE AT BATTER LOCATIONS OR WHERE NO RETAINING WALLS ARE PRESENT. ANY DISCREPANCY BETWEEN DESIGN AND EXISTING LEVELS TO BE REFERRED TO THE ENGINEER FOR DIRECTION OR ADJUSTMENTS TO DESIGN LEVELS.

### DUST CONTROL NOTES:

1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE DUST CONTROL MEASURES ARE APPLIED AND MAINTAINED IN ACCORDANCE WITH COUNCIL REQUIREMENTS.
2. THE APPLICATION OF LIQUID BASED DUST SUPPRESSION MEASURES MUST BE SUCH THAT SEDIMENT LADEN RUNOFF RESULTING FROM SUCH MEASURES DOES NOT CREATE A TRAFFIC OR ENVIRONMENTAL HAZARD. (EG USING HAY BALES)
3. DUST GENERATION ASSOCIATED WITH WIND EROSION TO BE CONTROLLED USING WATER TRUCKS, DUST SUPPRESSING FOG, MIST GENERATORS, SEALANT PLACED OVER THE SOIL, SURFACE ROUGHENING OR RE-VEGETATION.
4. THE FOLLOWING ACTIVITIES SHALL BE ADOPTED, IF NECESSARY, TO MANAGE DUST CONTROL ON SITE:
- LIMITING THE AREA OF SOIL DISTURBANCE AT ANY GIVEN TIME
  - REPLACING TOPSOIL AFTER COMPLETION OF EARTHWORKS.
  - PROGRAMMING WORK TO MINIMISE THE LIFE OF STOCKPILES.
  - TEMPORARILY STABILISING LONG-TERM STOCKPILES.
  - GRAVELLING UNSEALED ACCESS AND HAUL ROADS.
  - MINIMISING TRAFFIC MOVEMENT ON EXPOSED SURFACES.
  - LIMITING VEHICULAR TRAFFIC TO 15km/h.
  - RETAINING EXISTING VEGETATION AS WIND BREAKS.
5. OIL, LANDFILL GAS CONDENSATE OR ANY CONTAMINATED LEACHATE IS NOT TO BE USED FOR DUST SUPPRESSION.

### EROSION CONTROL NOTES

ALL CONTROL WORK INCLUDING DIVERSION BANKS AND CATCH DRAINS, V-DRAINS AND SILT FENCES SHALL BE COMPLETED DIRECTLY FOLLOWING THE COMPLETION OF THE EARTHWORKS.

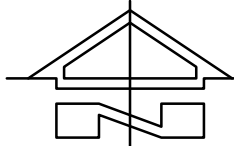
1. SILT FENCES AND SILT FENCE RETURNS SHALL BE ERECTED CONVEX TO THE CONTOUR TO POND WATER.
2. HAY BALE BARRIERS AND GEOFABRIC FENCES ARE TO BE CONSTRUCTED TO TOE OF BATTER, PRIOR TO COMMENCEMENT OF EARTHWORKS, IMMEDIATELY AFTER CLEARING OF VEGETATION AND BEFORE REMOVAL OF TOP SOIL.
3. ALL TEMPORARY EARTH BERMS, DIVERSION AND SILT DAM EMBANKMENTS ARE TO BE MACHINE COMPACTED, SEEDED AND MULCHED FOR TEMPORARY VEGETATION COVER AS SOON AS THEY HAVE BEEN FORMED.
4. CLEAR WATER IS TO BE DIVERTED AWAY FROM DISTURBED GROUND AND INTO THE DRAINAGE SYSTEM.
5. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING AND PROVIDING ON GOING ADJUSTMENT TO EROSION CONTROL MEASURES AS REQUIRED DURING CONSTRUCTION.
6. ALL SEDIMENT TRAPPING STRUCTURES AND DEVICES ARE TO BE INSPECTED AFTER STORMS FOR STRUCTURAL DAMAGE OR CLOGGING, TRAPPED MATERIAL IS TO BE REMOVED TO A SAFE, APPROVED LOCATION.
7. ALL FINAL EROSION PREVENTION MEASURES INCLUDING THE ESTABLISHMENT OF GRASSING ARE TO BE MAINTAINED UNTIL THE END OF THE DEFECTS LIABILITY PERIOD.
8. ALL EARTHWORKS AREAS SHALL BE ROLLED ON A REGULAR BASIS TO SEAL THE EARTHWORKS.
9. ALL FILL AREAS ARE TO BE LEFT WITH A BUND AT THE TOP OF THE SLOPE AT THE END OF EACH DAYS EARTHWORKS. THE HEIGHT OF THE BUND SHALL BE A MINIMUM OF 200MM.
10. ALL CUT AND FILL SLOPES ARE TO BE SEEDED AND HYDROMULCHED WITHIN 10 DAYS OF COMPLETION OF FORMATION.
11. AFTER REVEGETATION OF THE SITE IS COMPLETE AND THE SITE IS STABLE IN THE OPINION OF A SUITABLY QUALIFIED PERSON ALL TEMPORARY WORK SUCH AS SILT FENCE, DIVERSION DRAINS ETC SHALL BE REMOVED.
12. ALL TOPSOIL STOCKPILES ARE TO BE SUITABLY COVERED TO THE SATISFACTION OF THE SITE MANAGER TO PREVENT WIND AND WATER EROSION.
13. ANY AREA THAT IS NOT APPROVED BY THE CONTRACT ADMINISTRATOR FOR CLEARING OR DISTURBANCE BY THE CONTRACTOR'S ACTIVITIES SHALL BE CLEARLY MARKED AND SIGN POSTED, FENCED OFF OR OTHERWISE APPROPRIATELY PROTECTED AGAINST ANY SUCH DISTURBANCE.
14. ALL STOCKPILE SITES SHALL BE SITUATED IN AREAS APPROVED FOR SUCH USE BY THE SITE MANAGER. A 6m BUFFER ZONE SHALL EXIST BETWEEN STOCKPILE SITES AND ANY STREAM OR FLOW PATH. ALL STOCKPILES SHALL BE ADEQUATELY PROTECTED FROM EROSION AND CONTAMINATION OF THE SURROUNDING AREA BY USE OF THE MEASURES APPROVED IN THE EROSION AND SEDIMENTATION CONTROL PLAN.
15. ACCESS AND EXIT AREAS SHALL INCLUDE SHAKE-DOWN OR OTHER METHODS APPROVED BY THE SITE MANAGER FOR THE REMOVAL OF SOIL MATERIALS FROM MOTOR VEHICLES.
16. THE CONTRACTOR IS TO ENSURE RUNOFF FROM ALL AREAS WHERE THE NATURAL SURFACE IS DISTURBED BY CONSTRUCTION, INCLUDING ACCESS ROADS, DEPOT AND STOCKPILE SITES, SHALL BE FREE OF POLLUTANTS BEFORE IT IS EITHER DISPERSED TO STABLE AREAS OR DIRECTED TO NATURAL WATERCOURSES.
17. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SLOPES, CROWNS AND DRAINS ON ALL EXCAVATIONS AND EMBANKMENTS TO ENSURE SATISFACTORY DRAINAGE AT ALL TIMES WATER SHALL NOT BE ALLOWED TO POND ON THE WORKS UNLESS SUCH PONDING IS PART OF AN APPROVED ESCP / SWMP.
18. ALL EROSION AND SEDIMENT CONTROL MEASURES TO BE IN ACCORDANCE WITH THE LATEST MANAGING URBAN STORMWATER SOILS AND CONSTRUCTION GUIDELINES.

### FINISHED LEVELS PLAN NOTES:

1. LEVELS DATUM IS A.H.D.
2. ALL CONTOUR LINES & SPOT LEVELS INDICATE FINISHED LEVELS U.N.O. ON PLAN.
3. THE MAJOR CONTOUR INTERVAL IS 0.5m
4. THE MINOR CONTOUR INTERVAL IS 0.1m.
5. MAXIMUM RAMP GRADES ARE TO BE 1:5 (20%) U.N.O. ON PLAN
6. PROVIDE MINIMUM 3.0m LONG TRANSITION WHERE CHANGES GRADE EXCEED 1:20 (5%).
7. PERMANENT BATTER SLOPES ARE TO HAVE A MAXIMUM GRADE OF 1V:3H.
8. ALL BATTER SLOPE WITH GRADES AT OR EXCEEDING 1V:6H ARE TO BE TURFED IMMEDIATELY OR APPROPRIATE EROSION CONTROL IS TO BE PROVIDED TO THE SATISFACTION OF THE ENGINEER.

### SURVEY NOTE:

EXISTING SITE LEVELS AND DETAILS BASED ON A PLAN OF SURVEY 10116-003 BY BOXALL SURVEYORS 13/10/15. COORDINATES BASED ON MGA COORDINATES AS NOMINATED ON SURVEY DRAWING.



