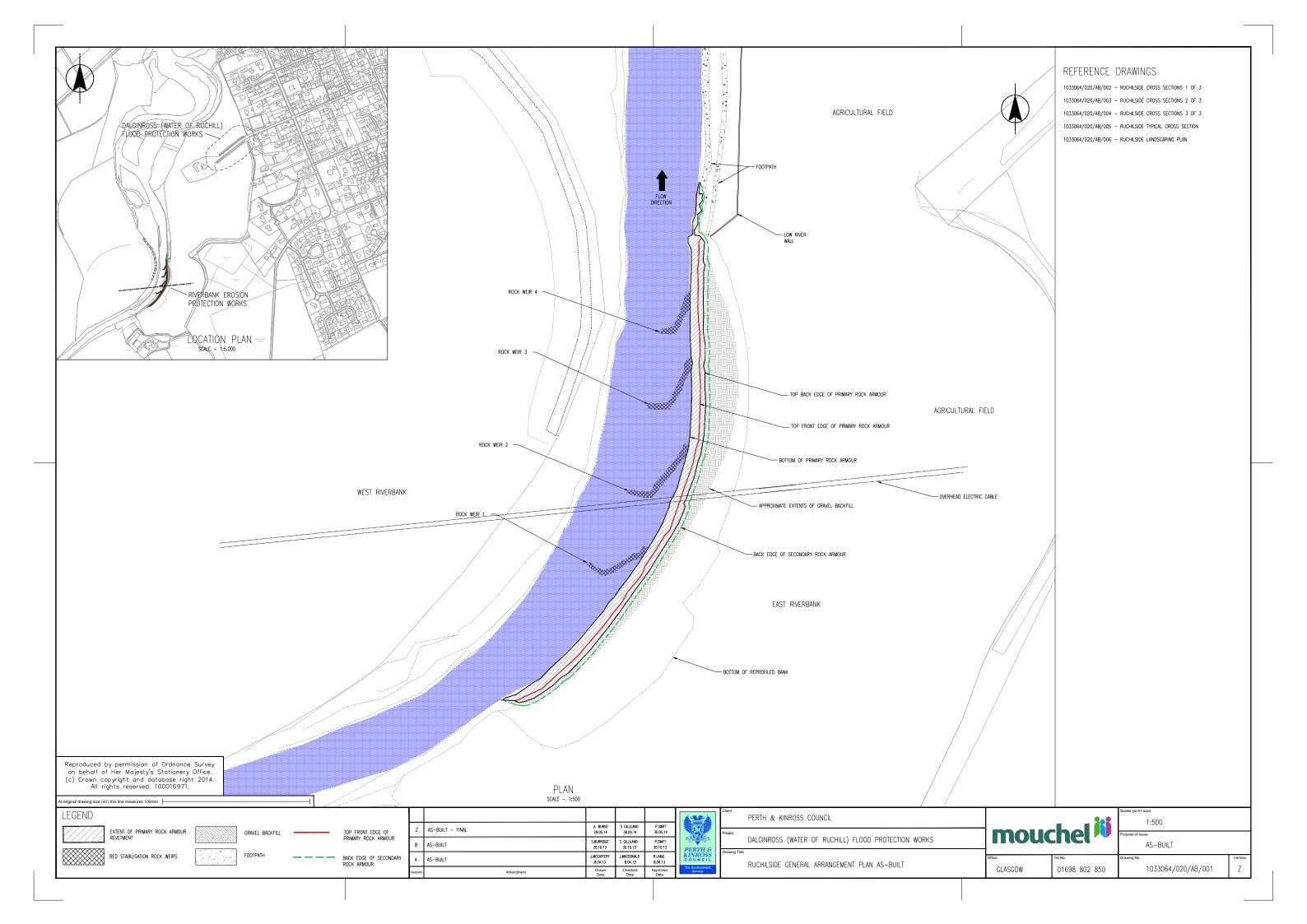
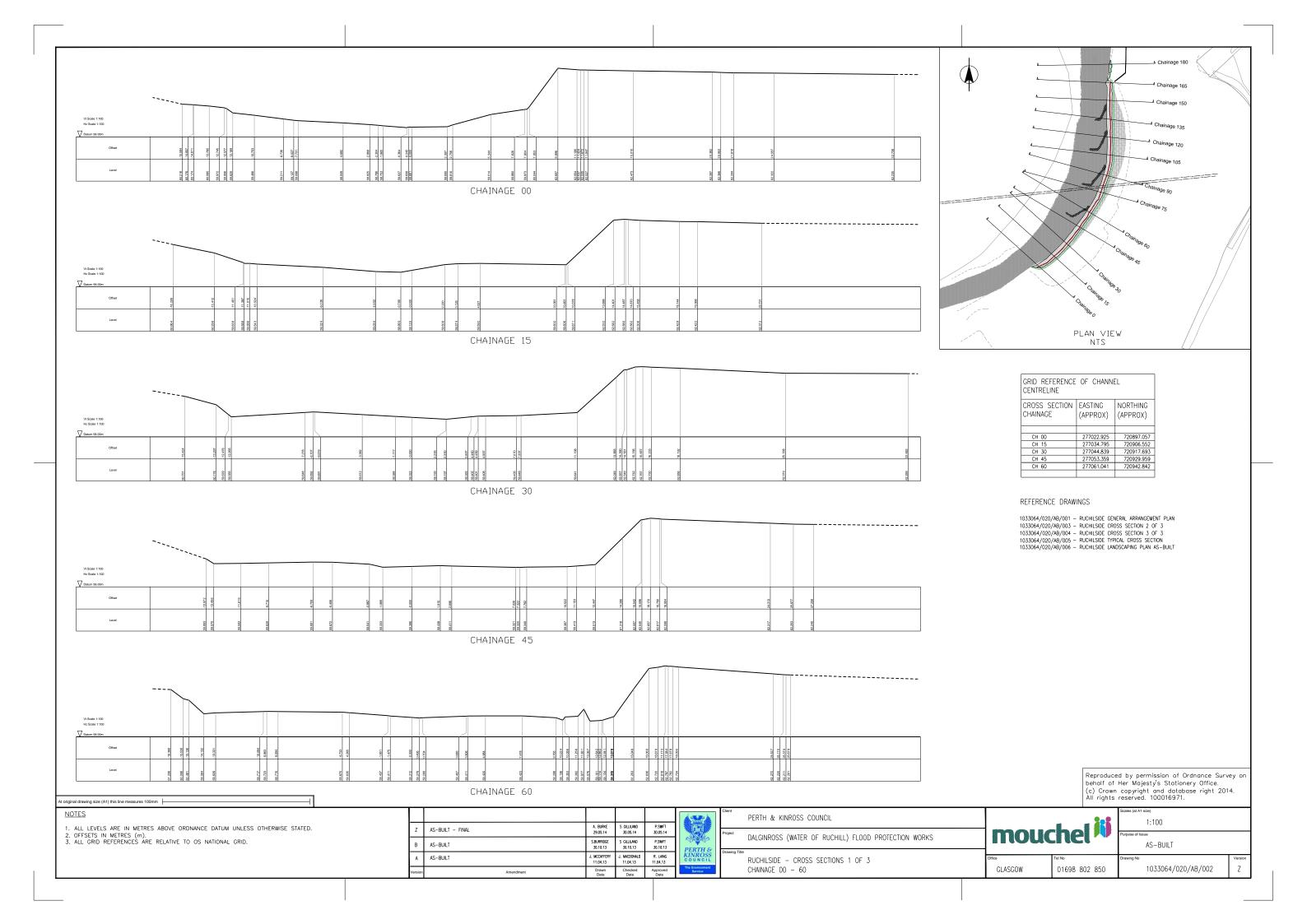
