

# BLACKWOOD RIVER FORESHORE

BRIDGETOWN, WA

## PEDESTRIAN BRIDGE TRAIL & CAR PARK UPGRADE

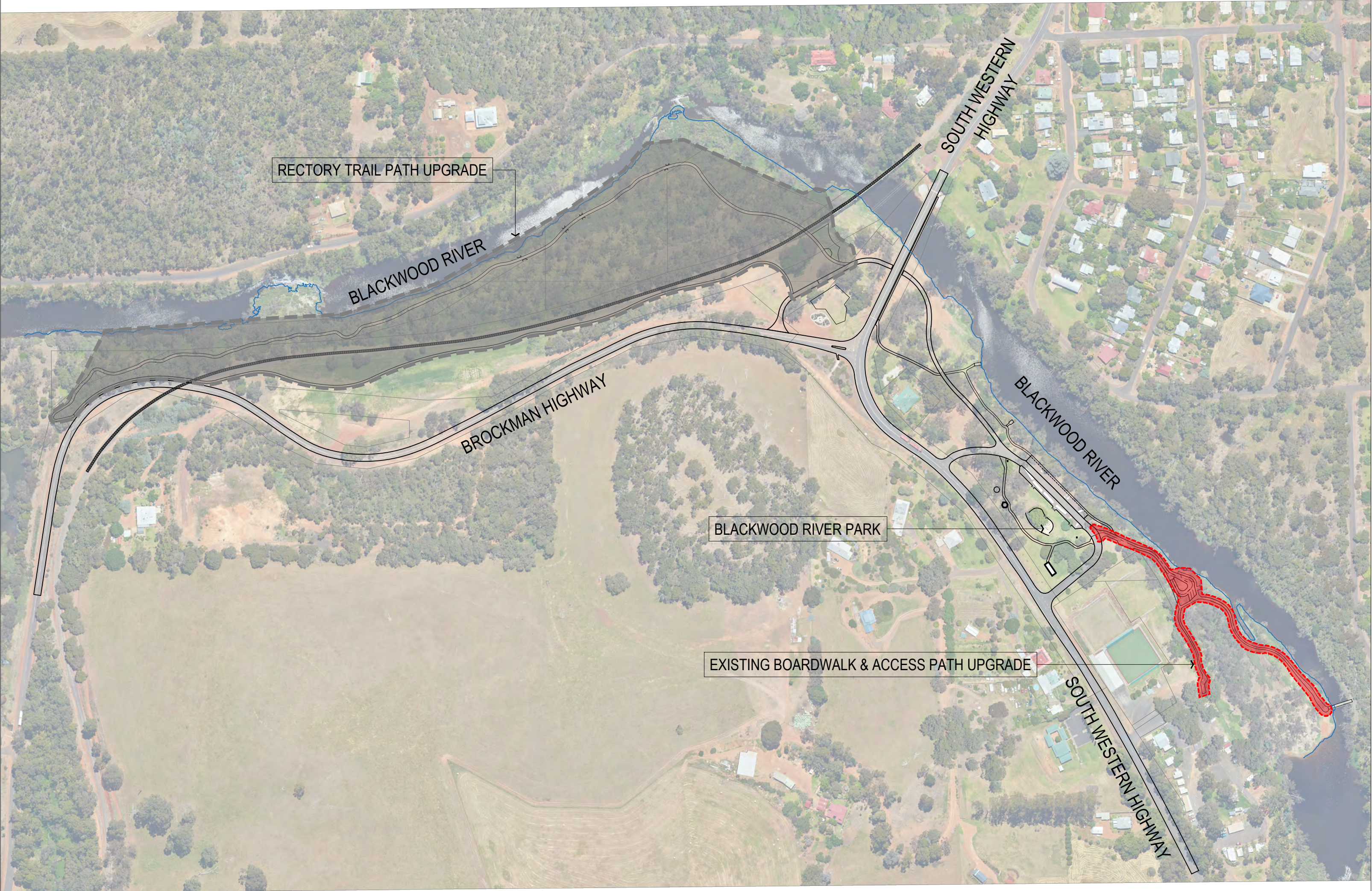
### LANDSCAPE CONTRACT: SOBG-05

### LANDSCAPE CONSTRUCTION WORKS

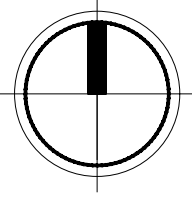
CLIENT:SHIRE OF BRIDGETOWN - GREENBUSHES

ISSUE FOR: **COMMENT**

DATE: **MAY 2020**



LOCATION PLAN  
1:3000 @ A1



Sheet List Table		
SHEET	Revision	TITLE
SOBG-05-000	A	COVER PAGE
SOBG-05-101	A	LAYOUT PLAN
SOBG-05-301	A	EARTHWORKS & GRADING PLAN 1 OF 3
SOBG-05-302	A	EARTHWORKS & GRADING PLAN 2 OF 3
SOBG-05-303	A	EARTHWORKS & GRADING PLAN 3 OF 3
SOBG-05-401	A	HARDWORKS & SET OUT PLAN 1 OF 3
SOBG-05-402	A	HARDWORKS & SET OUT PLAN 2 OF 3
SOBG-05-403	A	HARDWORKS & SET OUT PLAN 3 OF 3
SOBG-05-900	A	LANDSCAPE CONSTRUCTION DETAILS

