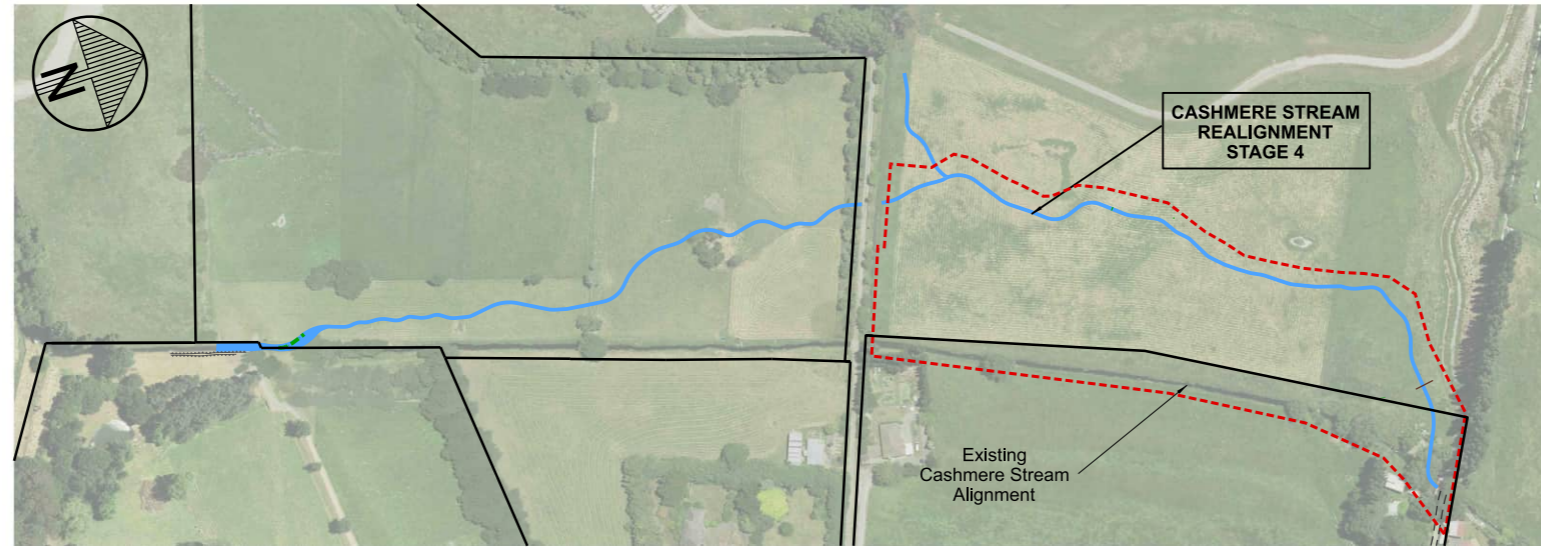


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LOCALITY PLAN
NTS

DRAWING INDEX

CONSTRUCTION		STATUS	ISSUE	COMMENTS
No.	DRAWING TITLE	CAD No	DAY : 4 01 MONTH : 11 02 YEAR : 22 23	
C01	Cover Sheet & Locality Plan	DD135002	For construction	A 1
D01	Site Extent and Site Access Plan	DD135002	For construction	A 1
D02	Overall Stage 4 Realignment Plan	DD135002	For construction	A 1
D03	Demolition and Tree Removal Plan	DD135002	For construction	A 1
D04	Construction Plan 1: Chainage 360-450	DD135002	For construction	A 1
D05	Construction Plan 2: Chainage 450-560	DD135002	For construction	A 1
D06	Construction Plan 3: Chainage 560-680	DD135002	For construction	A 1
D07	Construction Plan 4: Chainage 680-end	DD135002	For construction	A 1
D08	Construction Plan 5: Backfill of existing stream and Fence Layout	DD135002	For construction	A 1
D09	Cross sections 1	DD135002	For construction	A 1
D10	Cross sections 2	DD135002	For construction	A 1
D11	Typical In-stream Features; Details A-B	DD135002	For construction	A 1
D12	Typical In-stream Features; Details C-D	DD135002	For construction	A 1
D13	Typical In-stream Features; Detail E	DD135002	For construction	A 1
D14	Typical In-stream Features; Details F- G	DD135002	For construction	A 1
D15	Typical Bank Features and Invert Details: Details H-I	DD135002	For construction	A 1
D16	Typical Bank Features and Invert Details: Details J-K	DD135002	For construction	A 1
D17	Typical Details: Detail L	DD135002	For construction	A 1
D18	Typical Details: Details M-N	DD135002	For construction	A 1
D19	Typical Details: Details O-R	DD135002	For construction	A 1
D20	Details 5 & 6	DD135002	For construction	A 1
D21	Pipework Longitudinal Profiles and Detail	DD135002	For construction	A 1

LANDSCAPING		ISSUE	COMMENTS
L01	Planting Plan 1	LP404701 For construction	A 1
L02	Planting Plan 2	LP404701 For construction	A 1
L03	Planting Plan 3	LP404701 For construction	A 1
L04	Planting Plan 4	LP404701 For construction	A 1
L05	Overall Plant List	LP404701 For construction	A 1

TO BE PROVIDED

1	FOR CONSTRUCTION	19/12/2022
A	FOR PRICING	11/2022
ISSUE	AMENDMENTS	SIGNED DATE



DATUM	C.D.D.	DESIGNED	A SMITH	SIGNED	DATE
BENCH MK.	BM 3293	DES. REVIEW	M PENTECOST	SIGNED	08/2022
RL	23.799	DRAWN	C JORDAAN	SIGNED	12/2022
SURVEY	M.M	DRW. CHECK	M.DUGGAN	SIGNED	08/2022
SURVEY LB	LB 1814	FILE LOCATION	S:\Data\Opnl\RD\Drainage\dd13000D135002.dgn		
DRAIN. REF.	16717 & 16718	PRINTED ON	31/01/2023 BY JORDAANC		
SAP WBS	562/3873	DATE	12/2022		

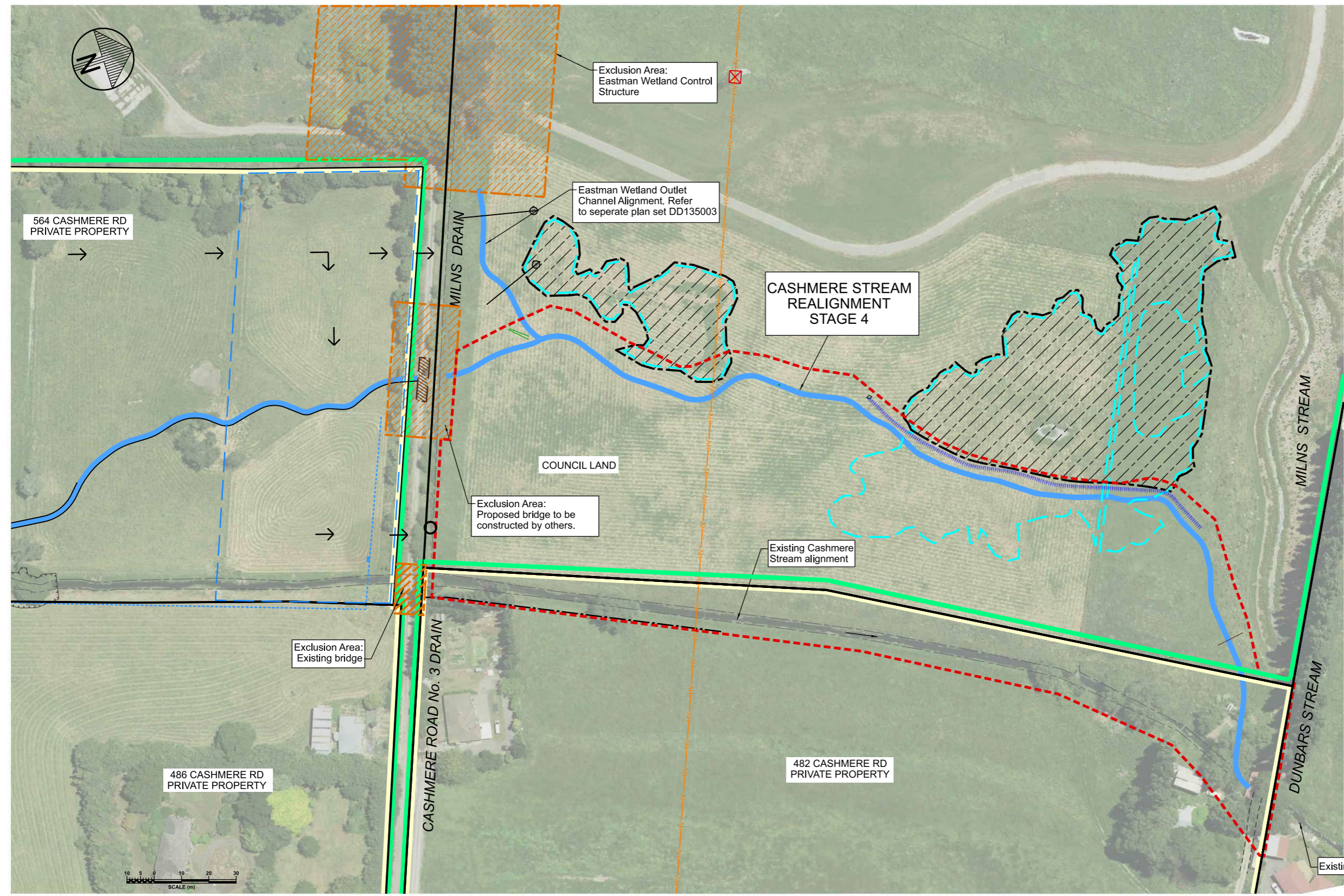
APPROVED FOR TENDER		CONSULTANT
DATE	SIGNED	
Tender Date		
FOR CONSTRUCTION		
DATE	SIGNED	
CONSULTANT PROJECT REF.	CONSULTANT FILE REF.	

CASHMERE STREAM REALIGNMENT
STAGE 4

COVER SHEET
AND LOCALITY PLAN

DOCUMENT NUMBER	TD	ORIGINAL SHEET SIZE	A1	SCALES	NTS
CAD DRAWING FILE REF.	DD135002.DGN				
TSD PROJECT FILE NUMBER	CP503560	SHEET	C01	OF	1

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- LEGEND**
- Legal boundary
 - Christchurch City Council owned land
 - Land in Private Ownership
 - Cashmere Stream realignment
 - Extent of Stage 4 Works
 - Temporary Lease Area by Christchurch City Council (including stockpile area)
 - Site access by Contractor via Eastman Wetlands
 - Temporary culverts required for Milns Drain
 - Exclusion Areas : (no access by Contractor)
 - Extent of Natural wetlands
 - Natural wetlands area exclusion zone
 - High voltage lines (Orion)
 - Proposed bund

SITE PLAN
SCALE 1:750 A1
1:1500 A3

1	FOR CONSTRUCTION		19/12/2022
A	FOR PRICING		11/2022
ISSUE	AMENDMENTS	SIGNED	DATE

Christchurch City Council

TECHNICAL SERVICES & DESIGN

DATUM	C.D.D.	NAME	SIGNED	DATE
BENCH MK.	DESIGNED	A SMITH	<i>[Signature]</i>	08/2022
RL	DES. REVIEW	M PENTECOST	<i>[Signature]</i>	11/2022
SURVEY	DRAWN	C JORDAAN	<i>[Signature]</i>	08/2022
SURVEY LB	DRW. CHECK	M DUGGAN	<i>[Signature]</i>	11/2022
	FILE LOCATION			
DRAIN. REF.	16717 & 16718	FILENAMES		
SAP WBS	562/3873	PRINTED ON \$DATES	BY \$USERNAMES	12/2022

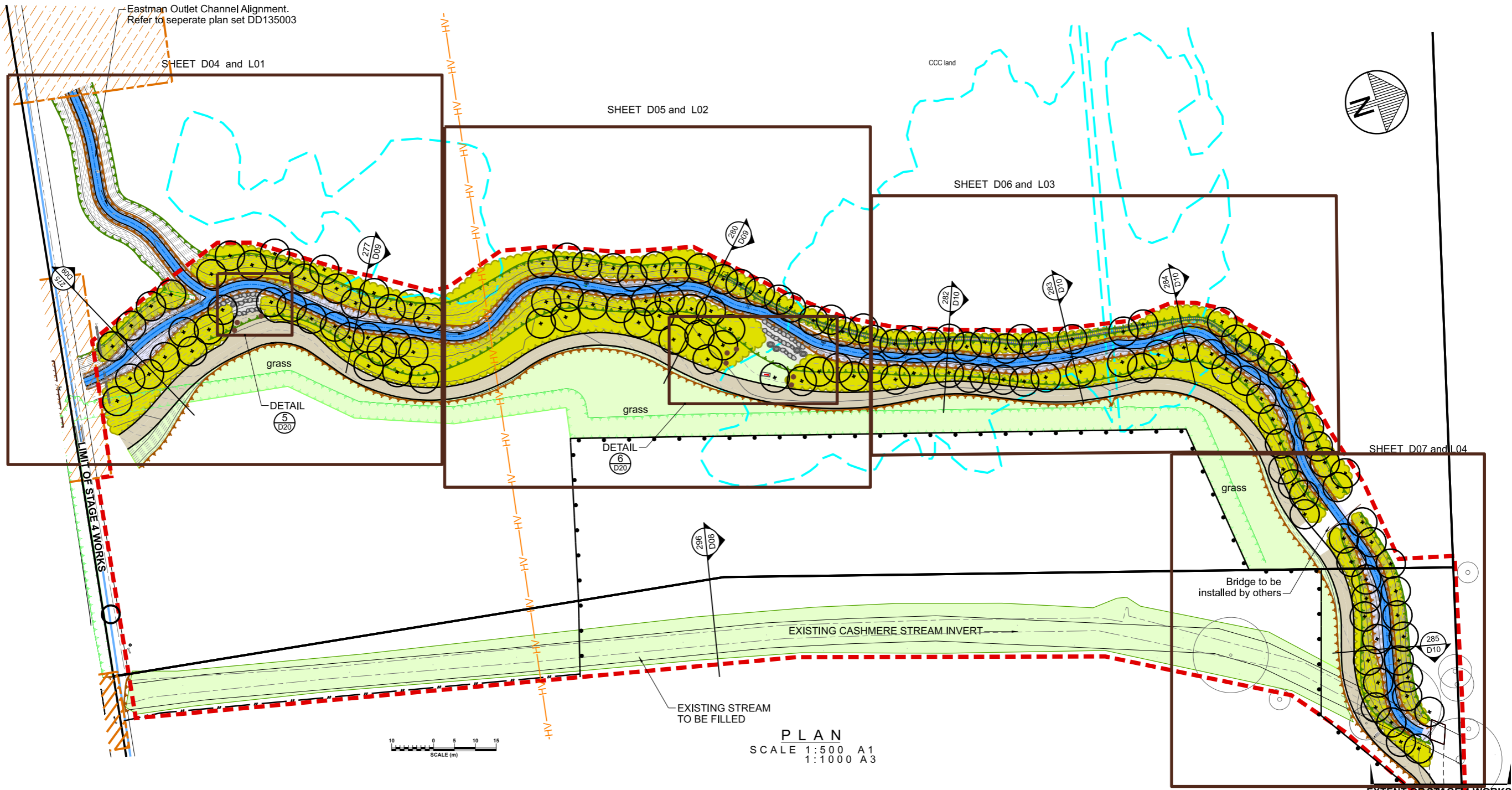
APPROVED		CONSULTANT
FOR TENDER		
DATE	SIGNED	
Tender Date		
FOR CONSTRUCTION		
DATE	SIGNED	
12/2022		
CONSULTANT PROJECT REF.		CONSULTANT FILE REF.

CASHMERE STREAM REALIGNMENT STAGE 4

SITE EXTENT AND SITE ACCESS PLAN

DOCUMENT NUMBER	TD	ORIGINAL SHEET SIZE	A1	SCALES	1:750 A1 1:1500 A3
CAD DRAWING FILE REF.	DD135002.DGN				
TSD PROJECT FILE NUMBER	CP503560	SHEET	D01	OF	21

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PLAN
SCALE 1:500 A1
1:1000 A3

LEGEND

GENERAL

- Legal boundary
- Trees
- Extent of Stage 4 works
- Extent of Natural wetland
- Proposed bund

PROPOSED FEATURES
(Indicative only. Refer to sheets D04-D07)

- Trees
- 3m wide shared grit path
- Stream invert and lower bank
- Fence
- Grass
- Riparian Margin Planting

GENERAL NOTES

1. Services are indicative only. Contractor to check and confirm all services with authorities prior to starting work.
2. All site levels and dimensions to be confirmed prior to commencement of construction.
3. All materials and workmanship to be in accordance with the Contract Document and Specifications, the CCC Construction Standard Specification (CSS) and Infrastructure Design Standard (IDS) unless specified otherwise. Refer to CCC website for updated versions, paper copies are uncontrolled.
4. Any deviation is to be approved by the Engineer. Work is not to be carried out until written instruction is received from the Engineer.
5. Datums : Levels to Christchurch Drainage Board Datum Jan 2019 & horizontal datum to Mt Pleasant Circuit NZGD 2000.
6. All works to be undertaken in accordance with EMP, CCC Erosion and Sediment Control Plan and any associated Resource Consent conditions.
7. Trees and fences to be removed to be confirmed on site with landowner prior to start of works.

1	FOR CONSTRUCTION	19/12/22
A	FOR PRICING	11/2022
ISSUE	AMENDMENTS	SIGNED DATE

Christchurch City Council
TECHNICAL SERVICES & DESIGN

DATUM	C.D.D.	NAME	SIGNED	DATE
BENCH MK.		A SMITH	<i>[Signature]</i>	08/2022
RL		M PENTECOST	<i>[Signature]</i>	12/2022
SURVEY		C JORDAAN	<i>[Signature]</i>	08/2022
SURVEY LB		M DUGGAN	<i>[Signature]</i>	12/2022
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SAP WBS	5623873	PRINTED ON 31/01/2023 BY JOrdaanc		

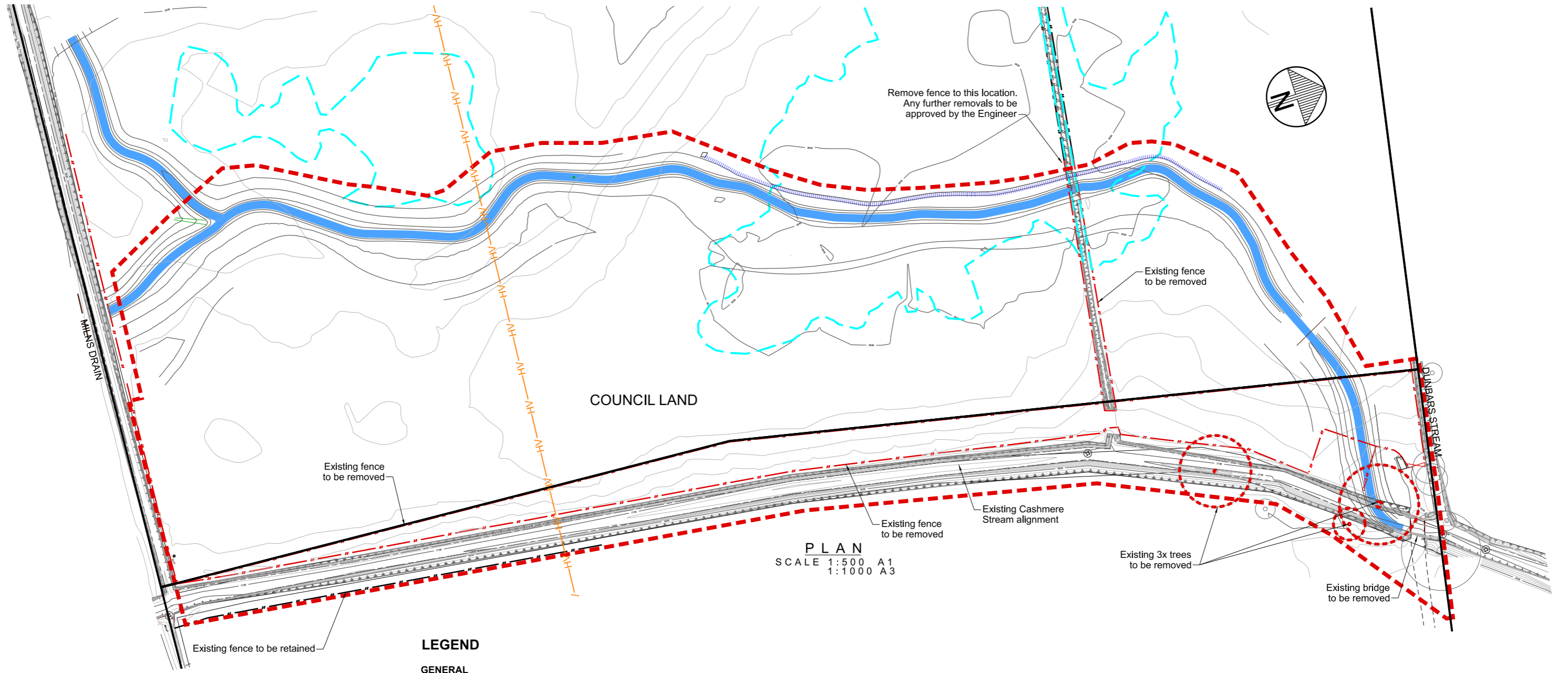
APPROVED		CONSULTANT
FOR TENDER	DATE	SIGNED
DATE	SIGNED	
FOR CONSTRUCTION		
DATE	SIGNED	
DATE	SIGNED	
CONSULTANT PROJECT REF.	CONSULTANT FILE REF.	

