BUILD RICH LIMITED LUC60386771 **PROPOSED EARTHWORKS** Approved Resource Consent Plan 16/11/2021 2182 EAST COAST ROAD **SILVERDALE STAGE 3 & 4 COVER SHEET PG101 JOB NUMBER: 1625**

EARTHWORKS RESOURCE CONSENT DRAWINGS:

PRELIMINARY & GENERAL

PG101 COVER SHEET

PG102 CONTENTS PAGE

PG103 EXISTING CONTOUR PLAN

EARTHWORKS

EW201 PROPOSED CONTOUR PLAN

EW202 PROPOSED CUT TO FILL CONTOUR PLAN

EW203 EROSION AND SEDIMENT CONTROL PLAN

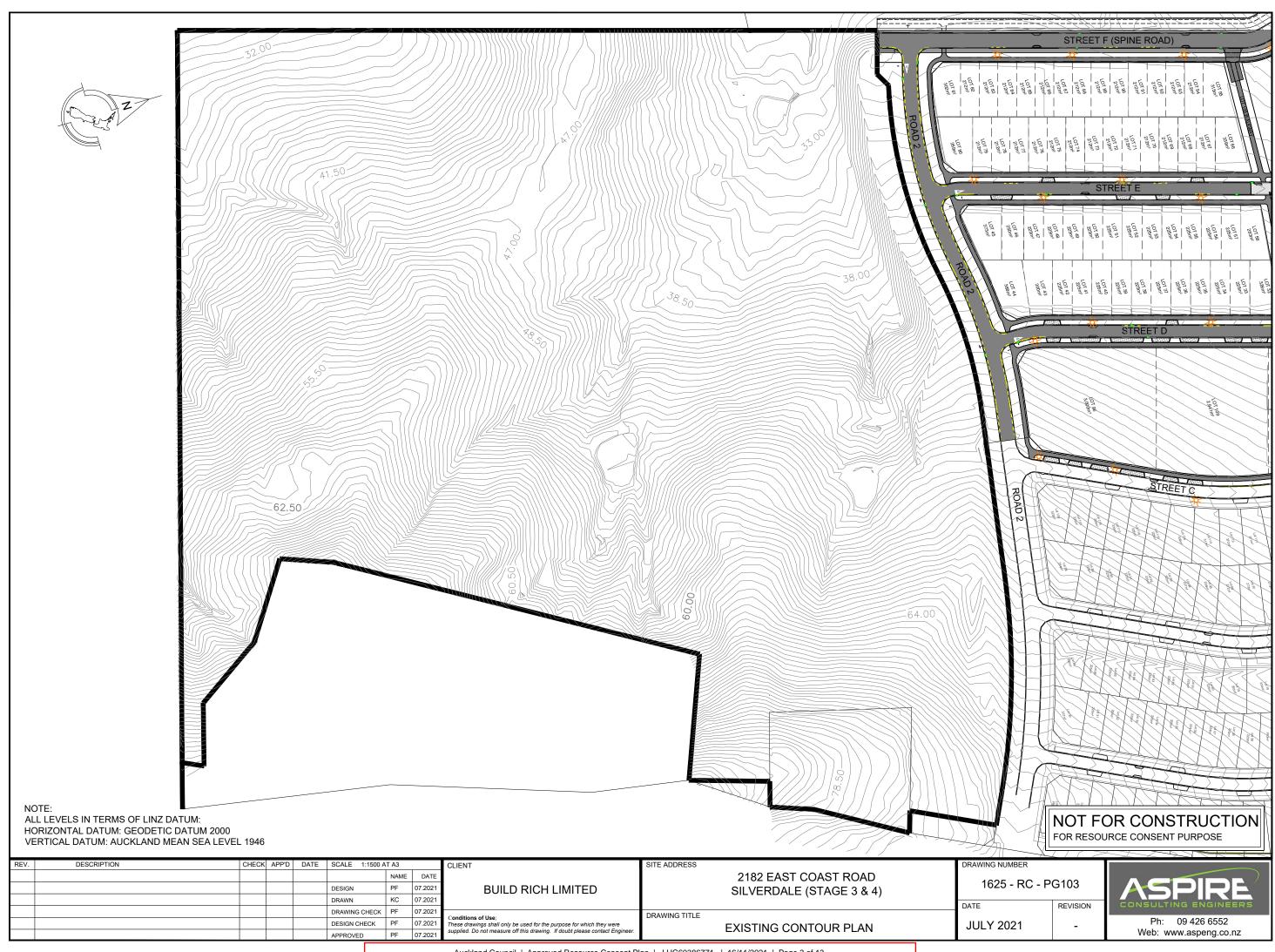
EW204-8 EROSION AND SEDIMENT CONTROL DETAILS

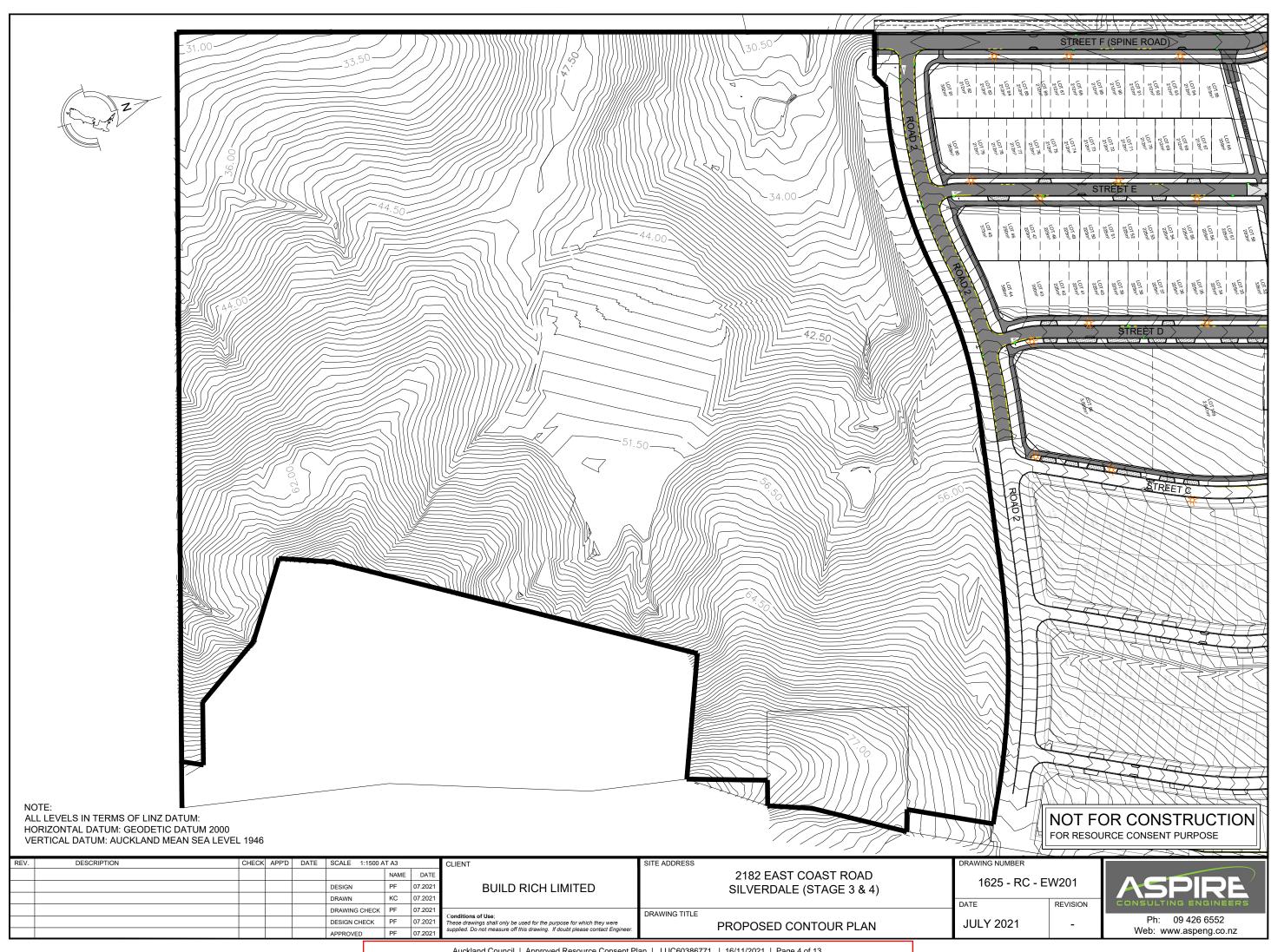
EARTHWORKS SECTIONS
XS301-302 PROPOSED EARTHWORKS SECTIONS

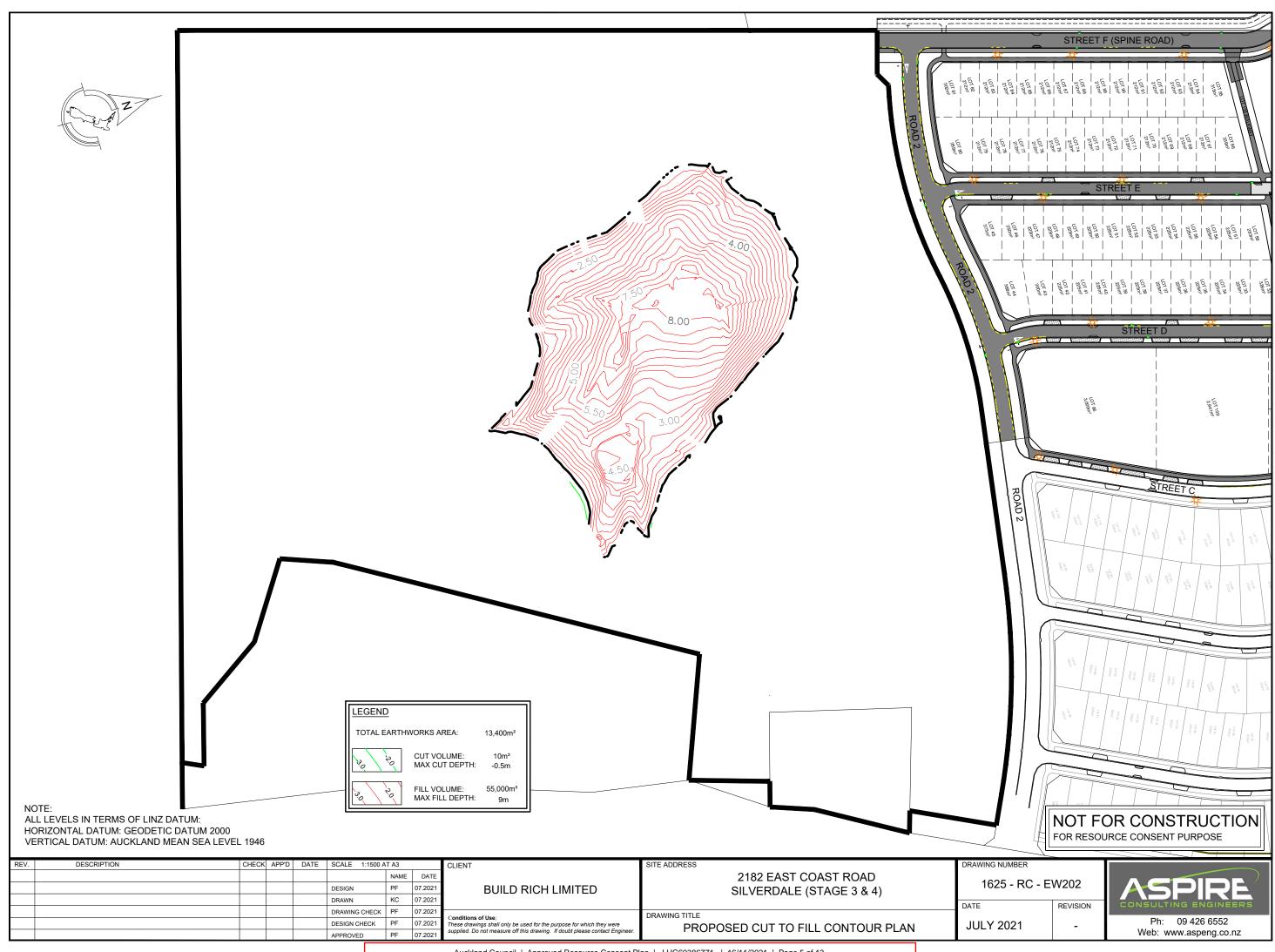
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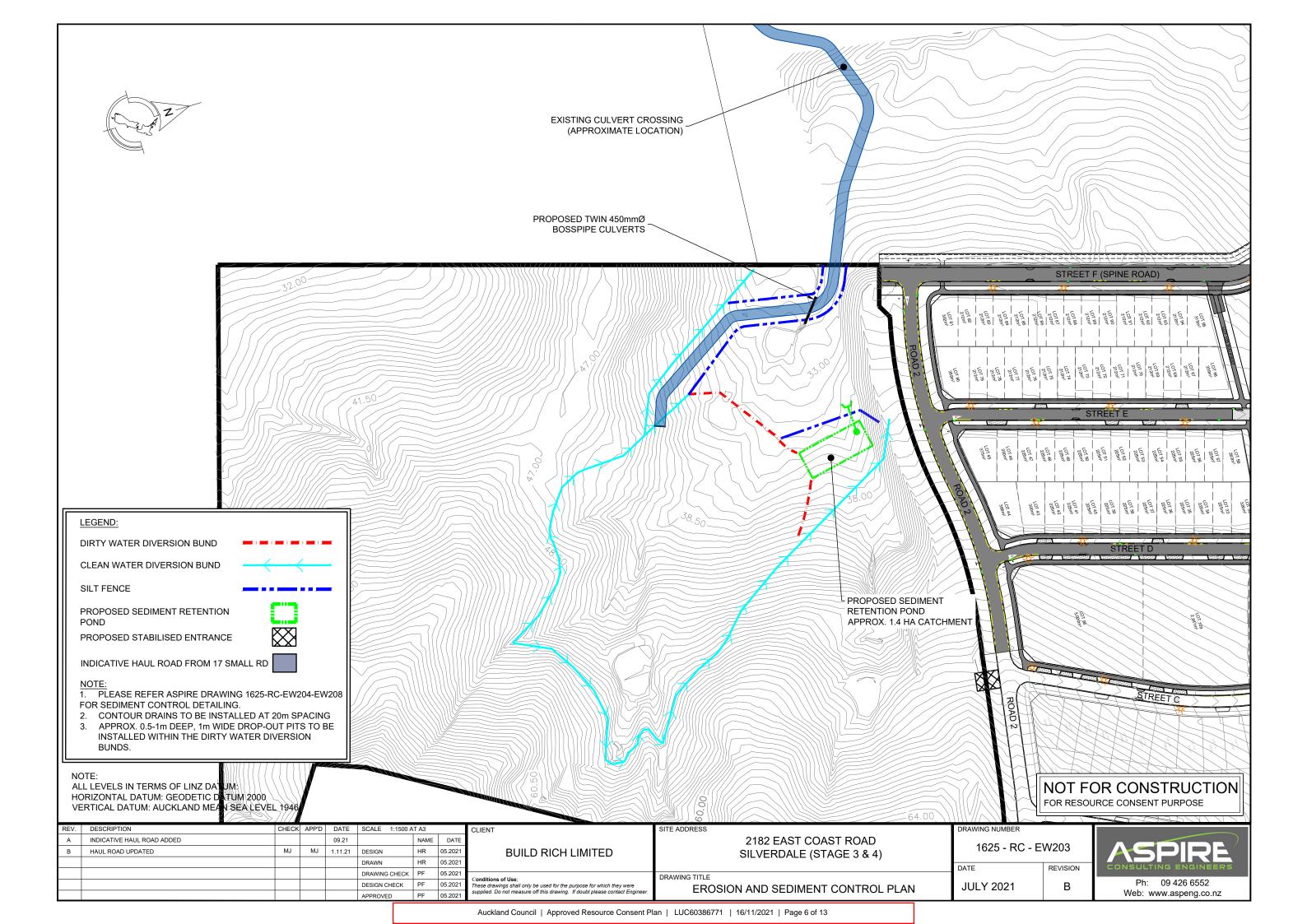
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					NAME	DATE		2182 EAST COAST ROAD	4005 50	DO 400
				DESIGN	PF	07.2021	BUILD RICH LIMITED	SILVERDALE (STAGE 3 & 4)	1625 - RC -	PG102
				DRAWN	KC	07.2021		SIEVERBALE (STAGE 5 & 1)	DATE	REVISION
				DRAWING CHECK	PF	07.2021	Conditions of the	DRAWING TITLE	DATE	REVISION
				DESIGN CHECK	PF		These drawings shall only be used for the purpose for which they were	CONTENT DAGE	JULY 2021	_
				APPROVED	PF	07.2021	supplied. Do not measure off this drawing. If doubt please contact Engineer.	CONTENT LAGE		