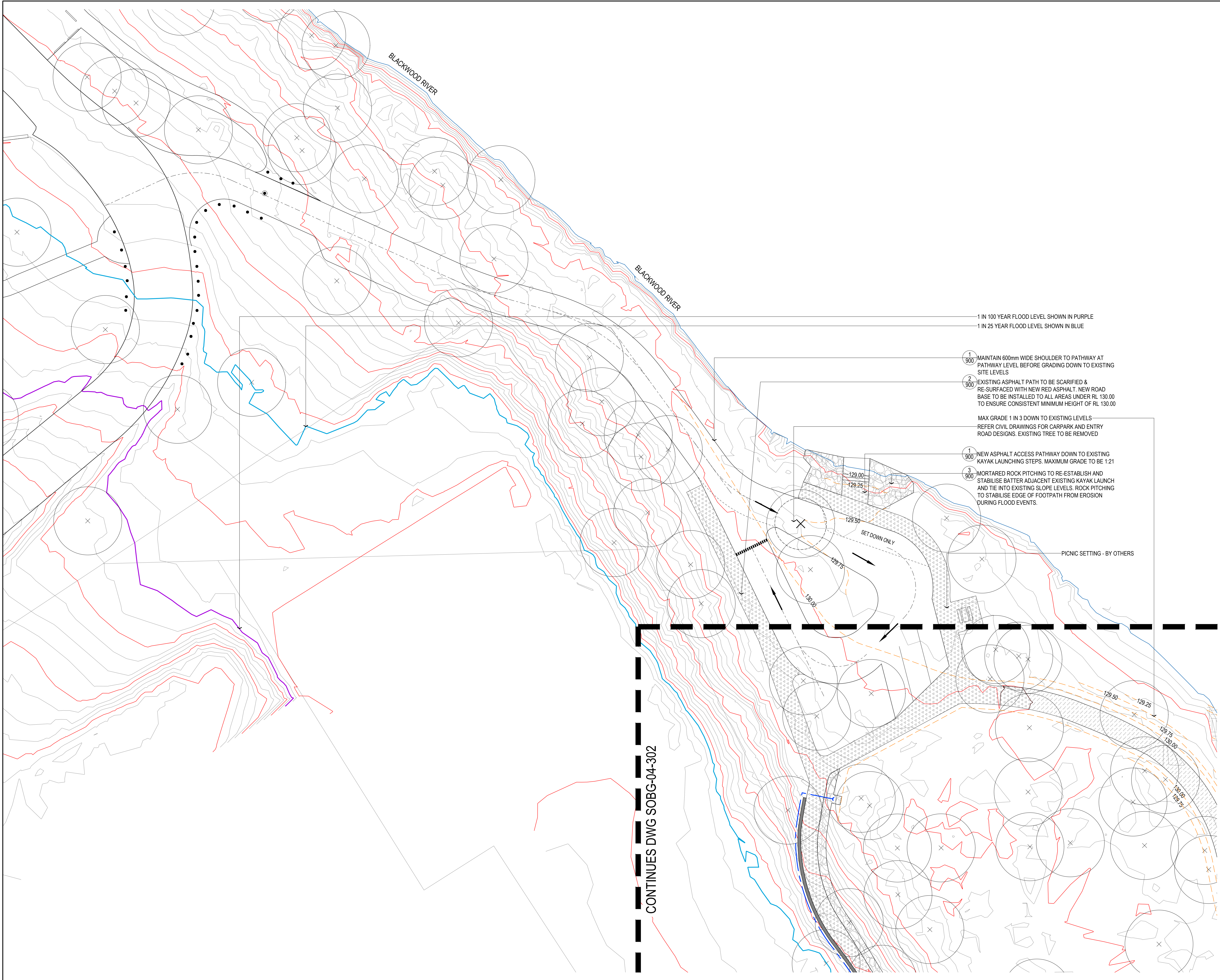


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**LEGEND**

- EXISTING CONTOURS AT 1m INTERVALS
- EXISTING CONTOURS AT 0.25m INTERVALS
- PROPOSED CONTOURS AT 0.25m INTERVALS
- 1 IN 25 YEAR FLOOD LEVEL (R.L. 135.25)
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- RE-SURFACED RED ASPHALT PATH. RL 130.00
- LIFTED AND RE-SURFACED RED ASPHALT PATH. <RL 130.00
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- MORTARED STONE PITCHING
- SUBSOIL DRAINAGE PIPE AND STONE PITCHED HEADWALL
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- REMOVABLE BOLLARD - BY OTHERS
- FIXED BOLLARD - BY OTHERS
- EXISTING TREE TO BE RETAINED & PROTECTED
- EXISTING TREE TO BE REMOVED