PROJECT TITLE
**CASHMERE STREAM REALIGNMENT
STAGE 4**

DRAWING TITLE
**OVERALL STAGE 4
REALIGNMENT PLAN**

DOCUMENT NUMBER	ORIGINAL SHEET SIZE	SCALES
TD	A1	1:500 A1 1:1000 A3
GAD DRAWING FILE REF.		
DD135002.DGN		
TSD PROJECT FILE NUMBER	SHEET	
CP503560	D02	OF 21

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PLAN
SCALE 1:500 A1
1:1000 A3

LEGEND

GENERAL

- Existing legal boundary
- Extent of natural wetland
- Existing Trees
- High Voltage Lines (Orion)
- Extent of Stage 4 works

EXISTING FEATURES TO BE REMOVED

- Trees
- Fence and gates

NOTES

1. All work is to be undertaken in accordance with the Contract Documents and Specifications, the CSS and IDS unless specified otherwise.
2. No deviation is to be carried out until written instruction is received from the Engineer.
3. Extreme care is to be taken when working near existing trees and vegetation.
4. Extent of vegetation clearance, including grass stripping and trees to be removed is to be confirmed on site.
5. Refer to D02 for General Notes.
6. Untreated hardwood to be removed and any other suitable timber is to be salvaged and stockpiled on site for re-use in in-stream features.
7. Trees and fences to be removed to be confirmed on site with Landowner prior to start of works.



1	FOR CONSTRUCTION	19/12/2022
A	FOR PRICING	11/2022
ISSUE	AMENDMENTS	SIGNED DATE

Christchurch City Council
TECHNICAL SERVICES & DESIGN

DATUM	C.D.D.	DESIGNED	A SMITH	SIGNED	08/2022
BENCH MK.		DES. REVIEW	M PENTECOST	SIGNED	12/2022
RL		DRAWN	C JORDAAN	SIGNED	08/2022
SURVEY		DRW. CHECK	M DUGGAN	SIGNED	12/2022
SURVEY LB		FILE LOCATION			
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SAP WBS	562/3873	PRINTED ON 31/01/2023 BY JOrdaanc	12/2022		

APPROVED		CONSULTANT
FOR TENDER		
DATE	SIGNED	
Tender Date		
FOR CONSTRUCTION		
DATE	SIGNED	
12/2022		
CONSULTANT PROJECT REF.	CONSULTANT FILE REF.	

PROJECT TITLE
**CASHMERE STREAM REALIGNMENT
STAGE 4**

DRAWING TITLE
**DEMOLITION AND
TREE REMOVAL PLAN**

DOCUMENT NUMBER	TD	ORIGINAL SHEET SIZE	A1	SCALES	1:500 A1 1:1000 A3
CAD DRAWING FILE REF.	DD135002.DGN				
TSD PROJECT FILE NUMBER	CP503560	SHEET	D03	OF	21

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LEGEND

EXISTING FEATURES

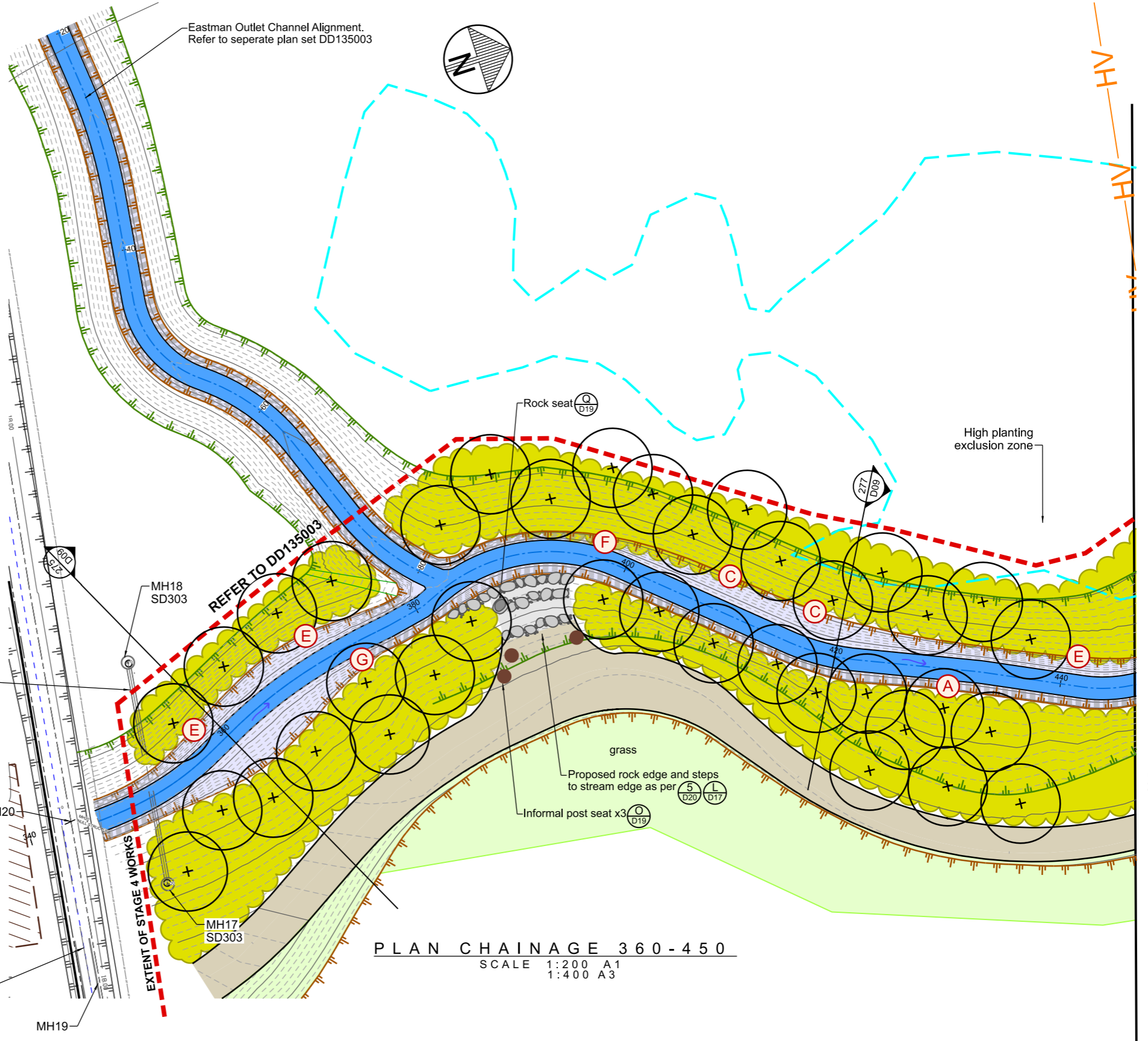
- Legal boundary
- - - Natural wetland
- AH-AH- HV Orion cable

PROPOSED FEATURES

- - - Extent of stage 4 works
- Top of bank
- Stream invert and lower bank
- 3.0m wide shared grit path (as per Detail R Sheet D19)
- + Specimen trees (refer Sheet L01)
- Riparian Margin Planting (refer Sheet L01)
- Upper and Top of Bank Indigenous Forest Planting (refer Sheet L01)
- Grass

IN-STREAM FEATURES

- (A) - Rock Edge
- (B) - Riffle
- (C) - Timber Edge
- (D) - Log Edge
- (E) - Root Wad Edge (Option 2: Stump overhang, unless advised by Freshwater Ecologist)
- (F) - Post Snag
- (G) - Log Snag



NOTES

1. All work to be undertaken in accordance with the Contract Document and Specifications, the CSS and IDS unless specified otherwise.
2. No deviation from the CSS is to be carried out until written instruction is received from the Engineer.
3. Drawing is indicative only, do not scale from drawing. All measurements to be confirmed on site prior to commencement of work.
4. The locations shown for the in-stream features detailed in Sheets D11-D14 are indicative only and are subject to on-site approval by the Engineer (on advice by Ecologist).
5. The Contractor is to ensure that in the construction of all details with in-bank features all exposed soil surfaces are to be covered by mulch matting. Planting is to be as per Sheet L01.
6. Refer to Sheet D02 for General Notes.
7. Refer to plan set DD135003 for Eastman outlet channel alignment.
8. ANY ADDITIONAL IN STREAM FEATURES MUST BE APPROVED BY THE ENGINEER WITH INPUT FROM HYDRAULIC DESIGNERS DUE TO POTENTIAL HYDRAULIC IMPACT ON WATER LEVELS

ANY ADDITIONAL IN STREAM FEATURES MUST BE APPROVED BY THE ENGINEER WITH INPUT FROM HYDRAULIC DESIGNERS DUE TO POTENTIAL HYDRAULIC IMPACT ON WATER LEVELS

PLAN CHAINAGE 360 - 450

SCALE 1:200 A1
1:400 A3



1	FOR CONSTRUCTION	19/12/2022
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ISSUE	AMENDMENTS	SIGNED DATE

Christchurch City Council
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DATUM	C.D.D.	NAME	SIGNED	DATE
BENCH MK.	DESIGNED	A SMITH	<i>[Signature]</i>	08/2022
RL	DES. REVIEW	M PENTECOST	<i>[Signature]</i>	12/2022
SURVEY	DRAWN	C JORDAAN	<i>[Signature]</i>	08/2022
SURVEY LB	DRW. CHECK	M DUGGAN	<i>[Signature]</i>	12/2022
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SAP WBS	PRINTED ON \$DATES	BY \$USERNAMES		12/2022

APPROVED		CONSULTANT
FOR TENDER	DATE SIGNED	
FOR CONSTRUCTION	DATE SIGNED	
CONSULTANT PROJECT REF.	CONSULTANT FILE REF.	

PROJECT TITLE
**CASHMERE STREAM REALIGNMENT
STAGE 4**

DRAWING TITLE
**CONSTRUCTION PLAN 1:
CHAINAGE 360 - 450**

DOCUMENT NUMBER	ORIGINAL SHEET SIZE	SCALES
TD	A1	1:200 A1 1:400 A3
CAD DRAWING FILE REF.		
DD135002.DGN		
TSD PROJECT FILE NUMBER	SHEET	
CP503560	D04	OF 21

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LEGEND

GENERAL

Natural wetland

HV- High voltage lines (Orion)

PROPOSED FEATURES

Top of bank

Stream invert and lower bank

3.0m wide shared grit path (as per Detail R Sheet D19)

Proposed low bund along top of bank

Specimen trees (refer Sheet L02)

Riparian Margin Planting (refer Sheet L02)

Grass

IN-STREAM FEATURES

- Rock Edge

- Riffle

- Timber Edge

- Log Edge

- Root Wad Edge
(Option 2: Stump overhang, unless advised by Freshwater Ecologist)

- Post Snag

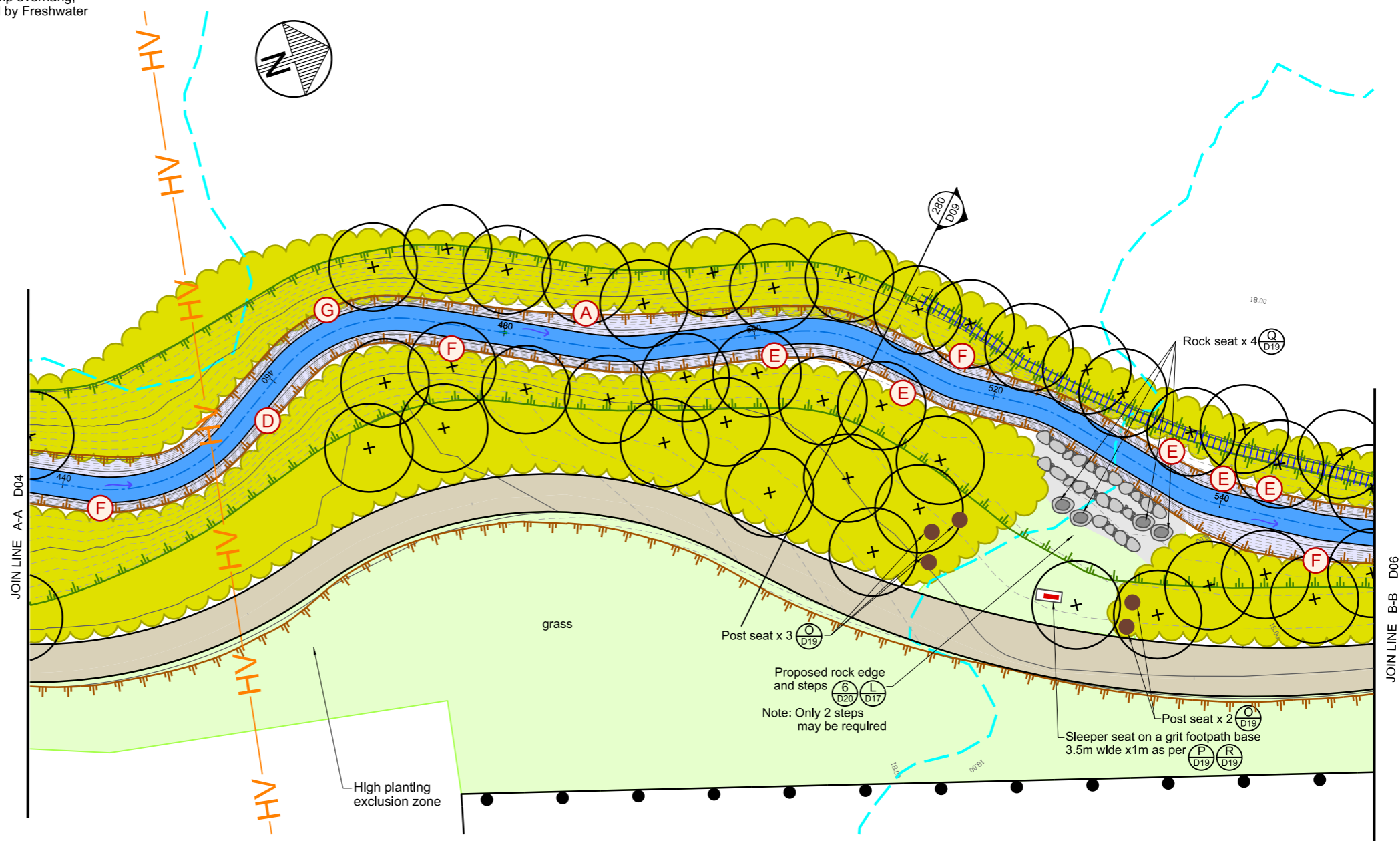
- Log Snag



NOTES

1. All work to be undertaken in accordance with the Contract Document and Specifications, the CSS and IDS unless specified otherwise.
2. No deviation from the CSS is to be carried out until written instruction is received from the Engineer.
3. Drawing is indicative only, do not scale from drawing. All measurements to be confirmed on site prior to commencement of work.
4. The locations shown for the in-stream features detailed in Sheets D11-D14 are indicative only and are subject to on-site approval by the Engineer (on advice by Ecologist).
5. The Contractor is to ensure that in the construction of all details with in-bank features all exposed soil surfaces are to be covered by mulch matting.
6. Planting is to be as per Sheet L02.
7. Refer to Sheet D02 for General Notes.

ANY ADDITIONAL IN STREAM FEATURES MUST BE APPROVED BY THE ENGINEER WITH INPUT FROM HYDRAULIC DESIGNERS DUE TO POTENTIAL HYDRAULIC IMPACT ON WATER LEVELS



1	FOR CONSTRUCTION	19/12/2022
A	FOR PRICING	11/2022
ISSUE	AMENDMENTS	SIGNED DATE

Christchurch City Council
TECHNICAL SERVICES & DESIGN

DATUM	C.D.D.	DESIGNED	A SMITH	SIGNED	DATE
BENCH MK.		DES. REVIEW	M PENTECOST		08/2022
RL		DRAWN	C JORDAAN		12/2022
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APPROVED		CONSULTANT
FOR TENDER		
DATE	SIGNED	
FOR CONSTRUCTION		
DATE	SIGNED	
CONSULTANT PROJECT REF.		CONSULTANT FILE REF.

PROJECT TITLE
CASHMERE STREAM REALIGNMENT STAGE 4

DRAWING TITLE
CONSTRUCTION PLAN 2: CHAINAGE 450 - 560

DOCUMENT NUMBER	TD	ORIGINAL SHEET SIZE	A1	SCALES	1:200 A1 1:400 A3
GAD DRAWING FILE REF.	DD135002.DGN				
TSD PROJECT FILE NUMBER	CP503560	SHEET	D05	OF	21

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LEGEND

GENERAL

Natural wetland

PROPOSED FEATURES

Top of bank

Stream invert and lower bank

3.0m wide shared grit path (as per Detail R Sheet D19)

Proposed low bund along top of bank

Specimen trees (refer Sheet L03)

Riparian Margin Planting (refer Sheet L03)

Grass

IN-STREAM FEATURES

- Rock Edge

- Riffle

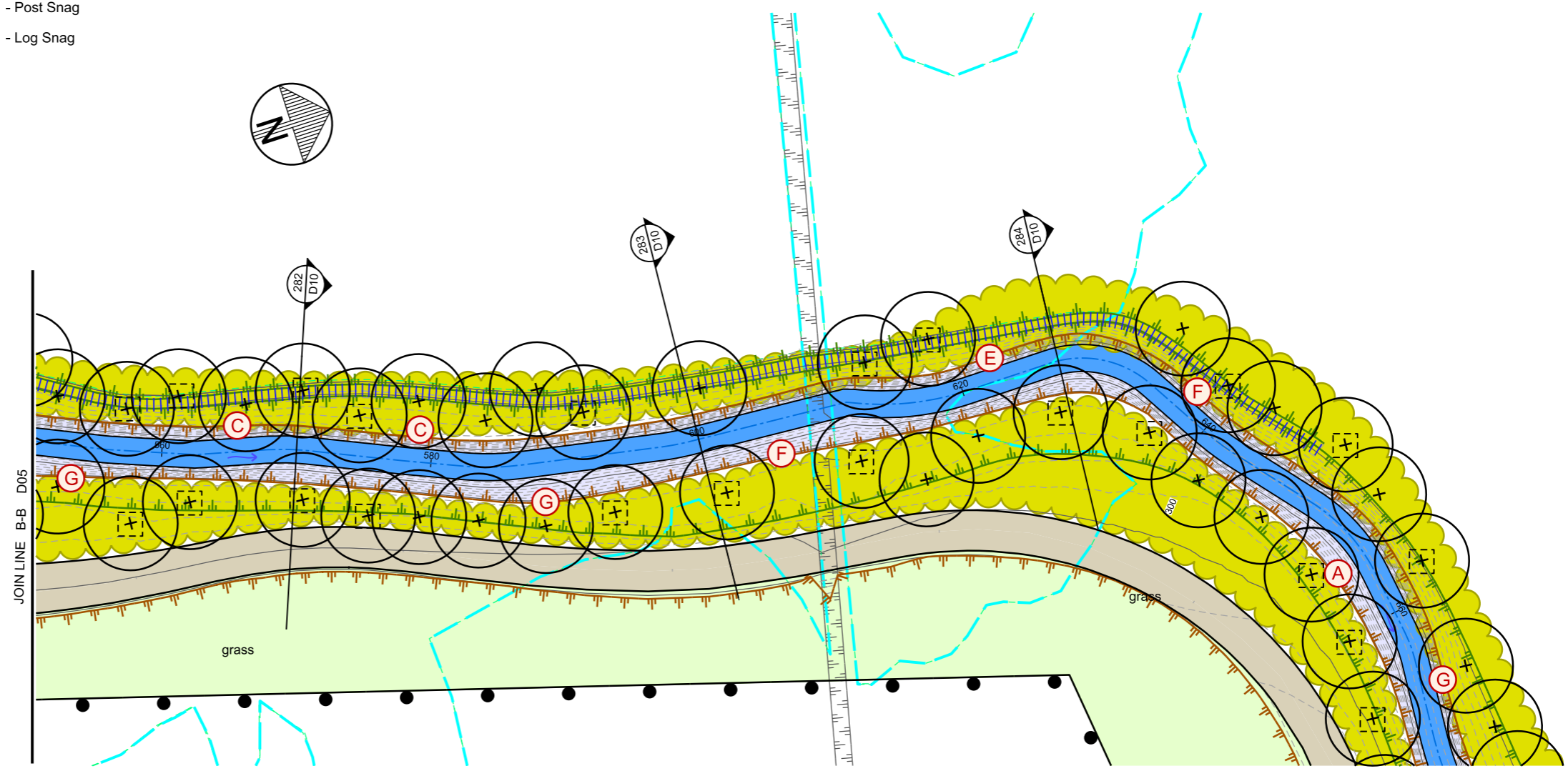
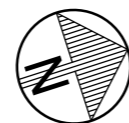
- Timber Edge

- Log Edge

- Root Wad Edge
(Option 2: Stump overhang, unless advised by Freshwater Ecologist)

- Post Snag

- Log Snag



NOTES

- All work to be undertaken in accordance with the Contract Document and Specifications, the CSS and IDS unless specified otherwise.
- No deviation from the CSS is to be carried out until written instruction is received from the Engineer.
- Drawing is indicative only, do not scale from drawing. All measurements to be confirmed on site prior to commencement of work.
- The locations shown for the in-stream features detailed in Sheets D11-D14 are indicative only and are subject to on-site approval by the Engineer (on advice by Ecologist).
- The Contractor is to ensure that in the construction of all details with in-bank features all exposed soil surfaces are to be covered by mulch matting. Planting is to be as per Sheet L03.
- Refer to Sheet D02 for General Notes.

