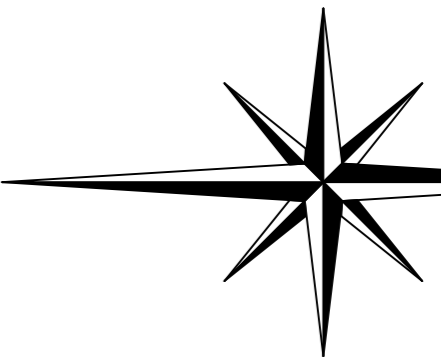


N



EARTHWORKS

All earthworks will be undertaken in accordance with The Department of Transport Manual of Contract Documents for Highways Works Volume 1 as per the table attached in appendix 1. Embankment fill shall be placed in layers not exceeding 250mm loose thickness. Compaction of all placed fill shall be by BW6 towed vibrating roller. This will be towed by a Komatsu Dozer. Exact plant to be confirmed prior to works commencement.

See appendix 1 of the specification for compaction table 6/4 from Highways specification.

Source of fill to form embankments to be the excavated arisings from the base. Coarser granular material to be used in outer slope with clay used in the inner "wet" slope. Volumetric design based on achieving a cut & fill balance.

Water tightness achieved by use of liner.

WATER MANAGEMENT

Reservoir to be filled by pumped pipeline from borehole. Pumphouse to be located at borehole (TBC). Reservoir to be emptied by electric / diesel powered pumps (TBC)

Overflow pipe (300mm) at level 25.900 to discharge into existing ditch.

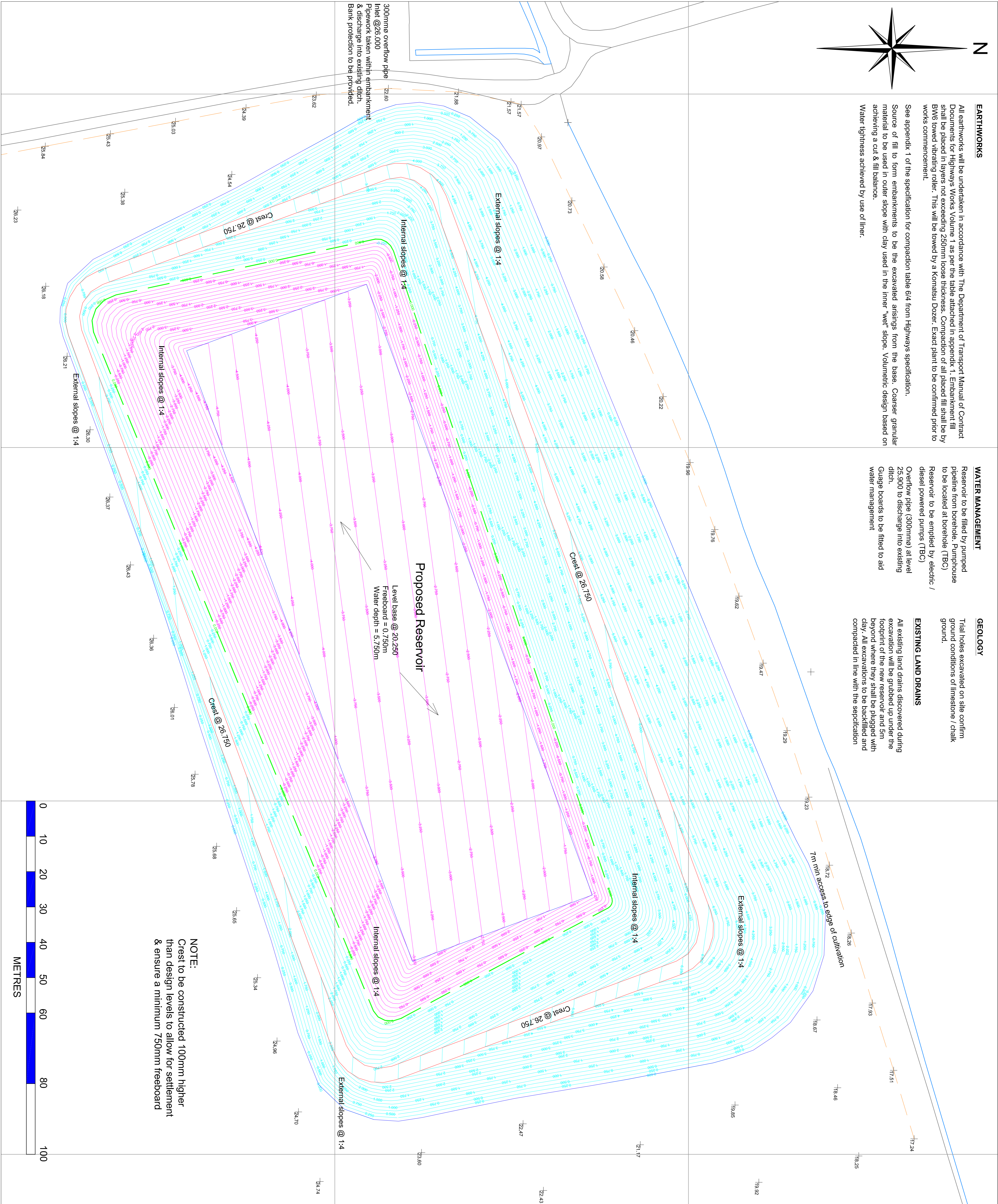
Guage boards to be fitted to aid water management