**NOTES:**  
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- STANDARD NOTES**
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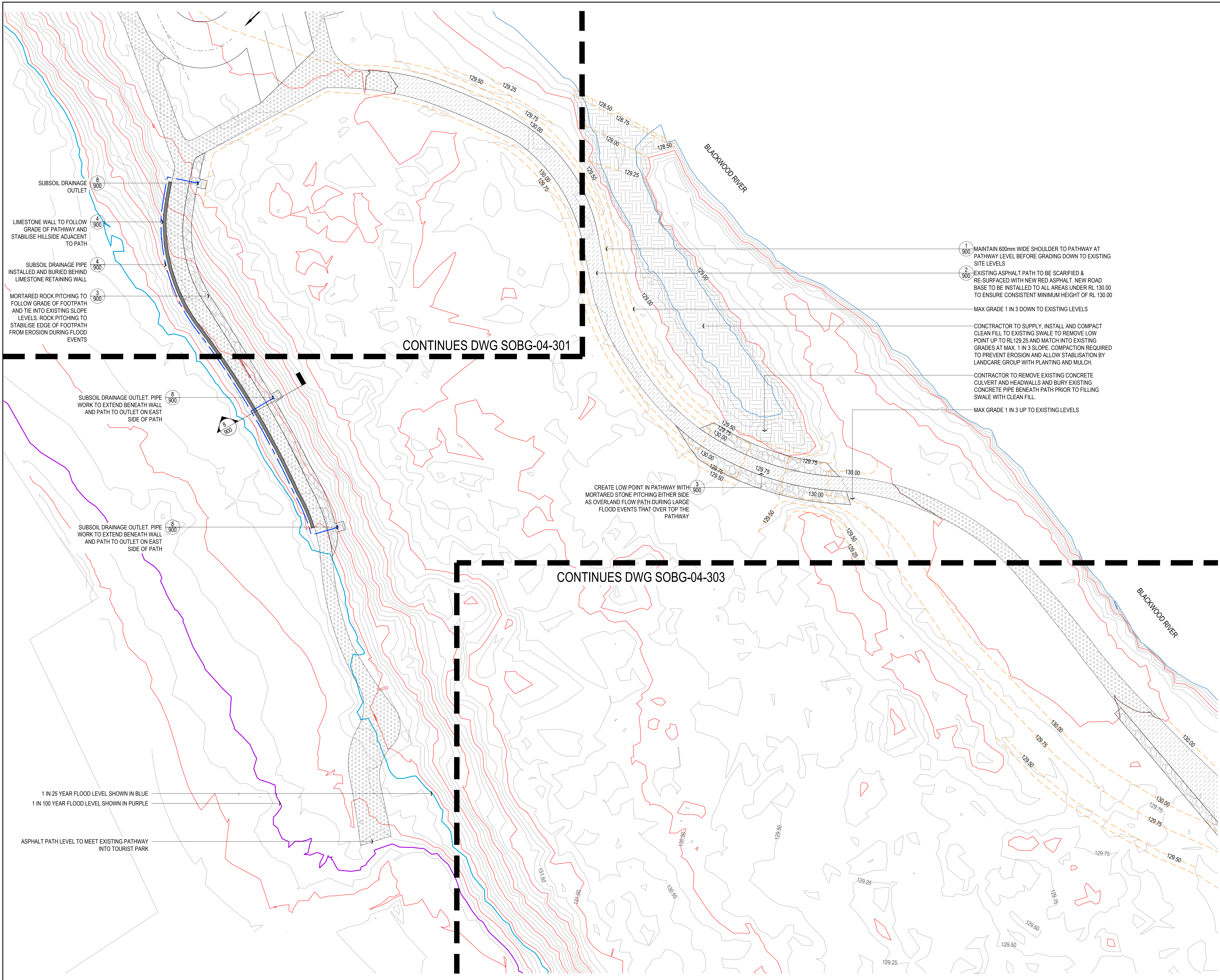
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PROJECT  
BLACKWOOD RIVER FORESHORE  
BRIDGETOWN, WA  
STAGE OR PHASE  
PEDESTRIAN BRIDGE TRAIL & CAR PARK  
UPGRADE  
DRAWING TITLE  
EARTHWORKS & GRADING PLAN 1 OF 3  
CLIENT  
SHIRE OF BRIDGETOWN - GREENBUSHES

DESIGNED BY **MH** PRELIM DESIGN REVIEWED BY **CE**  
DRAWN BY **BM** PRELIM DWG REVIEWED BY **CE**  
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DRAWING NUMBER **SOBG-05-301** REV **A**