ANY ADDITIONAL IN STREAM FEATURES MUST BE APPROVED BY THE ENGINEER WITH INPUT FROM HYDRAULIC DESIGNERS DUE TO POTENTIAL HYDRAULIC IMPACT ON WATER LEVELS

PLAN CHAINAGE 560 - 680

SCALE 1:200 A1
1:400 A3



JOIN LINE C-C D07

JOIN LINE B-B D05

1	FOR CONSTRUCTION	19/12/2022
A	FOR PRICING	11/2022
ISSUE	AMENDMENTS	SIGNED DATE

Christchurch City Council
TECHNICAL SERVICES & DESIGN

DATUM	C.D.D.	NAME	SIGNED	DATE
BENCH MK.		DESIGNED	A SMITH	08/2022
RL		DES. REVIEW	M PENTECOST	12/2022
SURVEY		DRAWN	C JORDAAN	08/2022
SURVEY LB		DRW. CHECK	J POWICK	12/2022
		FILE LOCATION		
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SAP WBS	562/3873	PRINTED ON \$DATES	BY \$USERNAMES	12/2022

APPROVED	
FOR TENDER	
DATE	SIGNED
Tender Date	
FOR CONSTRUCTION	
DATE	SIGNED
12/2022	

CONSULTANT	
PROJECT TITLE	CASHMERE STREAM REALIGNMENT STAGE 4
CONSULTANT PROJECT REF.	
CONSULTANT FILE REF.	

CASHMERE STREAM REALIGNMENT STAGE 4



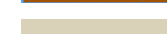





CONSTRUCTION PLAN 3: CHAINAGE 560 - 680

DOCUMENT NUMBER	TD	ORIGINAL SHEET SIZE	A1	SCALES	1:200 A1 1:400 A3
CAD DRAWING FILE REF.	DD135002.DGN				
TSD PROJECT FILE NUMBER	CP503560	SHEET	D06	OF	21








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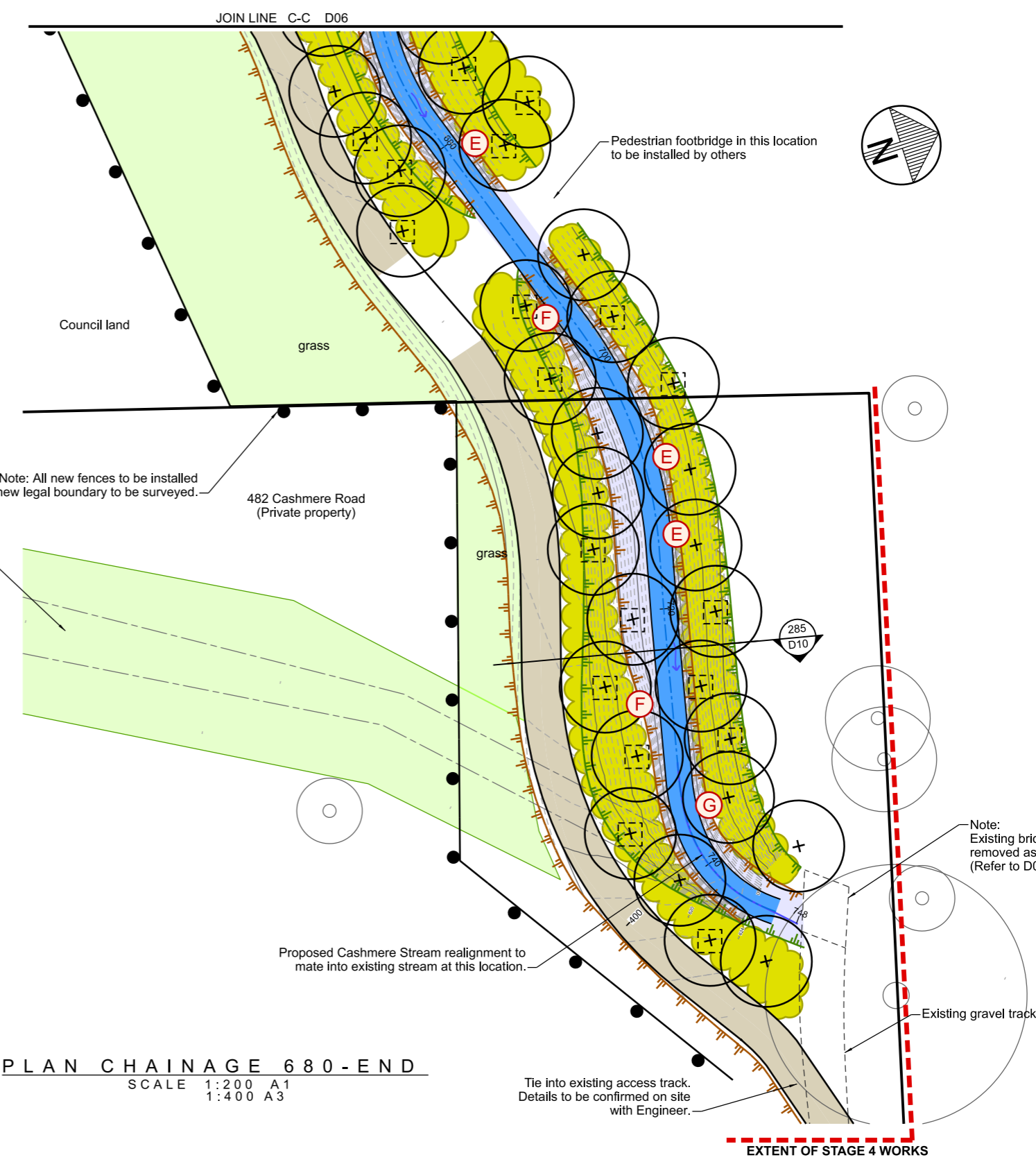
LEGEND

PROPOSED FEATURES

-  Top of bank
-  Stream invert and lower bank
-  3.0m wide shared grit path (as per Detail R Sheet D19)
-  Fence (Refer sheet D08)
-  Specimen trees (refer Sheet L04)
-  Riparian Margin Planting (refer Sheet L04)
-  Grass
-  Extent of stage 4 works

IN-STREAM FEATURES

-  - Rock Edge
-  - Riffle
-  - Timber Edge
-  - Log Edge
-  - Root Wad Edge (Option 2: Stump overhang, unless advised by Freshwater Ecologist)
-  - Post Snag
-  - Log Snag



NOTES

1. All work to be undertaken in accordance with the Contract Document and Specifications, the CSS and IDS unless specified otherwise.
2. No deviation from the CSS is to be carried out until written instruction is received from the Engineer.
3. Drawing is indicative only, do not scale from drawing. All measurements to be confirmed on site prior to commencement of work.
4. The locations shown for the in-stream features detailed in Sheets D11-D14 are indicative only and are subject to on-site approval by the Engineer (on advice by Ecologist).
5. The Contractor is to ensure that in the construction of all details with in-bank features all exposed soil surfaces are to be covered by mulch matting.
6. Planting is to be as per Sheet L04.
7. Refer to Sheet D02 for General Notes.

ANY ADDITIONAL IN STREAM FEATURES MUST BE APPROVED BY THE ENGINEER WITH INPUT FROM HYDRAULIC DESIGNERS DUE TO POTENTIAL HYDRAULIC IMPACT ON WATER LEVELS

PLAN CHAINAGE 680 - END

SCALE 1:200 A1
1:400 A3



1	FOR CONSTRUCTION	19/12/2022
A	FOR PRICING	11/2022
ISSUE	AMENDMENTS	SIGNED DATE

Christchurch City Council
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DATUM	C.D.D.	NAME	SIGNED	DATE
BENCH MK.		DESIGNED	A SMITH	08/2022
RL		DES. REVIEW	M PENTECOST	12/2022
SURVEY		DRAWN	C JORDAAN	08/2022
SURVEY LB		DRW. CHECK	M DUGGAN	12/2022
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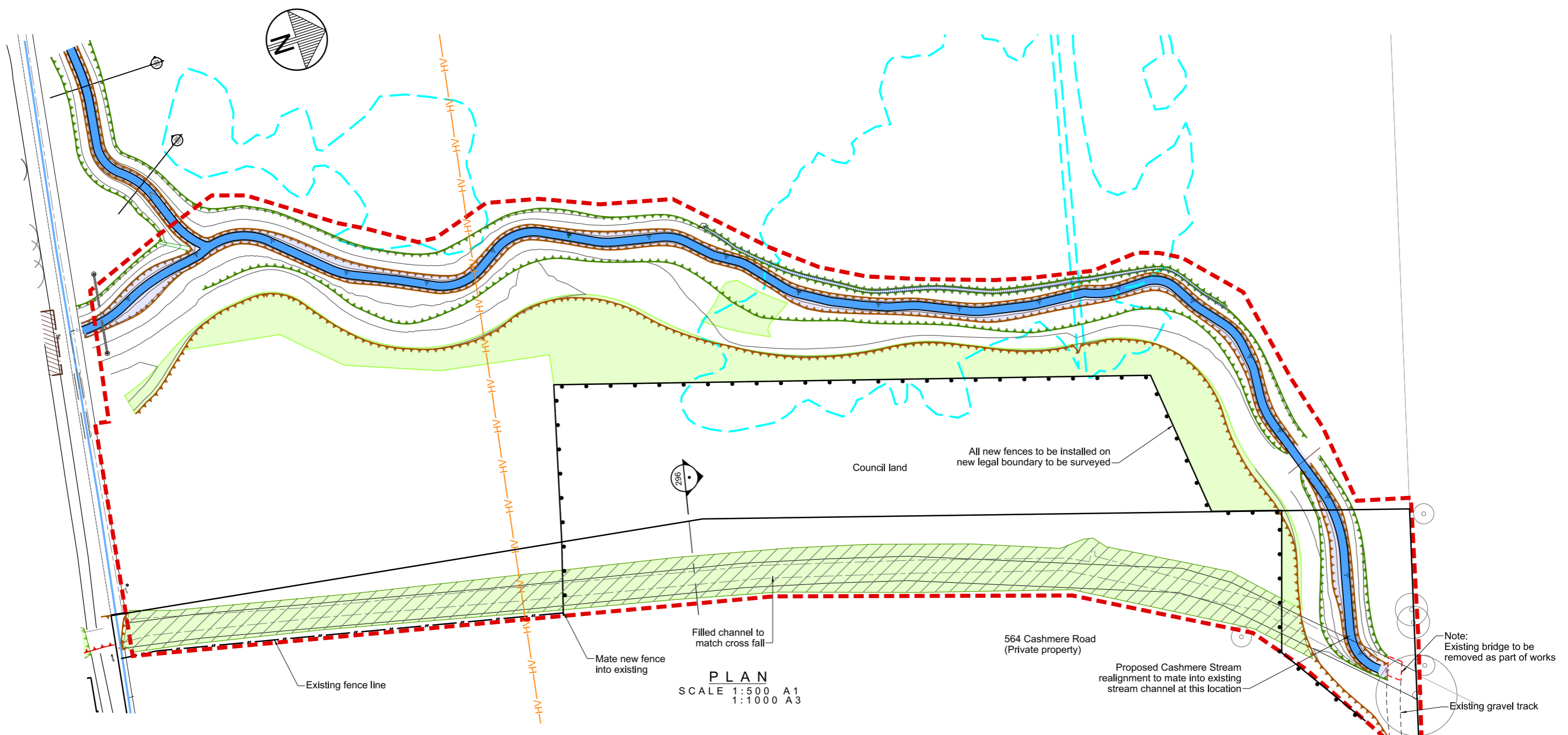
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FOR TENDER		
DATE	SIGNED	
		Tender Date
FOR CONSTRUCTION		
DATE	SIGNED	
		CONSULTANT PROJECT REF.
		CONSULTANT FILE REF.

**CASHMERE STREAM REALIGNMENT
STAGE 4**

**CONSTRUCTION PLAN 4:
CHAINAGE 680 - END**

DOCUMENT NUMBER	TD	ORIGINAL SHEET SIZE	A1	SCALES	1:200 A1 1:400 A3
CAD DRAWING FILE REF.	DD135002.DGN				
TSD PROJECT FILE NUMBER	CP503560	SHEET	D07	OF	21

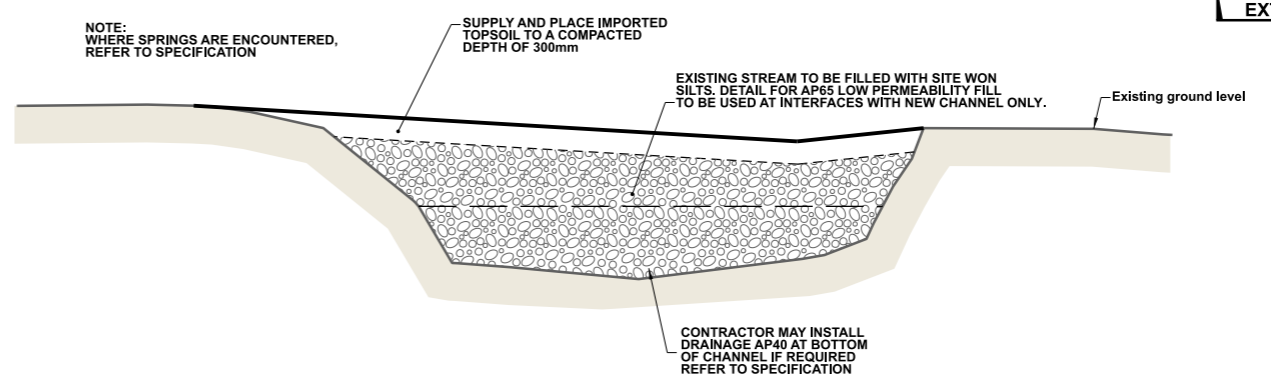
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PLAN
SCALE 1:500 A1
1:1000 A3

- LEGEND**
- GENERAL**
- Legal boundary
 - ▲—▲— High Voltage Lines (Orion)
 - - - Natural wetland
 - - - Extent of Stage 4 works
- PROPOSED FEATURES**
- Fence (Post and cable netting fence)
 - ▨ Filled Channel- As per 296
 - Grass

- NOTES**
1. All work is to be undertaken in accordance with the Contract Document and Specification, the CCS and IDS unless specified otherwise.
 2. No deviation is to be carried out until written instruction is received from the Engineer.
 3. Drafting is indicative only, do not scale off drawing. All measurements to be confirmed on site prior to the commencement of work.
 4. Location of all new fences to be confirmed on site with landowner prior to start of work.
 5. Refer to D02 for General Notes.



296 BACKFILL OF EXISTING STREAM (TYPICAL DETAIL)
1:50 @ A1
1:100 @ A3



1	FOR CONSTRUCTION	19/12/2022
A	FOR PRICING	11/2022
ISSUE	AMENDMENTS	SIGNED DATE

Christchurch City Council

TECHNICAL SERVICES & DESIGN

DATUM	C.D.D.	DESIGNED	A SMITH	SIGNED	DATE
BENCH MK.		DES. REVIEW	M PENTECOST		12/2022
RL		DRAWN	C JORDAAN		08/2022
SURVEY		DRW. CHECK	M DUGGAN		12/2022
SURVEY LB		FILE LOCATION			
DRAIN. REF.	16717	S:\Data\Drain\Drainage\130000135002.dgn			
SAP WBS	562/3873	PRINTED ON 31/01/2023 BY JOrdaanc			

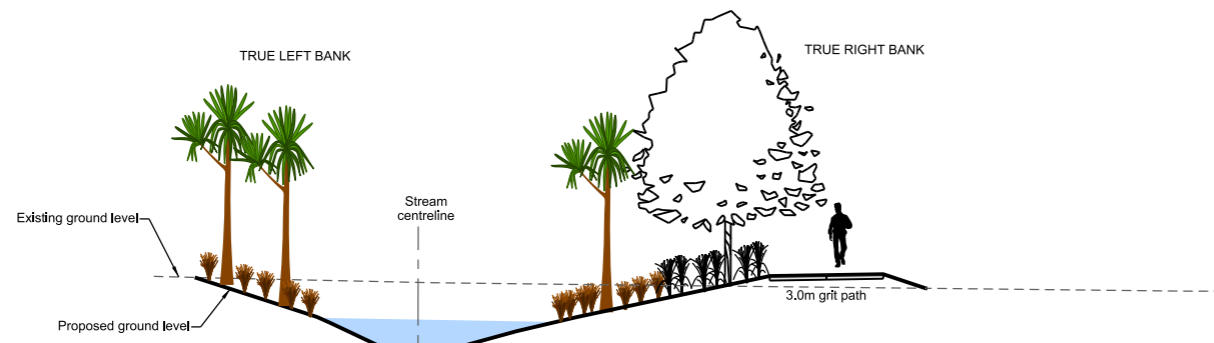
APPROVED FOR TENDER		DATE	SIGNED
APPROVED FOR CONSTRUCTION		DATE	SIGNED
CONSULTANT PROJECT REF.	CONSULTANT FILE REF.		

CASHMERE STREAM REALIGNMENT STAGE 4

CONSTRUCTION PLAN 5: BACKFILL OF EXISTING STREAM AND FENCE LAYOUT

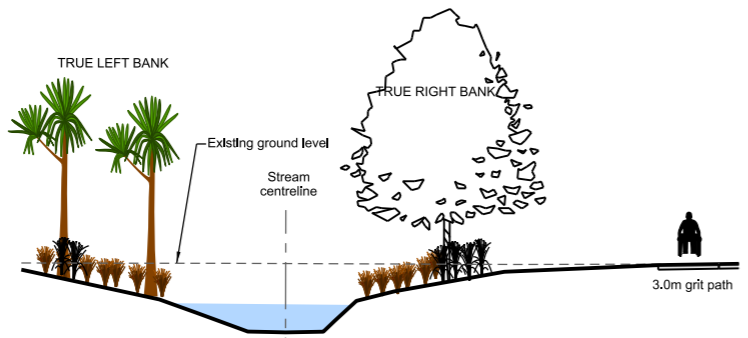
DOCUMENT NUMBER	TD	ORIGINAL SHEET SIZE	A1	SCALES	AS SHOWN
GAD DRAWING FILE REF.	DD135002.DGN	TSD PROJECT FILE NUMBER	CP503560	SHEET	D08 OF 21

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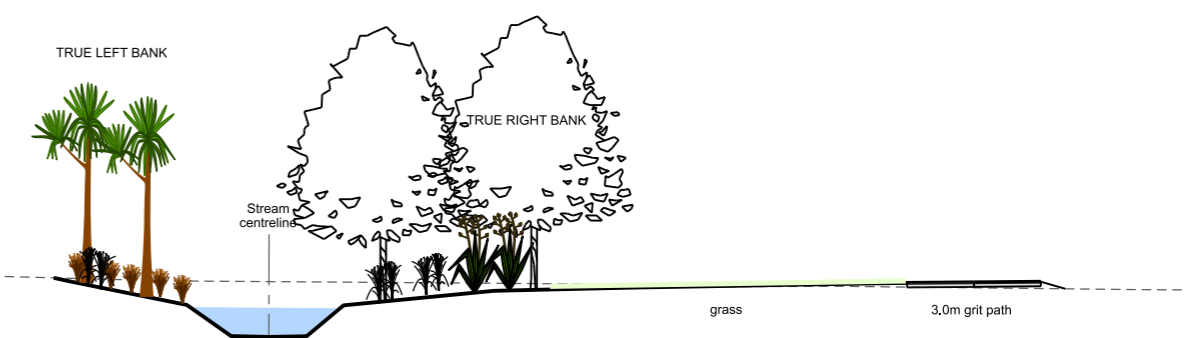
DATUM R.L. 16.0												
ELEVATION (m)	18.64	18.54	18.34	17.44	16.80	16.78	16.79	17.23	17.61	17.74	18.71	18.72
OFFSET (m)	-5.91	-5.59	-4.97	-2.31	-0.96	0.00	0.70	2.61	4.21	4.79	9.31	10.02
FILL (m)	0.00	-0.10	-0.28	-1.13	-1.74	-1.74	-1.72	-1.26	-0.86	-0.73	0.28	0.30

275 SECTION
SCALE 1:100 A1
1:200 A3
D02
D04



DATUM R.L. 16.0												
ELEVATION (m)	18.41	17.80	17.63	17.28	16.78	16.76	17.60	17.86	18.38	18.49	18.56	18.57
OFFSET (m)	-7.00	-4.12	-3.35	-2.37	-1.00	0.00	1.87	2.88	5.79	6.39	9.78	10.33
FILL (m)	-0.18	-0.79	-0.86	-1.31	-1.80	-1.82	-0.98	-0.72	-0.19	-0.09	-0.03	-0.02

277 SECTION
SCALE 1:100 A1
1:200 A3
D02
D04



DATUM R.L. 16.0												
ELEVATION (m)	18.29	18.20	18.07	17.96	17.58	16.76	17.54	17.97	18.03	18.07	18.20	18.21
OFFSET (m)	-5.70	-5.27	-4.63	-4.10	-2.18	-1.00	1.93	5.96	6.26	6.88	12.34	12.21
FILL (m)	0.00	-0.08	-0.19	-0.29	-0.63	-1.45	-0.65	-0.20	-0.12	-0.06	0.02	0.13

280 SECTION
SCALE 1:100 A1
1:200 A3
D02
D04

NOTES

- Proposed in-stream features are not shown on these sections as locations are subject to change.