LOCALITY PLAN  
NOT TO SCALE

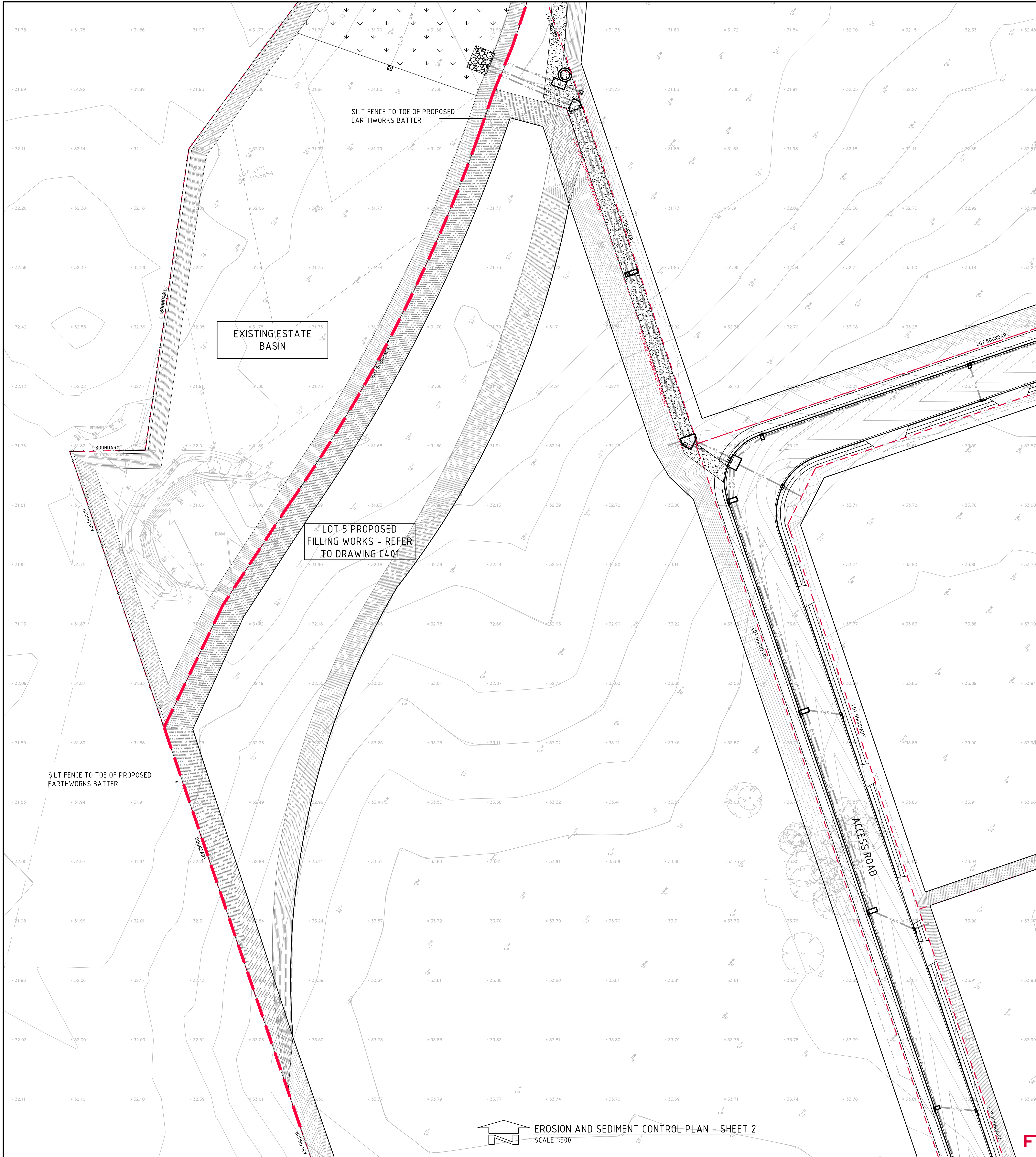
FOR SECTION 96 APPLICATION

			ARCHITECT			CLIENT			PROJECT			Costin Roe Consulting Pty Ltd. Consulting Engineers Level 1, 8 Windmill Street Wahah Bay, Sydney NSW 2000 Tel: (02) 8251-7899 Fax: (02) 9241-3721 email: mail@costinroe.com.au ©			PRECISION   COMMUNICATION   ACCOUNTABILITY			DRAWING TITLE DRAWING LIST AND GENERAL NOTES DRAWING No. Co12042.00 - C100		
ISSUED FOR APPROVAL	07.06.18	B							FIRST ESTATE ORCHARD HILLS											
ISSUED FOR \$96 APPLICATION	28.09.17	A							LOT 2171 MAMRE RD, ORCHARD HILLS											
AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE	DESIGNED M.C.	DRAWN M.C.	DATE	CHECKED M.W.	SIZE A0	SCALE AS SHOWN	CAD REF: C012042.00 - C100					









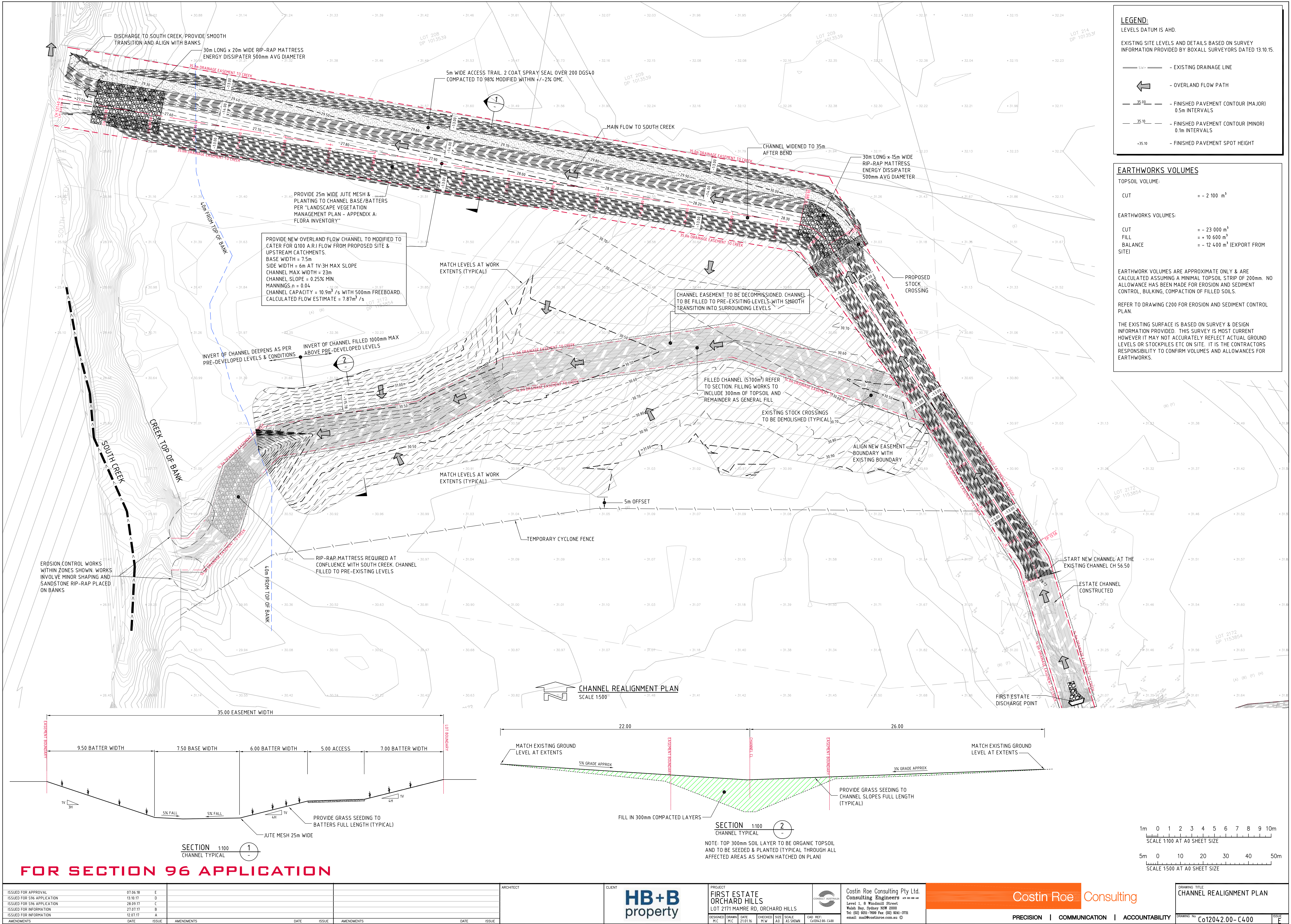
**LEGEND:**  
PROVIDE 1m RETURNS TO SILT FENCE AT 30m MAX. INTERVALS.  
TYPICAL (N.S.O.P.)  
--- SILT FENCE

5m 0 10 20 30 40 50m  
SCALE 1:500 AT A0 SHEET SIZE

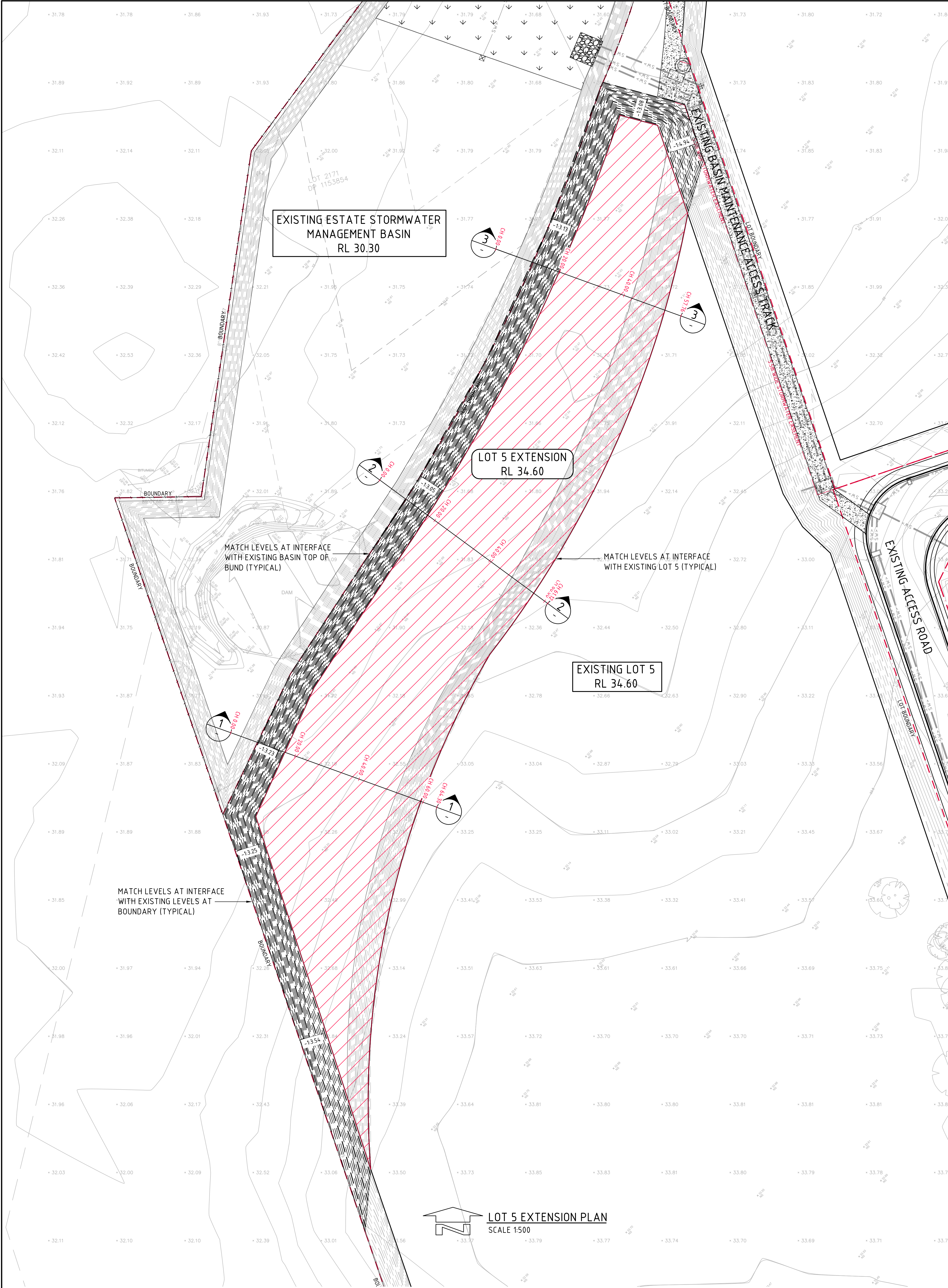
**FOR SECTION 96 APPLICATION**

ISSUED FOR APPROVAL			ARCHITECT			CLIENT			PROJECT			CONSULTANT			DRAWING TITLE		
AMENDMENTS						HB+B property			FIRST ESTATE ORCHARD HILLS LOT 2171 MAMRE RD, ORCHARD HILLS			Costin Roe Consulting Engineers Level 1, 9 Windmill Street Wahbi Bay, Sydney NSW 2000 Tel: (02) 9251-7699 Fax: (02) 9241-3721 email: mail@costinroe.com.au ©			EROSION & SEDIMENT CONTROL PLAN - SHEET 2		
07.06.18 A									DESIGNED: M.C. DATE: 21.01.16 CHECKED: M.W. SIZE: A0 SCALE: AS SHOWN CAD REF: C012042.00 - C201			PRECISION   COMMUNICATION   ACCOUNTABILITY			DRAWING No: C012042.00 - C201		
															ISSUE: A		









**LEGEND:**  
LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON SURVEY INFORMATION PROVIDED BY BOXALL SURVEYORS DATED 13.10.15.