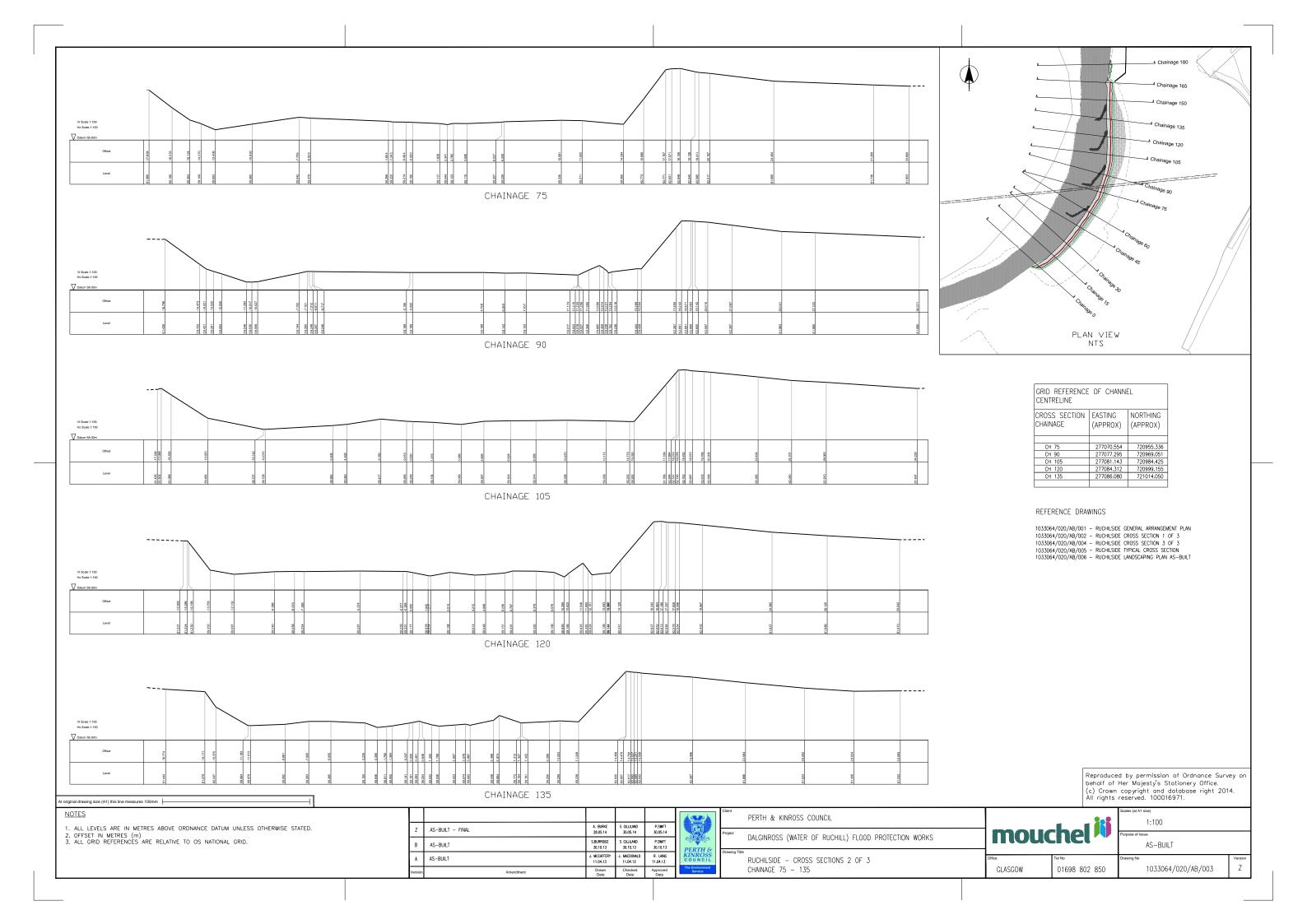
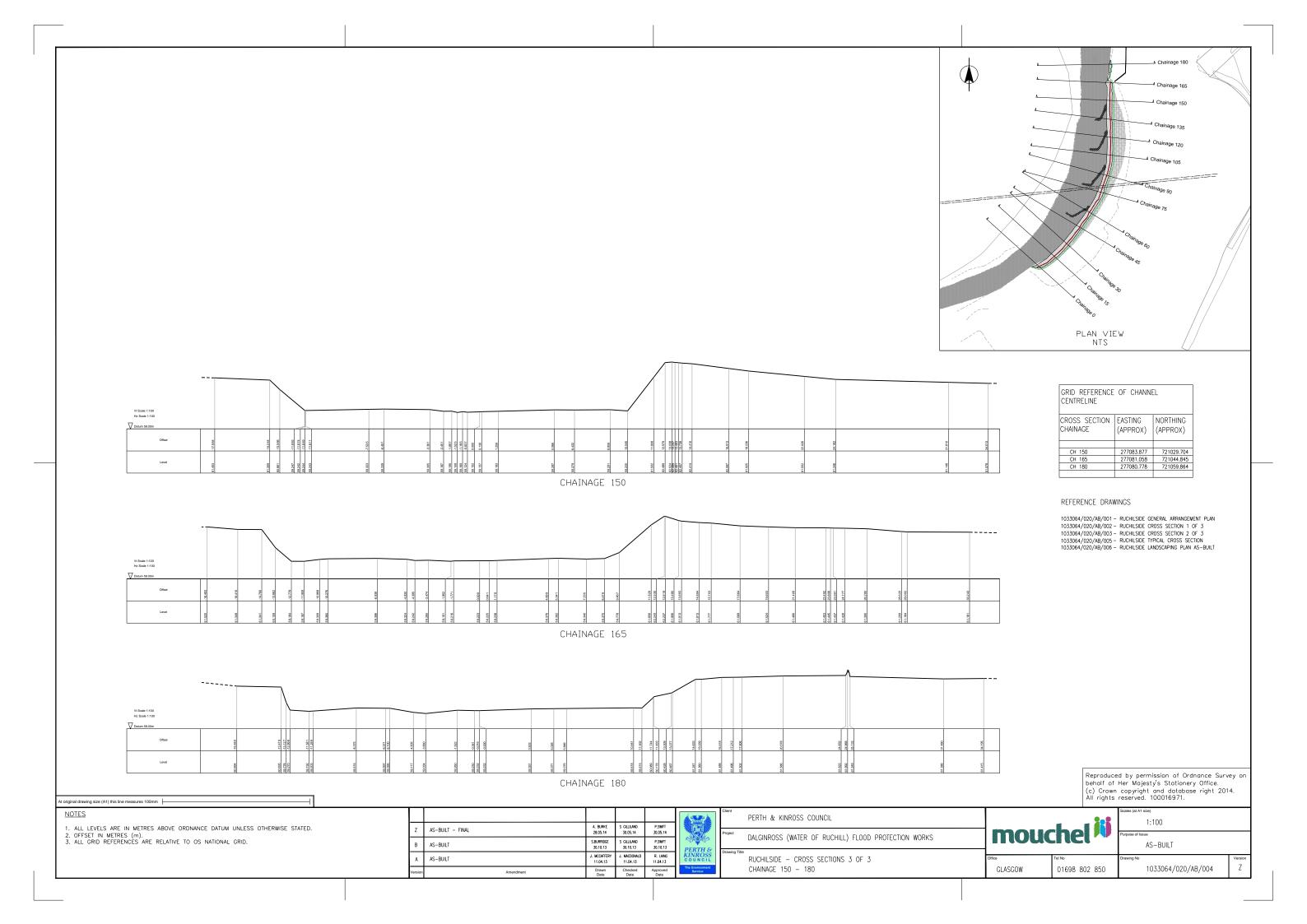