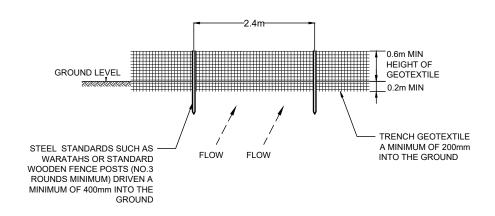




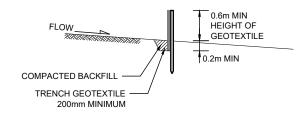


Slope steepness %	Slope length (m) (maximum)	Spacing of returns (m)	Silt fence length (m) (maximum)
Flatter than 2%	Unlimited	N/A	Unlimited
2 – 10%	40	60	300
10 – 20%	30	50	230
20 – 33%	20	40	150
33 – 50%	15	30	75
> 50%	6	20	40

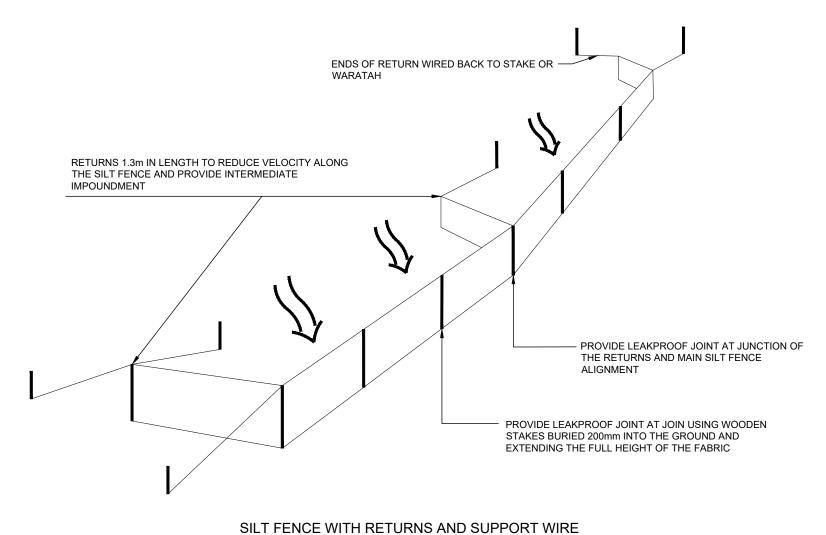
SILT FENCE DESIGN CRITERIA TABLE



SILT FENCE ELEVATION



SILT FENCE CROSS-SECTION



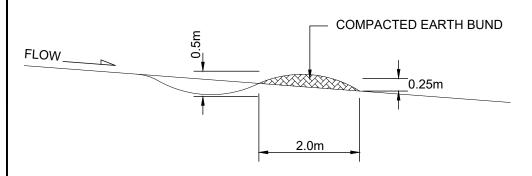
REFER TO AUCKLAND COUNCIL GD-05 FOR FURTHER DETAILS

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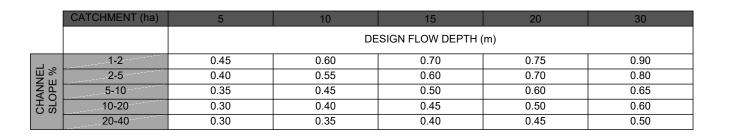
REV.	DESCRIPTION	CHECK	APP'D DATE	SCALE NTS			CLIENT	SITE ADDRESS	DRAWING NUMBER		Г
					NAME DATE			2182 EAST COAST ROAD	4005 DO 51	14/00 4	
		DESIGN HR 07.21 BUILD RICH LIMITED SILVERDALE (STAGE 3 & 4)					SILVERDALE (STAGE 3 & 4)	1625 - RC - EV	5 - RC - EW204		
			DRAWN HR 07.21			07.21		,	DATE	REVISION	
				DRAWING CHECK	PF	07.21	Candidana af llan	DRAWING TITLE		REVISION	
				DESIGN CHECK	PF		Conditions of Use; These drawings shall only be used for the purpose for which they were	EROSION AND SEDIMENT CONTROL PLAN	JULY 2021	ı - I	1
				APPROVED	PF	07.21	supplied. Do not measure off this drawing. If doubt please contact Engineer.	LINGUIGHT AND GEDINIENT GONTHOLFEAN		1	1

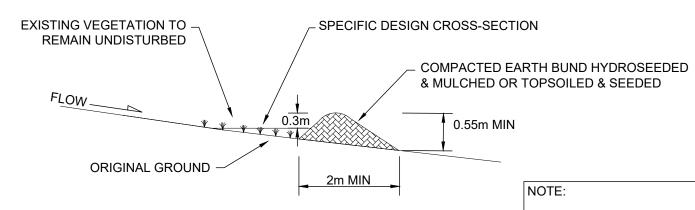
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CONTOUR DRAIN SPACING										
SLOPE OF SITE (%)	SPACING (m) OF CONTOUR DRAINS									
LESS THAN 5%	50									
5 - 10%	40									
10 - 15%	30									
15 - 30%	20									