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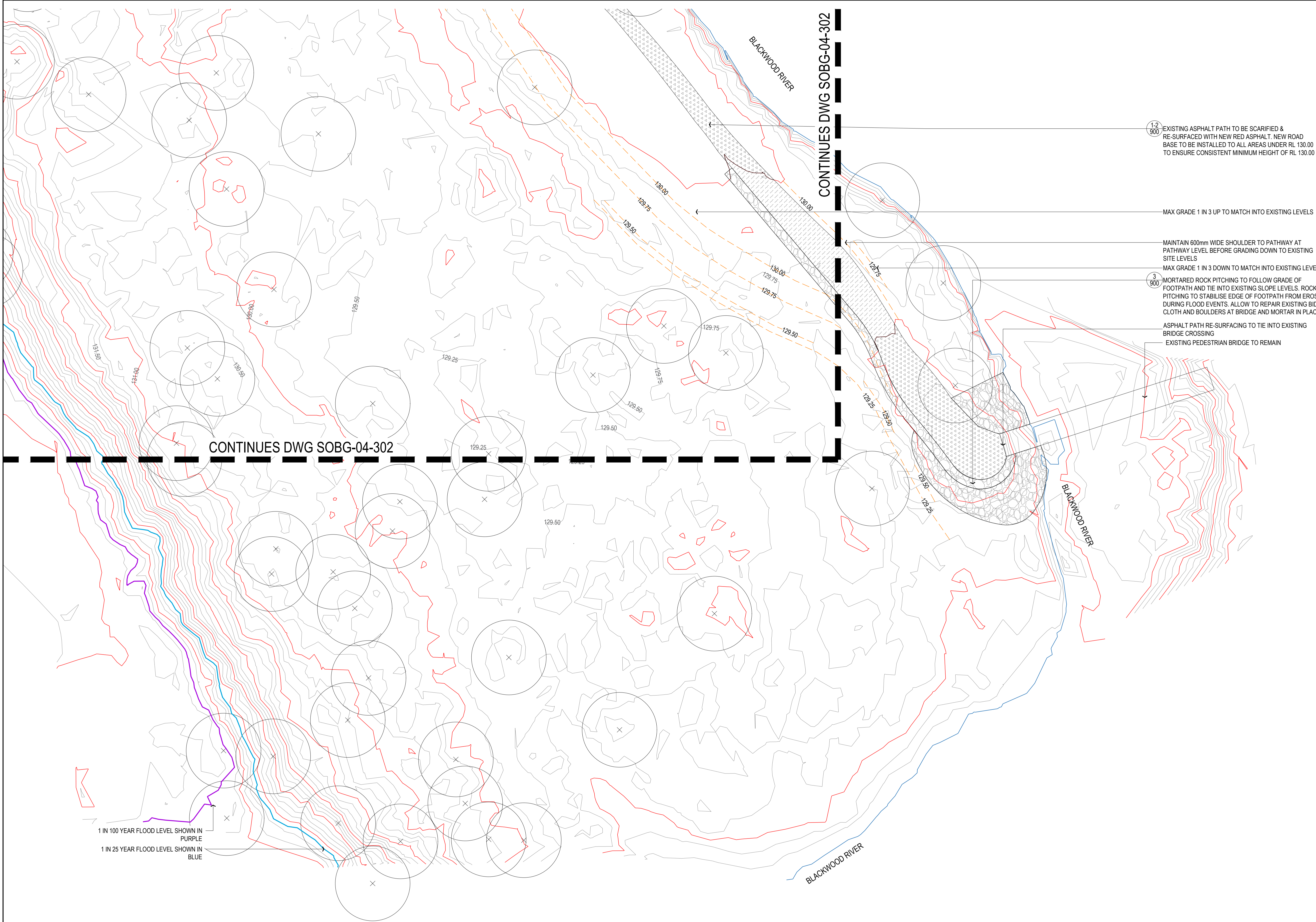
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BLACKWOOD RIVER FORESHORE BRIDGETOWN, WA  
STAGE OR PHASE  
PEDESTRIAN BRIDGE TRAIL & CAR PARK UPGRADE  
DRAWING TITLE  
EARTHWORKS & GRADING PLAN 2 OF 3  
CLIENT  
SHIRE OF BRIDGETOWN - GREENBUSHES

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SCALE **1:200 @ A1**  
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DRAWING NUMBER **SOBG-05-302** REV **A**

SEE: BLACKWOOD RIVER FORESHORE BRIDGE TOWNSHIP DRAWINGS & SPAN810, AUTOCADSOBG04, CARPARK OPTIONSOBG04, DES DWG





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**PROJECT**  
BLACKWOOD RIVER FORESHORE BRIDGETOWN, WA  
STAGE OR PHASE  
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DRAWING TITLE  
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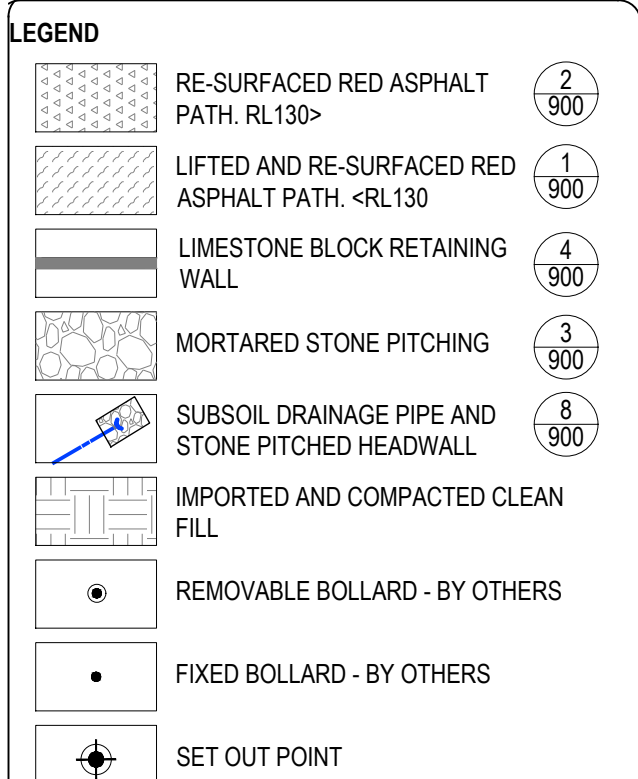
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**SOBG-05-303**

REV  
**A**





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PROJECT  
BLACKWOOD RIVER FORESHORE  
BRIDGETOWN, WA  
STAGE OR PHASE  
PEDESTRIAN BRIDGE TRAIL & CAR PARK  
UPGRADE