APPENDIX E - Camp Road Flood Protection Scheme









BANK PROFILE REGRADED TO LEVEL IN — AGRICULTURAL FIELD. REFER TO CROSS SECTION DRAWINGS WATER OF RUCHILL 1033064/020/AB/002-004 FOR LEVELS EAST APPROX 400 THICK — UNSEEDED TOP SOIL APPROXIMATE EXTENT OF THE ROCK ARMOUR REVETMENT 5000mm RIVERBANK TOP FRONT EDGE OF PRIMARY ROCK ARMOUR TOP BACK EDGE OF PRIMARY ROCK ARMOUR -GEOTEXTILE FILTER LAYER TO PREVENT WASHOUT OF TOPSOIL LAYER INTO SECONDARY ROCK ARMOUR LAYER PRIMARY ROCK ARMOUR LAYER OVERLAPPED WITH THE LOWER ROCK ARMOUR LAYER PRIMARY ROCK ARMOUR UNITS RANGING FROM APPROX 750mm TO 1000mm DIA. LARGEST ROCK LOCATED AT THE TOE AGRICULTURAL FIELD ROCK WEIR LENGTH ANGLED APPROXIMATELY 30° TO THE BANK — EXTENDING UPSTREAM INTO THE RIVER CHANNEL PRIMARY ROCK ARMOUR SPECIFICATION SEE NOTES 4 AND 5 أعطون والمبيداء أميلهم أوالمبيدة والمبيد والمبيداء أميدا 4.4. ANCHOR TRENCH DETAIL ACCORDING TO PRODUCT SPECIFICATION 1/3 OF THE ROCK WEIR ORIENTATED 2-7' FROM THE RIGHT BANK INTO THE LOW FLOW CHANNEL ROCK WEIR UNITS PLACED AT THE TOE OF THE PROPOSED ROCK ARMOUR REVETMENT UPPER ROCK WEIR UNITS MINIMUM 600mm DIA PLACED ON FOUNDATION ROCK LAYER IN LOW FLOW CHANNEL - PRIMARY ROCK ARMOUR UNIT PROVIDES SCOUR PROTECTION BEHIND THE FRONT FACE OF THE REVETMENT GEOTEXTILE LAID IN ACCORDANCE WITH THE PRODUCT SPECIFICATION. SEE NOTE 7 FOR SPECIFICATION. 2000 APPROX - SLOPING BACK FACE IS NO GREATER THAN 45° - COBBLES/GRAVELS BACKFILL. MATERIAL TAKEN FROM GRAVEL BARS DOWNSTREAM & PLACED IN THIS AREA SECONDARY ROCK ARMOUR LAYER MINIMUM 250-400mm DIA (CLASS GG1 MATERIAL - SEE TABLE BELOW). WIDTH OF SECONDARY ROCK ARMOUR LAYER IS A MINIMUM OF 1500mm BED OF LOW FLOW CHANNEL. CHANNEL FORMED TO THE LEVEL ILLUSTRATED ON CROSS-SECTION DRAWINGS FOUNDATION ROCK MINIMUM 600mm DIA PLACED 2/3 (APPROX) BELOW THE BED LEVEL OF THE LOW FLOW CHANNEL PRIMARY ROCK ARMOUR UNITS APPROX 1000mm DIA. 1033064/20/AB/002 - 004 GROUND COMPACTED TO FORM A FLAT, EVEN SURFACE SECONDARY ARMOUR LAYER GEOTEXTILE FILTER LAYER TIED UNDER THE PRIMARY ROCK ARMOUR LAYER AT THE BASE OF THE REVETMENT

TYPICAL CROSS SECTION AT WEIR SCALE - 1:25

Class			General Material Description	Typical Use	Permitted Constituents (All Subject to	Clause 631)				Compaction Requirements in Clause 612	
						Requirements of Clause 601 and Appendix 6/1)	(Tested in Accordance	Acceptable Limits within:		
	_							with:	Lower	Upper	
		G	1	Selected granular material	Secondary Armour Layer	Natural gravel, crushed concrete or any combination thereof. None of these constituents shall include any argillaceous rock.	(i) grading (minimum /	BS1377 : Part 2 (on site)	250mm	400mm	None (but please refer to note 12 on Dwg No. 1033064-020- 110)
SELECTED GRANULAR FILL							maximum sizes stated)	BS EN 933-2 (off site)	250mm	400mm	
							(iii) Los Angeles coefficient	CI. 635	-	50	
L											

SECONDARY ROCK ARMOUR CLASS 6G1 SPECIFICATION

riginal drawing size (A1) this line measures 100mm LEGEND PERTH & KINROSS COUNCIL mouchel M S GILLILAND 30.05.14 P.SWIFT 30.05.14 SECONDARY ROCK ARMOUR LAYER GEOTEXTILE FILTER LAYER AS-BUILT - FINAL DALGINROSS (WATER OF RUCHILL) FLOOD PROTECTION WORKS S GILLILAND 30.10.13 P.SWIFT 30.10.13 ___ BED OF LOW FLOW CHANNEL AS-BUILT AS-BUILT PRIMARY ROCK ARMOUR J. MACDONALD 30.04.13 BED STABILISATION ROCK WEIRS BACKFILL MATERIAL RUCHILSIDE - TYPICAL CROSS SECTION GLASGOW 01698 802 850 1033064/020/AB/005 Checked Date

- NOTES

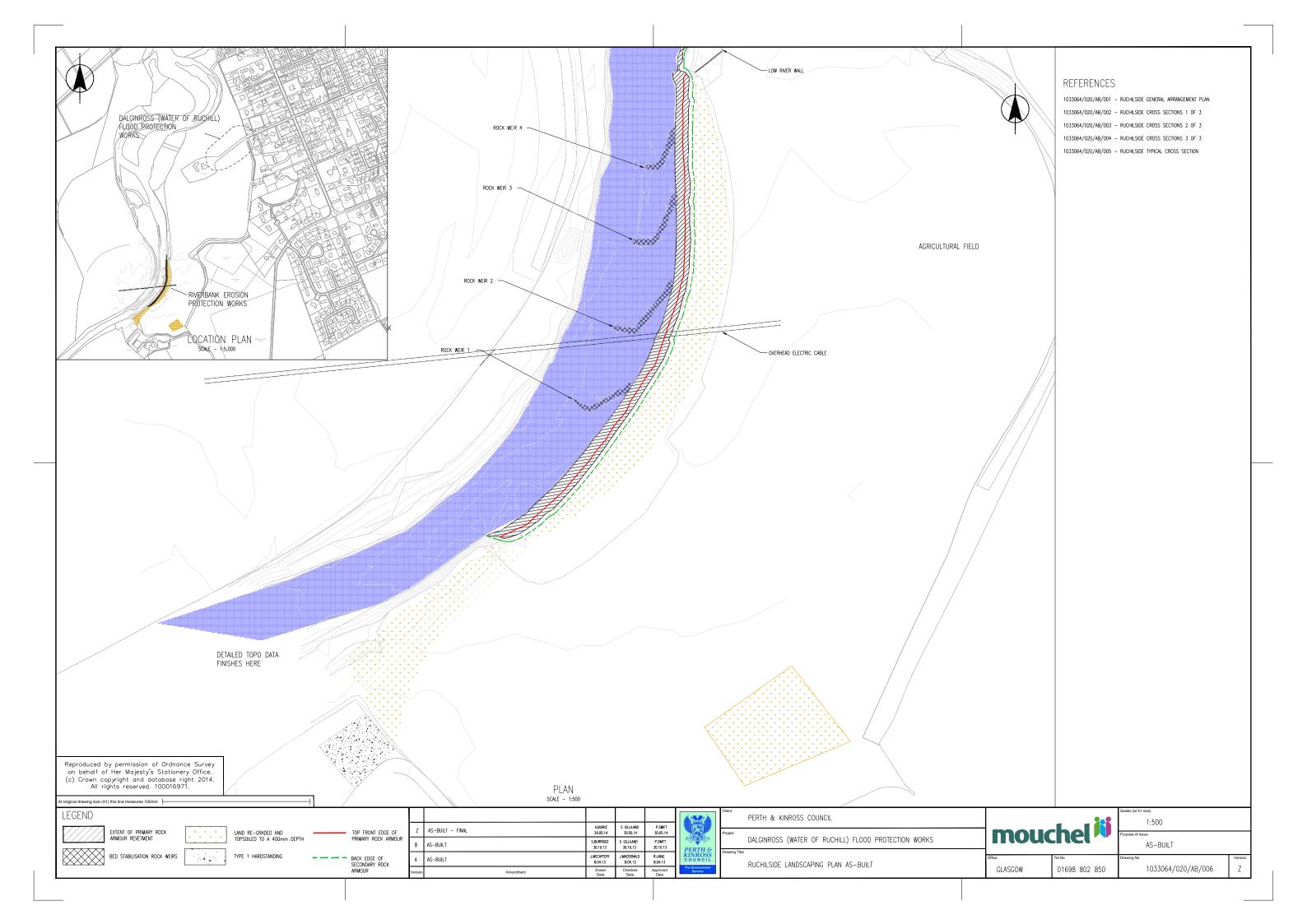
 1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
 2. ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM.
 3. ROCK ABNOUR UNITS SHOWN ARE FOR ILLUSTRATIVE PURPOSES ONLY, QUARRIED ROCK ARMOUR UNITS SHOWN ARE FOR ILLUSTRATIVE PURPOSES ONLY, QUARRIED ROCK ARMOUR UNITS MER DOLEN'S RESPONSIVE OF THE PRIMARY ROCK ARMOUR UNITS MER DOLEN'S RETAINCULAR WITH AN ELONGATION ARD TO F1:3. TRINNIQULAR SHAPED ROCK UNITS ARE AVOIDED. MAXIMUM VOID SPACING BETWEEN PRIMARY ROCK ARMOUR UNITS IS ZOOMM DIA.
 6. FOUNDATION AND UPPER ROCK UNITS ARE ROUGHLY RECTANGULAR WITH AN ELONGATION RATIO OF 1:3. TRIANGULAR SHAPED ROCK UNITS ARE AVOIDED. MAXIMUM VOID SPACING BETWEEN FOUNDATION AND UPPER ROCK UNITS ARE AVOIDED. MAXIMUM VOID SPACING BETWEEN FOUNDATION AND UPPER ROCK UNITS ARE AVOIDED. MAXIMUM VOID SPACING BETWEEN FOUNDATION AND UPPER ROCK UNITS ARE AVOIDED. MAXIMUM VOID SPACING (I) A MEAN PEAK TENSILE STRENGTH OF A MINIMUM OF 130.