- SW — - EXISTING DRAINAGE LINE
- ← - OVERLAND FLOW PATH
- 35.90 — - FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- 35.10 — - FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
- +35.10 - FINISHED PAVEMENT SPOT HEIGHT

**EARTHWORKS VOLUMES**

TOPSOIL VOLUME:

CUT = - 2 600 m<sup>3</sup>

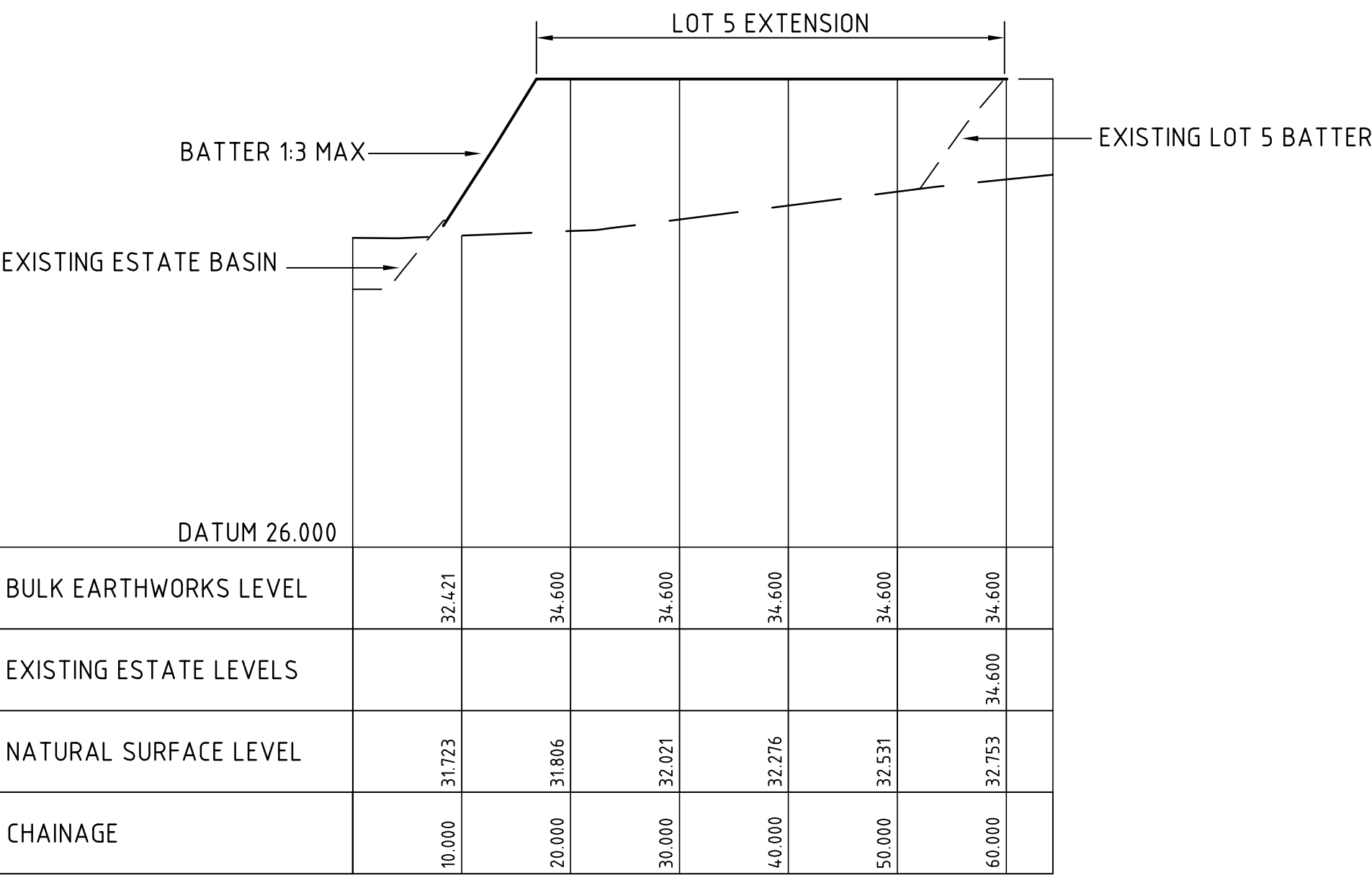
EARTHWORKS VOLUMES:

CUT = - 0m<sup>3</sup>  
FILL = + 34 300 m<sup>3</sup>  
BALANCE = + 34 300 m<sup>3</sup>

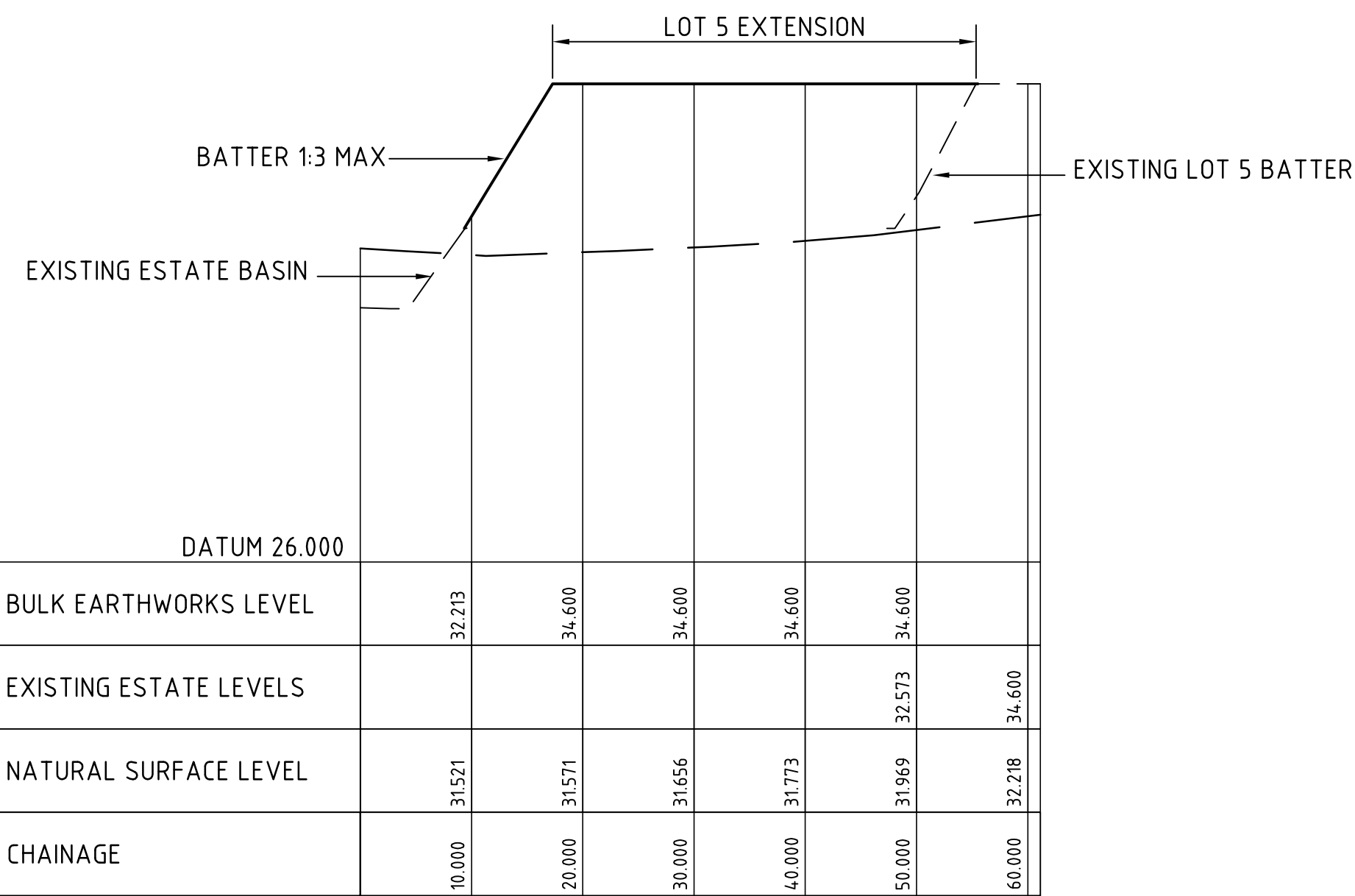
EARTHWORK VOLUMES ARE APPROXIMATE ONLY & ARE CALCULATED ASSUMING A MINIMAL TOPSOIL STRIP OF 200mm. NO ALLOWANCE HAS BEEN MADE FOR EROSION AND SEDIMENT CONTROL, BULKING, COMPACTION OF FILLED SOILS.

REFER TO DRAWING C200 FOR EROSION AND SEDIMENT CONTROL PLAN.

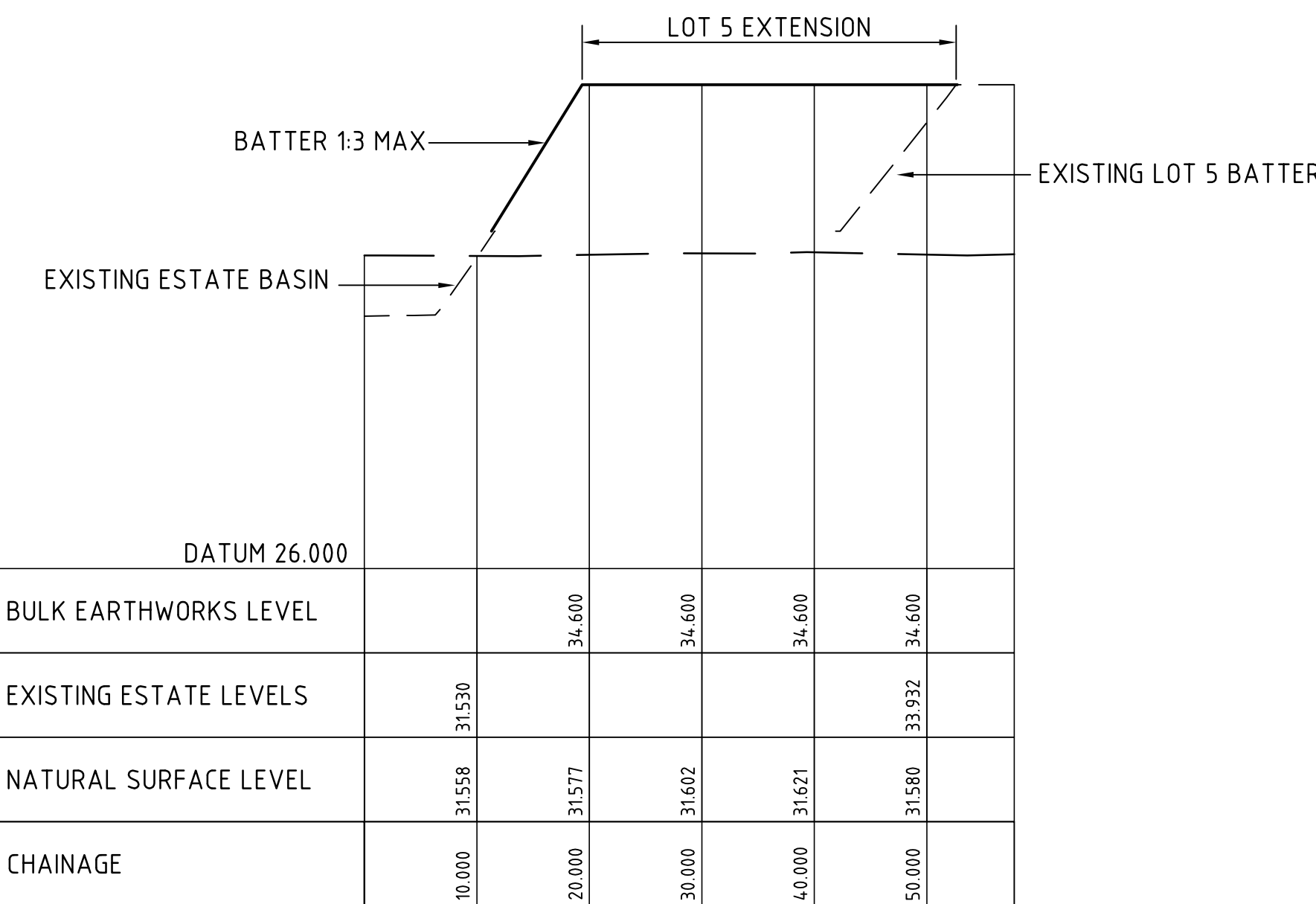
THE EXISTING SURFACE IS BASED ON SURVEY & DESIGN INFORMATION PROVIDED. THIS SURVEY IS MOST CURRENT HOWEVER IT MAY NOT ACCURATELY REFLECT ACTUAL GROUND LEVELS OR STOCKPILES ETC ON SITE. IT IS THE CONTRACTORS RESPONSIBILITY TO CONFIRM VOLUMES AND ALLOWANCES FOR EARTHWORKS.