CONTOUR DRAIN CROSS-SECTION





CLEAN WATER DIVERSION CROSS-SECTION

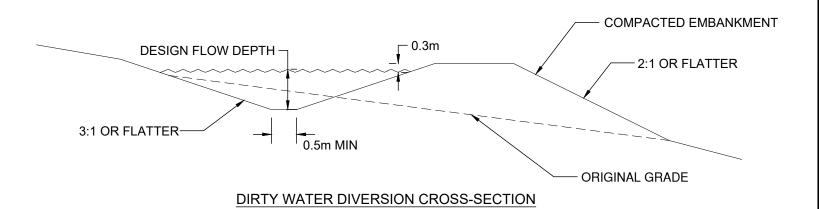
- THE DIVERSION CHANNELS SHOULD BE PARABOLIC OR TRAPEZOIDAL IN SHAPE
- ENSURE INTERNAL SIDES OF THE BUND ARE NO STEEPER THAN 3:1, AND EXTERNAL SIDES NO STEEPER THAN 2:1, AS OUTLINED BELOW

DIRTY WATER DIVERSION FOR CONSTRUCTION AND OPERATION OF DIRTY WATER DIVERSION CHANNELS AND BUNDS:

- PLAN AND CONSTRUCT ALL DIRTY WATER DIVERSION WORKS AS PART OF THE INITIAL SITE ESTABLISHMENT/ DEVELOPMENT ACTIVITIES
- DEFINE THE ROUTE AND SURVEY IT TO ACHIEVE THE CORRECT GRADIENT
- CONSTRUCT DRAINS WITH A UNIFORM GRADE ALONG THE INVERT, AS SUDDEN DECREASES MAY CAUSE SEDIMENT TO ACCUMULATE CAUSING THE BANK TO OVERTOP
- ENSURE THE BUNDS ASSOCIATED WITH THE DIVERSIONS ARE WELL COMPACTED AND STABILISED. IN SOME INSTANCES, THIS MAY REQUIRE SPECIFIC GEOTECHNICAL DESIGN TO ENSURE THE STABILITY AND INTEGRITY OF THE STRUCTURE
- MONITOR DIVERSIONS FOR EROSION. SUBJECT TO THE SOILS ON SITE IT IS LIKELY THAT EROSION CONTROL WILL BE NEEDED WHERE THE GRADIENTS ARE GREATER THAN 2% OR WHERE THE DESIGN VELOCITIES EXCEED 1m/SEC
- ENSURE THE FINISHED CROSS-SECTION MEETS ALL DESIGN REQUIREMENTS.
- PROVIDE AN ADEQUATE OUTLET FOR EACH DIVERSION (i.e DIRTY WATER TO A SEDIMENT CONTROL DEVICE).

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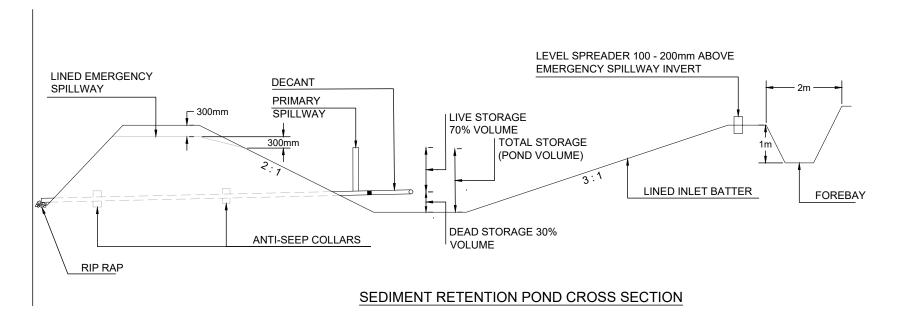


	CATCHMENT (ha)	1	2	3	4	5
			DE	SIGN FLOW DEPTH (m)	
1.	1-2	0.20	0.25	0.30	0.35	0.35
NEL %	2-5	0.15	0.20	0.25	0.30	0.30
AN PE	5-10	0.15	0.15	0.20	0.25	0.25
SE	10-20	0.10	0.15	0.15	0.20	0.20
	20-40	0.10	0.15	0.15	0.20	0.20

NOTE: BASED ON 0.5m WIDE BASE WITH 1:3 SIDE SLOPES

REV. DESCRIPTION	CHEC	K APP'D DAT	E SCALE NTS			CLIENT	SITE ADDRESS	DRAWING NUMBER		
				NAME	DATE		2182 EAST COAST ROAD	4005 DO 5	14/005	
			DESIGN	HR	07.21	BUILD RICH LIMITED	SILVERDALE (STAGE 3 & 4)	1625 - RC - E	W205	
			DRAWN	HR	07.21		0.212.187.122 (0.17.102 0 td. 1)	DATE	REVISION	CONSULTING ENGINEERS
			DRAWING CHECK	PF	07.21	Conditions of these	DRAWING TITLE	DATE	REVISION	CONSOLINIC ENGINEERS
			DESIGN CHECK	PF	07.21	Conditions of Use; These drawings shall only be used for the purpose for which they were	EDOCIONI AND CEDIMENT CONTROL DI ANI	JULY 2021	_	Ph: 09 426 6552
			APPROVED	PF	07.21	supplied. Do not measure off this drawing. If doubt please contact Engineer.	LINGSIGN AND SEDIMENT CONTINUE FLAIN			Web: www.aspeng.co.nz