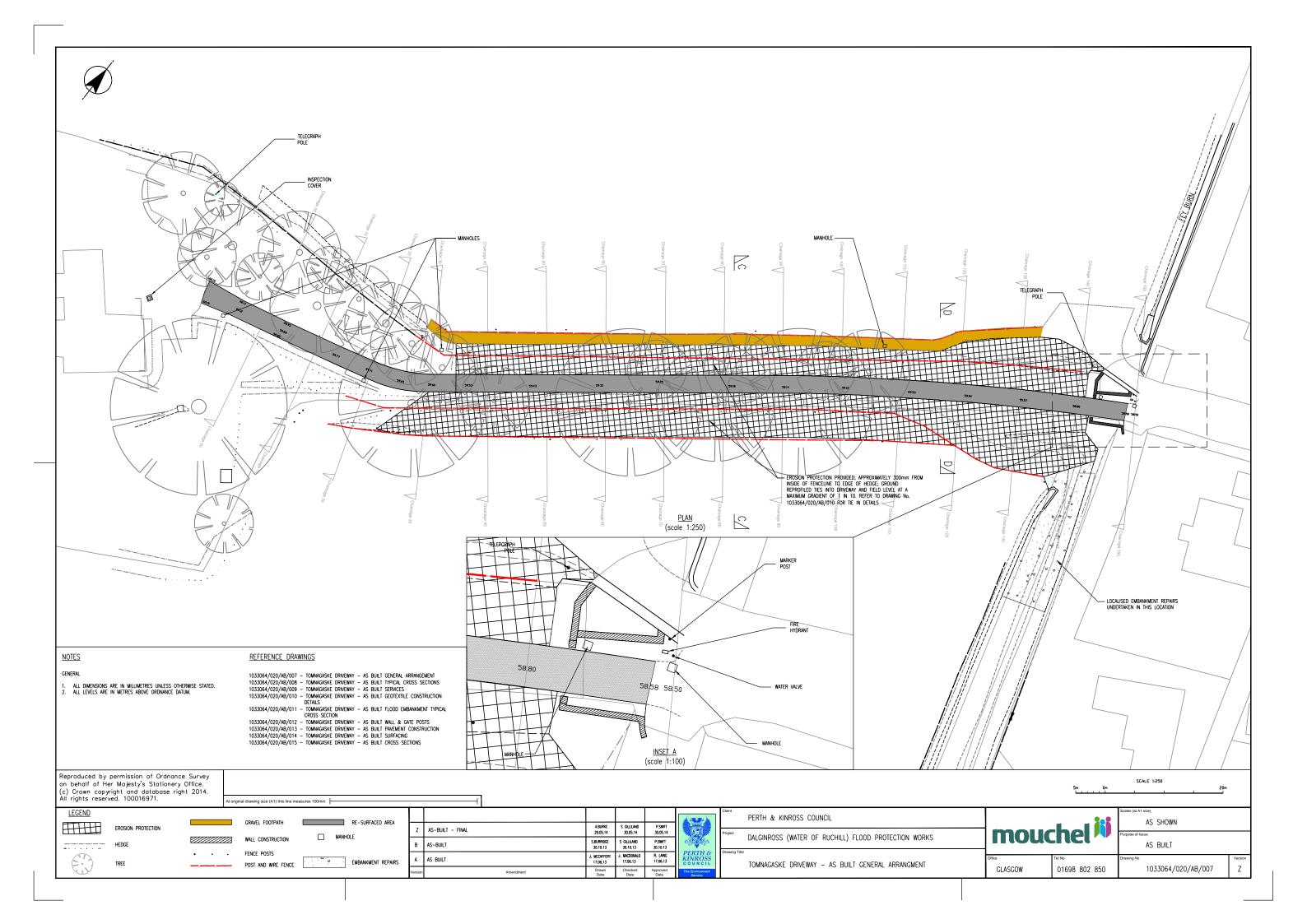
 (I) A PORE SIZE OF BETWEEN O.TIMM AND O.18 mm (III) THERMALLY BONDED, NION-WOVEN POLYPROPYLENE/POLYETHLENE MATERIAL (IV) A PERMAIBILITY BS EN ISO 12958:2010 OF BETWEEN 901 m²/s and 1301 m²/s