DRAWING TITLE  
HARDWORKS & SET OUT PLAN 1 OF 3

CLIENT  
SHIRE OF BRIDGETOWN - GREENBUSHES

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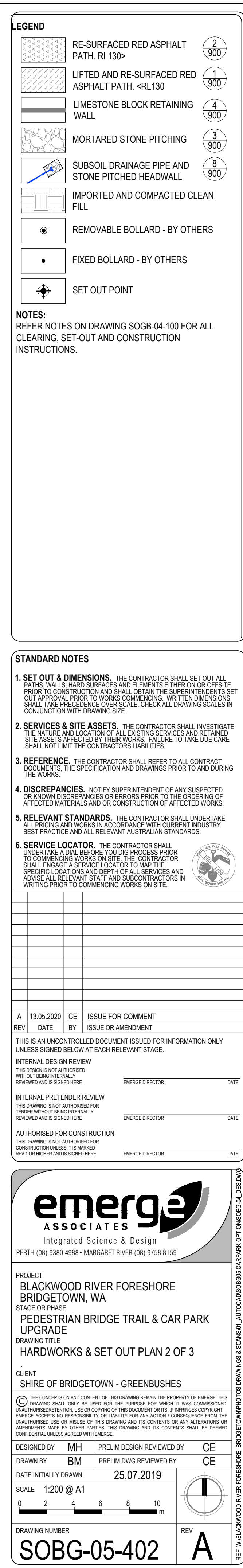
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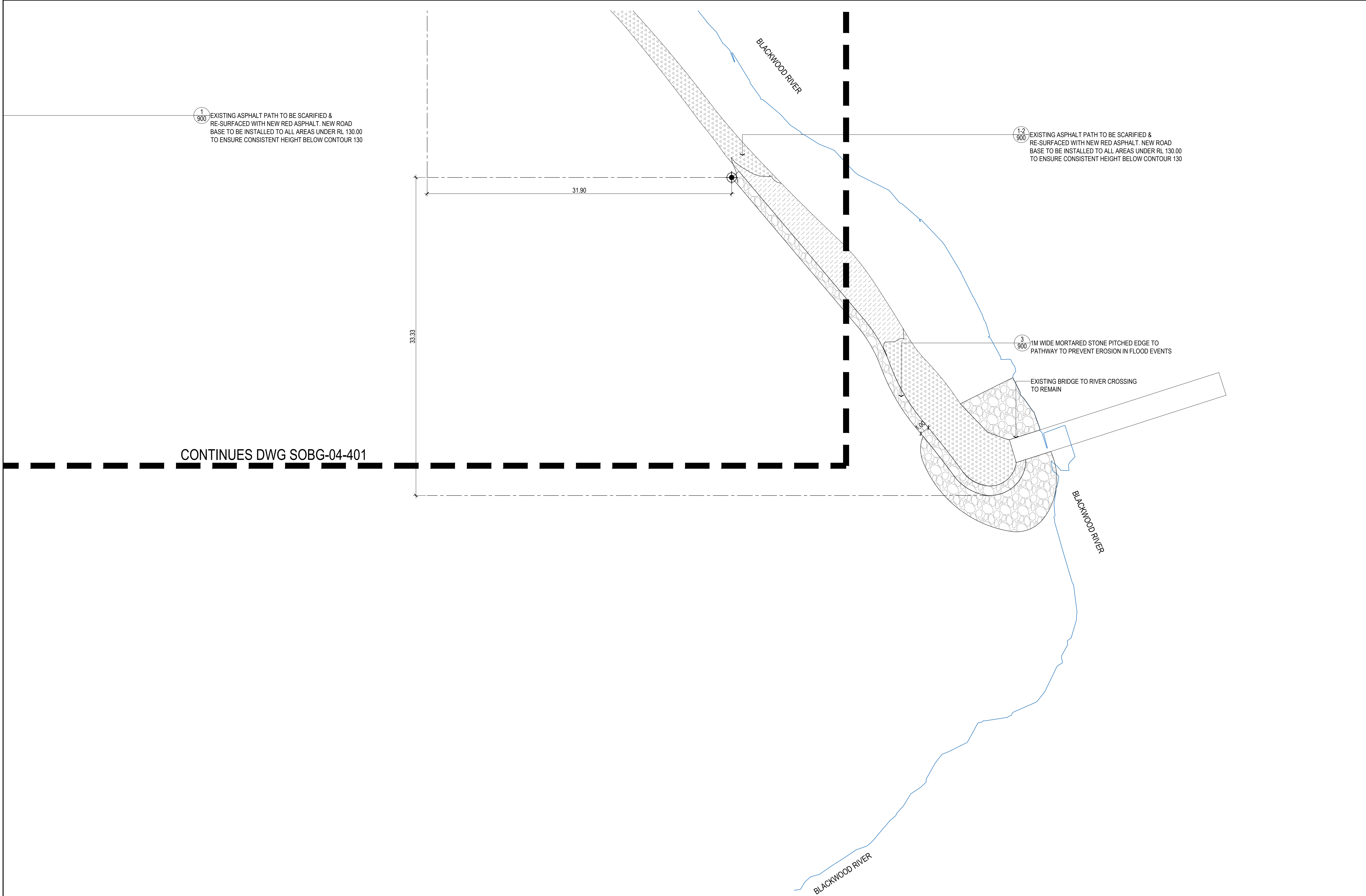
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REF W:\BLACKWOOD RIVER FORESHORE BRIDGETOWN\PHOTOS DRAWINGS &amp; SCANS\01 AUTOCAD\ISO\BG05 CARPARK OPTIONS\BG-04 DES DWG