1	FOR CONSTRUCTION	19/12/2022
A	FOR PRICING	11/2022
ISSUE	AMENDMENTS	SIGNED DATE



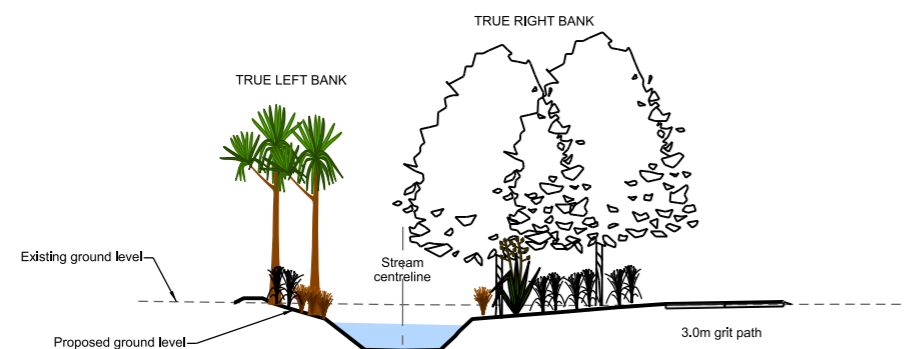
DATUM	C.D.D.	NAME	SIGNED	DATE	APPROVED	CONSULTANT
BENCH MK.		A SMITH	<i>[Signature]</i>	08/2022	FOR TENDER	
RL		M PENTECOST	<i>[Signature]</i>	12/2022	DATE	SIGNED
SURVEY		C JORDAAN	<i>[Signature]</i>	08/2022	Tender Data	
SURVEY LB		M DUGGAN	<i>[Signature]</i>	12/2022	FOR CONSTRUCTION	
FILE LOCATION					DATE	SIGNED
DRAIN REF.	16717	FILENAMES			CONSULTANT PROJECT REF.	CONSULTANT FILE REF.
SAP WBS	562/3873	PRINTED ON \$DATES BY \$USERNAMES		Consist Date		

**CASHMERE STREAM REALIGNMENT
STAGE 4**

CROSS SECTIONS 1

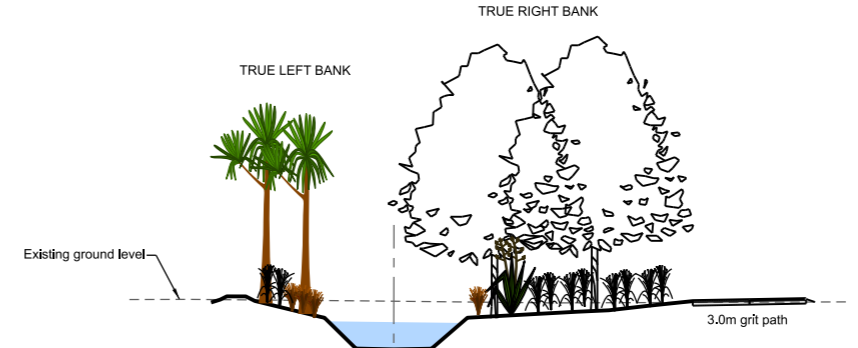
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CAD DRAWING FILE REF.	DD135002.DGN				
TSD PROJECT FILE NUMBER	CP503560	SHEET	D09	OF	21

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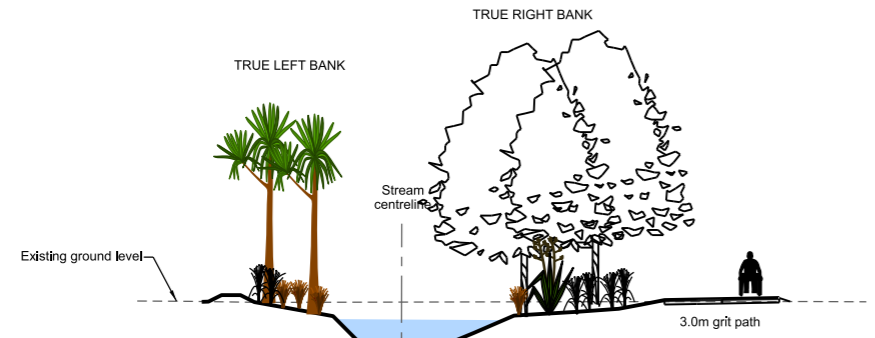
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OFFSET (m)	-1.47, -1.21, -3.71, -3.07, -2.06, -1.00, 0.00, 1.00, 1.84, 2.35, 4.17, 5.66, 6.97, 7.52, 8.53, 10.08
FILL (m)	0.00, 0.12, -0.12, -0.40, -1.21, -1.22, -1.19, -0.37, -0.33, -0.18, -0.06, 0.02, 0.03, 0.05, 0.07

282 SECTION
SCALE 1:100 A1
1:200 A3
D02
D06



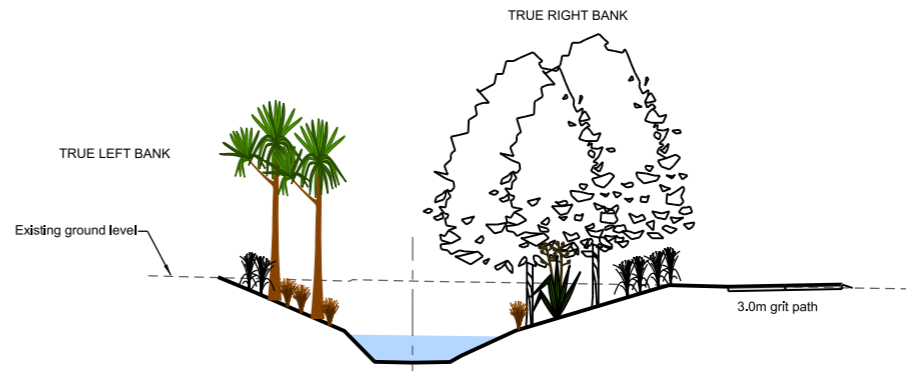
DATUM R.L. 16.0	
ELEVATION (m)	17.94, 18.10, 17.98, 17.22, 16.72, 16.71, 16.73, 17.55, 17.71, 17.75, 17.87, 18.00, 18.01, 18.03, 18.05, 18.06
OFFSET (m)	-4.84, -4.42, -3.68, -1.50, -1.00, 0.00, 1.00, 1.95, 4.86, 5.69, 6.75, 7.92, 8.47, 9.42, 10.34, 10.92
FILL (m)	-0.08, 0.09, -0.03, -0.78, -1.26, -1.27, -1.25, -0.42, -0.23, -0.20, -0.08, 0.04, 0.04, 0.06, 0.07, 0.08

284 SECTION
SCALE 1:100 A1
1:200 A3
D02
D06



DATUM R.L. 16.0	
ELEVATION (m)	17.92, 18.10, 17.92, 17.55, 16.73, 16.71, 16.73, 17.12, 17.57, 17.67, 17.76, 17.87, 17.99, 18.01, 18.02, 18.05
OFFSET (m)	-5.29, -4.52, -3.90, -1.82, -1.00, 0.00, 1.00, 1.92, 2.98, 4.61, 5.75, 6.34, 6.96, 7.82, 8.41, 9.77
FILL (m)	-0.03, 0.18, 0.01, -0.37, -1.19, -1.21, -1.20, -0.82, -0.36, -0.27, -0.19, -0.08, 0.04, 0.06, 0.07, 0.08

283 SECTION
SCALE 1:100 A1
1:200 A3
D02
D06



DATUM R.L. 16.0	
ELEVATION (m)	18.93, 18.55, 17.51, 16.69, 16.67, 16.69, 17.53, 18.66, 18.70, 18.73, 18.75, 18.77
OFFSET (m)	5.15, -4.22, -4.81, -1.00, 0.00, 1.00, 2.74, 6.51, 8.36, 9.86, 10.41, 11.37
FILL (m)	0.01, -0.34, -1.32, -2.16, -2.16, -2.12, -1.27, -0.08, -0.02, 0.04, 0.05, 0.09

285 SECTION
SCALE 1:100 A1
1:200 A3
D02
D07

NOTES

- Proposed in-stream features are not shown on these sections as locations are subject to change.

1	FOR CONSTRUCTION	19/12/2022
A	FOR PRICING	11/2022
ISSUE	AMENDMENTS	SIGNED DATE



DATUM	C.D.D.	NAME	SIGNED	DATE
BENCH MK.	DESIGNED	A SMITH	[Signature]	08/2022
RL	DES. REVIEW	M PENTECOST	[Signature]	12/2022
SURVEY	DRAWN	C JORDAAN	[Signature]	08/2022
SURVEY LB	DRW. CHECK	M DUGGAN	[Signature]	12/2022
DRAIN REF.	FILE NAMES			
SAP WBS	PRINTED ON \$DATES	BY \$USERNAMES	12/2022	

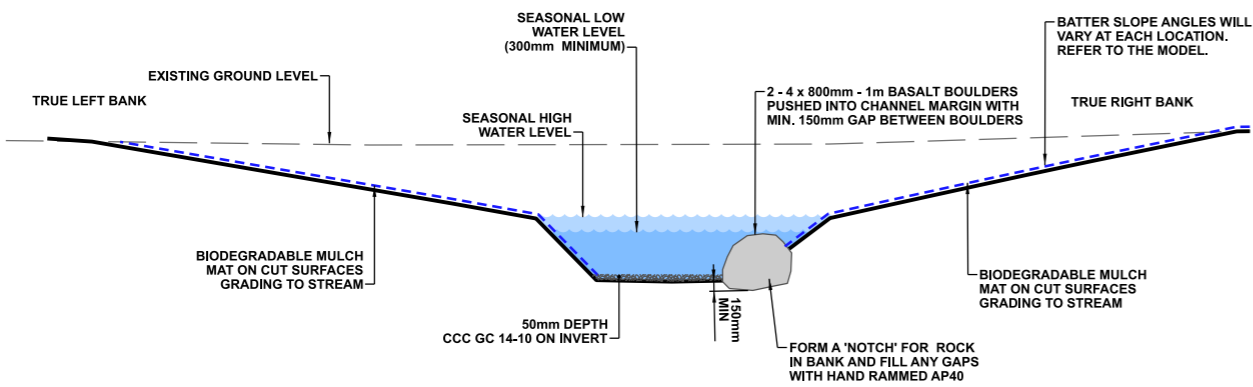
APPROVED		CONSULTANT
FOR TENDER		
DATE	SIGNED	
FOR CONSTRUCTION		
DATE	SIGNED	
CONSULTANT PROJECT REF.		CONSULTANT FILE REF.

PROJECT TITLE
**CASHMERE STREAM REALIGNMENT
STAGE 3**

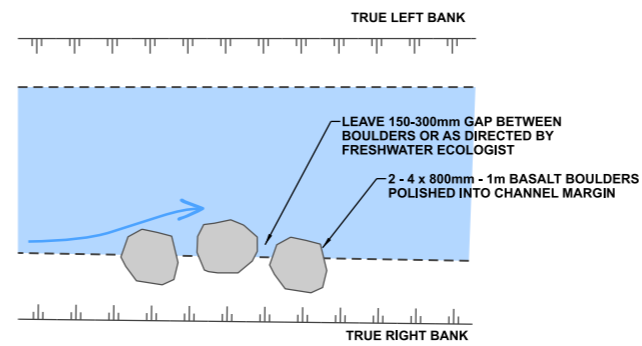
DRAWING TITLE
CROSS SECTIONS 2

DOCUMENT NUMBER	ORIGINAL SHEET SIZE	SCALES
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CAD DRAWING FILE REF.		
DD135002.DGN		
TSD PROJECT FILE NUMBER	SHEET	
CP503560	D10	OF 21

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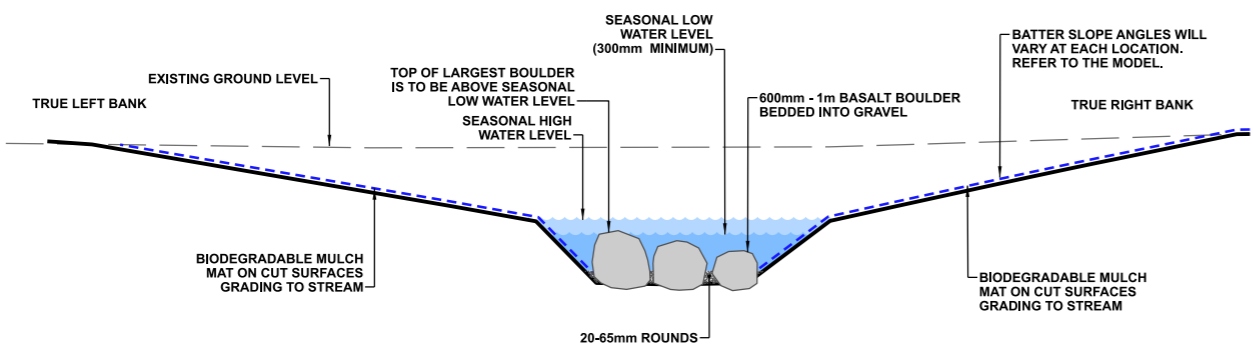
A TYPICAL DETAIL - ROCK EDGE
1:50 @ A1
1:100 @ A3



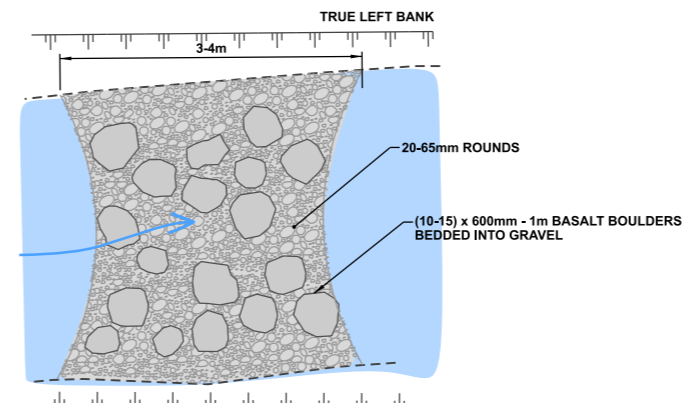
PLAN VIEW OF ROCK EDGE

DETAIL AIM:

- Spaces are left between the boulders to provide refuge for smaller aquatic species and access to soft substrate.
- Emergent boulders provide egg laying sites for insects.
- Provides flow variation in stream.
- Use in locations where there are bank stability concerns.



B TYPICAL DETAIL - RIFFLE
1:50 @ A1
1:100 @ A3



PLAN VIEW OF ROCK RIFFLE

DETAIL AIM:

- Gravels and boulders in the invert change the velocity of the stream flow providing habitat for aquatic species.
- The largest basalt boulders may be emergent to provide egg laying sites for insects.

NOTES

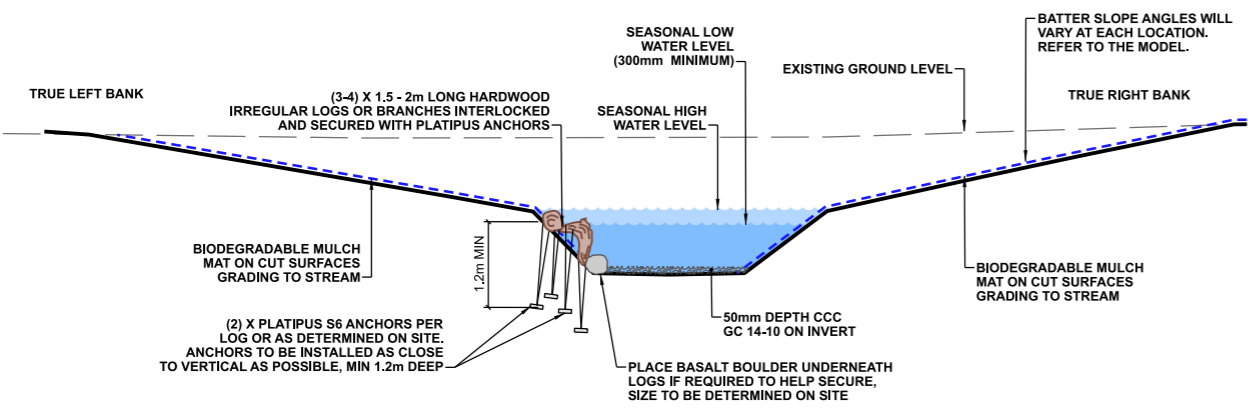
1. All work is to be undertaken in accordance with the contract document and specifications, the CSS and IDS unless specified otherwise.
2. No deviation is to be carried out until written instruction is received from the Engineer.
3. The Contractor is to check all services with the appropriate authorities prior to commencement of work.
4. Drawing is indicative only. Do not scale off drawing. All measurements to be confirmed on site prior to commencement of work.
5. Refer to sheet D02 for general notes.
6. The exact extent and location of these details is subject to on-site approval by the Engineer and Freshwater Ecologist, including detail type, placement of timber, basalt boulders and cobbles.
7. The Contractor is to ensure that all boulders and gravels are to be placed under the direction of CCC's Freshwater Ecologist, including gaps between boulders.
8. Exact numbers of boulders for each location to be determined on site.

1	FOR CONSTRUCTION	19/12/2022
A	FOR PRICING	11/2022
ISSUE	AMENDMENTS	SIGNED DATE

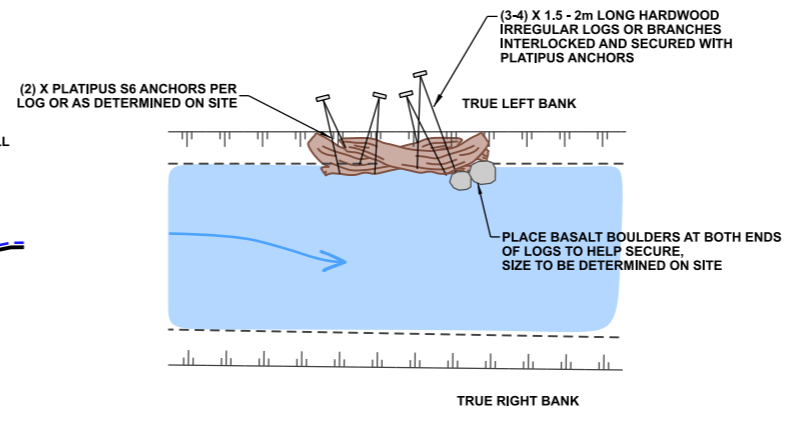
DATUM	C.D.D.	NAME	SIGNED	DATE
BENCH MK.		DESIGNED	A SMITH	08/2022
RL		DES. REVIEW	M PENTECOST	11/2022
SURVEY		DRAWN	C JORDAAN	08/2022
SURVEY LB		DRW. CHECK	M DUGGAN	11/2022
		FILE LOCATION		
DRAIN REF.	16717	FILE NAMES		
SAP WBS	562/3873	PRINTED ON \$DATES	BY \$USERNAMES	12/2022

APPROVED		CONSULTANT
FOR TENDER		
DATE	SIGNED	
Tender Data		
FOR CONSTRUCTION		
DATE	SIGNED	
CONSULTANT PROJECT REF.		CONSULTANT FILE REF.