LONGITUDINAL SECTION - SECTION 1  
HORIZONTAL SCALE 1:500  
VERTICAL SCALE 1:100



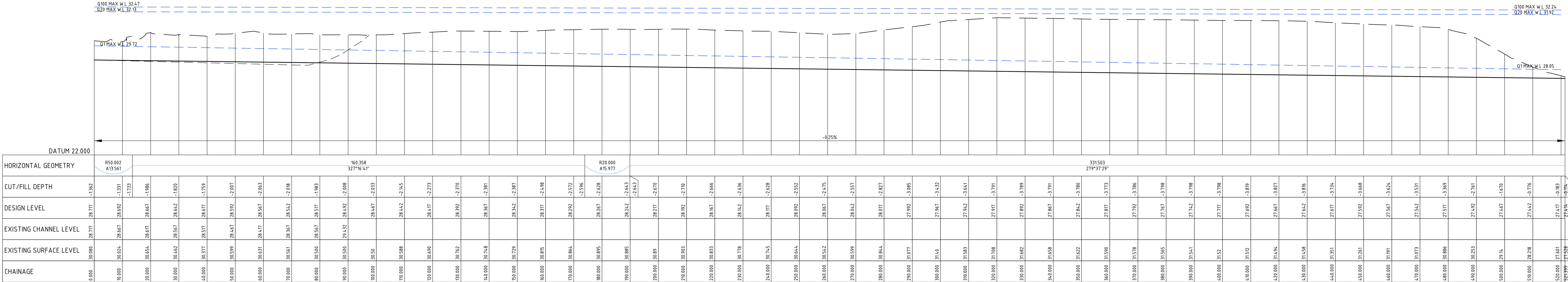
LONGITUDINAL SECTION - SECTION 2  
HORIZONTAL SCALE 1:500  
VERTICAL SCALE 1:100



