

DO NOT SCALE - IF IN DOUBT, ASK

200mm  
180  
160  
140  
120  
100  
80  
60  
40  
20  
0

ORIGINAL SIZE A1

**LEGEND**

- EXISTING PARCEL BOUNDARY
- NEW LEGAL ROAD BOUNDARY
- DESIGNATION BOUNDARY
- EXISTING TOP/BOTTOM OF BANK
- EXISTING EDGE OF PAVEMENT
- EXISTING EDGE OF SEAL
- EXISTING RETAINING WALL
- EXISTING FENCE
- EXISTING DISH DRAIN
- EXISTING TABLE DRAIN
- EXISTING SUMP
- EXISTING CULVERT
- EXISTING SAFETY BARRIER
- EXISTING WIRE ROPE SAFETY BARRIER
- EXISTING SAFETY BARRIER TYPE F
- EXISTING LIGHT POLE
- EXISTING ELECTRICAL PYLON LEG
- EXISTING TELECOM MARKER
- EXISTING TELECOM POLE
- EXISTING SUMP
- EXISTING SIGN
- EXISTING WATER STOP VALVE
- EXISTING WATER AIR VALVE
- EXISTING WATER MAIN MARKER
- EXISTING WATER HYDRANT
- EXISTING ELECTRICAL POLE

**EXPECTED LOCATION (3D / INCL. DEPTH)**

- EXISTING WATER
- EXISTING GWRC WATER
- EXISTING WATER MANHOLE
- EXISTING SEWER
- EXISTING SEWER LATERALS
- EXISTING SEWER MANHOLE
- EXISTING STORMWATER
- EXISTING STORMWATER MANHOLE
- EXISTING TELECOM
- EXISTING UNDER GROUND POWER
- EXISTING UNDER GROUND HV POWER
- EXISTING TRANSMISSION POWER

**POSSIBLE LOCATION (2D / PLAN)**

- EXISTING WATER
- EXISTING GWRC WATER
- EXISTING ABANDONED GWRC WATER
- EXISTING WATER MANHOLE
- EXISTING SEWER
- EXISTING SEWER LATERALS
- EXISTING SEWER MANHOLE
- EXISTING STORMWATER
- EXISTING STORMWATER MANHOLE

**LEGEND**

**POSSIBLE LOCATION (2D / PLAN)**

- EXISTING TELECOM
- EXISTING UNDER GROUND POWER
- EXISTING TRANSMISSION POWER
- EXISTING UNDER GROUND LV POWER
- EXISTING UNDER GROUND HV POWER
- EXISTING VODAFONE
- EXISTING VECTOR GAS
- NEW EDGE OF SEAL
- BATTER SLOPES
- CENTRELINE
- NEW SHOULDER
- NEW WIRE ROPE SAFETY FENCE
- NEW W BEAM SAFETY FENCE
- NEW CONCRETE BARRIER (TYPE F)
- NEW FLUME REFER TO SD212 AND SD213
- NEW STORMWATER PIPE
- NEW CULVERT - 1.0m MINIMUM COVER, POT HOLE SERVICES TO AVOID CLASHES
- UPGRADE EXISTING CULVERT
- NEW STANDARD PRECAST HEADWALL (UNLESS NOTED OTHERWISE)
- NEW Ø1050 MANHOLE REFER TO SD220 (UNLESS NOTED OTHERWISE)
- NEW SCRUFFY DOME REFER TO SD235
- NEW SINGLE SUMP REFER TO SD234
- NEW DOUBLE YARD SUMP REFER TO SD222, SD223 AND SD224
- RELOCATED SUMP
- NEW EROSION PROTECTION (RIP RAP)
- NEW TYPE 1 CHANNEL REFER TO SD217
- NEW TYPE 2 CHANNEL REFER TO SD217
- NEW TYPE 3 CHANNEL REFER TO SD217
- NEW CUT SLOPE BENCH DRAIN REFER TO SD455
- EXISTING OPEN CHANNEL
- NEW V-CHANNEL

**NOTES**

**SURVEY**

- COORDINATES ARE IN TERMS OF NZTM. LEVELS ARE IN TERMS OF WELLINGTON VERTICAL DATUM 1953. ORIGIN OF LEVELS (RTK GNSS): BBKV (ELLIPSOID HEIGHT CONVERTED TO WLG 53).
- THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL SURVEY MARKS AND THEIR OFFSET POSITIONS.