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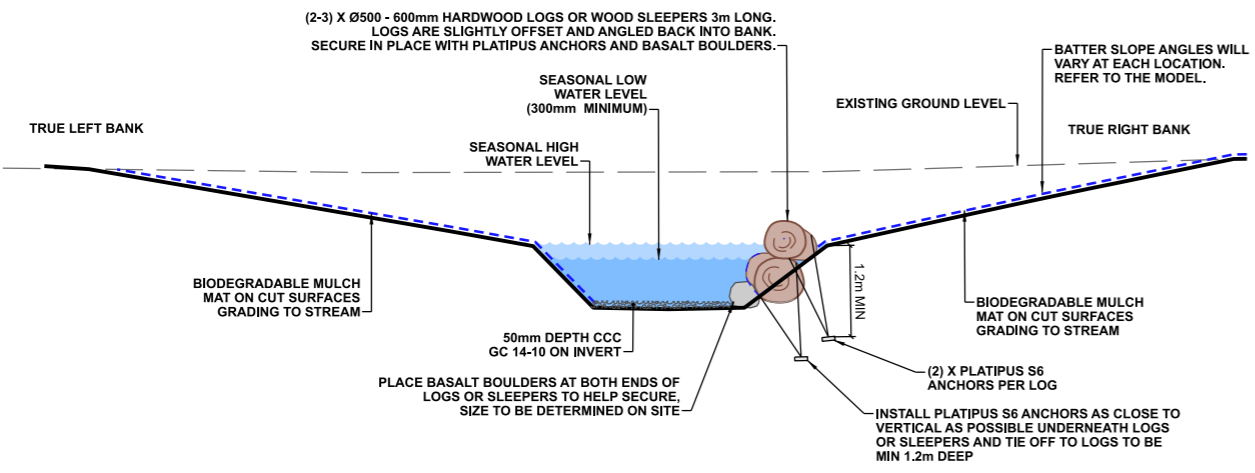
TYPICAL DETAIL - TIMBER EDGE
 1:50 @ A1
 1:100 @ A3



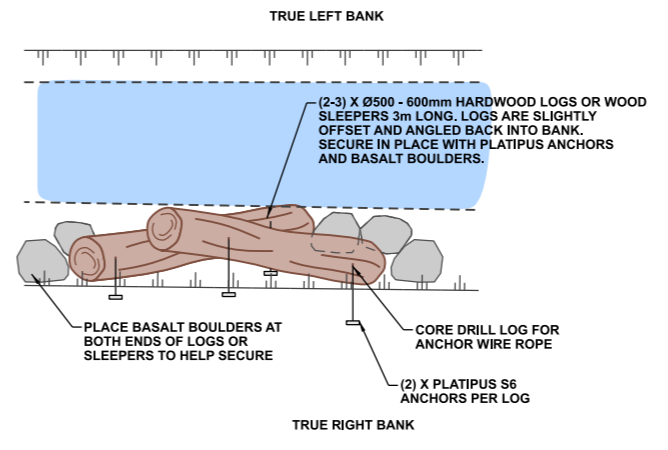
PLAN VIEW OF TIMBER EDGE

DETAIL AIM:

- Weathered hardwood timber (branches or irregular logs) are secured to bank to form an overhang and fish refuge.
- Timber is to be interlocked to secure and provide spaces for refuge and access to soft substrate of the bank.
- Provides flow variation in stream.
- Use in locations where there are bank stability concerns.



TYPICAL DETAIL - LOG EDGE
 1:50 @ A1
 1:100 @ A3



PLAN VIEW OF LOG EDGE

DETAIL AIM:

- Logs or sleepers are secured to bank to form an overhang and fish refuge.
- Timber to provide spaces for refuge and access to soft substrate of the bank.
- Use in locations where there are bank stability concerns.

NOTES

1. All work is to be undertaken in accordance with the contract document and specifications, the CSS and IDS unless specified otherwise.
2. No deviation is to be carried out until written instruction is received from the Engineer.
3. The Contractor is to check all services with the appropriate authorities prior to commencement of work.
4. Drawing is indicative only. Do not scale off drawing. All measurements to be confirmed on site prior to commencement of work.
5. Refer to sheet D02 for general notes.
6. The exact extent and location of these details is subject to on-site approval by the Engineer and Freshwater Ecologist, including detail type, placement of timber, basalt boulders and cobbles.
7. The Contractor is to ensure that all boulders and gravels are to be placed under the direction of CCC's Freshwater Ecologist.
8. Location and placement of timber and logs to be under the direction of the CCC's Freshwater Ecologist to ensure site specific outcome is achieved.
9. Platipus anchors are to be installed so there is no slack in the stainless steel wire around the timber.

1	FOR CONSTRUCTION	19/12/2022
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ISSUE	AMENDMENTS	SIGNED DATE

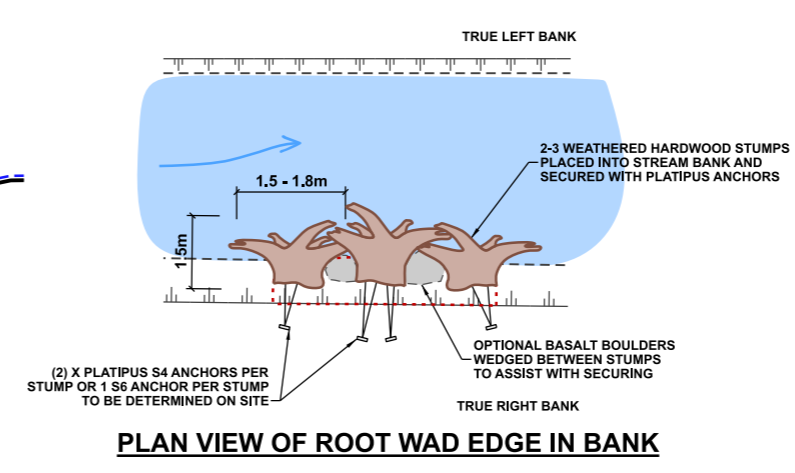
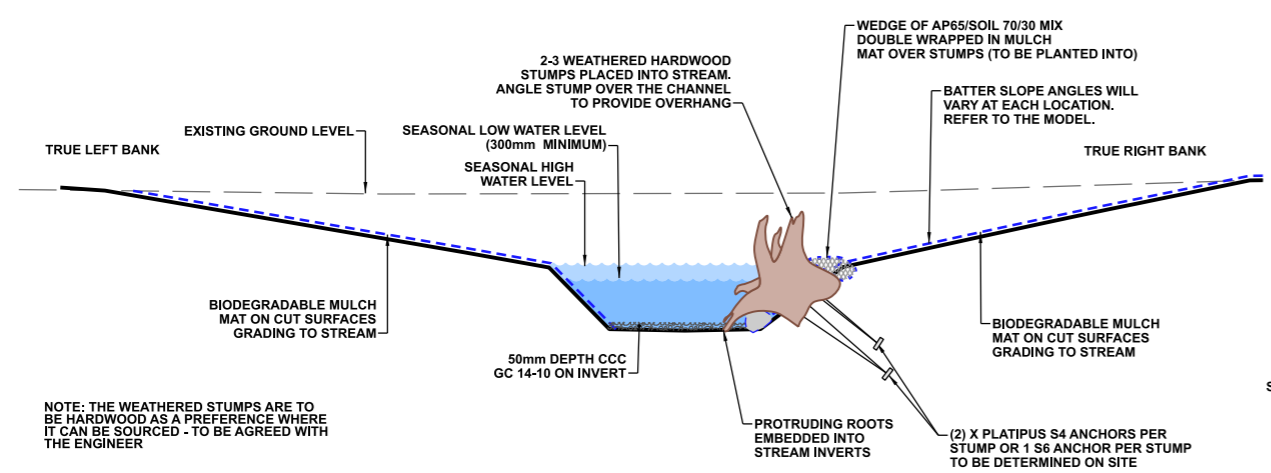
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BENCH MK.		DESIGNED	A SMITH	08/2022
RL		DES. REVIEW	M PENTECOST	12/2022
SURVEY		DRAWN	C JORDAAN	08/2022
SURVEY LB		DRW. CHECK	M DUGGAN	12/2022
		FILE LOCATION		
DRAIN. REF.	16717	FILENAMES		
SAP WBS	562/3873	PRINTED ON \$DATES	BY \$USERNAMES	12/2022

APPROVED		CONSULTANT
FOR TENDER		
DATE	SIGNED	
FOR CONSTRUCTION		
DATE	SIGNED	
CONSULTANT PROJECT REF.	CONSULTANT FILE REF.	

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NOTES

1. All work is to be undertaken in accordance with the contract document and specifications, the CSS and IDS unless specified otherwise.
2. No deviation is to be carried out until written instruction is received from the Engineer.
3. The Contractor is to check all services with the appropriate authorities prior to commencement of work.
4. Drawing is indicative only. Do not scale off drawing. All measurements to be confirmed on site prior to commencement of work.
5. Refer to sheet D02 for general notes.
6. The exact extent and location of these details is subject to on-site approval by the Engineer and Freshwater Ecologist, including detail type, placement of timber, basalt boulders and cobbles.
7. The Contractor is to ensure that all boulders and gravels are to be placed under the direction of CCC's Freshwater Ecologist.
8. Location and placement of the stumps and posts is to be under the direction of the CCC's Freshwater Ecologist to ensure site specific outcome is achieved.
9. Platipus anchors are to be installed so there is no slack in the stainless steel wire around the timber.

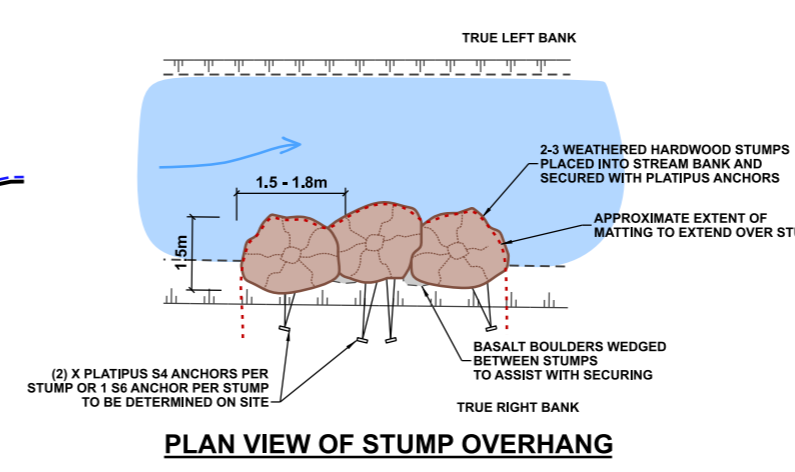
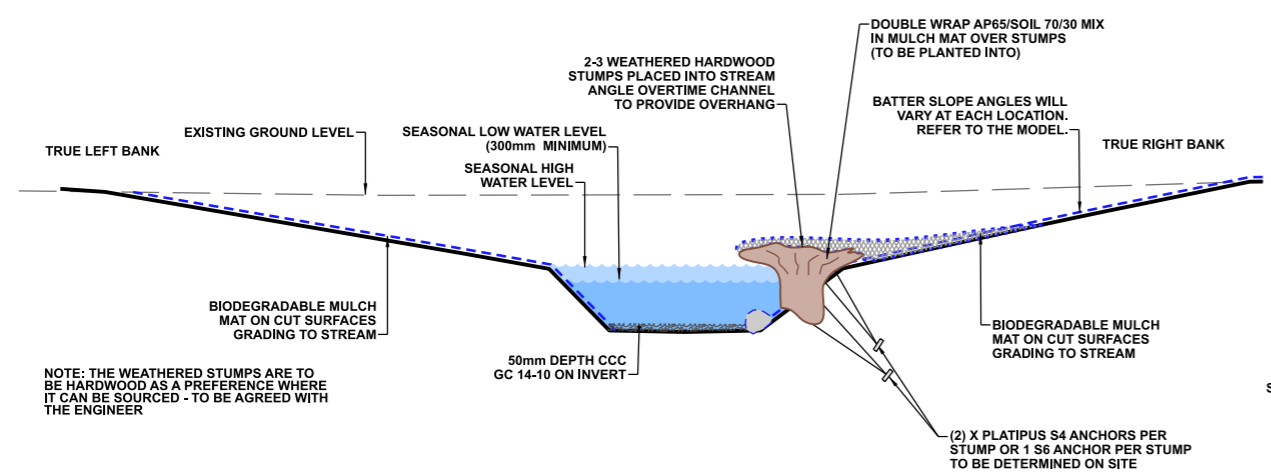


ⓔ TYPICAL DETAIL - ROOT WAD EDGE - OPTION 1: IN BANK

1:50 @ A1
1:100 @ A3

DETAIL AIM:

- A fish refuge is created by the tangled roots of weathered tree stumps firmly secured to the side of the bank.
- The root wad edge provides variable stream velocity and habitat for aquatic species.
- Use in locations where there are bank stability concerns.



ⓔ TYPICAL DETAIL - ROOT WAD EDGE - OPTION 2: STUMP OVERHANG

1:50 @ A1
1:100 @ A3

DETAIL AIM:

- A fish refuge is created by the tangled roots of weathered tree stumps firmly secured to the side of the bank.
- The root wad edge provides variable stream velocity and habitat for aquatic species.
- Use in locations where there are bank stability concerns.

1	FOR CONSTRUCTION	19/12/2022
A	FOR PRICING	11/2022
ISSUE	AMENDMENTS	SIGNED DATE

Christchurch City Council
TECHNICAL SERVICES & DESIGN

DATUM	C.D.D.	NAME	SIGNED	DATE
BENCH MK.		DESIGNED	A SMITH	08/2022
RL		DES. REVIEW	M PENTECOST	12/2022
SURVEY		DRAWN	C JORDAAN	08/2022
SURVEY LB		DRW. CHECK	M DUGGAN	12/2022
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DRAIN REF.	16717	FILENAMES		
SAP WBS	562/3873	PRINTED ON \$DATES	BY \$USERNAMES	12/2022

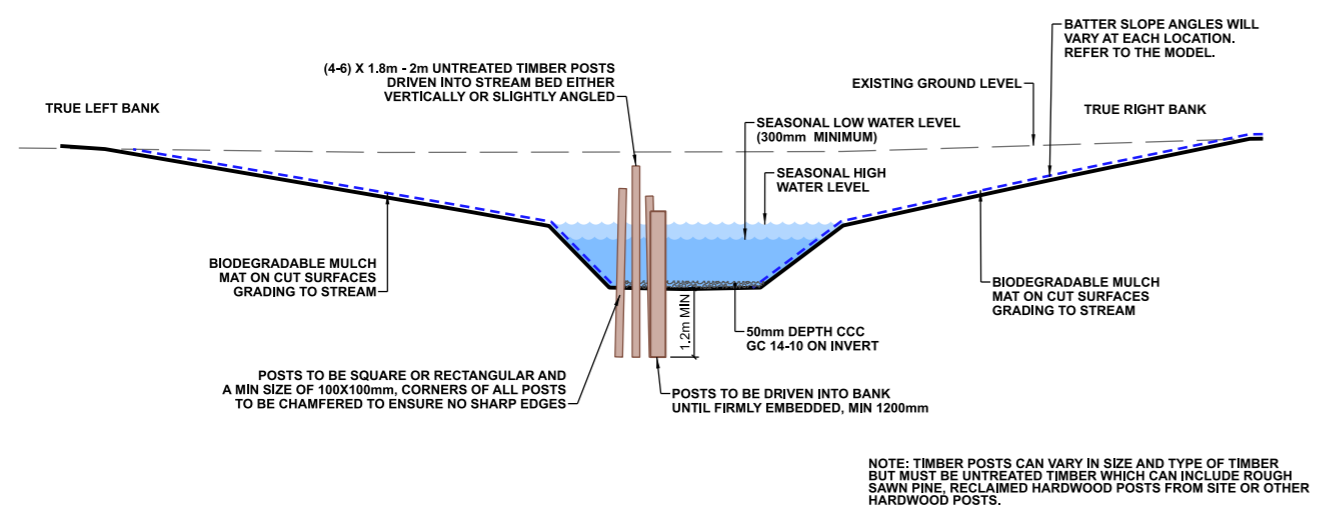
APPROVED		CONSULTANT
FOR TENDER		
DATE	SIGNED	
		Tender Data
FOR CONSTRUCTION		
DATE	SIGNED	
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		CONSULTANT FILE REF.

PROJECT TITLE
CASHMERE STREAM REALIGNMENT STAGE 4

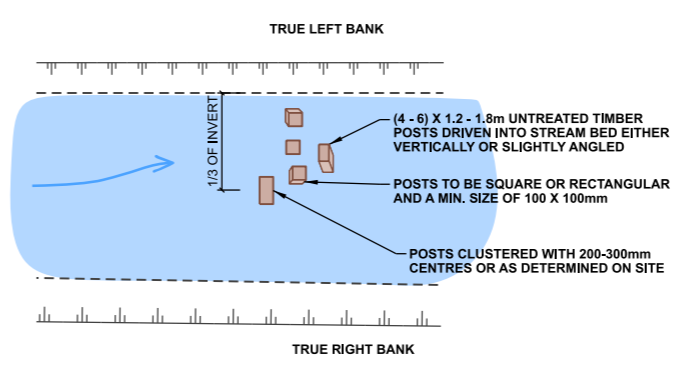
DRAWING TITLE
TYPICAL IN-STREAM FEATURES DETAIL E

DOCUMENT NUMBER	ORIGINAL SHEET SIZE	SCALES
TD	A1	AS SHOWN
CAD DRAWING FILE REF.		
DD135002.DGN		
TSD PROJECT FILE NUMBER	SHEET	
CP503560	D13	OF 21

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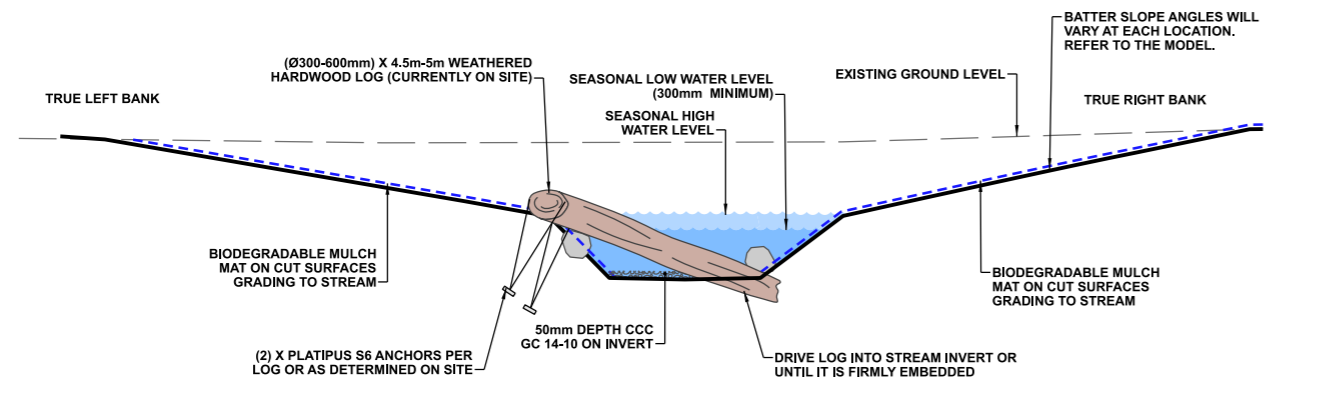
F TYPICAL DETAIL - POST SNAG
1:50 @ A1
1:100 @ A3



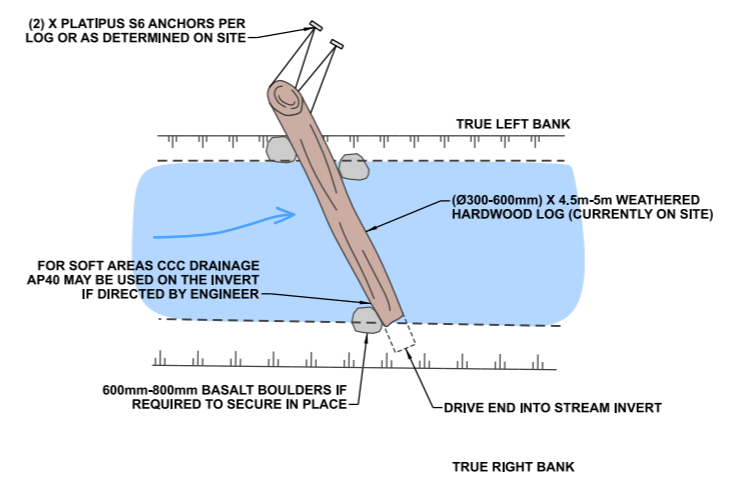
PLAN VIEW OF POST SNAG

DETAIL AIM

- Untreated timber posts are driven into the stream bed in a cluster to trap fine woody debris entering the stream.
- The woody debris snag provides variable stream velocity and habitat for aquatic species.
- Use in locations where there are bank stability concerns.