LONGITUDINAL SECTION - SECTION 3  
HORIZONTAL SCALE 1:500  
VERTICAL SCALE 1:100

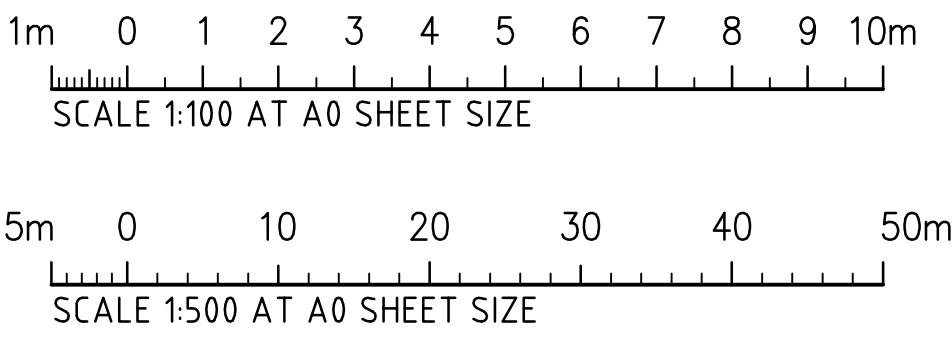
FOR SECTION 96 APPLICATION





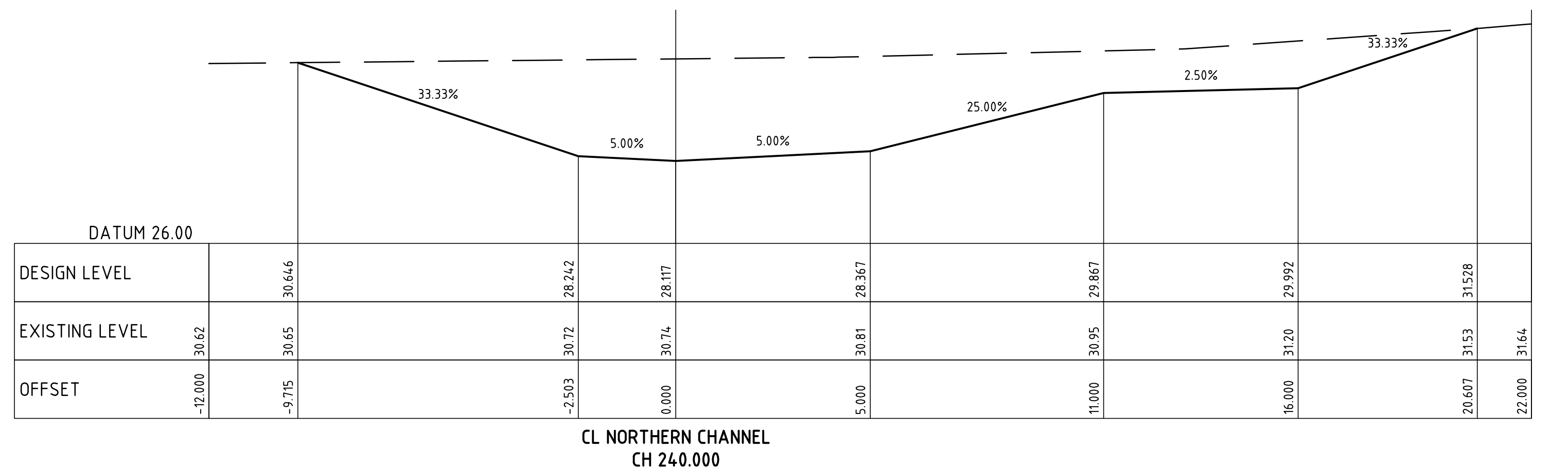
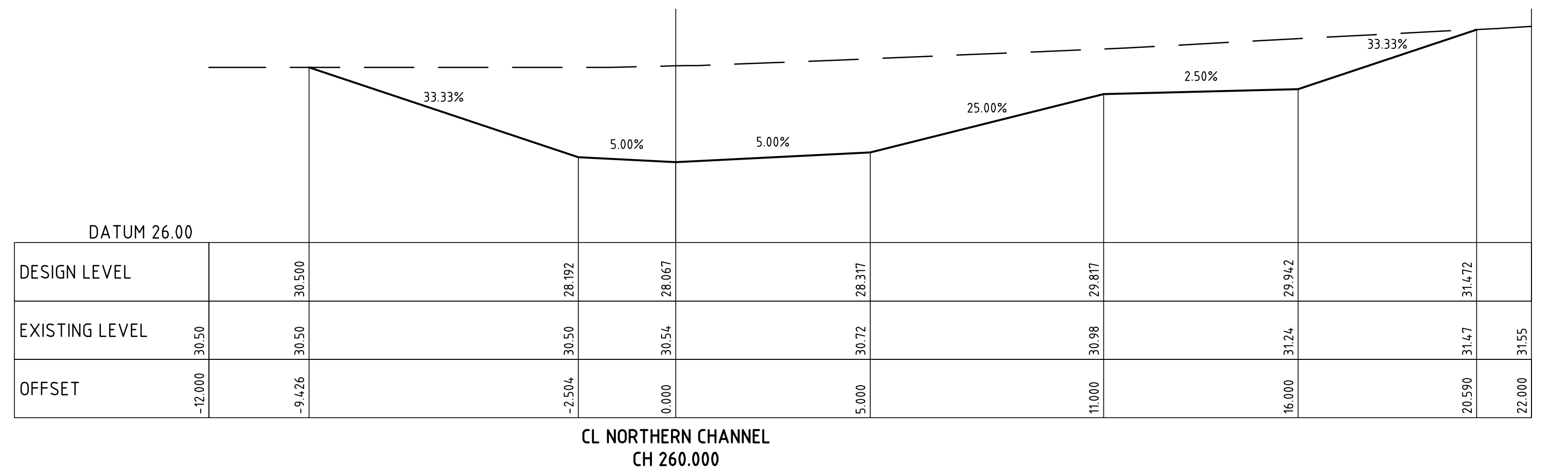
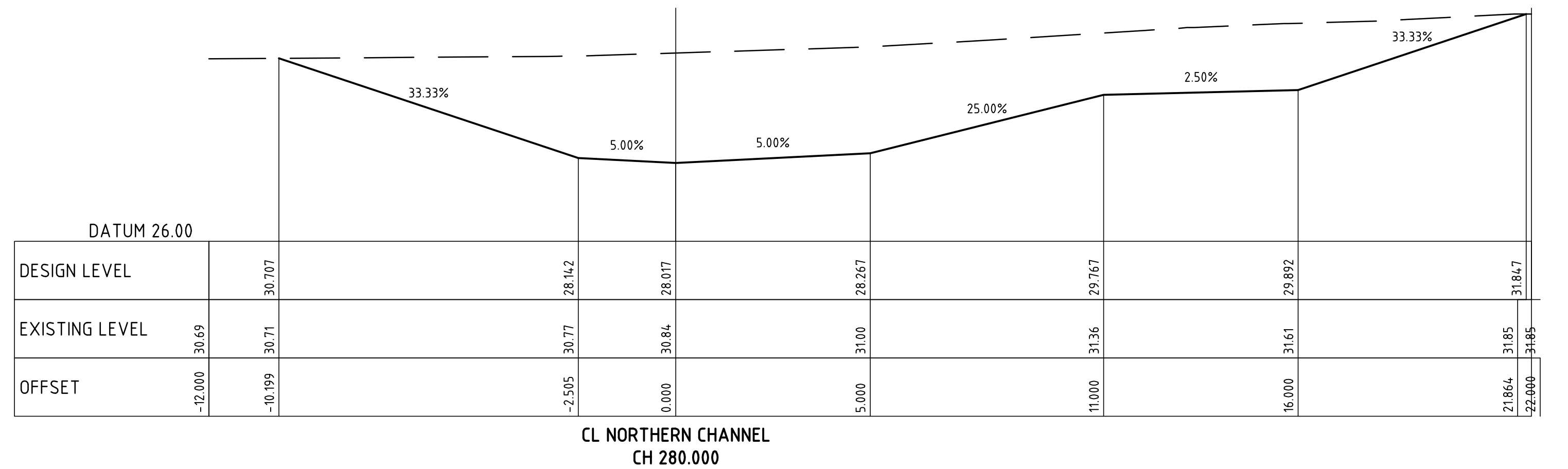
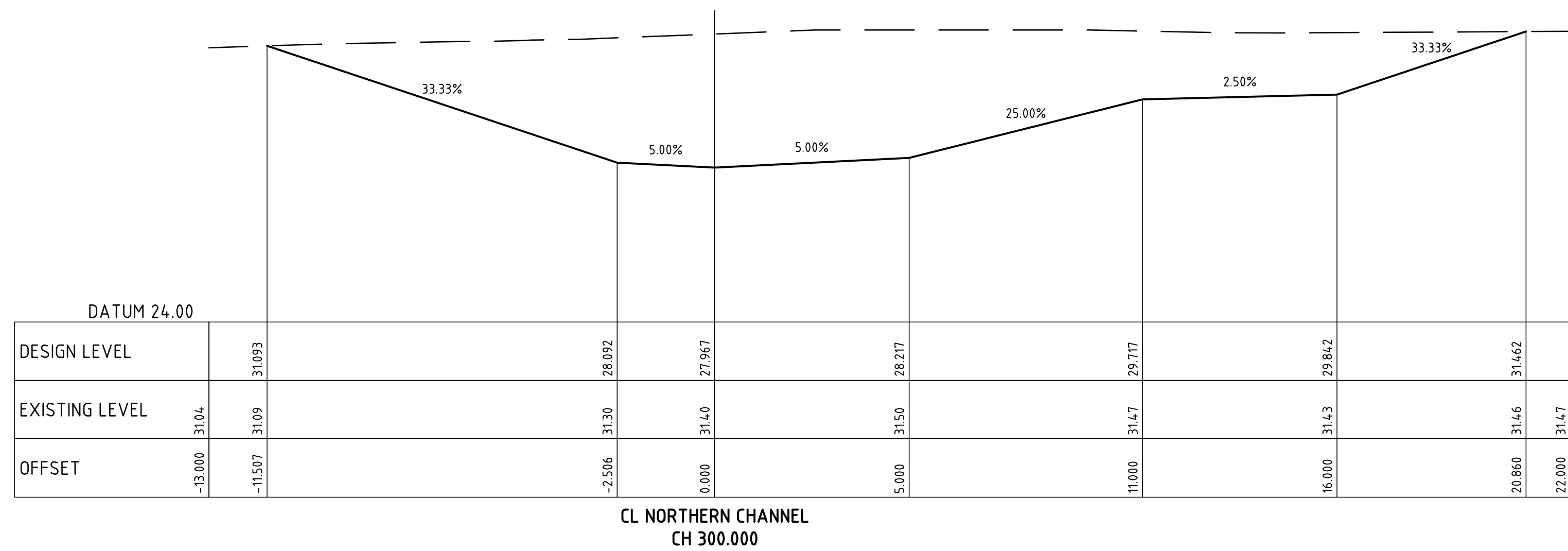