**GENERAL**

- CADASTRAL BOUNDARIES ARE INDICATIVE ONLY AND TO BE VERIFIED BY SURVEY.
- ALL DIMENSIONS IN METRES UNLESS OTHERWISE NOTED.
- WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS. ANY DISCREPANCY SHALL BE REFERRED TO THE ENGINEER.
- ALL LOCATIONS OF HYDRAULIC STRUCTURES TO BE CONFIRMED ON SITE.
- TRANSITIONS FROM CHANNELS TO HYDRAULIC STRUCTURES TO BE CONFIRMED AS PART OF CONSTRUCTION METHODOLOGY.
- TRANSITIONS BETWEEN CHANNELS AND FLUMES TO BE CONFIRMED ON SITE WITH ENGINEER.
- REFER TO EXISTING SERVICE SERIES C200 FOR EXPECTED SERVICE DEPTHS FROM GPR SCANNING. NOTE ONLY SERVICES WITH DEPTHS SHOWN HAVE BEEN LOCATED WITH GPR. ALL OTHER BURIED SERVICES ARE IDENTIFIED FROM SERVICE PROVIDER RECORDS AND YET TO BE VERIFIED.
- CONCRETE CANVAS CHANNELS TO BE 13mm THICK THROUGHOUT, EXPECT FOR CH2280 TO 2450 RHS AND CH2100 TO 2320 LHS WHICH IS 8mm THICK.

**SERVICES**

- PIPES, CABLES AND OTHER UTILITIES ON THIS DRAWING ARE BASED ONLY ON READILY AVAILABLE RECORD PLANS AND OTHER INFORMATION. THIS INFORMATION MAY NOT BE COMPLETE, ACCURATE NOR UP TO DATE. PRIOR TO CARRYING OUT ANY EXCAVATION OR OTHER PHYSICAL WORKS, CONTRACTORS SHALL OBTAIN THE LATEST INFORMATION FROM UTILITY PROVIDERS AND CARRY OUT DETAILED EXPLORATORY WORK, TRACING, LOCATING, PROTECTION AND ALTERATIONS AS ARE REQUIRED UNDER NZS 3910 CLAUSE 5.13.
- FOR EXISTING SERVICES' PLEASE REFER TO C200 SERIES DRAWINGS.
- FOR SERVICE RELOCATIONS' PLEASE REFER TO C220 SERIES DRAWINGS.

**CULVERTS AND STORMWATER PIPES**

- EXISTING SW PIPES ARE TYPICALLY CONCRETE.
- NEW SW PIPES ≤ DN300 SHALL BE uPVC OR EQUIVALENT APPROVED - REFER NOTE 6.
- NEW SW PIPES > DN300 SHALL BE RCRRJ 4.
- NEW CULVERTS ≤ DN1200 SHALL BE RCRRJ CLASS 4 OR EQUIVALENT APPROVED - REFER NOTE 6.
- NEW CULVERTS > DN1200 SHALL BE RCRRJ CLASS 4.
- MATERIALS OTHER THAN RCRRJ SHALL BE CONTRACTOR DESIGNED. THE SUITABILITY OF THE MATERIAL FOR THE APPLICATION (INCLUDING LOADING CONDITIONS AND REQUIRED STIFFNESS CLASS) SHALL BE AGREED WITH THE ENGINEER FOR EACH INSTANCE AND PRIOR TO ORDERING.
- EXISTING CULVERTS SHALL BE EXPOSED, MADE REASONABLY ACCESSIBLE, CLEANED BY HIGH PRESSURE WATER JETTING AND INSPECTED BY CCTV OR OTHER APPROPRIATE MEANS TO CONFIRM THEIR CONDITION AND IDENTIFY ANY DEFECTS. ACTIONS REQUIRED SHALL BE AGREED WITH THE ENGINEER PRIOR TO UNDERTAKING FURTHER WORK.
- DRAINS, CHANNELS AND FLUMES SHALL BE IN ACCORDANCE WITH STANDARD DETAILS C900 DRAWING SERIES.
- FOR CULVERT DETAILS & FISH PASSAGE REQUIREMENTS REFER TO C350 DRAWING SERIES.