G TYPICAL DETAIL - LOG SNAG
1:50 @ A1
1:100 @ A3



PLAN VIEW OF ROOT WAD EDGE

DETAIL AIM:

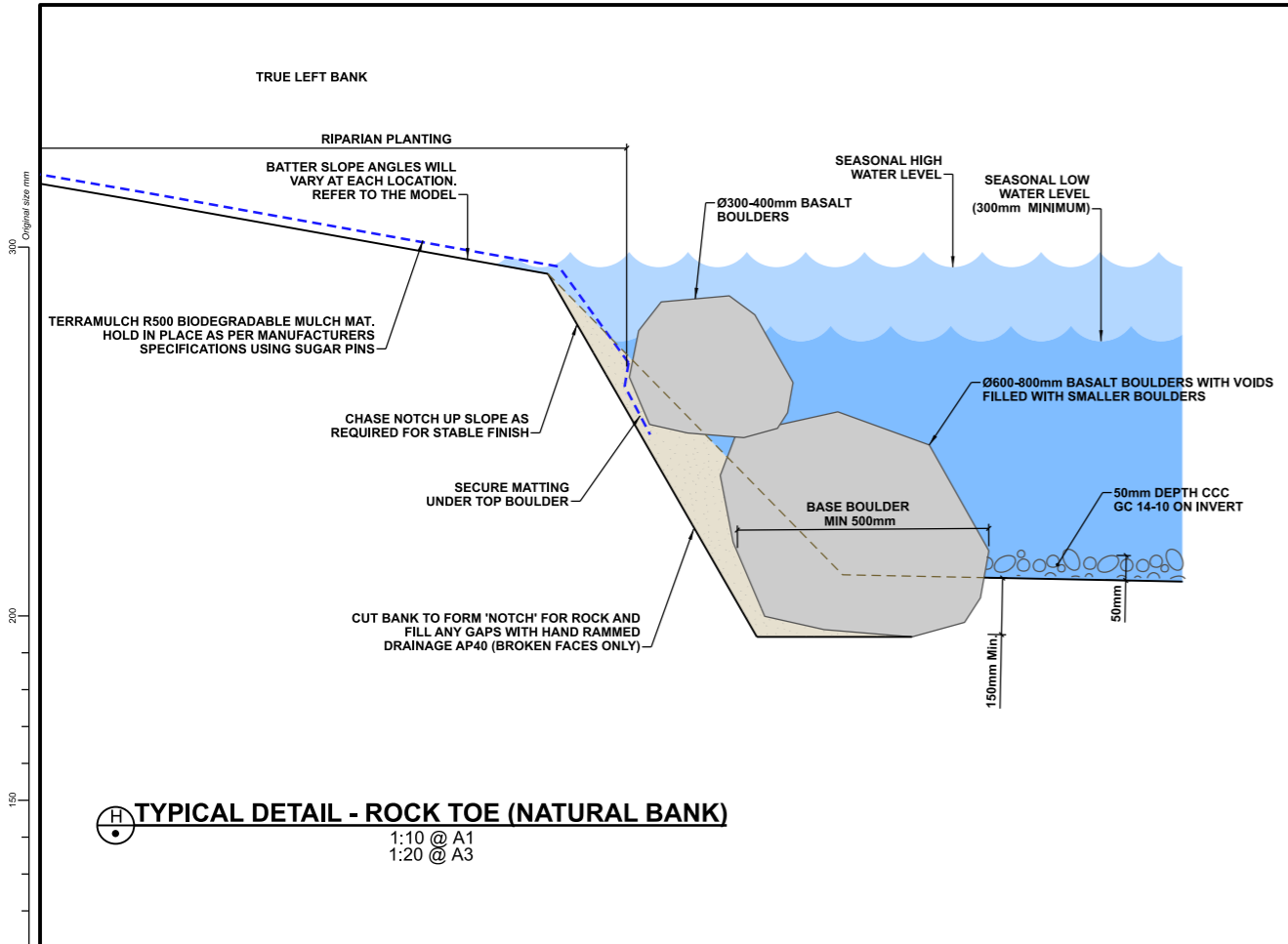
- A hardwood log is wedged across the stream profile providing an informal weir and fish refuge.
- The log provides variable stream velocity and habitat for aquatic species.
- Use in locations where there are bank stability concerns.

NOTES

1. All work is to be undertaken in accordance with the contract document and specifications, the CSS and IDS unless specified otherwise.
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3. The Contractor is to check all services with the appropriate authorities prior to commencement of work.
4. Drawing is indicative only. Do not scale off drawing. All measurements to be confirmed on site prior to commencement of work.
5. Refer to sheet D02 for general notes.
6. The exact extent and location of these details is subject to on-site approval by the Engineer and Freshwater Ecologist, including detail type, placement of timber, basalt boulders and cobbles.
7. The Contractor is to ensure that all boulders and gravels are to be placed under the direction of CCC's Freshwater Ecologist.
8. Location and placement of timber and logs is to be under the direction of the CCC's Freshwater Ecologist to ensure site specific outcome is achieved.
9. Platipus anchors are to be installed so there is no slack in the stainless steel wire around the timber.

1	FOR CONSTRUCTION	19/12/2022
A	FOR PRICING	11/2022
ISSUE	AMENDMENTS	SIGNED DATE

DATUM	C.D.D.	NAME	SIGNED	DATE	APPROVED	CONSULTANT
BENCH MK.		DESIGNED	A SMITH	08/2022	FOR TENDER	
RL		DES. REVIEW	M PENTECOST	12/2022	DATE	SIGNED
SURVEY		DRAWN	C JORDAAN	08/2022	Tender Date	
SURVEY LB		DRW. CHECK	M DUGGAN	12/2022	FOR CONSTRUCTION	
		FILE LOCATION			DATE	SIGNED
DRAIN. REF.	16717	FILENAME			CONSULTANT PROJECT REF.	CONSULTANT FILE REF.
SAP WBS	562/3873	PRINTED ON \$DATES	BY \$USERNAMES	Consist Date		



TYPICAL DETAIL - ROCK TOE (NATURAL BANK)
 1:10 @ A1
 1:20 @ A3

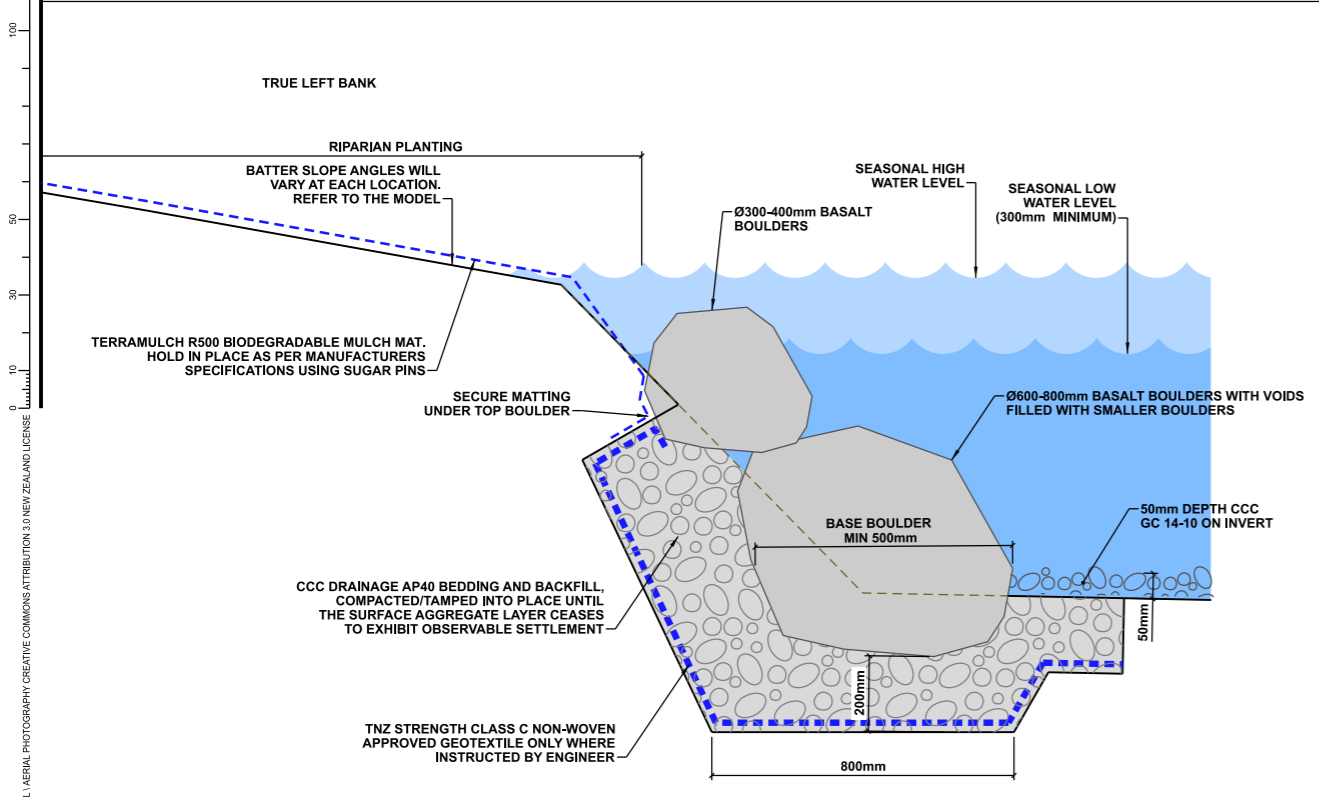
BANK STABILITY FEATURE

DETAIL AIM:

- For use where bank stability is required or is a concern.
- To provide scour protection at the bank margin.

NOTE:

- Detail to be used only when other features won't provide sufficient bank stability.
- Use to be only as directed or agreed with Engineer



TYPICAL DETAIL - ROCK TOE
 1:10 @ A1
 1:20 @ A3

BANK STABILITY FEATURE

DETAIL AIM:

- For use where bank stability is required or is a concern.
- To provide scour protection at the bank margin.

NOTE:

- Detail to be used only when other features won't provide sufficient bank stability.
- Use to be only as directed or agreed with Engineer

NOTES

- All work is to be undertaken in accordance with the contract document and specifications, the CSS and IDS unless specified otherwise.
- No deviation is to be carried out until written instruction is received from the Engineer.
- The Contractor is to check all services with the appropriate authorities prior to commencement of work.
- Drawing is indicative only. Do not scale off drawing. All measurements to be confirmed on site prior to commencement of work.
- Refer to sheet D02 for general notes.
- The exact extent and location of these details is subject to on-site approval by the Engineer and Freshwater Ecologist, including detail type, placement of basalt boulders.
- The Contractor is to ensure that all boulders and gravels are to be placed under the direction of CCC's Freshwater Ecologist, including gaps between boulders.
- Exact numbers of boulders for each location to be determined on site.

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Christchurch City Council
 TECHNICAL SERVICES & DESIGN

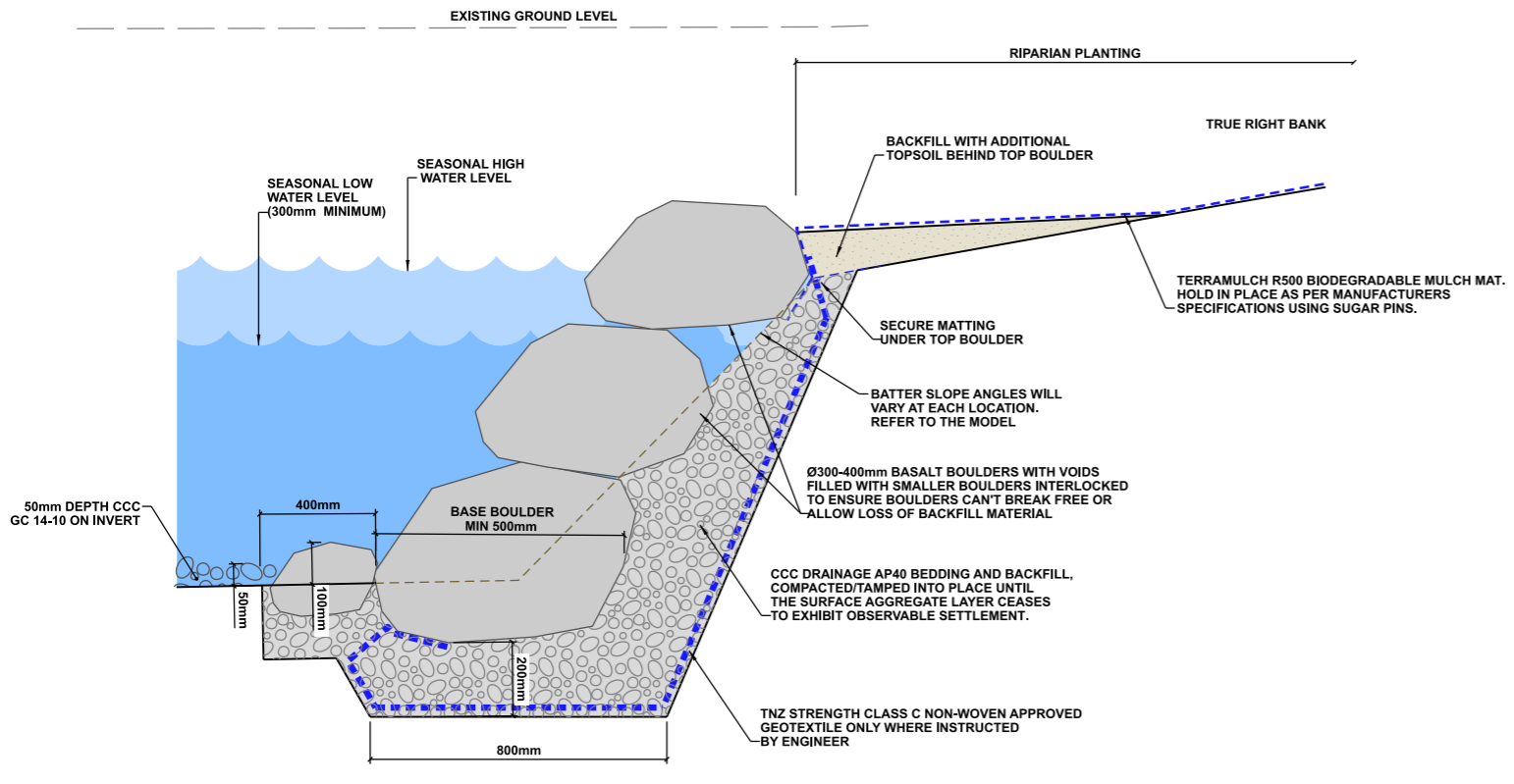
DATUM	C.D.D.	NAME	SIGNED	DATE	APPROVED		CONSULTANT
BENCH MK.		A SMITH	<i>[Signature]</i>	08/2022	FOR TENDER		
RL		M PENTECOST	<i>[Signature]</i>	11/2022	DATE	SIGNED	
SURVEY		C JORDAAN	<i>[Signature]</i>	08/2022	Tender Date		
SURVEY LB		M DUGGAN	<i>[Signature]</i>	11/2022	FOR CONSTRUCTION		
FILE LOCATION					DATE	SIGNED	
DRAIN. REF.	16717	FILENAME			CONSULTANT PROJECT REF.		CONSULTANT FILE REF.
SAP WBS	562/3873	PRINTED ON \$DATES	BY \$USERNAMES	Consist Date			

PROJECT TITLE
**CASHMERE STREAM REALIGNMENT
 STAGE 4**

DRAWING TITLE
**TYPICAL BANK
 AND INVERT DETAILS:
 DETAILS H-I**

DOCUMENT NUMBER	TD	ORIGINAL SHEET SIZE	AS SHOWN
CAD DRAWING FILE REF.	DD135002.DGN	A1	
TSD PROJECT FILE NUMBER	CP503560	SHEET	D15 OF 21

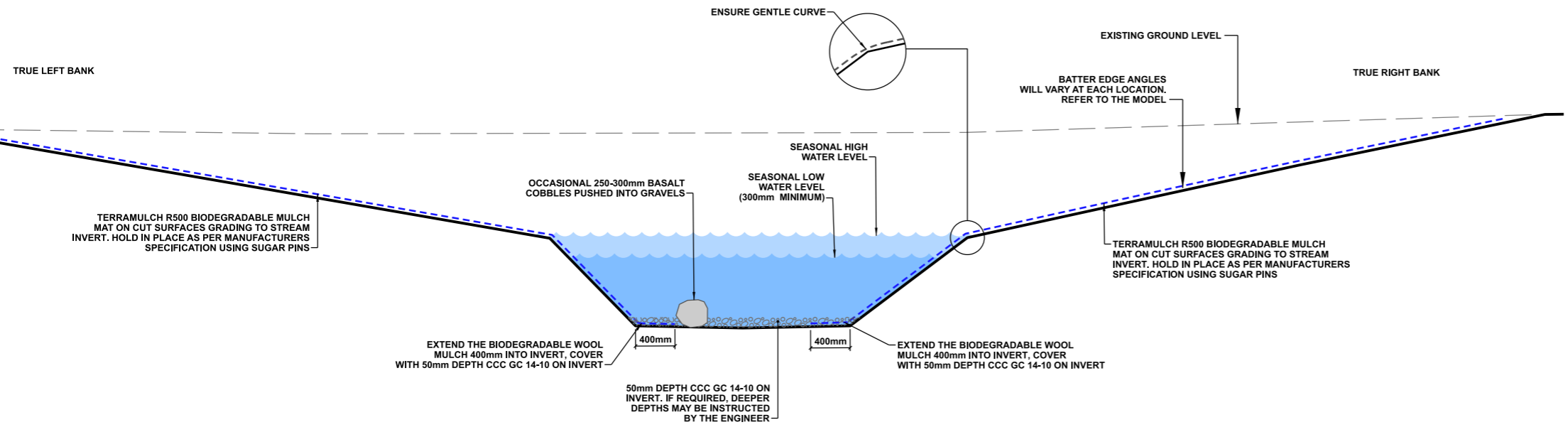
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TYPICAL DETAIL - ROCK EDGE
 1:10 @ A1
 1:20 @ A3

BANK STABILITY FEATURE

- DETAIL AIM:**
- For use where bank stability is required or is a concern.
 - To provide scour protection at the bank margin.
- NOTE:**
- Detail to be used only when other features won't provide sufficient bank stability.
 - Use to be only as directed or agreed with Engineer



TYPICAL DETAIL - SLOPE AND INVERT DETAIL
 1:25 @ A1
 1:50 @ A3

- DETAIL AIM:**
- Retain soft bottom with no matting. CCC CG 14-10 to reduce sediment discharge from the substrate until it settles into a steady state.

NOTES

1. All work is to be undertaken in accordance with the contract document and specifications, the CSS and IDS unless specified otherwise.
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3. The Contractor is to check all services with the appropriate authorities prior to commencement of work.
4. Drawing is indicative only. Do not scale off drawing. All measurements to be confirmed on site prior to commencement of work.
5. Refer to sheet D02 for general notes.
6. The exact extent and location of these details is subject to on-site approval by the Engineer and Freshwater Ecologist, including detail type, placement of basalt boulders.
7. The Contractor is to ensure that all boulders and gravels are to be placed under the direction of CCC's Freshwater Ecologist, including gaps between boulders.
8. Exact numbers of boulders for each location to be determined on site.