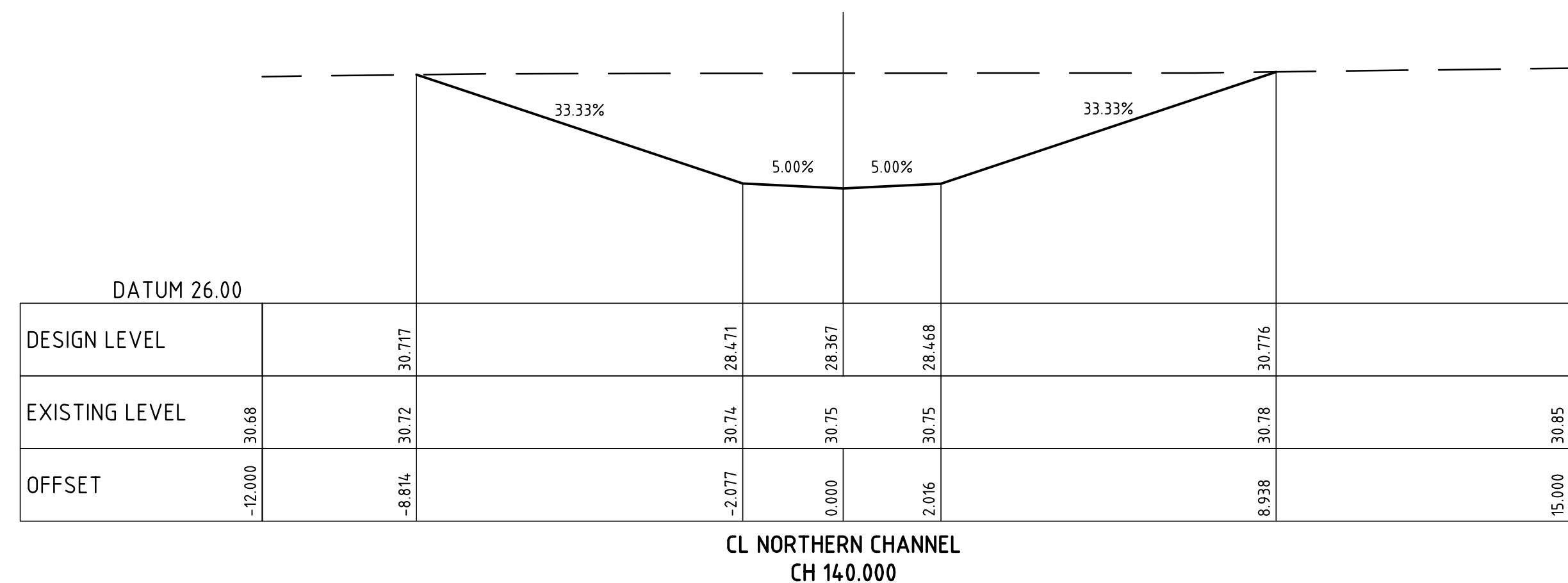
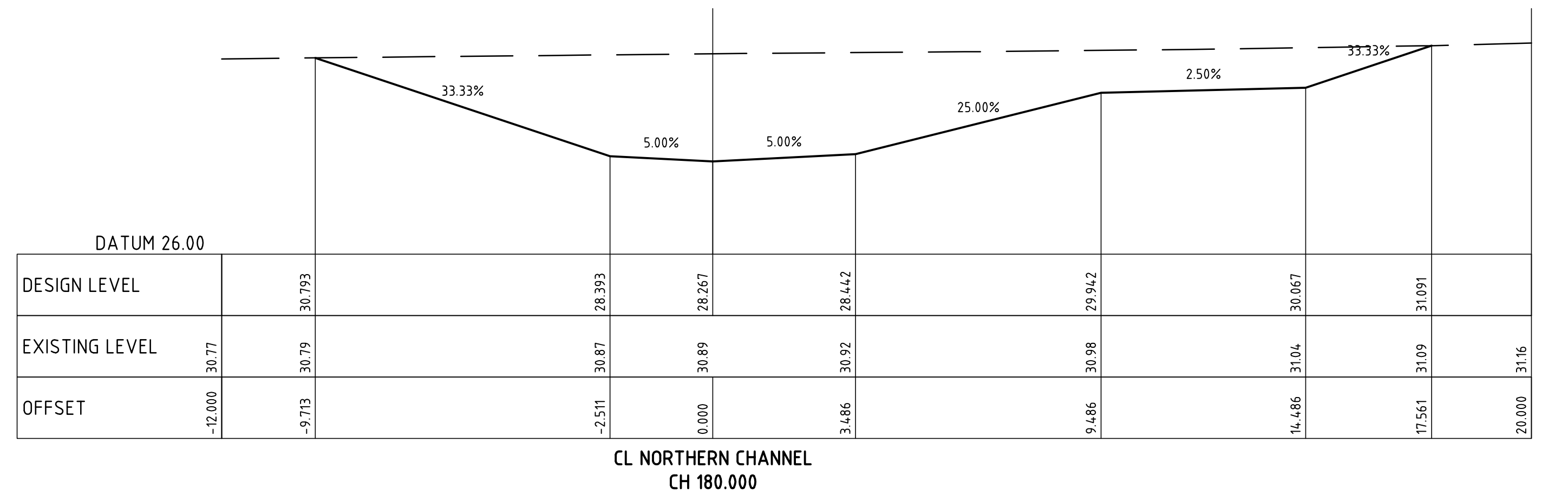
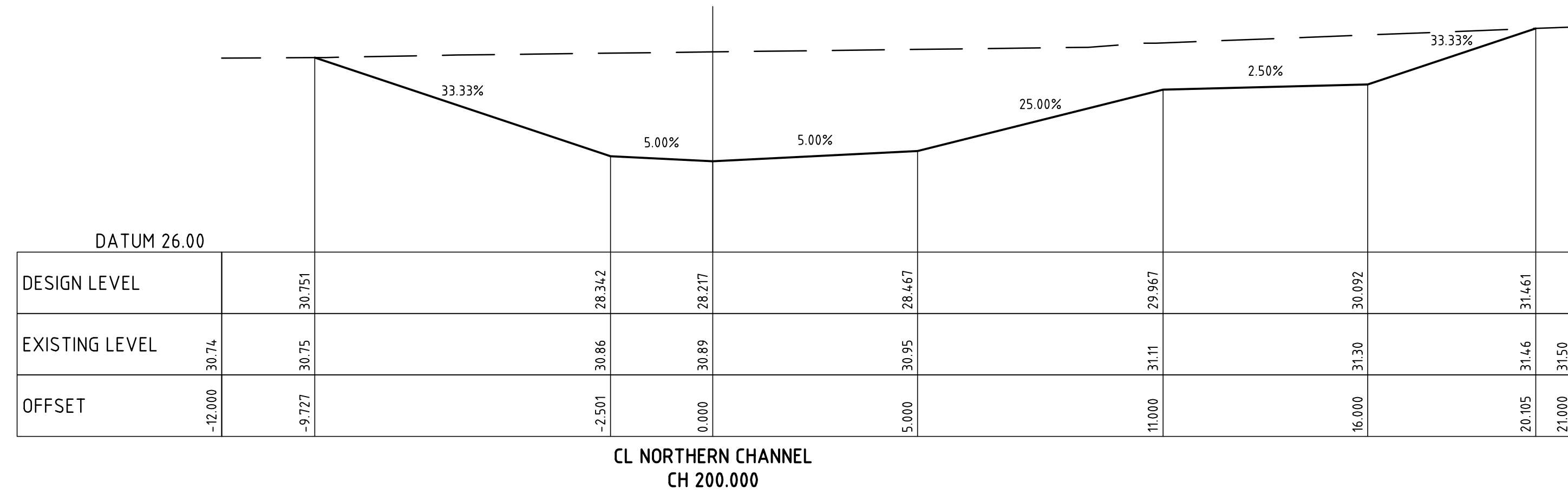
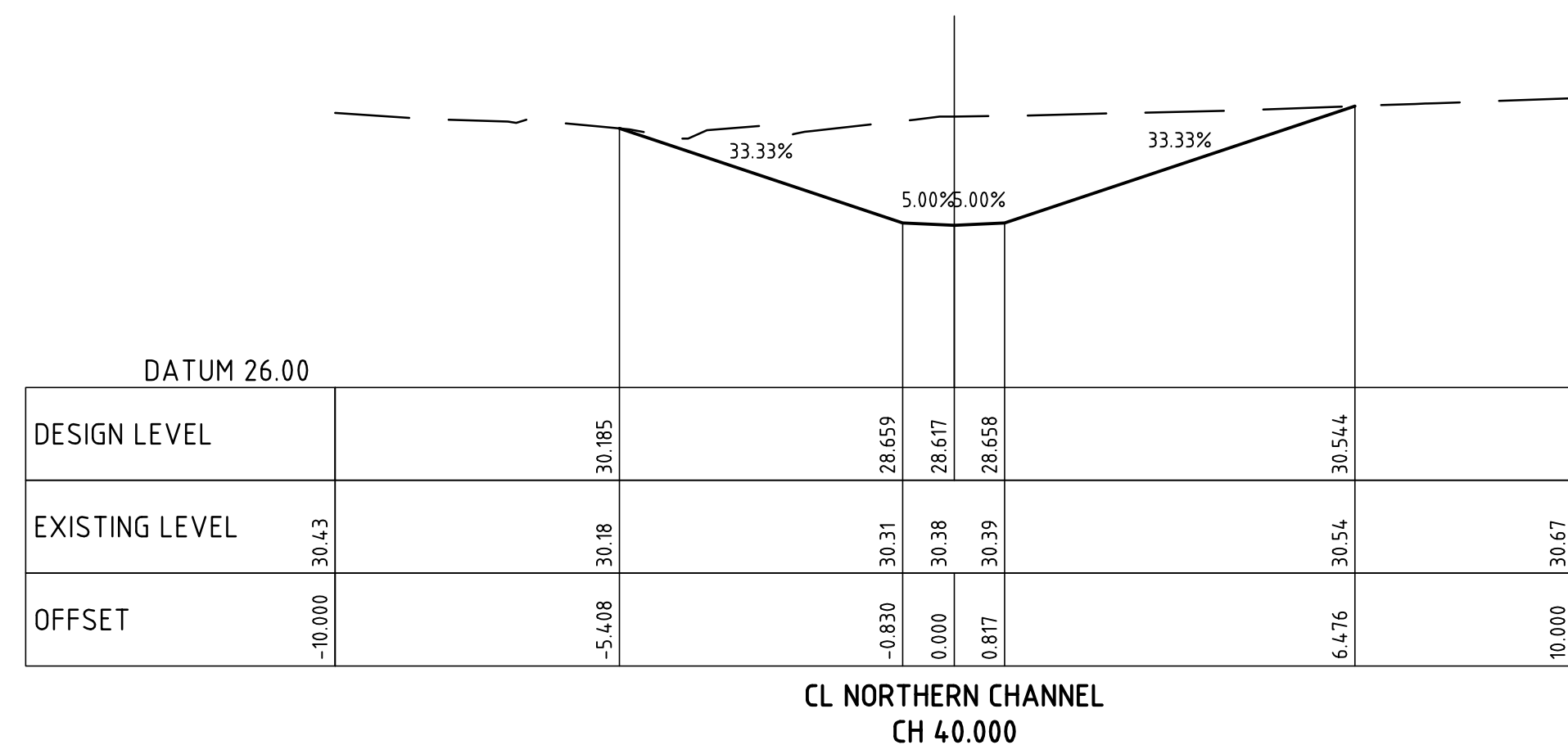
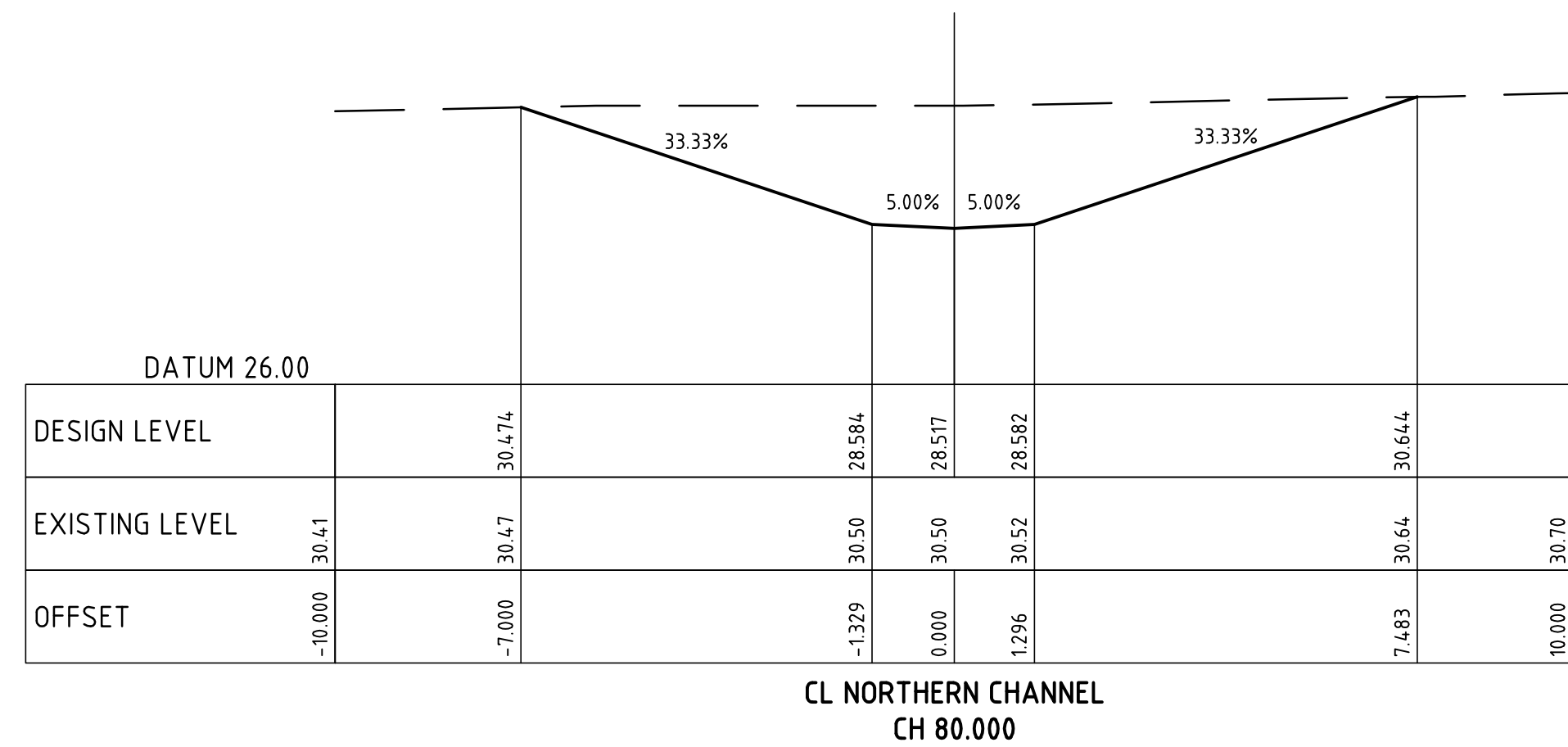
LONGITUDINAL SECTION - CL NORTHERN CHANNEL  
HORIZONTAL SCALE 1:500  
VERTICAL SCALE 1:100