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BUND/DIVERSION CHANNELS TO -WIDE SHALLOW LEVEL SPILLWAY OVER EXISTING **ENSURE ALL FLOW ENTERS AT** GROUND WHERE POSSIBLE, RETAINING THE THE INLET END EXISTING GRASS COVER. BARE AREAS TO BE SECURE THE ENDS OF STABLISED WITH CONCRETE, GEOTEXTILE OR CONSIDER USING A THE LEVEL SPREADER OTHER ARMOURING ROPE AND PULLEY BY BURYING WITHIN SYSTEM TO LIFT THE EARTH BUND AND **DECANTS OUT OF** HAUNCHING WITH WATER IN THE CONCRETE **EVENT OF HAVING** TO PUMP OR DRAIN WATER TO THE POND. DECANTS MUST BE LOWERED ONCE SETTLING HAS OCCURRED. **SEDIMENT FOREBAY** (1m DEEP AND 2m WIDE) LEVEL SPREADER FULL WIDTH OF INLET END, BATTER INTO POND TO BE STABILISED WITH SOFT MATTING GEOTEXTILE. EXTRA CREST WIDTH MAY BE PINNED GEOTEXTILE OVERLAID WITH REQUIRED TO PROVIDE FOR LARGE ROCK TO BREAK UP FLOW MACHINERY ACCESS FOR ALL BARE SURFACES TO BE **CLEANING OUT** STABILISED WITH VEGETATION IF

SRP SIZING:

- SIZE SRPs BASED ON THE CONTRIBUTING CATCHMENT AREA AND SLOPE LENGTH.
- ON EARTHWORKS SITES WITH SLOPES LESS THAN 18% AND LESS THAN 200m IN LENGTH, DESIGN SRPs WITH A MINIMUM VOLUME OF 2% OF THE CONTRIBUTING CATCHMENT AREA (200m³ FOR EACH Ha OF CONTRIBUTING CATCHMENT).
- ON EARTHWORKS SITES WITH SLOPES GREATER THAN 18% OR GREATER THAN 200m IN LENGTH, DESIGN SRPs WITH A MINUMIM VOLUME OF 3% OF THE CONTRIBUTING CATCHMENT AREA (300m³ FOR EACH Ha OF CONTRIBUTING CATCHMENT).
- THE ABOVE CALCULATION DEFINES THE TOTAL STORAGE VOLUME, WHICH IS MEASURED FROM THE BASE OF THE POND TO THE TOP OF THE PRIMARY SPILLWAY.
- THE SLOPE ANGLE IS DETERMINED BY THE SLOPE IMMEDIATELY
 (WITHIN 20m) ABOVE THE SRP, OR BY THE AVERAGE SLOPE OVER
 THE CONTRIBUTING CATCHMENT, WHICHEVER IS GREATER. THE
 SLOPE ANGLE SHOULD ALSO BE THE GREATER OF THE PRE- OR
 POST- CONSTRUCTION SLOPE.

REFER TO AUCKLAND COUNCIL GD-05 FOR FURTHER DETAILS

SEDIMENT RETENTION POND SCHEMATIC

THE POND IS TO REMAIN

THROUGH A WINTER PERIOD.