GEOLOGY

Trial holes excavated on site confirm ground conditions of limestone / chalk

EXISTING LAND DRAINS

All existing land drains discovered during excavation will be grubbed up under the footprint of the new reservoir and 5m beyond where they shall be plugged with clay. All excavations to be backfilled and compacted in line with the specification



Proposed Reservoir

Level base @ 20.250
Freeboard = 0.750m
Water depth = 5.750m

Crest @ 26.150

Crest @ 26.150

Crest @ 26.150

Crest @ 26.150

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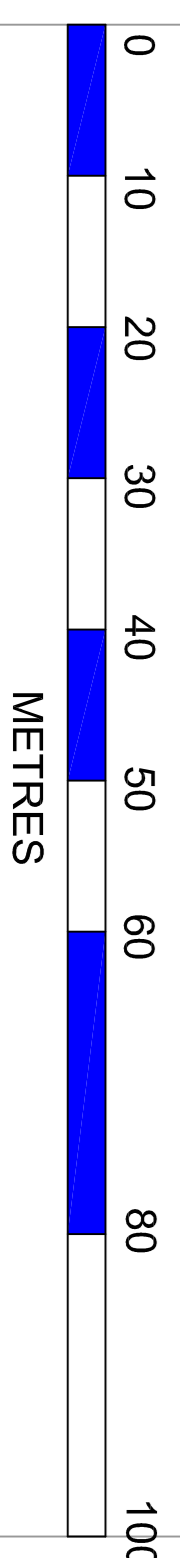
Crest @ 26.150

Crest @ 26.150

Crest @ 26.150

Crest @ 26.150

Crest @ 26.150



NOTE:
Crest to be constructed 100mm higher than design levels to allow for settlement & ensure a minimum 750mm freeboard

Do not scale from this drawing

Legend

- Bottom of batter / bank / slope
- Top of batter / bank / slope
- Cut / isopachyte 0.250m interval
- Cut / fill line
- Fill isopachyte 0.250m interval

BULK EARTHWORKS VOLUMES

Total cut (excavation) = 55,750m³

Total fill (embankments) = 55,750m³

(Includes strip & replace soil beneath crest footprint - 0.5m)

STORAGE CAPACITY SUMMARY

Required storage volume = 20,000,000 gallons

= 90,922m³

New reservoir @ 750mm freeboard

New volume = 82,896m³

As gallons = 20,434,263

Volume stored above lowest adjacent ground level

(18,625m AOD) = 92,896m³

As gallons = 20,434,263

DIMENSIONAL SUMMARY

- Overall depth 6.450m
- Freeboard 0.750m
- Water depth 5.700m
- Capacity 92,896m³ (20.43million gallons imp)
- Crest width 4.00m
- Dry slope 1:4
- Wet slope 1:1.4
- Reservoir area 22,895m² (water level when full)
- Reservoir area 38,629m² (total footprint)
- Embankment crest 26,650 AOD
- Water level 25,900 AOD (overflow)
- Base of reservoir 20.200m AOD
- Lowest external ground level 18.625m AOD
- Max height of embankment 8.025m (Crest to ground level)
- Max height of embankment 7.275m (Water level to ground level)
- Liner area - Base & wet slope = 25,318m²
- Anchor trench length = 668m

Reservoir sited at National Grid Reference SE998153 (0.1km square)

FOR COMMENT

Rev	0	First design scheme for comment	NGH	26/04/2022
Revision				

Project: Low Risby Reservoir

Drawing Title: New reservoir Isopachyte Layout

Scale	1:500	Sheet Size	A1
Drawn	N.Hewardine	Checked	Approved
Drawing Number	DJS-ES-P470-03	Date	26/04/2022
		Rev	0