**EROSION CONTROL**

- BANK EROSION MEASURES MAY BE REQUIRED DEPENDING UPON STABILITY OF EXPOSED ROCK CUT FACE.
- CULVERT AND PIPE INLETS - REFER SD240
- CULVERT AND PIPE OUTLETS - REFER SD240
- HALF PIPE FLUME OUTLETS: INSTALL RIP RAP d50 = 150mm MIN, 1500 x 300mm DEEP - REFER NOTE 6.
- RUNOFF DIVERSION BUNDS TO BE REINSTATED WITH GRASS SEED.

**STANDARD DRAWING REFERENCES**

- REFER TO DRAWING C900 SERIES FOR STANDARD DETAILS

**DESIGN INFORMATION**

- DESIGN LIVE LOAD ON PIPES AND CULVERTS ON ROAD IS HN-NO-72

**WATERMAIN PIPES**

- GW WATERMAIN DN900 MILD STEEL CEMENT LINED PIPE (MSCL) UNO.

RELEASED UNDER THE OFFICIAL INFORMATION ACT 1982

REV	FOR CONSTRUCTION ISSUE	REVISIONS	DATE
1	FOR CONSTRUCTION ISSUE		30.08.2019

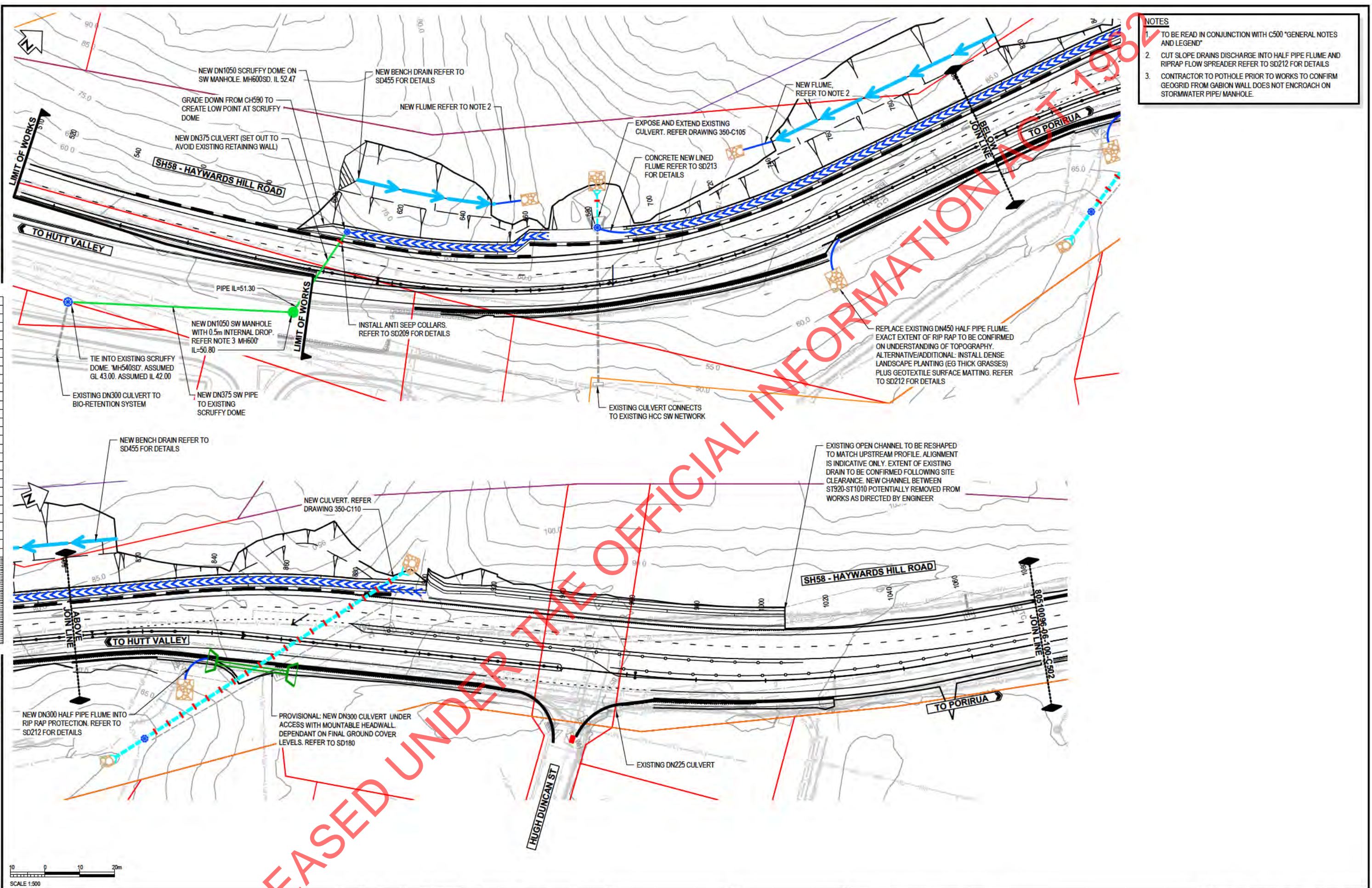
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DESIGNED	s9(2)(a)	08.19
DRAWN		08.19
CAD REVIEW		30.08.2019
DESIGN CHECK		30.08.2019
DESIGN REVIEW		30.08.2019
APPROVED		30.08.2019