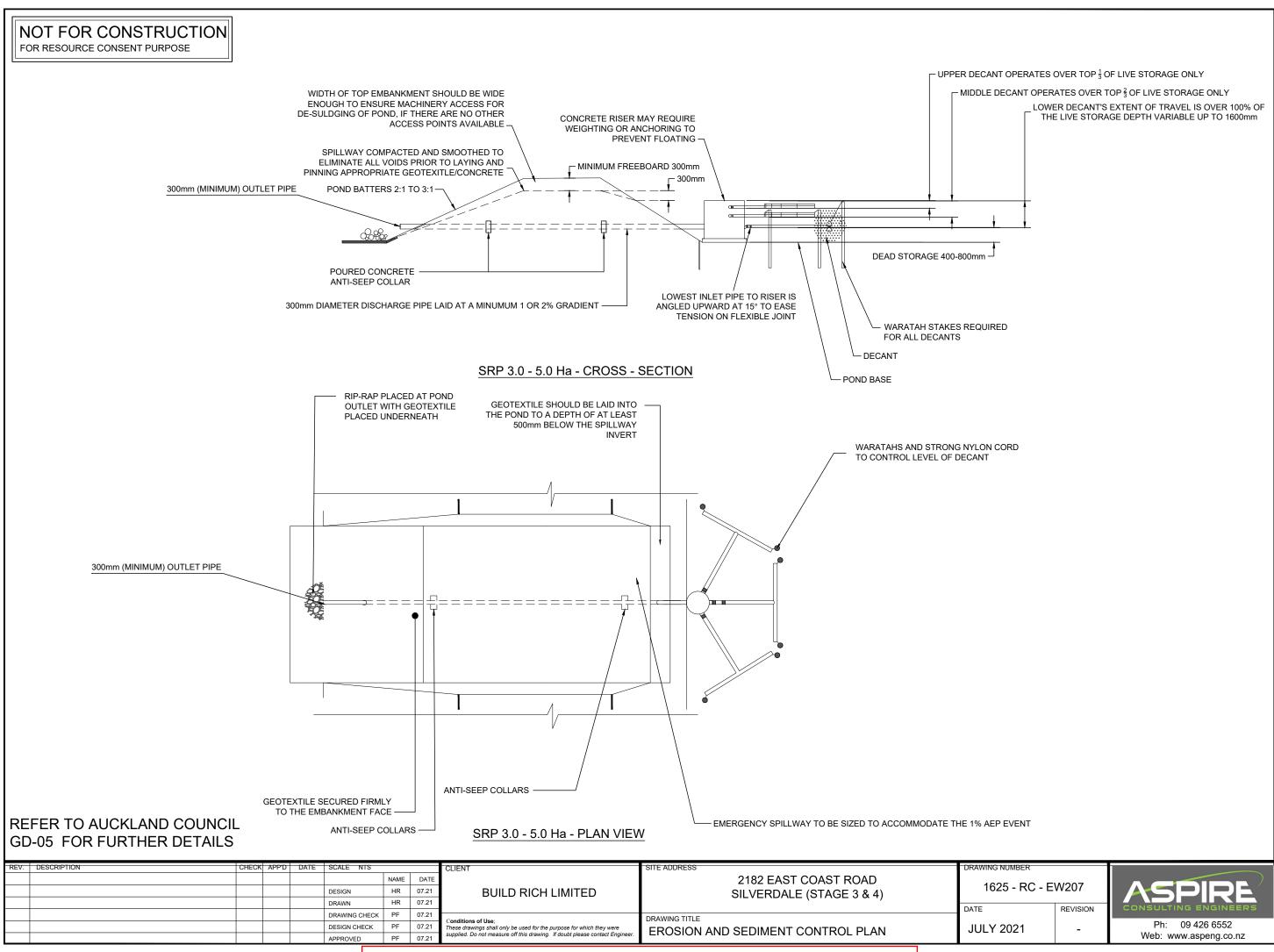
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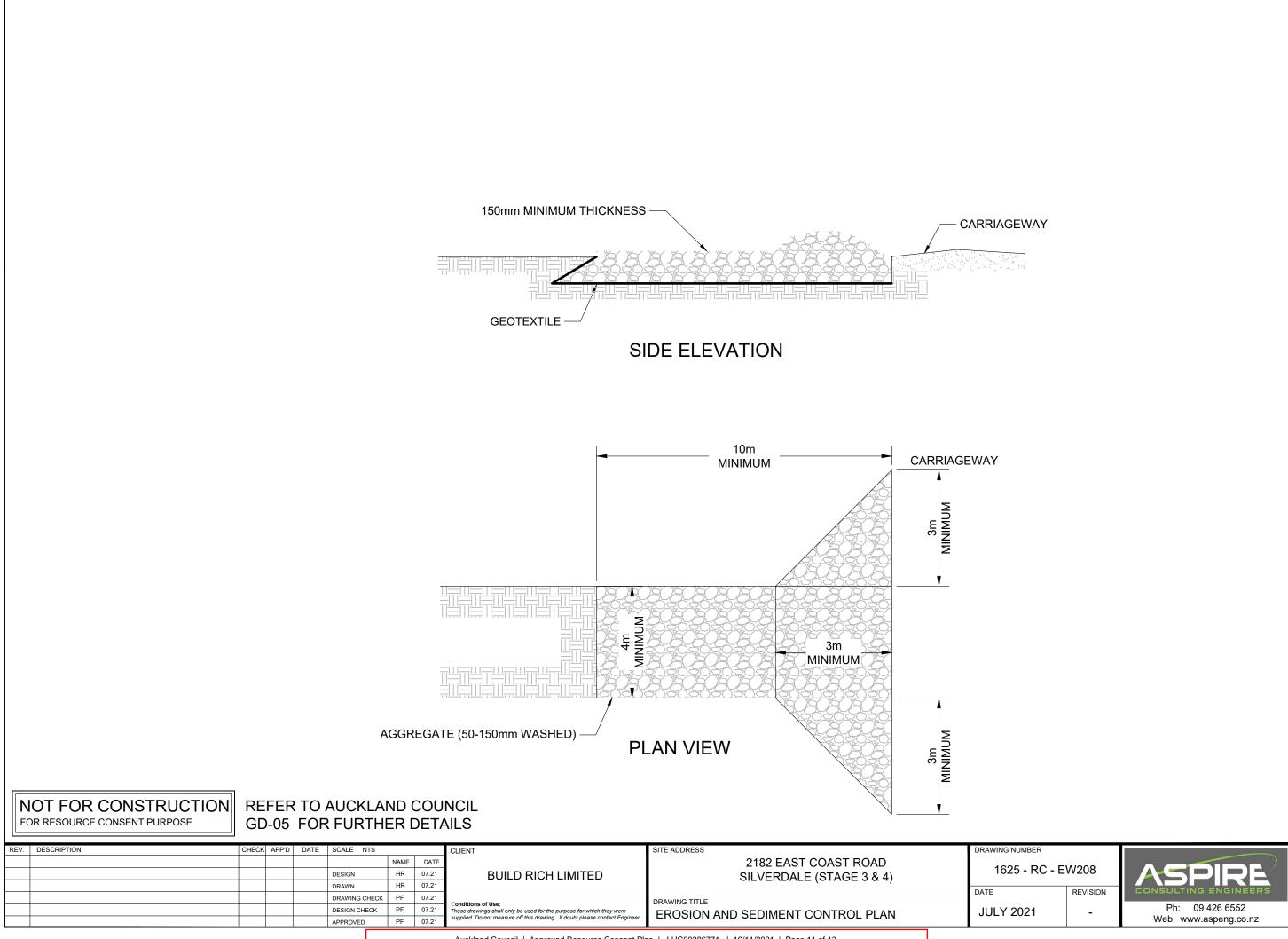
BATTER NEEDS TO BE STABILISED