FOR SECTION 96 APPLICATION



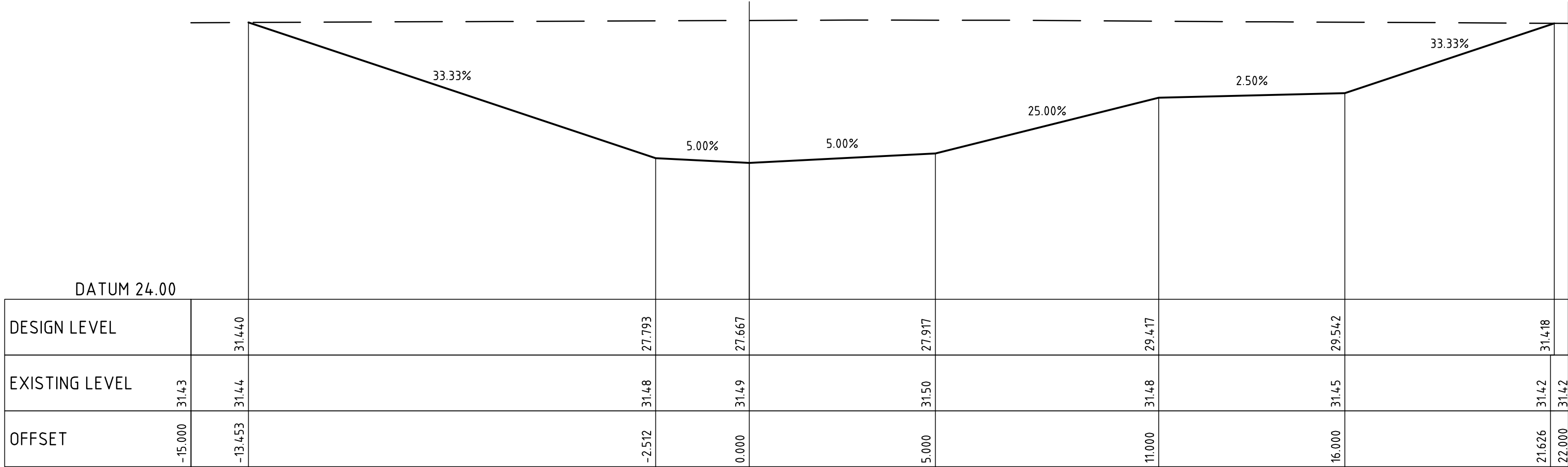
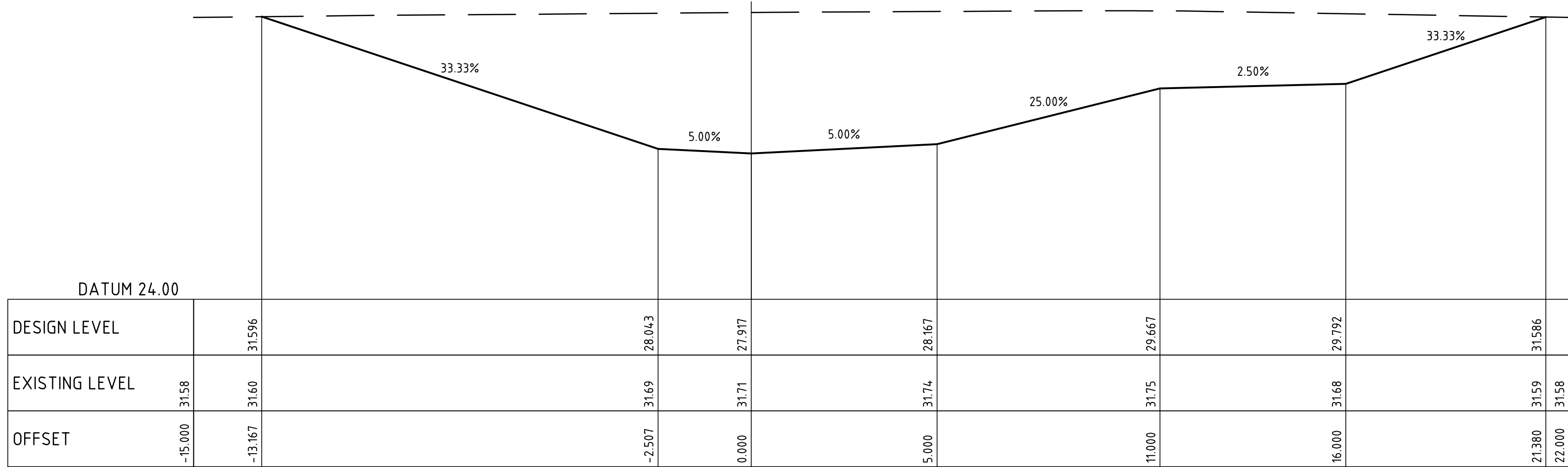
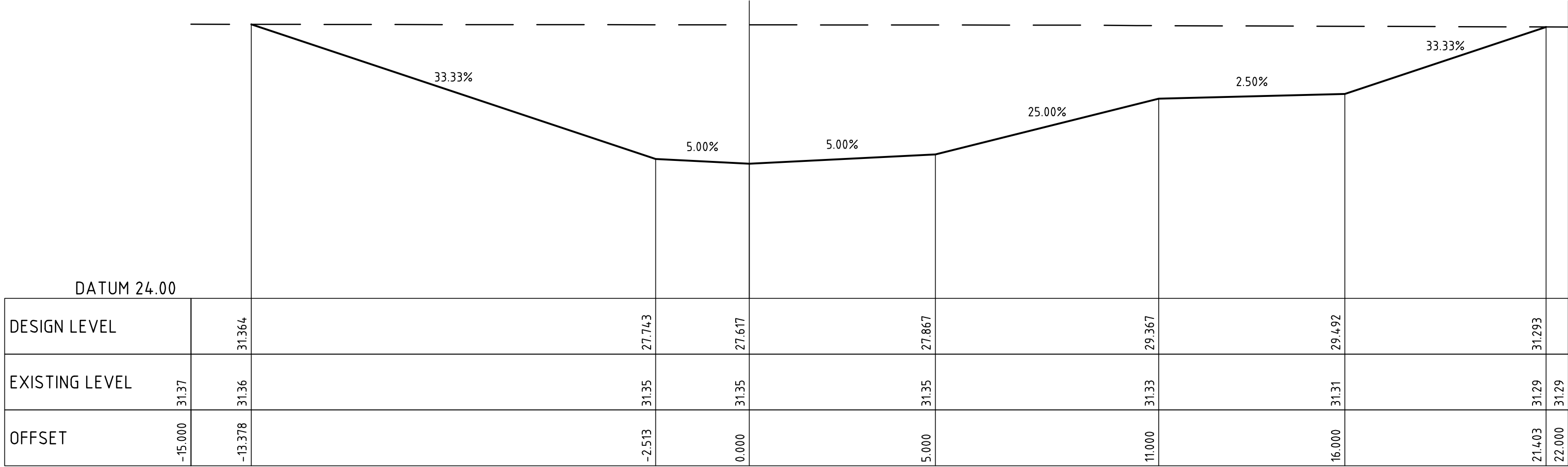
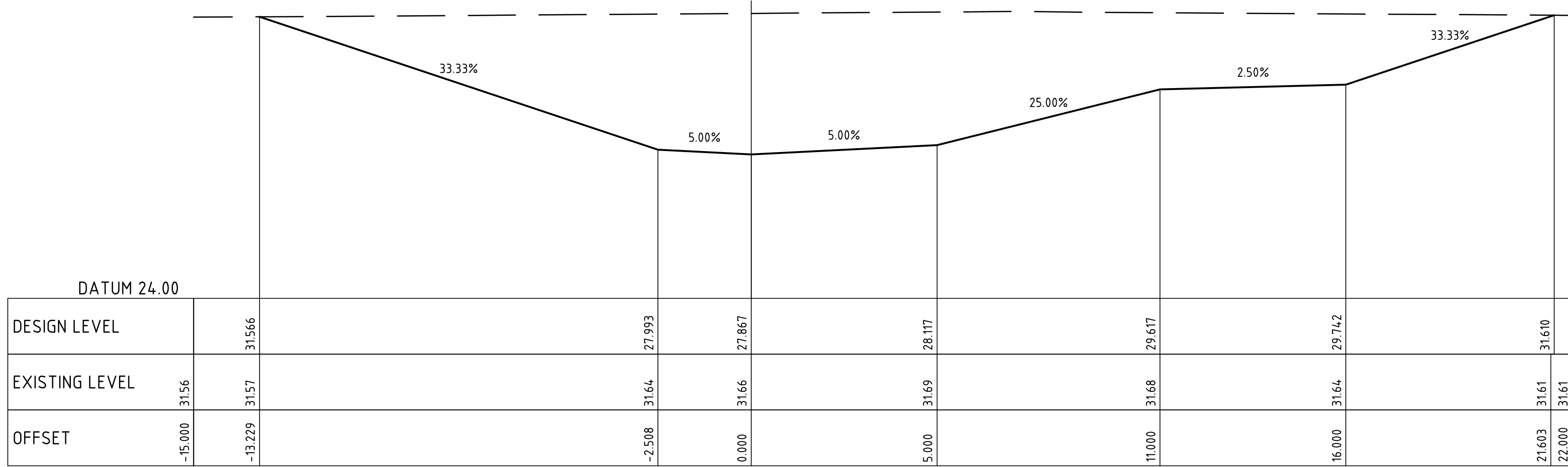
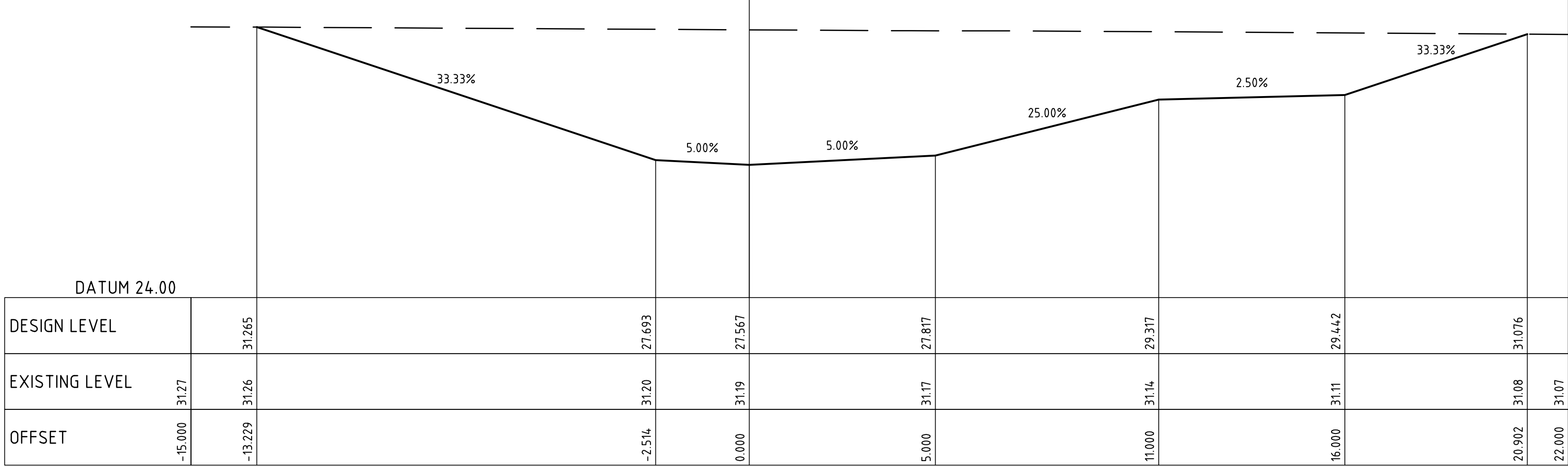
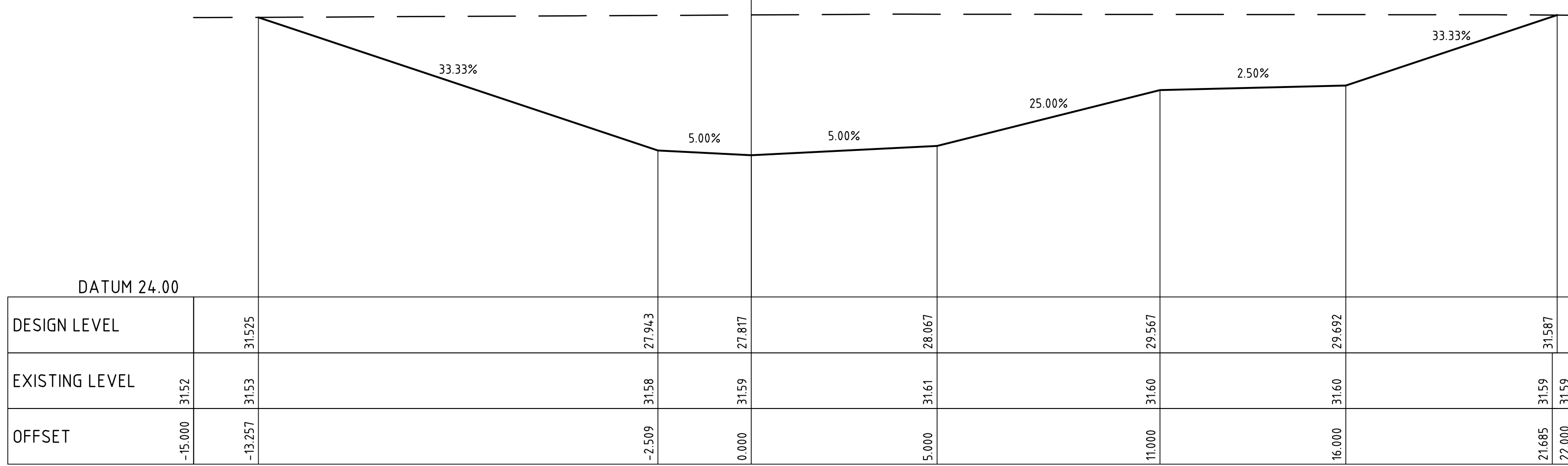
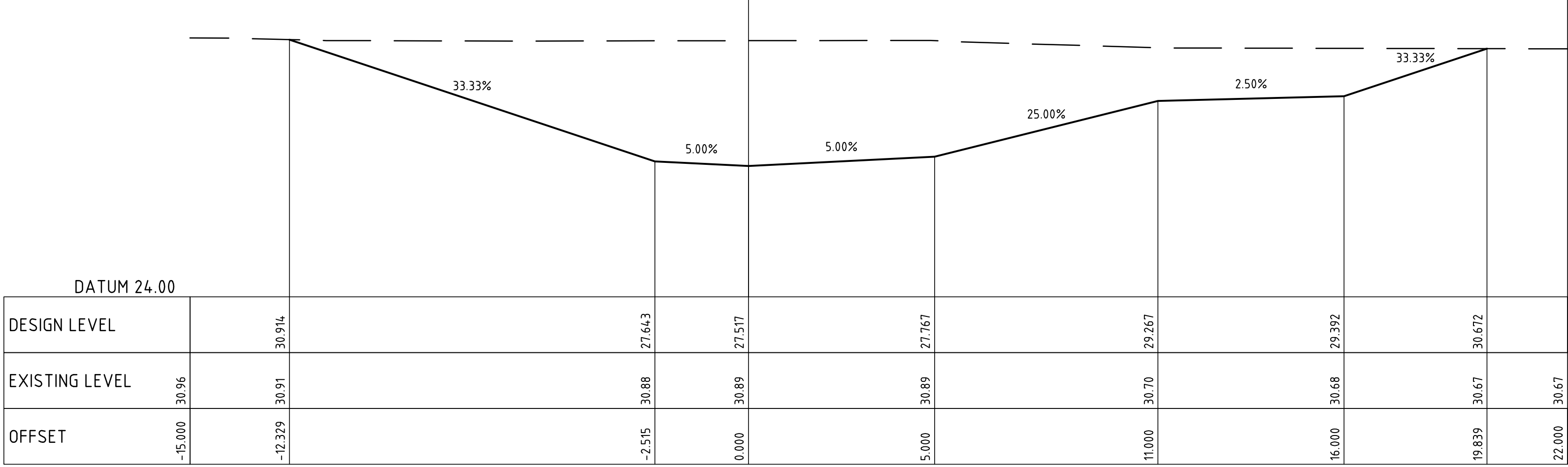
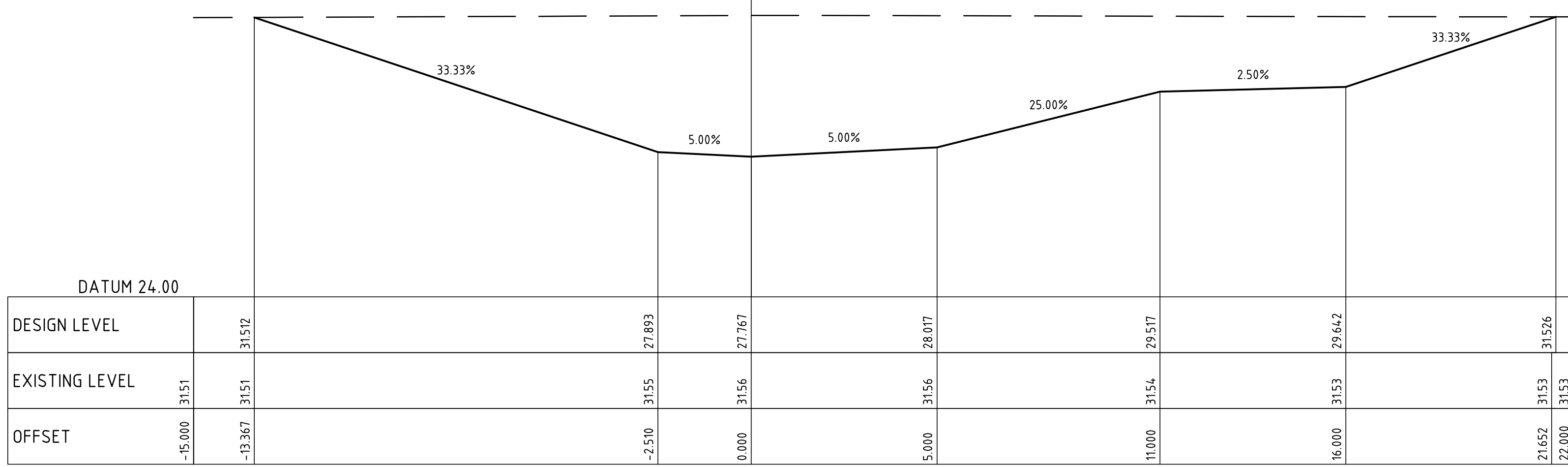
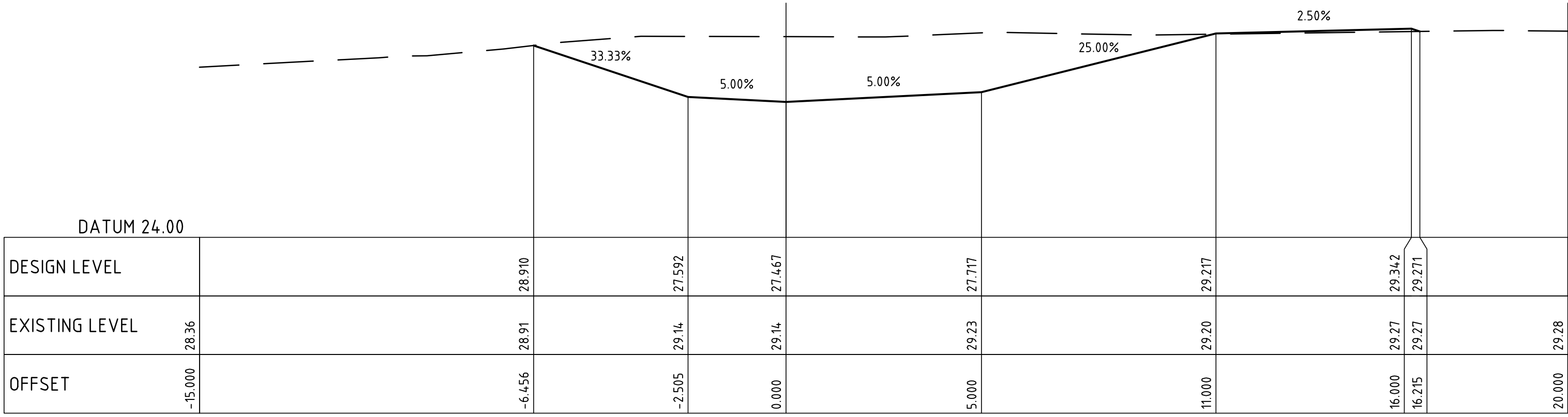
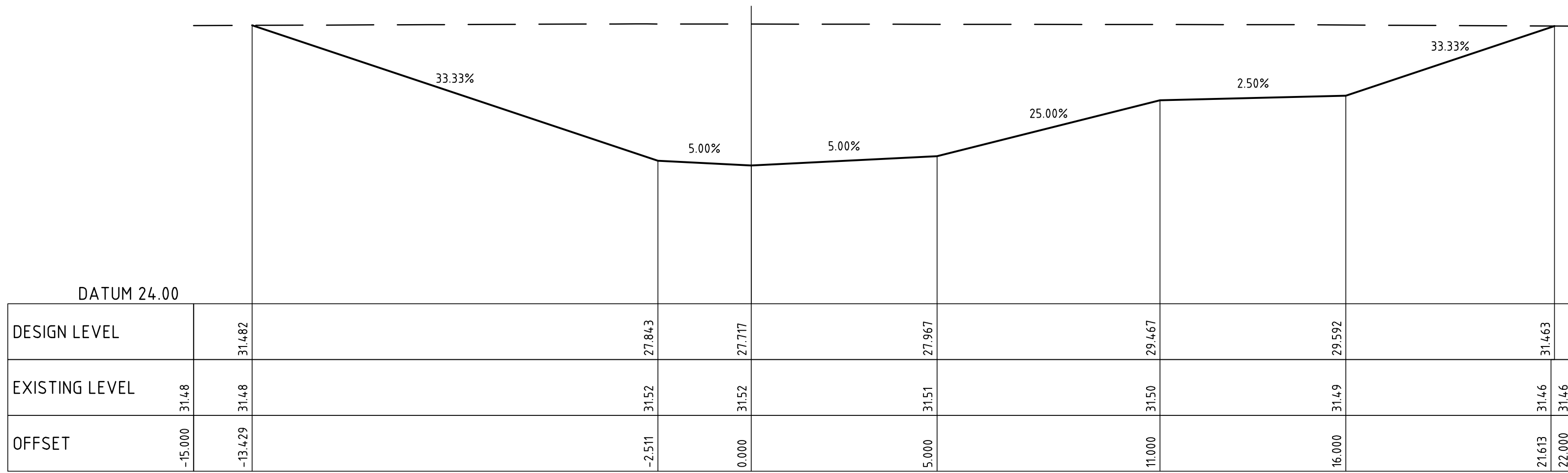
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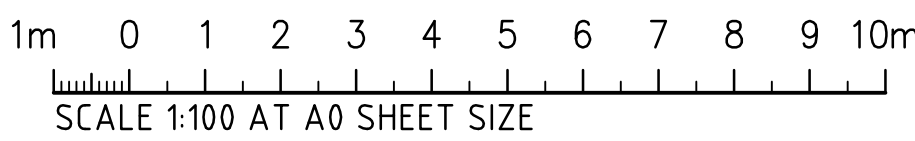