SH58 SAFETY IMPROVEMENTS - STAGE 1  
ROAD DESIGN

DRAINAGE GENERAL NOTES AND LEGEND

Status Stamp	<b>FOR CONSTRUCTION</b>
Date Stamp	<b>30.08.2019</b>
Scale	AS SHOWN
Drawing No.	80510096-06-100-C500
Rev.	1



- NOTES**
1. TO BE READ IN CONJUNCTION WITH C500 "GENERAL NOTES AND LEGEND"
  2. CUT SLOPE DRAINS DISCHARGE INTO HALF PIPE FLUME AND RIPRAP FLOW SPREADER REFER TO SD212 FOR DETAILS
  3. CONTRACTOR TO POT HOLE PRIOR TO WORKS TO CONFIRM GEOGRID FROM GABION WALL DOES NOT ENCROACH ON STORMWATER PIPE/MANHOLE.

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20mm

180

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140

120

100

80

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40

20

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ORIGINAL SIZE A1

SCALE 1:500

10

0

10

20m

SCALE 1:500

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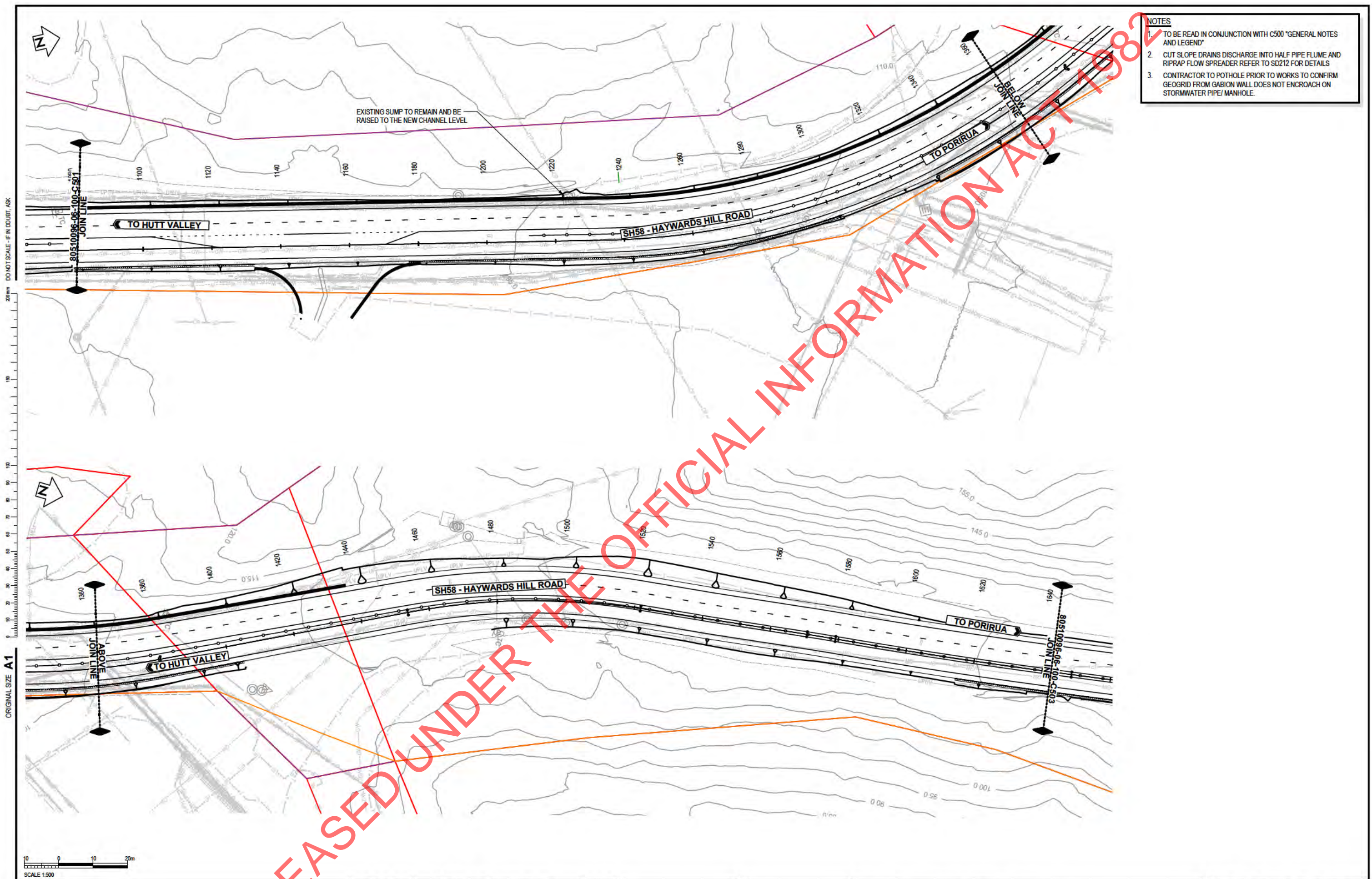
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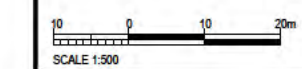
DRAINAGE LAYOUT PLAN  
MC00 - CH509.972 TO CH1080

Status Stamp	<b>FOR CONSTRUCTION</b>
Date Stamp	<b>30.08.2019</b>
Drawing No.	80510096-06-100-C501
Rev.	<b>1</b>