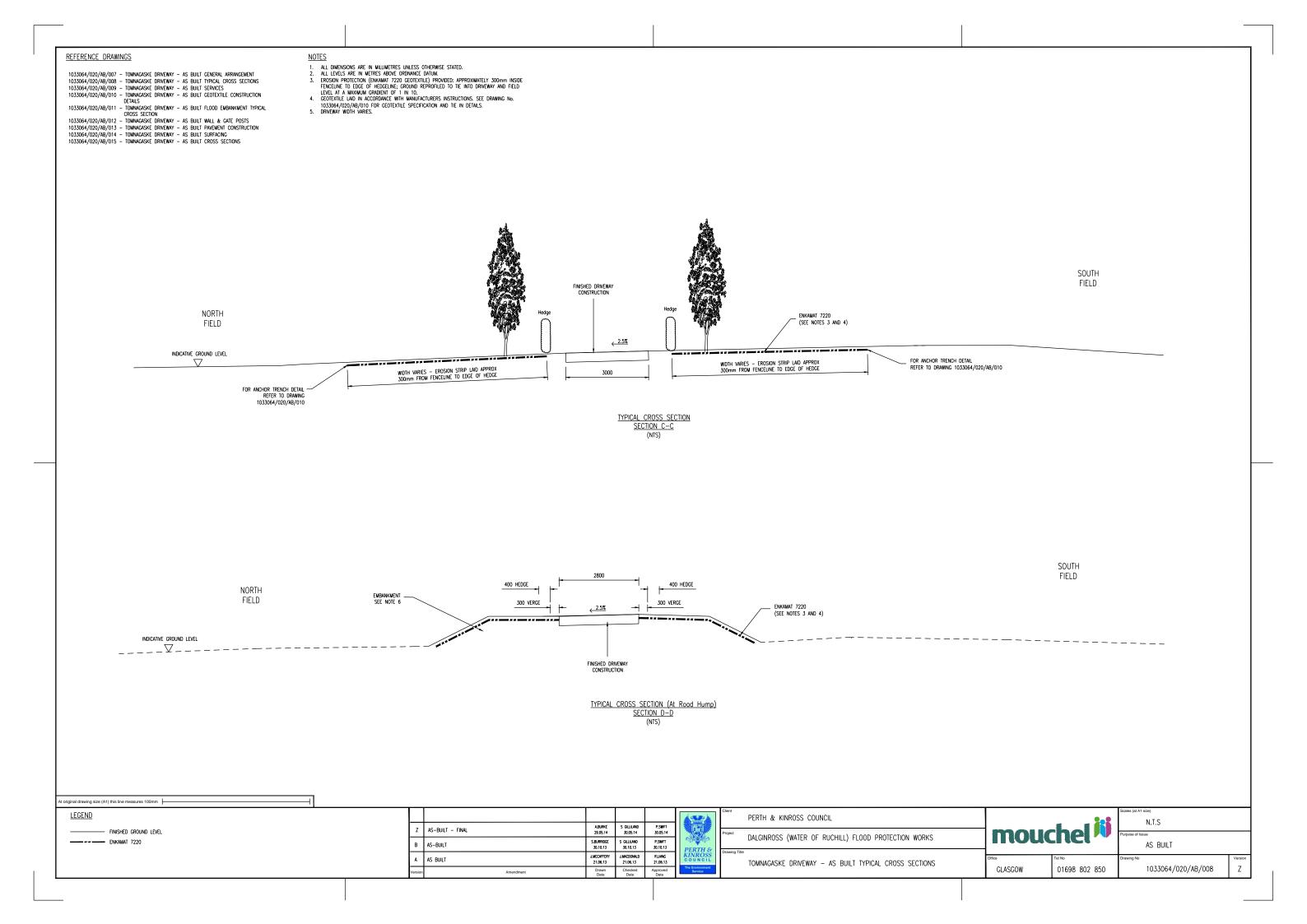
REFERENCE DRAWINGS

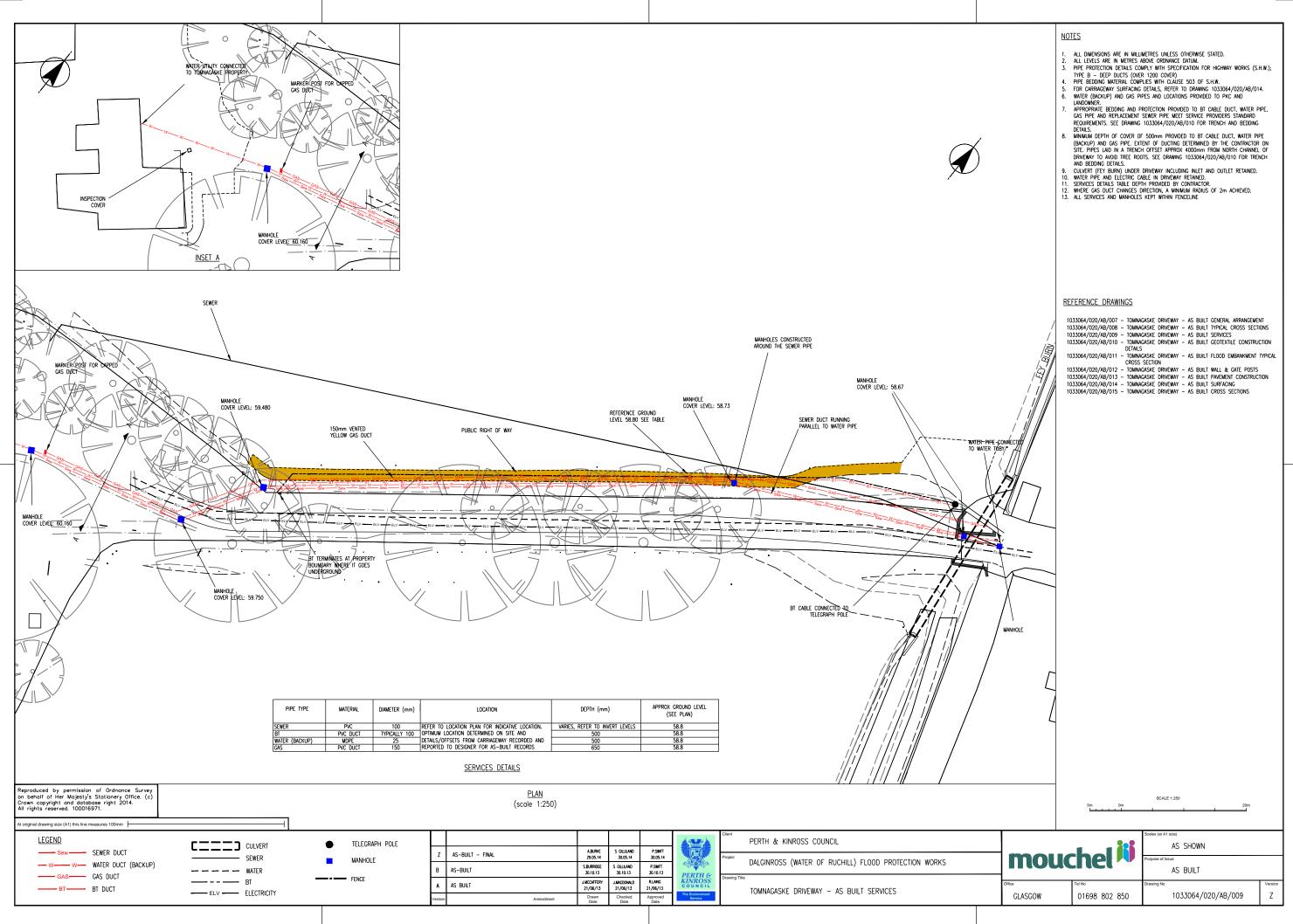
1033064/020/AB/001 - RUCHILSIDE GENERAL ARRANGEMENT PLAN 1033064/020/AB/002 - CROSS SECTIONS SHEET 1 OF 3 1033064/020/AB/003 - GROSS SECTIONS SHEET 2 OF 3 1033064/020/AB/004 - CROSS SECTIONS SHEET 3 OF 3

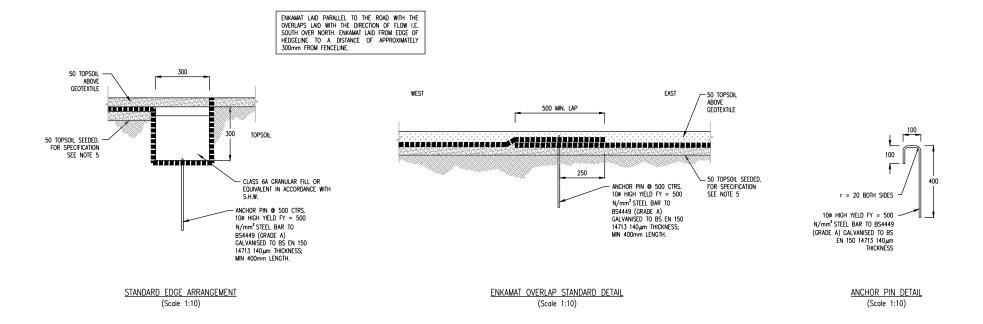
1033064/020/AB/006 - RUCHILSIDE LANDSCAPING PLAN