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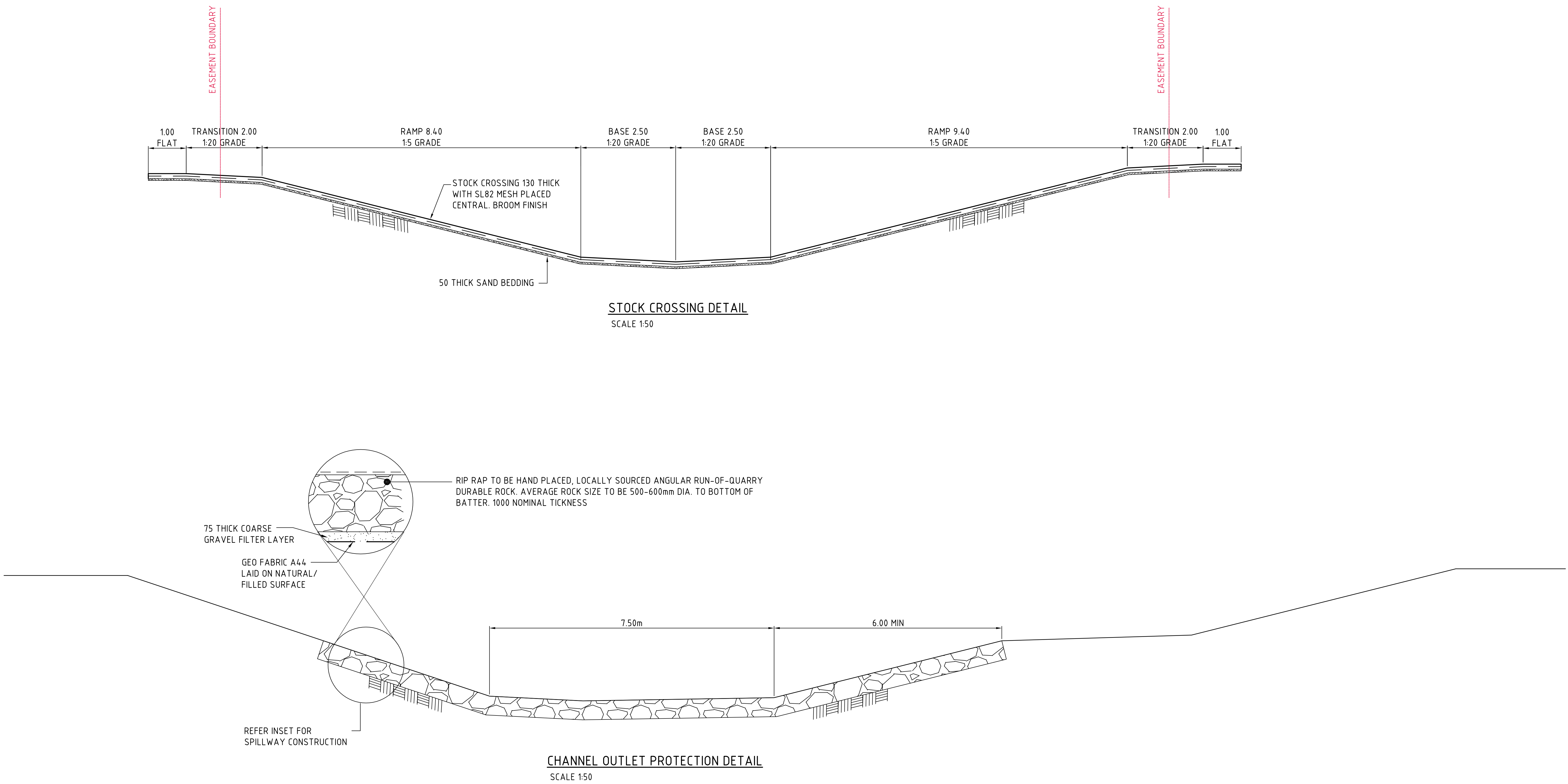




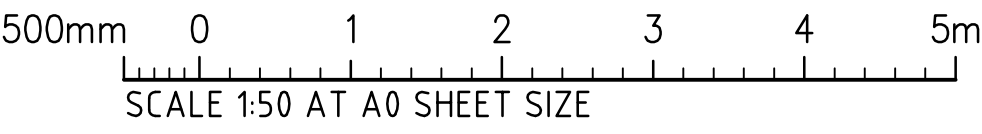
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