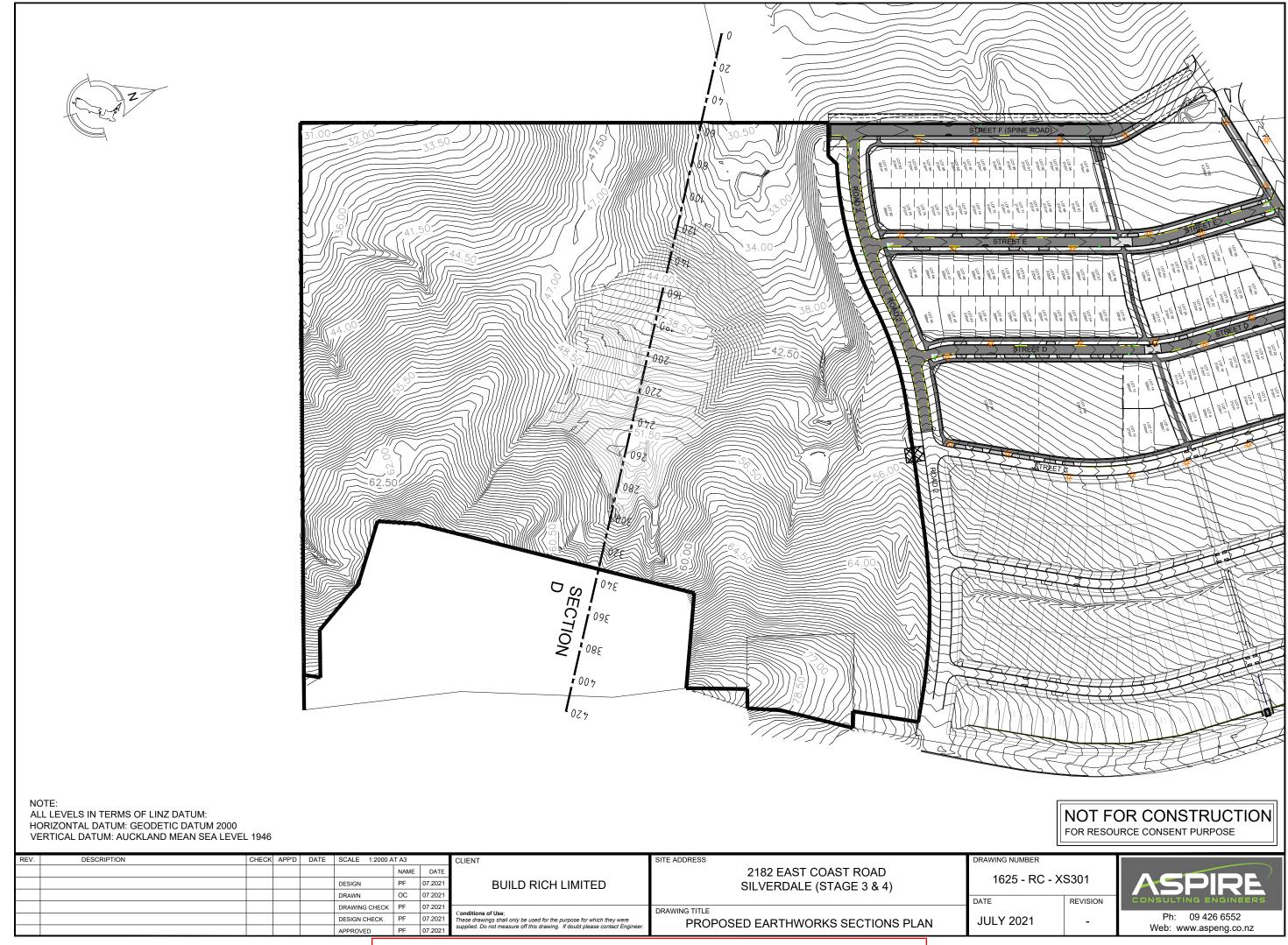
REV.	DESCRIPTION	CHECK	APP'D	DATE	SCALE NTS			CLIENT	SITE ADDRESS	DRAWING NUMBER		
						NAME	DATE		2182 EAST COAST ROAD	1005 00 5		
					DESIGN	HR	07.21	BUILD RICH LIMITED	SILVERDALE (STAGE 3 & 4)	1625 - RC - E	W206	
					DRAWN	HR	07.21		,	DATE	REVISION	
					DRAWING CHECK	PF	07.21		DRAWING TITLE	DATE	REVISION	
					DESIGN CHECK	PF	07.21	Conditions of Use; These drawings shall only be used for the purpose for which they were	EROSION AND SEDIMENT CONTROL PLAN	JULY 2021	_	1
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NOTE: ALL LEVELS IN TERMS OF LINZ DATUM: HORIZONTAL DATUM: GEODETIC DATUM 2000 VERTICAL DATUM: AUCKLAND MEAN SEA LEVEL 1946 EXISTING SURFACE -PROPOSED SURFACE -VERT EXAG 1:5

Datum 25.000																																	
EXISTING LEVEL						33.54	34.06	34.21	35.03	35.61	36.53	36.46	37.61	37.71	38.88	39.22	39.35	38.83	40.06	41.48	42.79	44.20	45.78	47.73	47.37	47.48	49.15	49.96	50.62	52.27		56.97	58.97
PROPOSED LEVEL																																	
сит																																	
FILL																																	
CHAINAGE o	10	20	30	40	50	09	70	80	06	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330

SECTION D

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CLIENT		AT A3	SCALE 1:1250 A	DATE	APP'D	CHECK	DESCRIPTION	REV.
1	DATE	NAME						
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1	07.2021	ОС	DRAWN					
	07.2021	PF	DRAWING CHECK					
Conditions of Use These drawings sha	07.2021	PF	DESIGN CHECK					
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	BUILD RICH LIMITED
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2182 EAST COAST ROAD SILVERDALE (STAGE 3 & 4)

PROPOSED EARTHWORKS SECTION D-D

DRAWING NUMBER							
1625 - RC - X	S302						
DATE	REVISI						

JULY 2021

EVISION W

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SITE ADDRESS

DRAWING TITLE