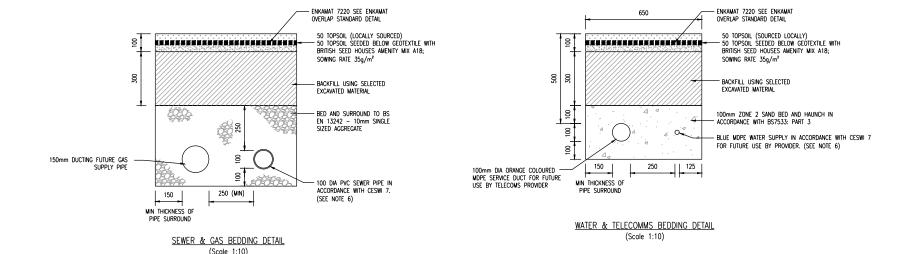












AS-BUILT - FINAL

AS-BUILT

A AS BUILT

S GILLILAND 30.05.14

S GILLILAND 30.10.13

J.MACDONALD 21.06.13

Checked Date

S.BURRIDGE 30.10.13

P.SWIFT 30.05.14

P.SWIFT 30.10.13

R.LAING 21.06.13

Approved Date

PERTH & KINROSS COUNCIL

DALGINROSS (WATER OF RUCHILL) FLOOD PROTECTION WORKS

riginal drawing size (A1) this line measures 100mm

ENKAMAT 7220

SEEDED TOPSOIL

BACKFILL MATERIAL

TOPSOIL (SOURCED LOCALLY)

SINGLE SIZED AGGREGATE

GROUND

LEGEND



NOTES

REFERENCE DRAWINGS

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
2. ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUN.
3. ALL GEOTEXTILES LADI IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.
4. ENKAMAT CUT TO SUIT AROUND TREES/HEDGE TRUNKS. ENKAMAT CUT TO LEAVE A 100mm GAP AROUND THE CIRCUMETRENCE OF THE TRUNK. CUT ENKAMAT NOT BUTTED UP TO EACH ROLL BUT LAPPED BY ANIN OF 300mm.
5. ALL TOPSOIL SOURCED LOCALLY. 50mm LAYER BELOW GEOTEXTILE SEEDED WITH BRITISH SEED HAUSES AURINALY MAY ALS SCHWING PARE 356/m²

HOUSES AMENITY MIX A18; SOWING RATE 35g/m². . A MINIMUM LATERAL CLEARANCE OF 250MM MAINTAINED BETWEEN GAS DUCT AND ANY OTHER

1033064/020/AB/007 - TOMNAGASKE DRIVEWAY - AS BUILT GENERAL ARRANGEMENT
1033064/020/AB/008 - TOMNAGASKE DRIVEWAY - AS BUILT TYPICAL CROSS SECTIONS
1033064/020/AB/009 - TOMNAGASKE DRIVEWAY - AS BUILT SERVICES
1033064/020/AB/010 - TOMNAGASKE DRIVEWAY - AS BUILT GEOTEXTILE CONSTRUCTION
DETAILS

DETAILS

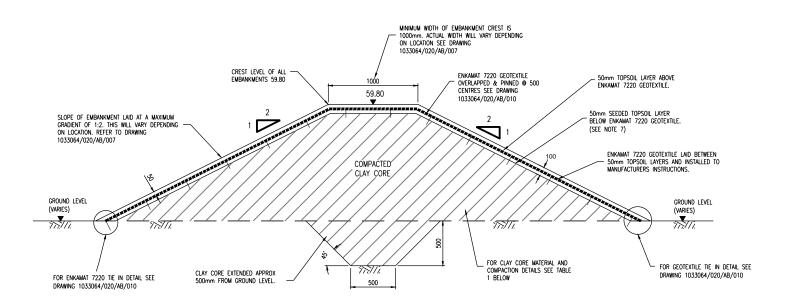
1033064/020/AB/011 - TOMNAGASKE DRIVEWAY - AS BUILT FLOOD EMBANKMENT TYPICAL CROSS SECTION

1033064/020/AB/012 - TOMNAGASKE DRIVEWAY - AS BUILT WALL & CATE POSTS

1033064/020/AB/013 - TOMNAGASKE DRIVEWAY - AS BUILT PAYEMENT CONSTRUCTION

1033064/020/AB/014 - TOMNAGASKE DRIVEWAY - AS BUILT SURFACING

1033064/020/AB/015 - TOMNAGASKE DRIVEWAY - AS BUILT CROSS SECTIONS



TYPICAL CROSS SECTION THROUGH FLOOD EMBANKMENT

	. General Material Descri ption	Typical Use	Permitted Constituents (All Subject to Requirements of Clause 601 and Appendix 6/1)	Material Properties Required for Acceptability (In Addition to Requirements on Use of Fill Materials in Clause601 and Testing in Clause 631)				Compaction Requirements In Clause 612
Class				Property (See Exceptions in Previous Column)	Defined and Tested in Accordance with:	A cceptable Limits Within:		
						Lower	Upper	
	Wet cohesive material	General Fill	Any material or combination of materials, other than material designated as Class 3 in the Contract.	(i) grading	BS 1377: Part 2	Tab 6/2	Tab 6/2	Tab 6/4 Method 1 except; (i) for materials with liquid limit greater than 50, determined by BS 1377: Part 2, only deadweight tamping or vibratory tamping rollers or grid rollers shall be used.
				(ii) plastic limit (PL)	BS 1377: Part 2	-		
				(iii) mc	BS 1377: Part 2	PL-4%		
2A				(iv) MCV	Clause 632	8	13	
				(v) Undrained shear strength of remoulded material	Clause 633	50 kPa		
				(v) Effective angle of internal friction (φ)	BS 1377 : Part 7	28°	-	

TABLE 1: EMBANKMENT CORE MATERIAL SPECIFICATION

AS-BUILT

	Client
3	Project
8	Drawing Title

PERTH & KINROSS COUNCIL DALGINROSS (WATER OF RUCHILL) FLOOD PROTECTION WORKS TOMNAGASKE DRIVEWAY - AS BUILT FLOOD EMBANKMENT TYPICAL CROSS SECTION

SCALE 1:20

mouchel ii

<u>NOTES</u>

REFERENCE DRAWINGS

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
2. ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM.
3. ENKAMAT 7220 GEOTEXTILE LAID ACCORDING TO MANUFACTURERS INSTRUCTIONS.
4. EMBANKMENT MARERIAL SPECIFICATION FROM SPECIFICATION FOR HIGHWAYS WORKS: SERIES 600 EARTHWORKS. SEE TABLE 1 (INSET) FOR DETAIL.
5. COMPACTION OF CLAY CORE IN ACCORDANCE WITH TABLE 1. MATERIAL COMPACTED IN LAYERS OF APPROXIMATELY 500mm TO FORM EMBANKMENT PROFILE.
6. FOR GEOTEXTILE OVERLAP, PIN AND TIE IN DETAILS REFER TO DRAWING No. 1033964 (2020)48 (2010).

1033064/020/AB/010.
7. TOPSOIL FOR EMBANKMENT SOURCED LOCALLY. 50mm SURFACE LAYER BELOW ENKAMAT 7220 SEEDED WITH BRITISH SEED HOUSES AMENITY MIX A18; SOWING RATE 35g/m².

8. FOOTPRINT AND SHAPE OF EMBANKMENT VARIES DEPENDING ON LOCATION.

1033064/020/AB/007 - TOMNAGASKE DRIVEWAY - AS BUILT GENERAL ARRANGEMENT
1033064/020/AB/008 - TOMNAGASKE DRIVEWAY - AS BUILT TYPICAL CROSS SECTIONS
1033064/020/AB/0109 - TOMNAGASKE DRIVEWAY - AS BUILT SERVICES
1033064/020/AB/010 - TOMNAGASKE DRIVEWAY - AS BUILT GEOTEXTILE CONSTRUCTION
DETAILS
1033064/020/AB/011 - TOMNAGASKE DRIVEWAY - AS BUILT FLOOD EMBANKMENT TYPICAL
CROSS SECTION
1033064/020/AB/012 - TOMNAGASKE DRIVEWAY - AS BUILT WALL & CATE POSTS
1033064/020/AB/013 - TOMNAGASKE DRIVEWAY - AS BUILT PAVEMENT CONSTRUCTION
1033064/020/AB/014 - TOMNAGASKE DRIVEWAY - AS BUILT SURFACING
1033064/020/AB/015 - TOMNAGASKE DRIVEWAY - AS BUILT CROSS SECTIONS