**LEGEND**

	RE-SURFACED RED ASPHALT PATH. RL130>	
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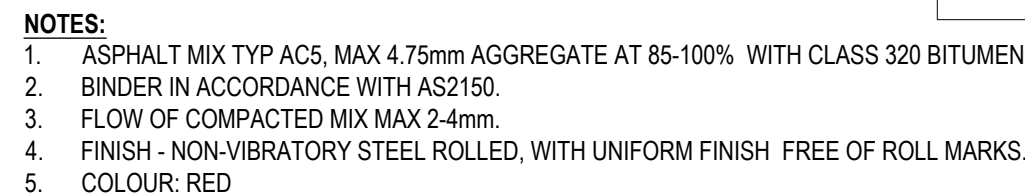
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BLACKWOOD RIVER FORESHORE  
BRIDGETOWN, WA  
STAGE OR PHASE  
BOARDWALK & ACCESS PATH UPGRADE  
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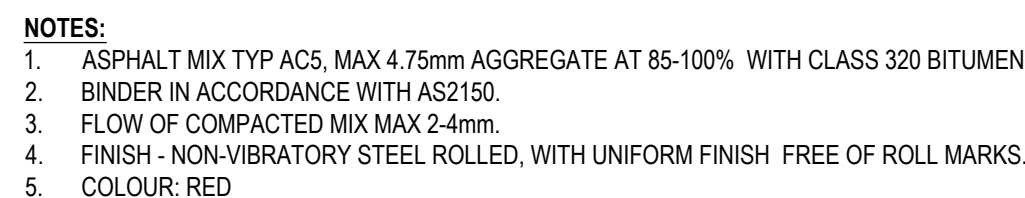
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REF: BLACKWOOD RIVER FORESHORE BRIDGETOWN PHOTOS DRAWINGS & SPAN810, AUTOCADS05020, CARRARA, OPTON0504-04, DES12W





900 TYPICAL SECTION



## 900 TYPICAL SECTION



900 SECTION



## 900 SECTION



900 SECTION

NOTES:

1. COMPACT GROUND UNDER FOOTING TO RESIST 7 BLOWS PER 300mm OF A STANDARD 16mmØ PENETROMETER OVER A DEPTH OF 600mm.
2. PROVIDE CONTROL JOINTS TO ALL RETAINING WALLS AT 10mm CTS MAX.
3. NO BACKFILLING UNTIL 7 DAYS AFTER WALLS HAVE BEEN BUILT.
4. THESE WALLS ARE APPLICABLE FOR SANDY SOIL CONDITIONS ONLY.
5. CLAYEY SOILS ARE TO BE REFERRED TO ENGINEER.
6. HORIZONTAL BACKFILL ONLY.
7. TO REAR OF WALL USE RANDOM COURSED BONDED STONE IN 1 : CEMENT, 2 : LIME, 9 : SAND MORTAR. NO RUBBLE FILL PERMITTED.
8. 'D' TO CONSIST OF COMPACTED SUBGRADE NOT PLAY SAND OR MULCH / ETC.

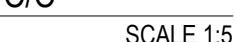
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## 900 SECTION



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- 3. REFERENCE.** THE CONTRACTOR SHALL REFER TO ALL CONTRACT DOCUMENTS, THE SPECIFICATION AND DRAWINGS PRIOR TO AND DURING THE CONSTRUCTION OF THE PROJECT.
- 4. DISCREPANCIES.** NOTIFY SUPERINTENDENT OF ANY SUSPECTED OR KNOWN DISCREPANCIES OR ERRORS PRIOR TO THE ORDERING OF AFFECTED MATERIALS AND/OR CONSTRUCTION OF AFFECTED WORKS.
- 5. RELEVANT STANDARDS.** THE CONTRACTOR SHALL UNDERTAKE ALL RELEVANT STANDARDS AND REQUIREMENTS OF THE BEST PRACTICE AND ALL RELEVANT AUSTRALIAN STANDARDS.
- 6. SERVICE LOCATION.** THE CONTRACTOR SHALL UNDERTAKE A DIAL BEFORE YOU DIG PROCESS PRIOR TO ANY WORKS COMMENCING. THE CONTRACTOR SHALL ENGAGE A SERVICE LOCATION TO MAP THE EXISTING LOCATIONS AND DEPTHS OF ALL SERVICES AND ADVISE ALL RELEVANT STAFF AND SUBCONTRACTORS IN EXISTING PIPES AND SERVICES.