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ORIGINAL SIZE A1  
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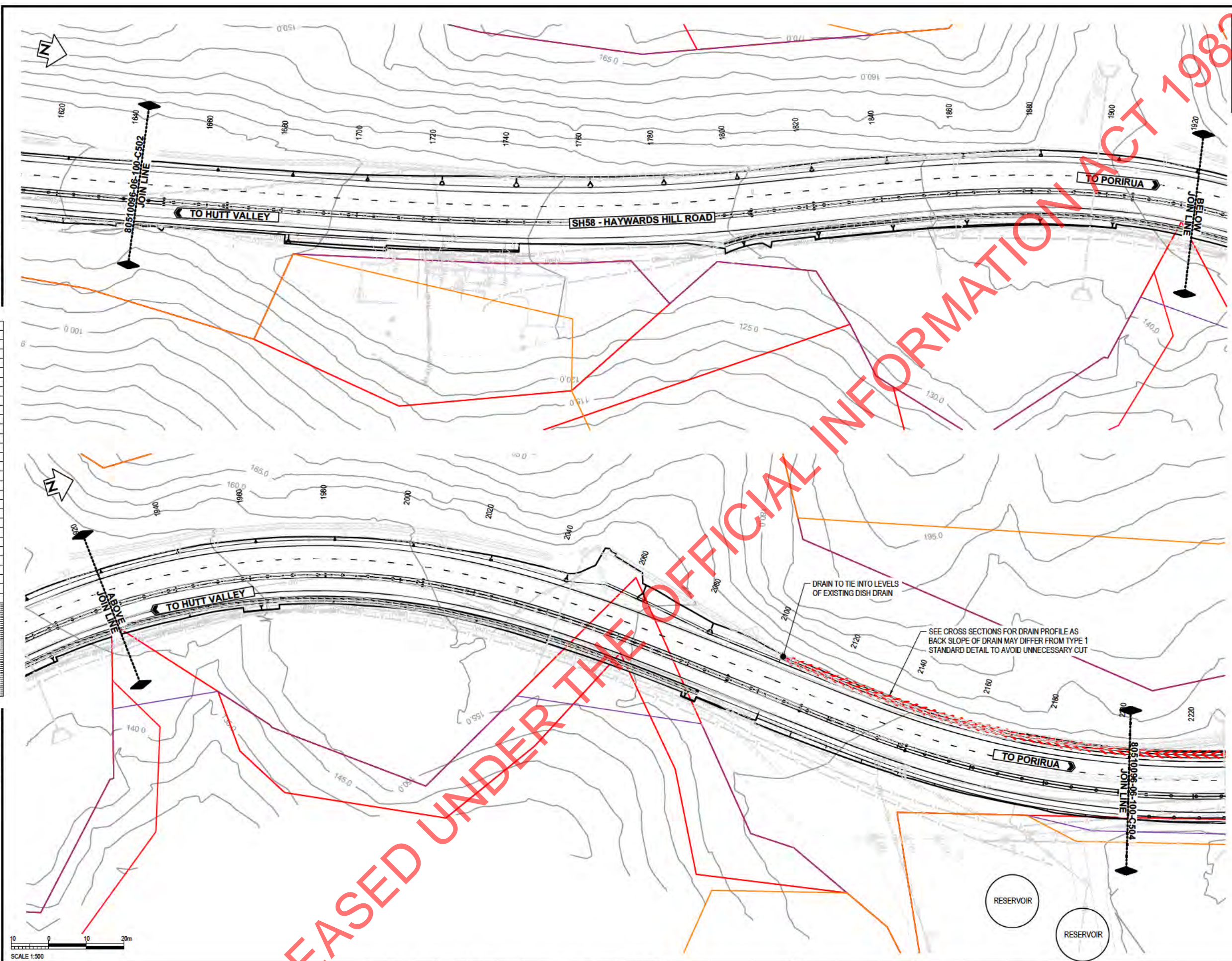
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PROF REGISTRATION:		



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SH58 SAFETY IMPROVEMENTS - STAGE 1  
ROAD DESIGN  
DRAINAGE LAYOUT PLAN  
MC00 - CH1080 TO 1640

Status Stamp	<b>FOR CONSTRUCTION</b>
Date Stamp	<b>30.08.2019</b>
Scale	AS SHOWN
Drawing No.	80510096-06-100-C502
Rev.	<b>1</b>

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SH58 SAFETY IMPROVEMENTS - STAGE 1  
ROAD DESIGN