AS SHOWN AS BUILT

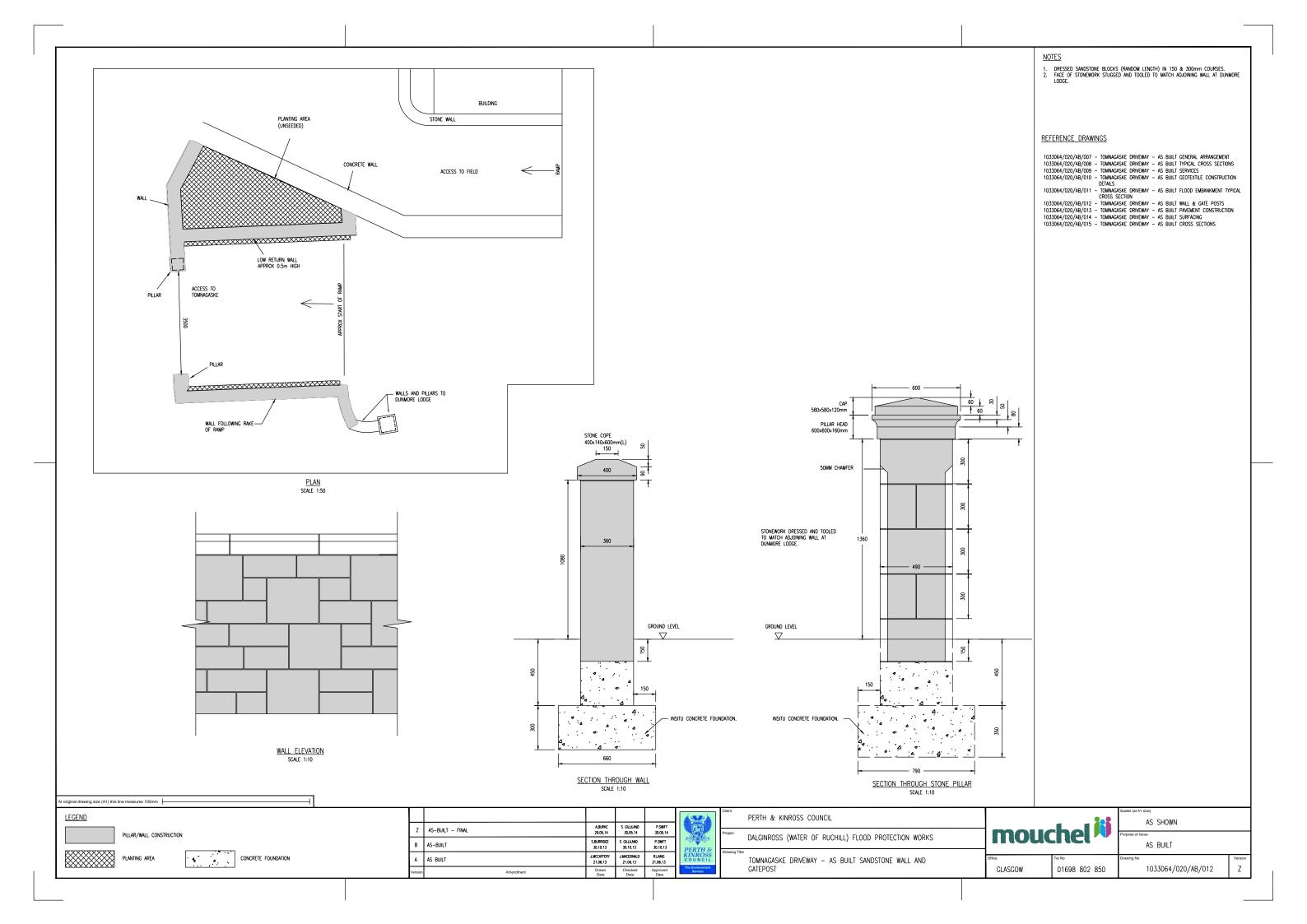
GLASGOW 01698 802 850 1033064/020/AB/011

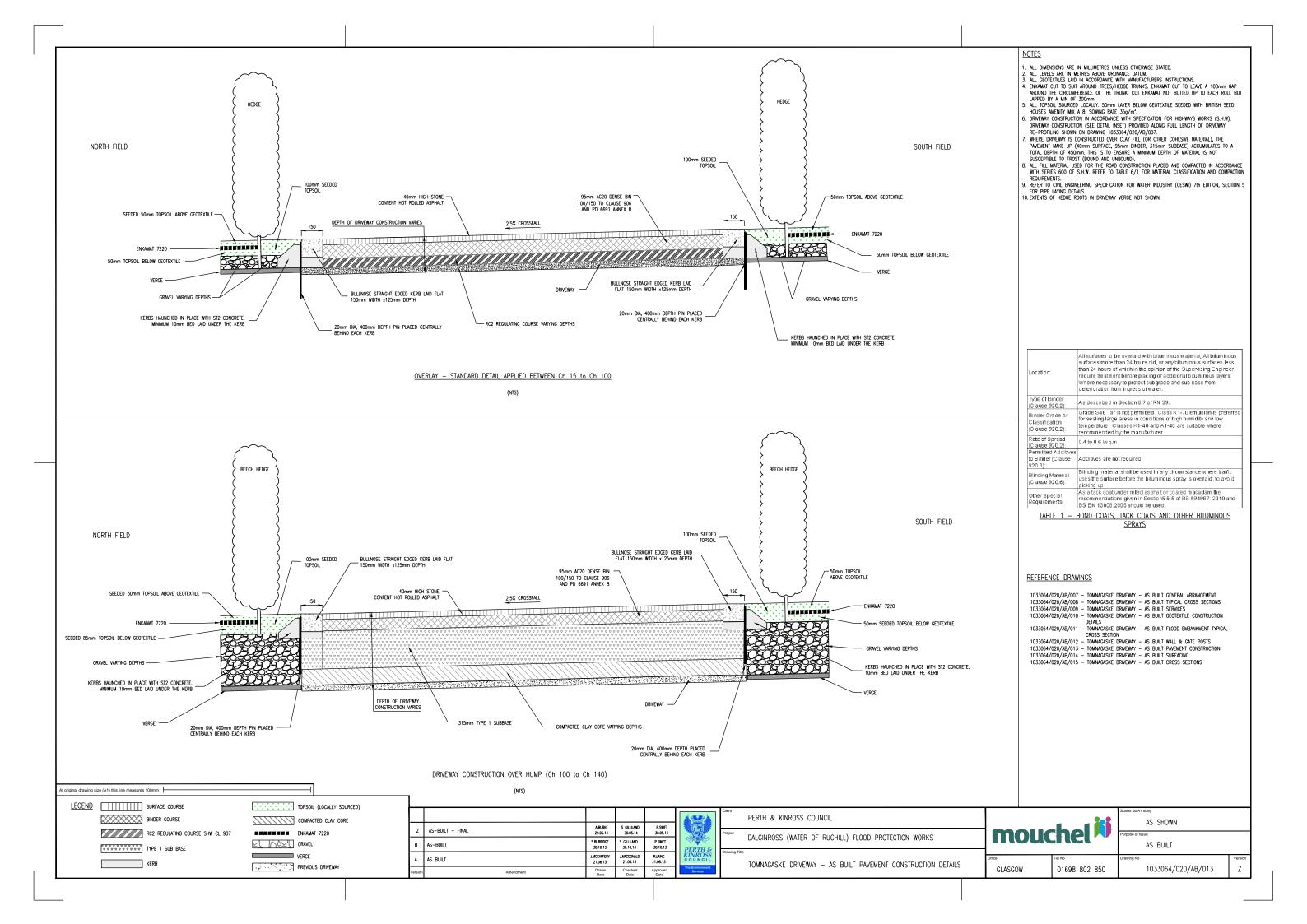
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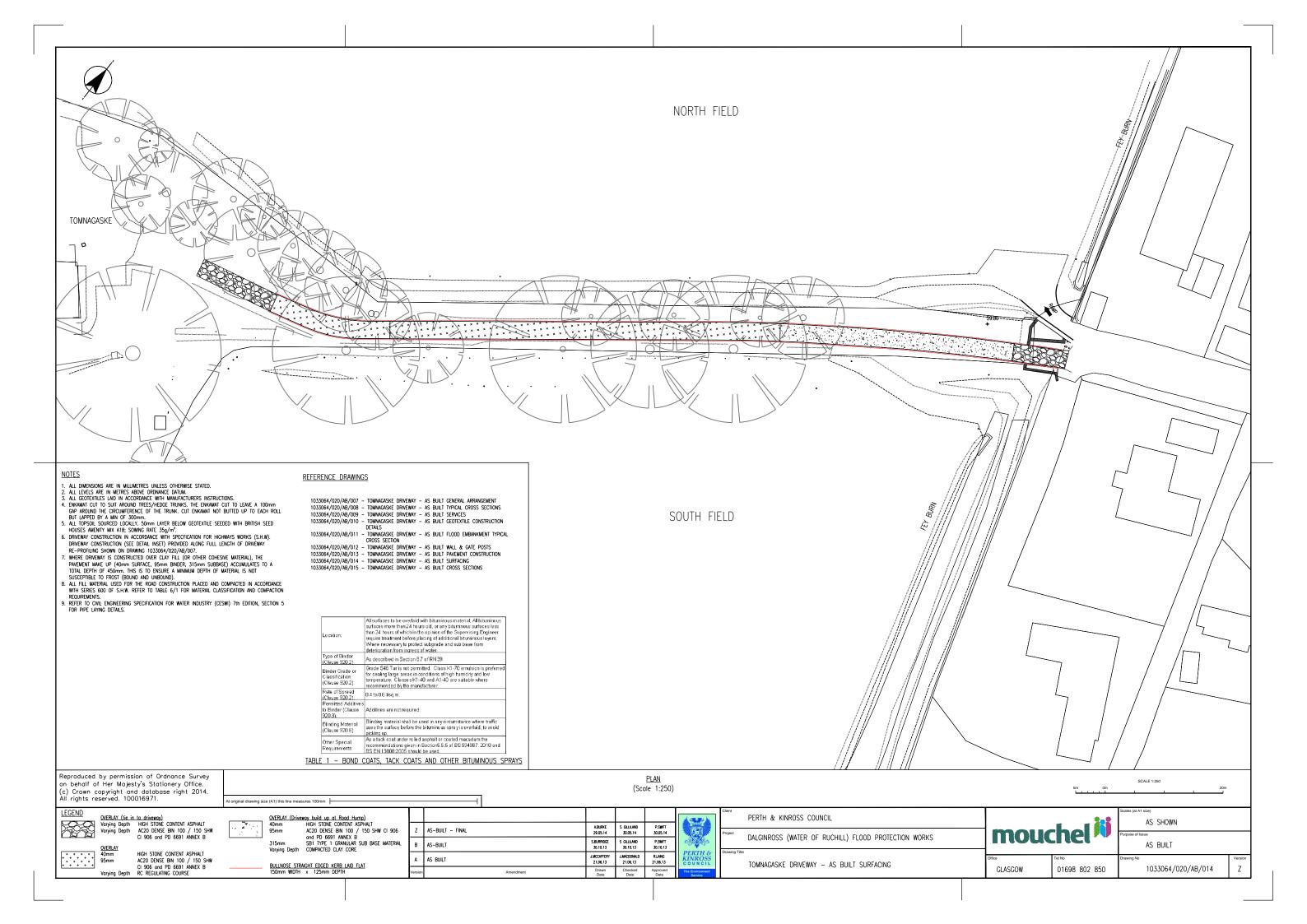
<u>LEGEND</u> ENKAMAT 7220