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DATUM	C.D.D.	NAME	SIGNED	DATE
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SURVEY LB	DRW. CHECK	M DUGGAN	<i>[Signature]</i>	12/2022
DRAIN. REF.	16717	FILENAMES		
SAP WBS	562/3873	PRINTED ON \$DATES	BY \$USERNAMES	12/2022

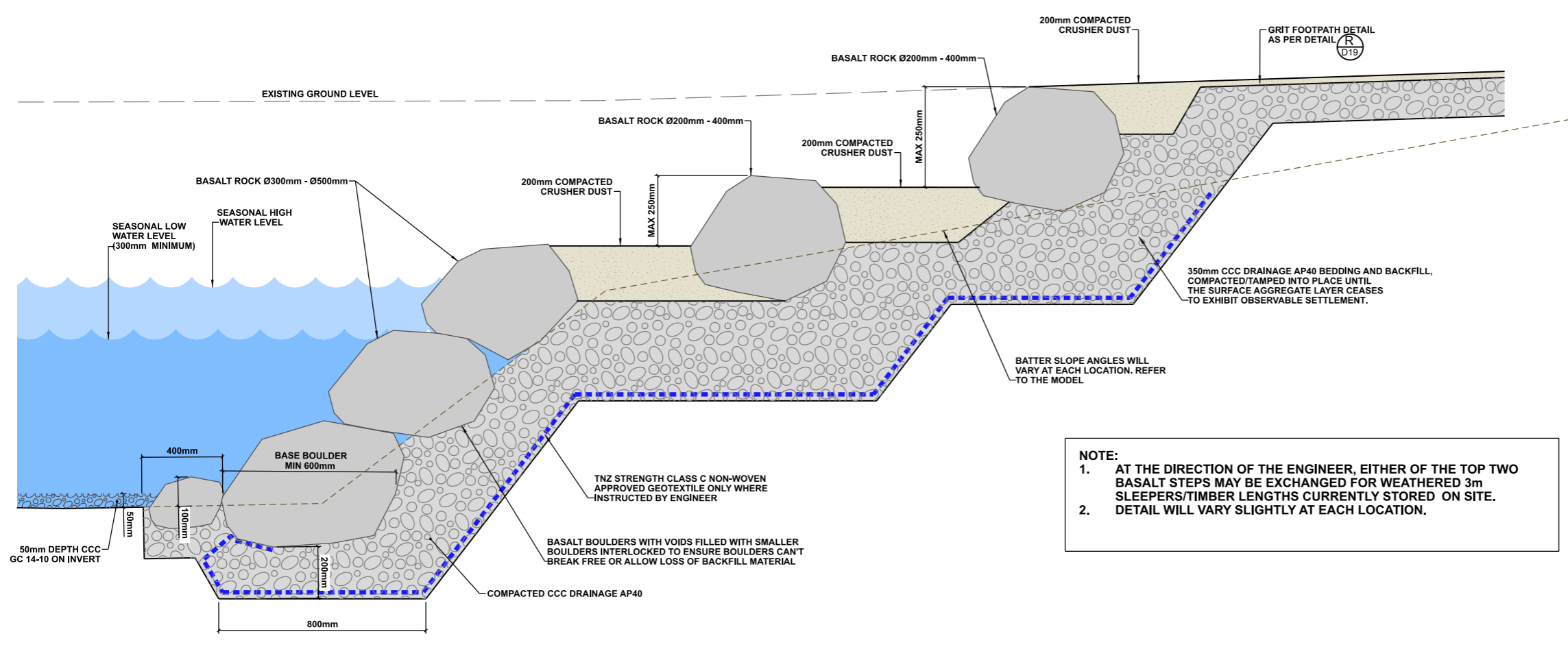
APPROVED		CONSULTANT
FOR TENDER		
DATE	SIGNED	
FOR CONSTRUCTION		
DATE	SIGNED	
CONSULTANT PROJECT REF.	CONSULTANT FILE REF.	

PROJECT TITLE
CASHMERE STREAM REALIGNMENT STAGE 4

DRAWING TITLE
TYPICAL BANK AND INVERT DETAILS: DETAILS J-K

DOCUMENT NUMBER	ORIGINAL SHEET SIZE	SCALES
TD	A1	AS SHOWN
CAD DRAWING FILE REF.		
DD135002.DGN		
TSD PROJECT FILE NUMBER	SHEET	
CP503560	D16	OF 21

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NOTE:
 1. AT THE DIRECTION OF THE ENGINEER, EITHER OF THE TOP TWO BASALT STEPS MAY BE EXCHANGED FOR WEATHERED 3m SLEEPERS/TIMBER LENGTHS CURRENTLY STORED ON SITE.
 2. DETAIL WILL VARY SLIGHTLY AT EACH LOCATION.

- NOTES**
- All work is to be undertaken in accordance with the contract document and specifications, the CSS and IDS unless specified otherwise.
 - No deviation is to be carried out until written instruction is received from the Engineer.
 - The Contractor is to check all services with the appropriate authorities prior to commencement of work.
 - Drawing is indicative only. Do not scale off drawing. All measurements to be confirmed on site prior to commencement of work.
 - Refer to sheet D02 for general notes.
 - The exact extent and location of these details is subject to on-site approval by the Engineer and Freshwater Ecologist, including detail type, placement of basalt boulders.
 - The Contractor is to ensure that all boulders and gravels are to be placed under the direction of CCC's Freshwater Ecologist, including gaps between boulders.
 - Exact numbers of boulders for each location to be determined on site.

TYPICAL DETAIL - BASALT ROCK STEPS
 1:10 @ A1
 1:20 @ A3

DETAIL AIM:

- For use where pedestrian access to the stream is to be provided, and bank stability is required.

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DRIN. REF.	16717	FILENAMES		
SAP WBS	562/3873	PRINTED ON \$DATES	BY \$USERNAMES	12/2022

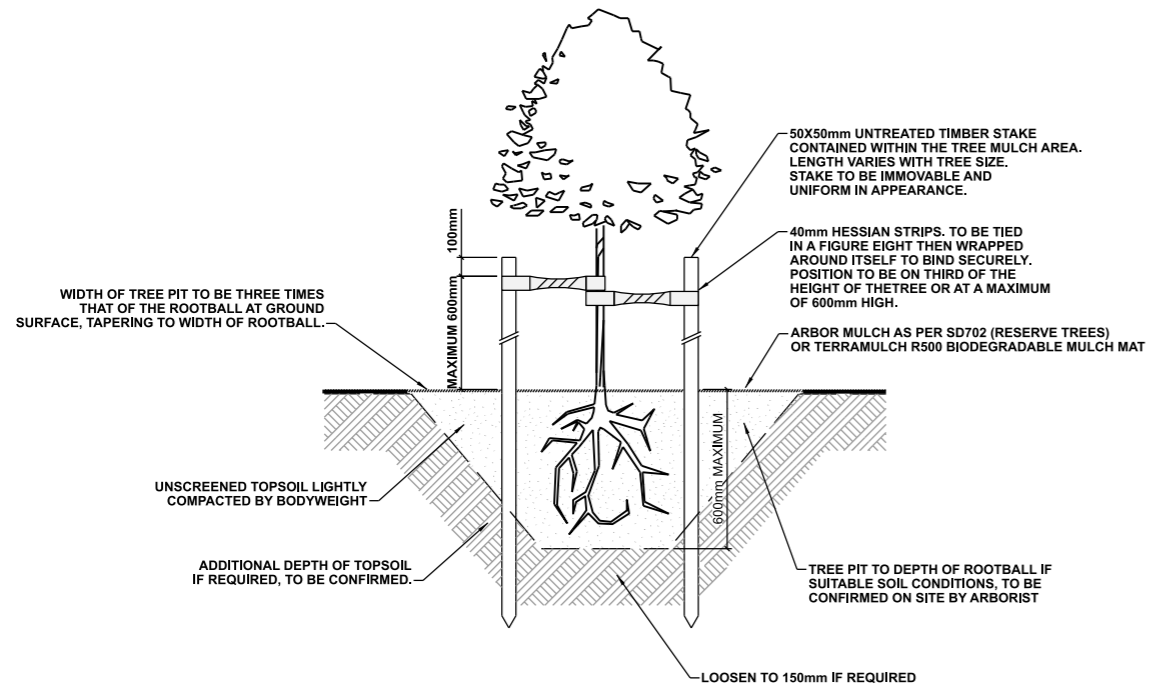
APPROVED		CONSULTANT
FOR TENDER		
DATE	SIGNED	
FOR CONSTRUCTION		
DATE	SIGNED	
CONSULTANT PROJECT REF.	CONSULTANT FILE REF.	

PROJECT TITLE
**CASHMERE STREAM REALIGNMENT
 STAGE 4**

DRAWING TITLE
**TYPICAL DETAILS:
 DETAIL L**

DOCUMENT NUMBER	ORIGINAL SHEET SIZE	SCALES
TD	A1	AS SHOWN
CAD DRAWING FILE REF.		
DD135002.DGN		
TSD PROJECT FILE NUMBER	SHEET	
CP503560	D17	OF 21

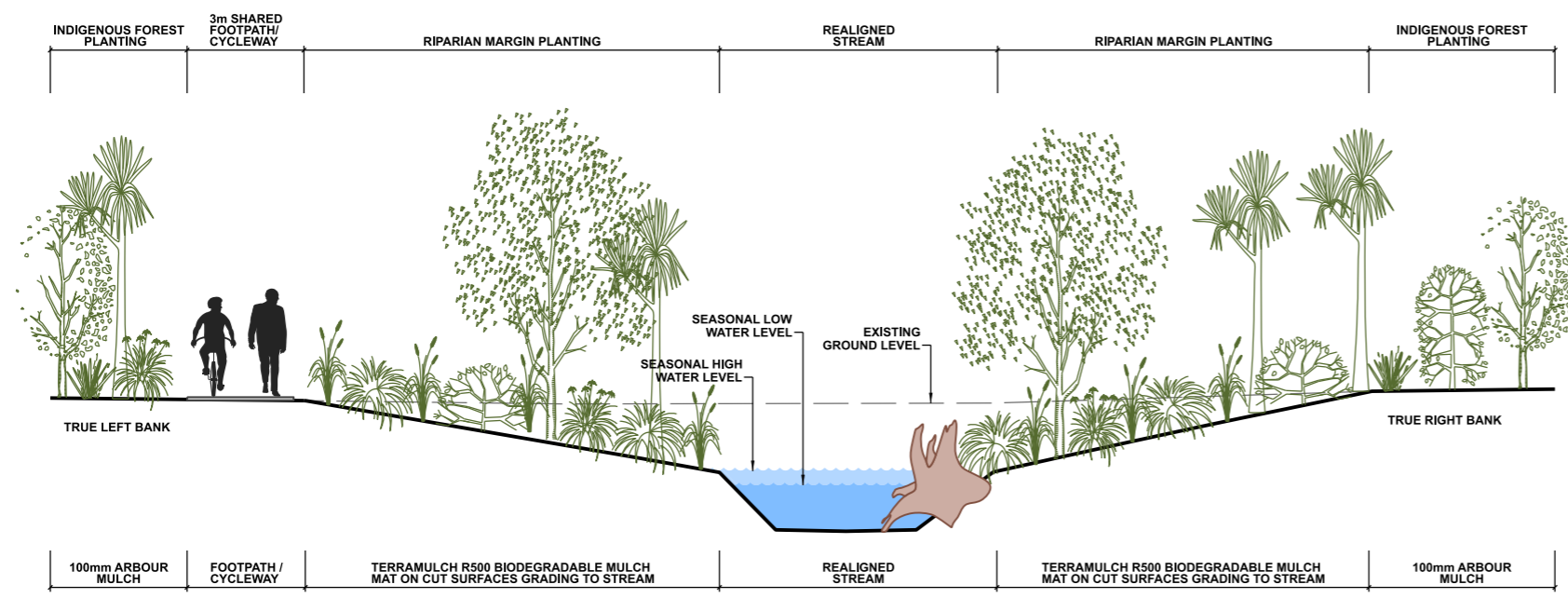
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NOTE:
1. TREE PIT LOCATIONS TO BE CONFIRMED ON SITE BY ARBORIST PRIOR TO PLANTING.

M TYPICAL DETAIL - TREE PIT
1:20 @ A1
1:40 @ A3

- NOTES**
1. All work is to be undertaken in accordance with the contract document and specifications, the CSS and IDS unless specified otherwise.
 2. No deviation is to be carried out until written instruction is received from the Engineer.
 3. The Contractor is to check all services with the appropriate authorities prior to commencement of work.
 4. Drawing is indicative only. Do not scale off drawing. All measurements to be confirmed on site prior to commencement of work.
 5. Refer to sheet D02 for general notes.
 6. Refer to sheets L01-L05 for planting plans.



N TYPICAL DETAIL - PLANTING CROSS-SECTION
1:50 @ A1
1:100 @ A3

1	FOR CONSTRUCTION	19/12/2022
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ISSUE	AMENDMENTS	SIGNED DATE

Christchurch City Council
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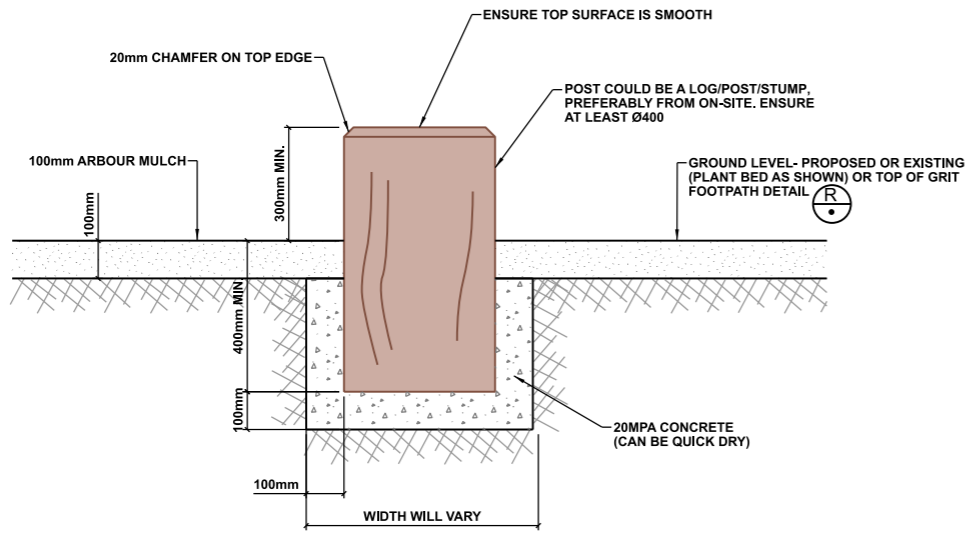
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BENCH MK.		A SMITH	<i>[Signature]</i>	08/2022
RL		M PENTECOST	<i>[Signature]</i>	12/2022
SURVEY		C JORDAAN	<i>[Signature]</i>	08/2022
SURVEY LB		M DUGGAN	<i>[Signature]</i>	12/2022
DRAIN, REF.	16717	FILE NAMES		
SAP WBS	562/3873	PRINTED ON \$DATES BY \$USERNAMES		12/2022

APPROVED		CONSULTANT
FOR TENDER	DATE SIGNED	
FOR CONSTRUCTION	DATE SIGNED	
CONSULTANT PROJECT REF.	CONSULTANT FILE REF.	

PROJECT TITLE: **CASHMERE STREAM REALIGNMENT STAGE 4**

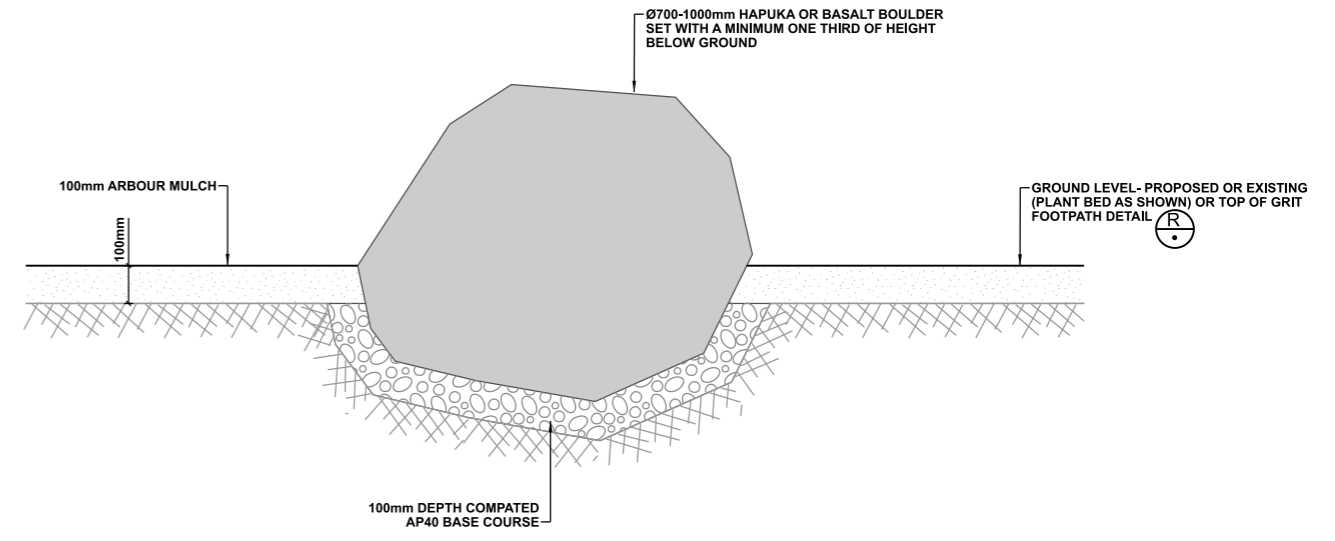
DRAWING TITLE: **TYPICAL DETAILS: DETAILS M-N**

DOCUMENT NUMBER	ORIGINAL SHEET SIZE	SCALES
TD	A1	AS SHOWN
CAD DRAWING FILE REF.		
DD135002.DGN		
TSD PROJECT FILE NUMBER	SHEET	
CP503560	D18	OF 21



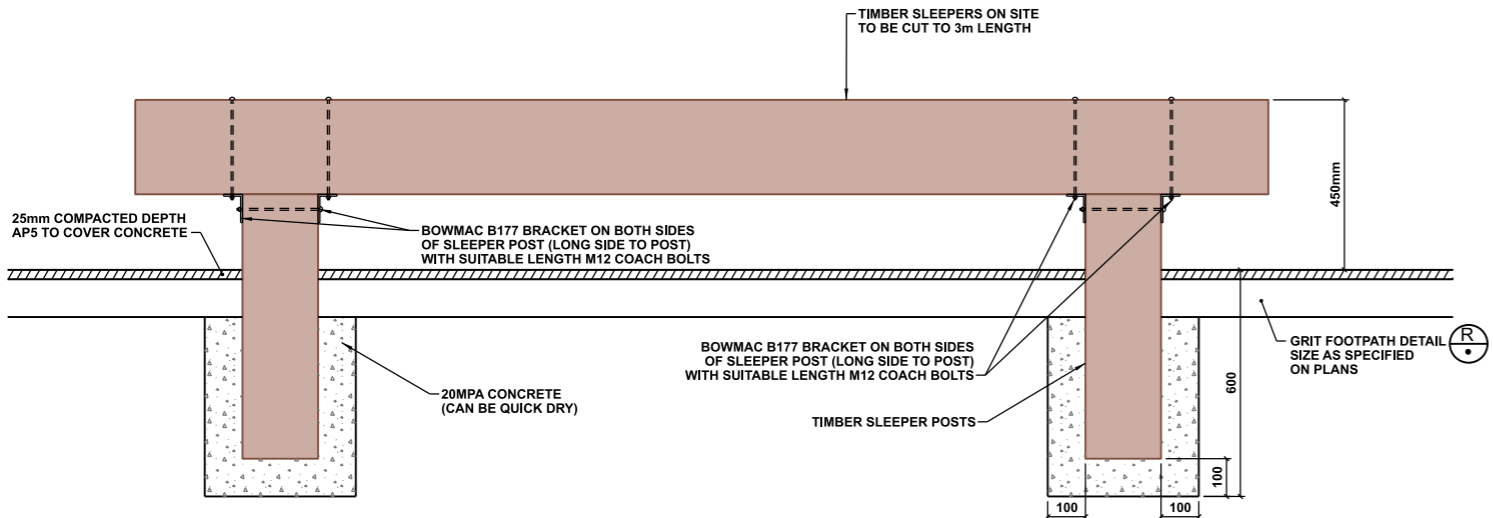
TYPICAL DETAIL - POST IN PLANT BED (INFORMAL SEAT)

D04, D05, D20
 1:10 @ A1
 1:20 @ A3

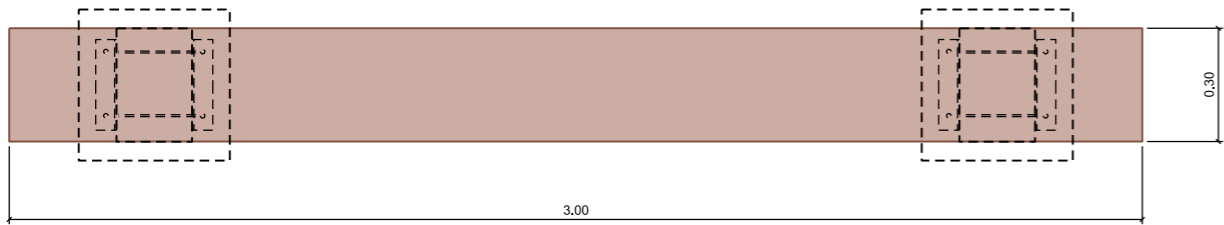


TYPICAL DETAIL - ROCK IN PLANT BED (INFORMAL SEAT)

D04, D05, D20
 1:10 @ A1
 1:20 @ A3



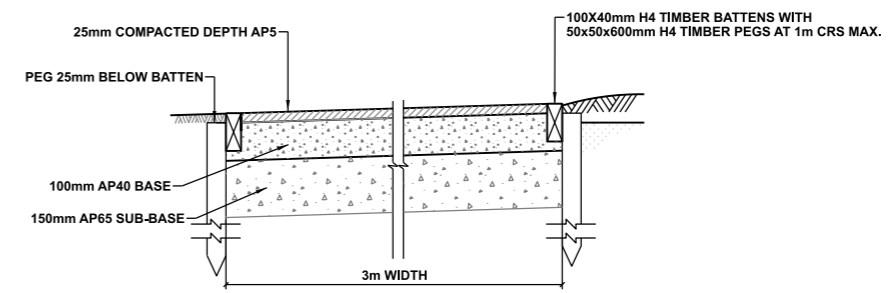
ELEVATION



PLAN

SLEEPER SEATS DETAIL

D19
 1:10 @ A1
 1:20 @ A3



TYPICAL DETAIL - 3m WIDE GRIT FOOTPATH

D20
 1:10 @ A1
 1:20 @ A3

NOTES

1. All work is to be undertaken in accordance with the contract document and specifications, the CSS and IDS unless specified otherwise.
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3. The Contractor is to check all services with the appropriate authorities prior to commencement of work.
4. Drawing is indicative only. Do not scale off drawing. All measurements to be confirmed on site prior to commencement of work.
5. Refer to sheet D02 for general notes.