A	13.05.2020	CE	ISSUE FOR COMMENT
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EMERGE DIRECTOR

DATE

INTERNAL PRETENDER REVIEW

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REVIEWED AND IS DOWNSIDE

ENGINEER/DIRECTOR

DATE

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**emerge**  
ASSOCIATES  
Integrated Science & Design  
PERTH (08) 9380 4988 • MARGARET RIVER (08) 9758 8159

PROJECT  
BLACKWOOD RIVER FORESHORE  
BRIDGETOWN, WA


STAGE OR PHASE  
PEDESTRIAN BRIDGE TRAIL & CAR PARK  
UPGRADE

DRAWING TITLE  
LANDSCAPE CONSTRUCTION DETAILS

CLIENT  
SHIRE OF BRIDGETOWN - GREENBUISHES

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DESIGNED BY	MH	PRELIM DESIGN REVIEWED BY	CE
DRAWN BY	BM	PRELIM DWG REVIEWED BY	CE

DATE INITIALLY DRAWN	25.07.2019	
SCALE	AS SHOWN @ A1	

	
DRAWING NUMBER	REV

SOBG-05-900	A
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(REF W:\BLACKWOOD RIVER FORESHORE, BRIDGETOWN\PHOTOS DRAWINGS & SCANS\01\_AUTOCAD\ISOBG05 CARPARK OPTION\ISOBG04\_DETAILS.DWG")





Project:	BLACKWOOD RIVER FORESHORE: 'PEDESTRIAN BRIDGE' TRAIL & CAR PARK UPGRADE
Client:	Shire of Bridgetown - Greenbushes
Task:	Preliminary Cost Estimate
Plan Ref:	Emerge Documentation SOBG-04
Prepared by:	Chad Elton
Date:	12.05.20
Revision:	A

No	ITEM	PROPOSED CONTENTS	QTY	UNIT	\$ RATE	COST
PRELIMINARIES						
	General Preliminaries	Mobilisation, Accommodation etc	1	Item	\$ 12,500.00	\$ 12,500.00
	Building Applications / Licences		1	Item	\$ 1,000.00	\$ 1,000.00
	Production of As Constructed Dwgs inc Survey	O-Spec	1	Item	\$ 2,500.00	\$ 2,500.00
	OHS	OHS compliance and implementation	1	Item	\$ 2,250.00	\$ 2,250.00
					SUB-TOTAL	\$ 18,250.00
SITE WORKS						
	Demolition	Removal of Demolition Waste and Disposal offsite	1	P.Sum	\$ 5,000.00	\$ 5,000.00
	Services / Utilities Location and Identification		1	item	\$ 150.00	\$ 150.00
	Siteworks & Set-out		1	item	\$ 2,750.00	\$ 2,750.00
	Dewatering		1	P.Sum	\$ 5,000.00	\$ 5,000.00
	Weed / Undergrowth Eradication		1	item	\$ 2,500.00	\$ 2,500.00
	Fencing / Barrier to Protect Existing Trees		1	P.Sum	\$ 750.00	\$ 750.00
					SUB-TOTAL	\$ 16,150.00
EARTHWORKS & GRADING						
	Bulk Earthworks		1	P.Sum	\$ 10,000.00	\$ 10,000.00
	Final Minor Trim	Final trim and grading +/- 100mm	8900	sq m	\$ 0.60	\$ 5,340.00
	Limestone Block Retaining Wall	Supply and install 2 x course limestone block retaining walls	45	lin m	\$ 325.00	\$ 14,625.00
	Subsoil Drainage	Supply and install subsoil drainage trench to rear of limestone walls	59	lin m	\$ 80.00	\$ 4,720.00
					SUB-TOTAL	\$ 34,685.00
CARPARK AND STRCTURES						
	Earthworks and Stabilisation	Groundworks, sub-grade treatments and stabilisation works	1	item	\$ 11,000.00	\$ 11,000.00
	Demolition	Removal, excavation of existing base and tree removal	1	item	\$ 4,500.00	\$ 4,500.00
	Roadworks	Asphalt surfacing and all road treatments and finishes (excl paths)	1	item	\$ 35,500.00	\$ 35,500.00
	Additional Steps to Kayak Entry	Supply and install hardwood steps to existing kayak entry	2	ea	\$ 250.00	\$ 500.00
					SUB-TOTAL	\$ 51,500.00
PAVING						
	Footpath (Red Asphalt)	Supply and install red asphalt and allow for shared vehicle route	670	sq m	\$ 66.00	\$ 44,220.00
	Footpath Base Course	Road base to increase level of red asphalt footpath average of 250mm	340	sq m	\$ 30.00	\$ 10,200.00
					SUB-TOTAL	\$ 54,420.00
SITE FURNITURE						
	Picnic Settings	Supply and install of picnic settings	1	each	\$ 2,850.00	by others
	Removable Bollards	Supply and install removable bollard	1	each	\$ 750.00	\$ 750.00
					SUB-TOTAL	\$ 750.00
MISCELLANEOUS ITEMS						
	Remove Concrete Culvert Headwalls	Remove existing concrete culvert headwalls and dispose off-site	1	Item	\$ 350.00	\$ 350.00
	Rock Pitching to Drainage Swale	Supply and install rock pitching to drainage swales	280	sqm	\$ 72.00	\$ 20,160.00
					SUB-TOTAL	\$ 20,510.00
INSPECTION / CERTIFICATION						
	Structural Engineer	Inspection by Sub-Consultant - Shelter and paths	1	ea	\$ 1,000.00	\$ 1,000.00
					SUB-TOTAL	\$ 1,000.00
CONTINGENCY						
	Contingency		1	P.Sum	\$ 24,500.00	\$ 24,500.00
					GRAND TOTAL	\$ 221,765.00
					GST	\$ 22,176.50
					GRAND TOTAL inc GST	\$ 243,941.50