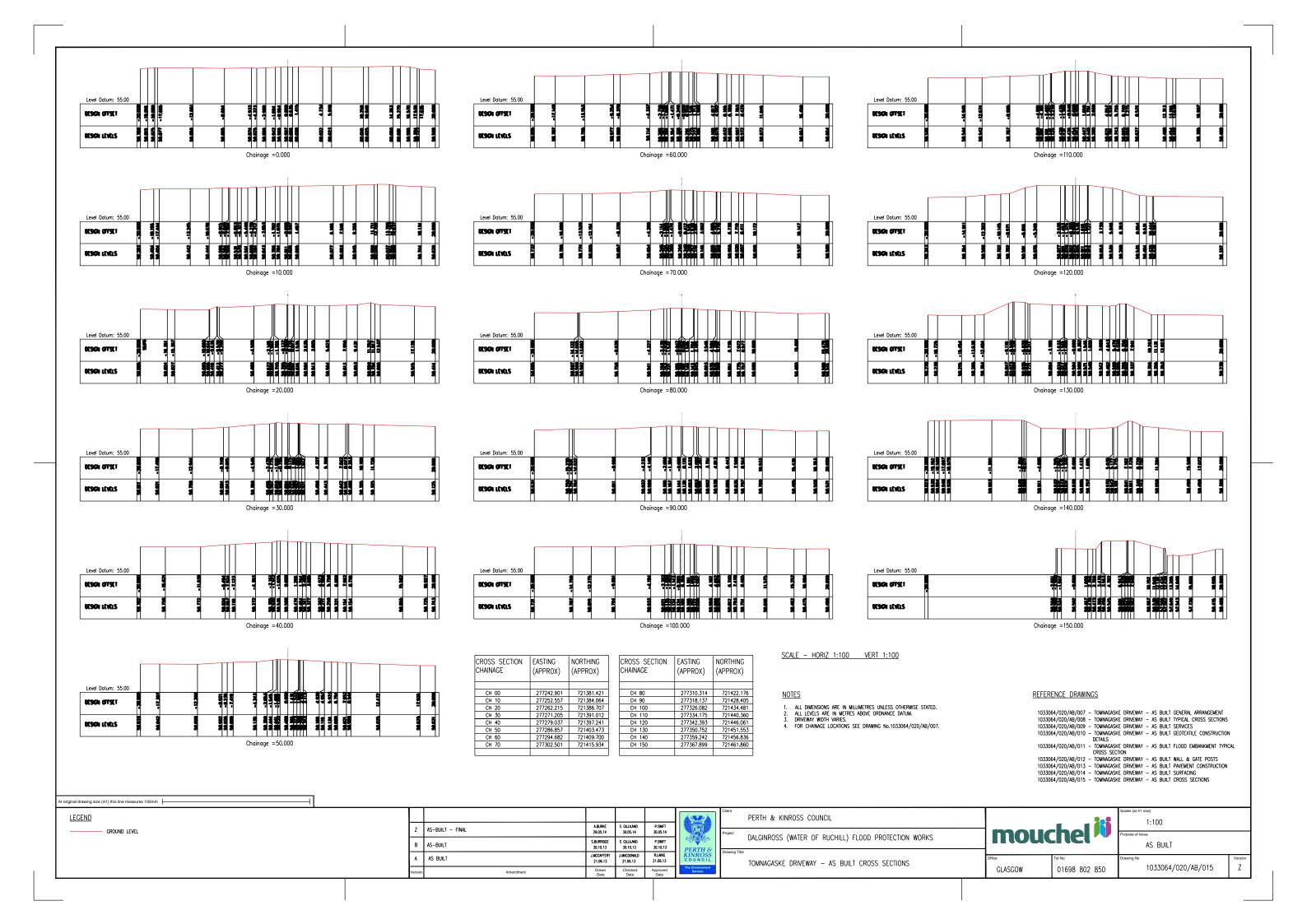
CLAY CORE GROUND

S GILLILAND 30.05.14 P.SWIFT 30.05.14 Z AS-BUILT - FINAL S GILLILAND 30.10.13 P.SWIFT 30.10.13 S.BURRIDGE 30.10.13 J.MACDONALD 21.06.13 R.LAING 21.06.13 Checked Date











APPENDIX E - Camp Road Flood Protection Scheme