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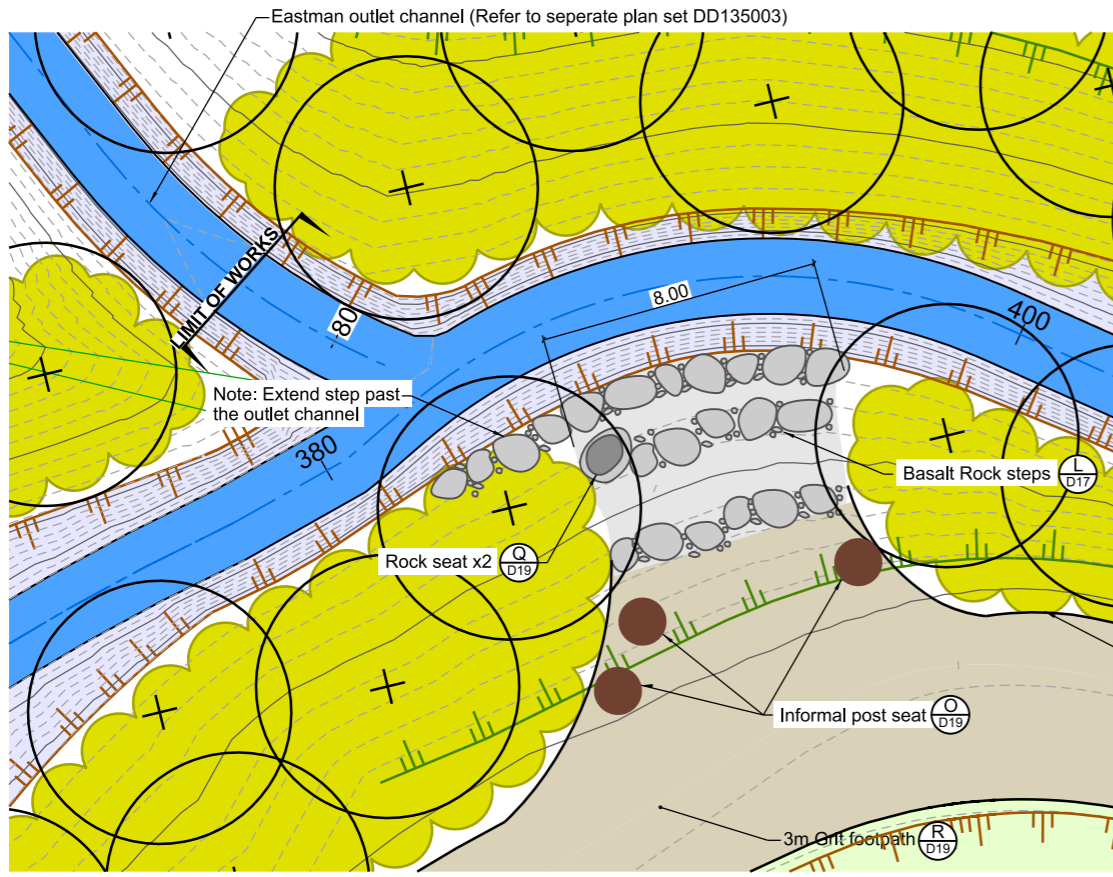
DATUM	C.D.D.	NAME	SIGNED	DATE
BENCH MK.	DESIGNED	A SMITH	[Signature]	08/2022
RL	DES. REVIEW	M PENTECOST	[Signature]	12/2022
SURVEY	DRAWN	C JORDAAN	[Signature]	08/2022
SURVEY LB	DRW. CHECK	M DUGGAN	[Signature]	12/2022
	FILE LOCATION			
DRAIN. REF.	16717	FILENAMES		
SAP WBS	562/3873	PRINTED ON \$DATES	BY \$USERNAMES	12/2022

CASHMERE STREAM REALIGNMENT STAGE 4

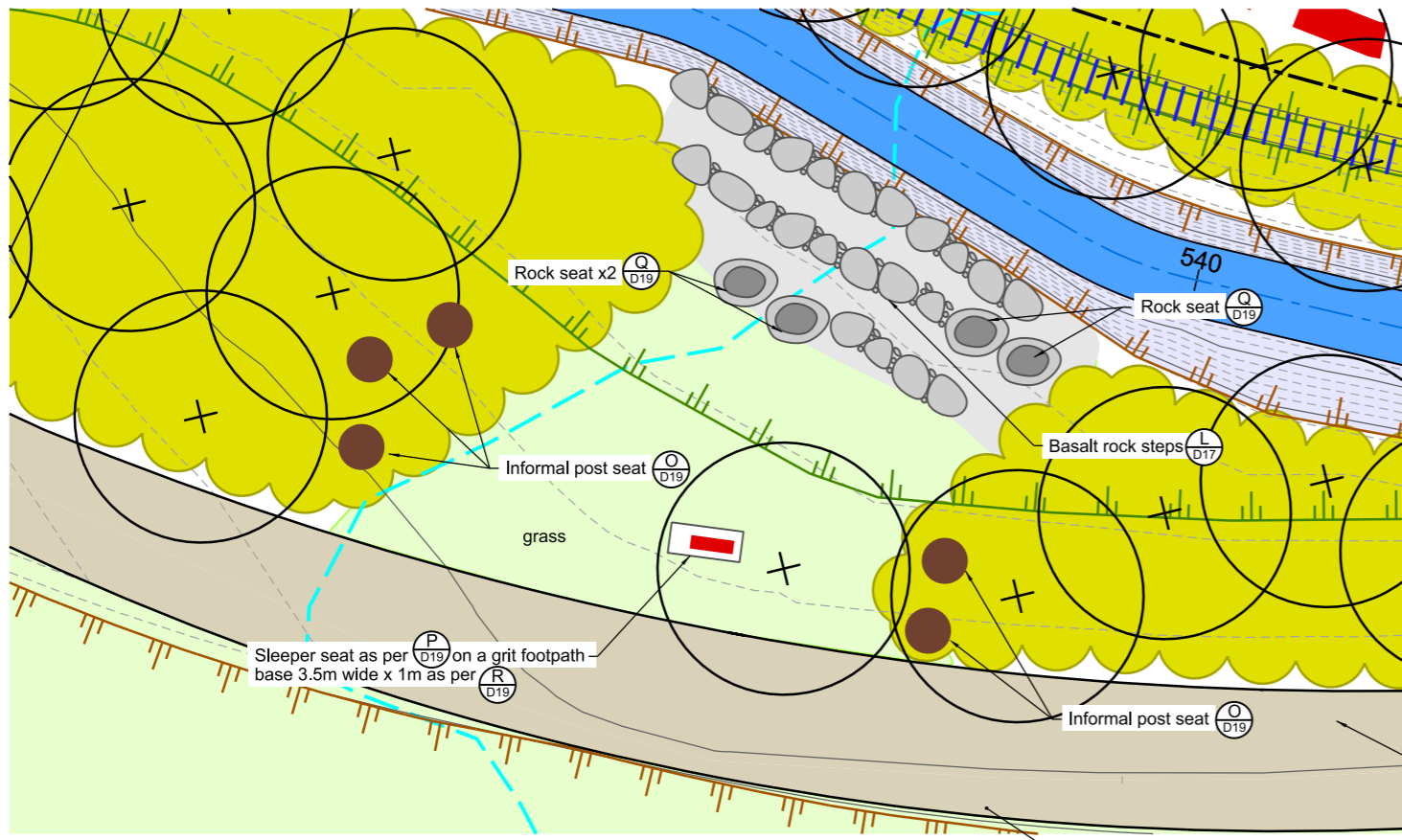
TYPICAL DETAILS: DETAILS O-R

DOCUMENT NUMBER	TD	ORIGINAL SHEET SIZE	A1	SCALES	AS SHOWN
CAD DRAWING FILE REF.	DD135002.DGN				
TSD PROJECT FILE NUMBER	CP503560	SHEET	D19	OF	21

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5 PLAN
SCALE 1:100 A1
1:200 A3



6 PLAN
SCALE 1:100 A1
1:200 A3

NOTES

1. All work to be undertaken in accordance with the Contract Document and Specifications, the CSS and IDS unless specified otherwise.
2. No deviation is to be carried out until written instruction is received from the Engineer.
3. The Contractor is to check all services with the appropriate authorities prior to the commencement of work.
4. Drawing is indicative only. Do not scale off drawing. All measurements to be confirmed on site prior to the commencement of work.
5. Refer to Sheet D02 for General Notes.
6. Location of all informal seats to be confirmed on site with the Engineer and Landscape Architect.

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SURVEY LB		DRW. CHECK	M DUGGAN	12/2022
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SAP WBS	562/3873	PRINTED ON	DATES	BY
			12/2022	

APPROVED FOR TENDER		DATE	SIGNED
DATE		SIGNED	
Tender Date			
FOR CONSTRUCTION		DATE	SIGNED
DATE		SIGNED	
CONSULTANT PROJECT REF.		CONSULTANT FILE REF.	

PROJECT TITLE
CASHMERE STREAM REALIGNMENT STAGE 4

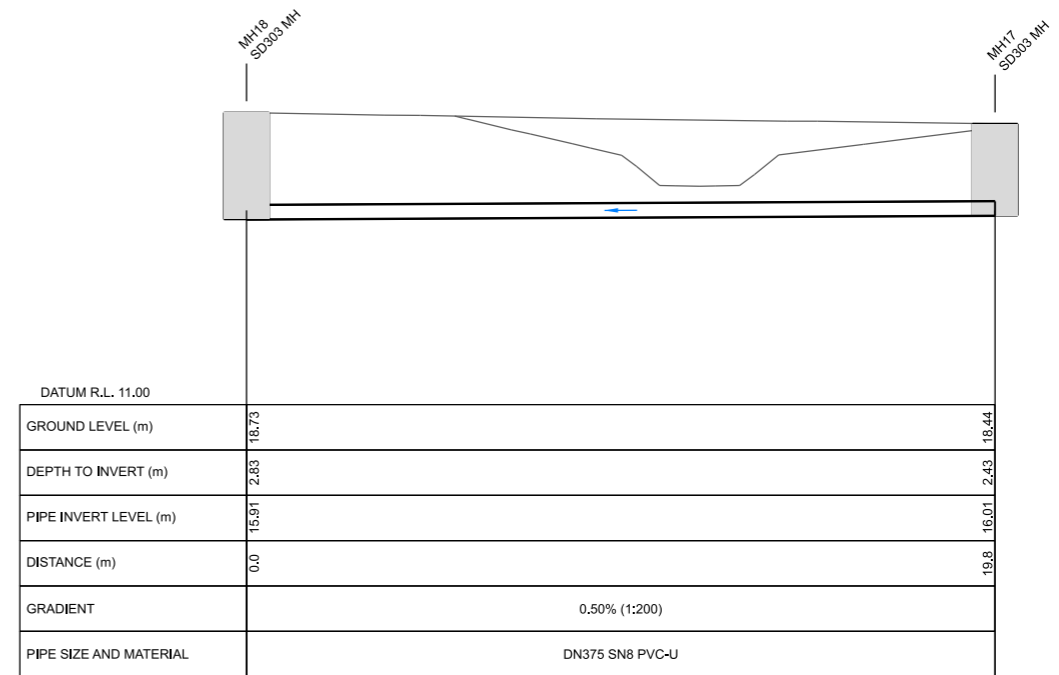
DRAWING TITLE
DETAILS 5 & 6

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TSD PROJECT FILE NUMBER	CP503560	SHEET	D20	OF	21

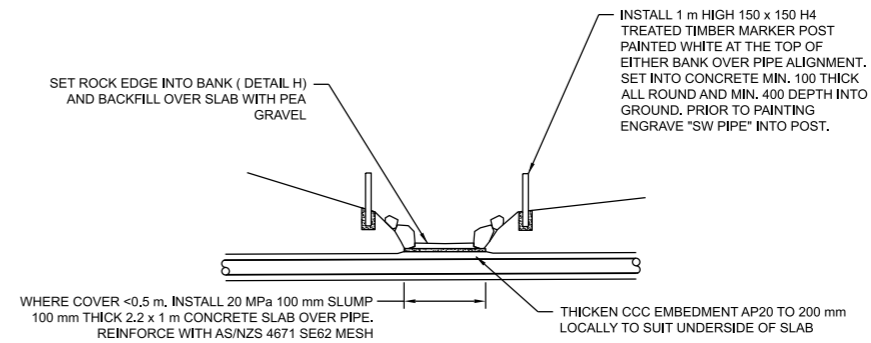
0 10 30 50 100 150 200 300 Original size mm

PIPE STRUCTURES			
ID	TYPE	DETAILS	CO-ORD (CENTROID)
MH16	SD303 MH	CL = 16.732 SW01.09 INV IN = 15.907	E: 389140.17 N: 800971.59
MH17	SD303 MH	CL = 16.439 SW01.09 INV OUT = 16.007	E: 389159.34 N: 800966.58
MH20	NULL STRUCTURE	CL = 17.916	E: 389150.77 N: 800960.27
MH19	NULL STRUCTURE	CL = 16.786	E: 389164.59 N: 800956.67

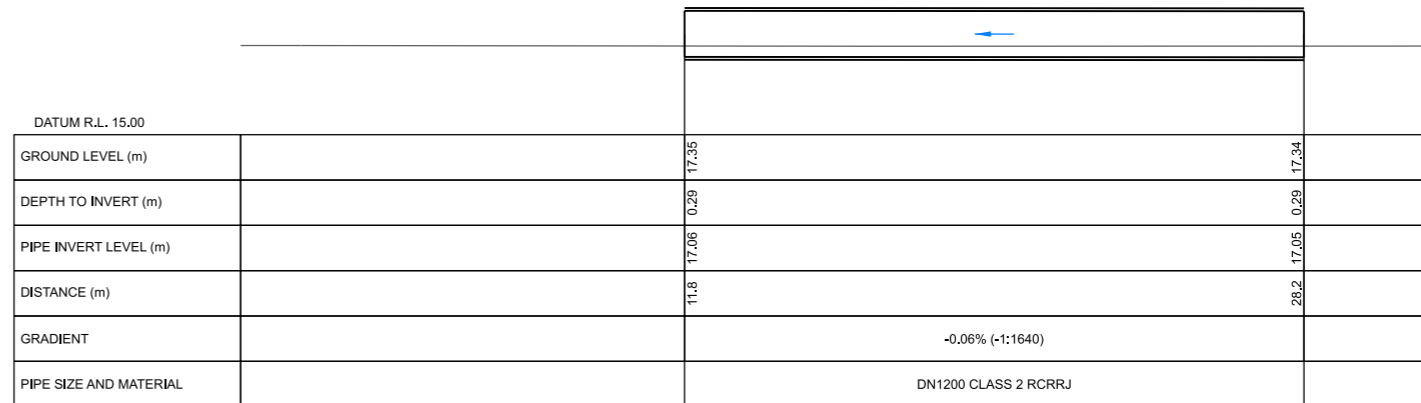
PIPE DATA - NETWORK SW01							
PIPE ID	TYPE	2D LENGTH	3D LENGTH	GRADE	US IL	DS IL	MAX. DEPTH
SW01.09	DN375 SN8 PVC-U	19.8	19.8	0.50%	16.01	15.91	2.8
SW01.10	DN1200 CLASS 2 RCRRJ	16.4	16.4	-0.06%	17.05	17.06	0.2



S
D04 **LONGITUDINAL PROFILE 0.0 m TO 19.8 m**
HORIZONTAL SCALE 1:100 @ A1
VERTICAL SCALE 1:100 @ A1



T
D04 **SIPHON CROSSING DETAIL (SW01.09)**
SCALE 1:100 @ A1
1:200 @ A3



U
D04 **LONGITUDINAL PROFILE 0.0 m TO 31.4 m**
HORIZONTAL SCALE 1:100 @ A1
VERTICAL SCALE 1:100 @ A1

NOTES

- All work is to be undertaken in accordance with the contract document and specifications, the CSS and IDS unless specified otherwise.
- Refer to sheet D02 for general notes.

1	FOR CONSTRUCTION	19/12/2022
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<p>Christchurch City Council</p> <p>TECHNICAL SERVICES & DESIGN</p>	<table border="1"> <tr> <th>DATUM</th> <th>C.D.D.</th> <th>NAME</th> <th>SIGNED</th> <th>DATE</th> </tr> <tr> <td>BENCH MK.</td> <td></td> <td>A SMITH</td> <td><i>[Signature]</i></td> <td>08/2022</td> </tr> <tr> <td>RL</td> <td></td> <td>M PENTECOST</td> <td><i>[Signature]</i></td> <td>12/2022</td> </tr> <tr> <td>SURVEY</td> <td></td> <td>C JORDAAN</td> <td><i>[Signature]</i></td> <td>08/2022</td> </tr> <tr> <td>SURVEY LB</td> <td></td> <td>M DUGGAN</td> <td><i>[Signature]</i></td> <td>12/2022</td> </tr> <tr> <td>FILE LOCATION</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>DRAIN REF.</td> <td>16717</td> <td>FILENAMES</td> <td></td> <td></td> </tr> <tr> <td>SAP WBS</td> <td>562/3873</td> <td>PRINTED ON \$DATES BY \$USERNAMES</td> <td></td> <td>12/2022</td> </tr> </table>	DATUM	C.D.D.	NAME	SIGNED	DATE	BENCH MK.		A SMITH	<i>[Signature]</i>	08/2022	RL		M PENTECOST	<i>[Signature]</i>	12/2022	SURVEY		C JORDAAN	<i>[Signature]</i>	08/2022	SURVEY LB		M DUGGAN	<i>[Signature]</i>	12/2022	FILE LOCATION					DRAIN REF.	16717	FILENAMES			SAP WBS	562/3873	PRINTED ON \$DATES BY \$USERNAMES		12/2022	<table border="1"> <tr> <th colspan="2">APPROVED</th> <th>CONSULTANT</th> </tr> <tr> <td>FOR TENDER</td> <td>DATE SIGNED</td> <td></td> </tr> <tr> <td>FOR CONSTRUCTION</td> <td>DATE SIGNED</td> <td></td> </tr> <tr> <td>CONSULTANT PROJECT REF.</td> <td>CONSULTANT FILE REF.</td> <td></td> </tr> </table>	APPROVED		CONSULTANT	FOR TENDER	DATE SIGNED		FOR CONSTRUCTION	DATE SIGNED		CONSULTANT PROJECT REF.	CONSULTANT FILE REF.		<p>PROJECT TITLE</p> <p>CASHMERE STREAM REALIGNMENT STAGE 4</p>	<p>DRAWING TITLE</p> <p>PIPEWORK LONGITUDINAL PROFILES AND DETAIL</p>	<table border="1"> <tr> <td>DOCUMENT NUMBER</td> <td>ORIGINAL SHEET SIZE</td> <td>SCALES</td> </tr> <tr> <td>TD</td> <td>A1</td> <td>1:100 A1 1:200 A3</td> </tr> <tr> <td>CAD DRAWING FILE REF.</td> <td></td> <td></td> </tr> <tr> <td>DD135002.DGN</td> <td></td> <td></td> </tr> <tr> <td>TSD PROJECT FILE NUMBER</td> <td>SHEET</td> <td></td> </tr> <tr> <td>CP503560</td> <td>D21</td> <td>OF 21</td> </tr> </table>	DOCUMENT NUMBER	ORIGINAL SHEET SIZE	SCALES	TD	A1	1:100 A1 1:200 A3	CAD DRAWING FILE REF.			DD135002.DGN			TSD PROJECT FILE NUMBER	SHEET		CP503560	D21	OF 21
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