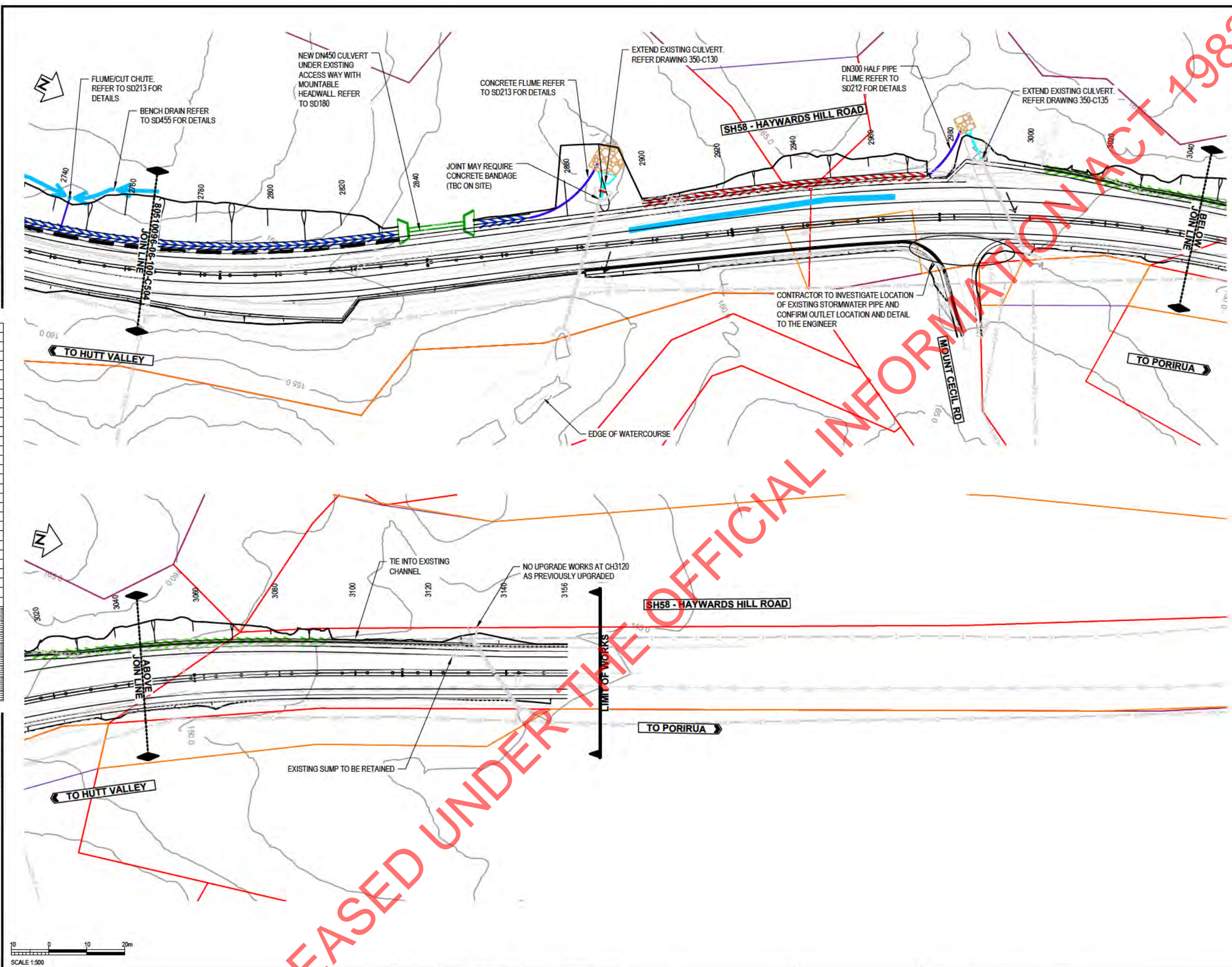
DRAINAGE LAYOUT PLAN  
MC00- CH1640 TO 2200

Status Stamp	<b>FOR CONSTRUCTION</b>
Date Stamp	<b>30.08.2019</b>
Scale	AS SHOWN
Drawing No.	80510096-06-100-C503
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SH58 SAFETY IMPROVEMENTS - STAGE 1  
ROAD DESIGN

DRAINAGE LAYOUT PLAN  
MC00 - CH2760 TO 3156

Status Stamp	<b>FOR CONSTRUCTION</b>
Date Stamp	<b>30.08.2019</b>
Scale	AS SHOWN
Drawing No.	80510096-06-100-C505
Rev.	<b>1</b>