P:\A7120\Project Documentation\Civil Drawings & Design\A7120-CI-409-RD-SK1.dgn

B	CONCEPT LAYOUT FOR OPC	RHF		12/05/2020
A	PRELIMINARY ISSUE	RHF		
REV	DESCRIPTION	DRAWN	APPD	DATE

EMERGE ASSOCIATES
ARCHITECT/CIENT

BRIDGETOWN FORESHORE KAYAK CARPARK CONCEPT CONCEPT LAYOUT
PROJECT/TITLE

 <b>Stantec</b>							<b>CONCEPT ONLY</b> NOT FOR CONSTRUCTION CIVIL	
-	-	-	1:250	47120	CI-409-RD-SK1	B		
WAPC	COORDS	DATUM	SCALE @ A1	PROJECT No	DRAWING No	REV		



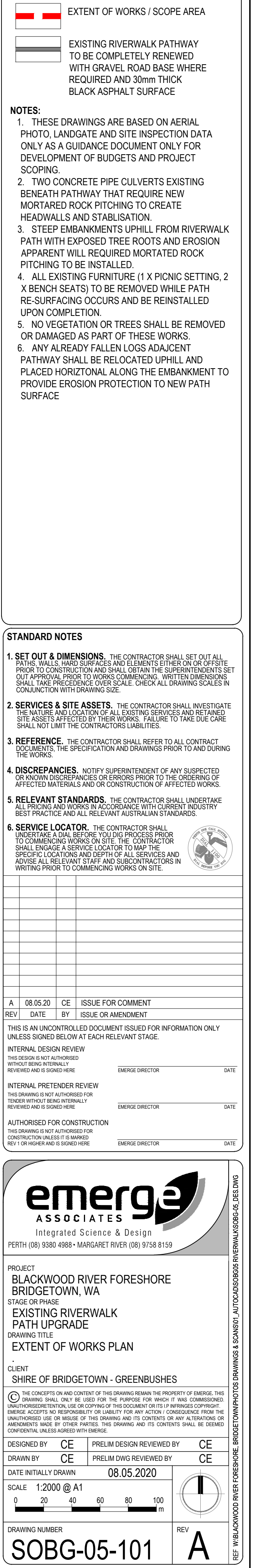
**Client Name:** Emerge Associates  
**Project Name:** Bridgetown Foreshore Kayak Carpark Concept  
**Project No:** 47120  
**Date:** 12/05/20  
**Revision:** 001  
**Location:** Shire of Bridgetown-Greenbushes

	\$
1. Preliminaries and Establishment	10,000
2. Earthworks and Stabilisation	11,000
3. Demolition	4,500
4. Roadworks	35,500
5. Contingency (15%)	9,500
<b>Sub Total</b>	<b>70,500</b>
<b>GST</b>	<b>7,050</b>
<b>Total</b>	<b>77,550</b>



**Notes/Assumptions:**

- This OPC shall be read in conjunction with concept sketch 47120-CI-409-RD-SK1\_B.
- This OPC is based on 2D concept sketches only. No detailed design has been undertaken.
- A preliminary assessment of the existing levels has been undertaken which indicates that new access road and parking can generally follow existing levels with some minor cut-to-fill, and a small amount of cut-to-spoil for the passing bay.  
No allowance to remove material from site.
- This OPC makes allowance to remove and dispose existing seal and gravel pavement where underneath the proposed layout and replace with 30mm red asphalt on 150mm gravel basecourse.
- No allowance for kerbs or stormwater infrastructure (pits & pipes). Assumed stormwater will runoff to vegetation/river.
- Allowance to stabilise new cut batters adjacent proposed passing bay only (mortared rockpitching).  
No stabilisation allowance elsewhere.
- No geotechnical information was available in preparing this OPC.
- Existing path/track down to kayak launch steps is at approximately 7.5% grade (1:13). No allowance to flatten this grade.
- No allowance for any trimming or pruning of vegetation.
- Concept sketch requires removal of one existing tree.





EXTENT OF WORKS / SCOPE AREA

	EXTENT OF WORKS/SCOPE AREA
	EXISTING RIVERWALK PATHWAY TO BE COMPLETELY RENEWED WITH GRAVEL ROAD BASE WHERE REQUIRED AND 30mm THICK BLACK ASPHALT SURFACE

**NOTES:**

1. THESE DRAWINGS ARE BASED ON AERIAL PHOTO, LANDGATE AND SITE INSPECTION DATA ONLY AS A GUIDANCE DOCUMENT FOR DEVELOPMENT OF BUDGETS AND PROJECT SCOPING.
2. TWO CONCRETE PIPE CULVERTS EXISTING BETWEEN PATHWAY THAT REQUIRE NEW MORTARED ROCK PITCHING TO CREATE HEADWALLS AND STABILISATION.
3. STEEP EMBANKMENTS UPHILL FROM RIVERWALK PATH WITH EXPOSED TREE ROOTS AND EROSION APPARENT WILL REQUIRE MORTARATED ROCK PITCHING TO BE INSTALLED.
4. ALL EXISTING FURNITURE (1 X PICNIC SETTING, 2 X BENCH SEATS) TO BE REMOVED WHILE PATH RE-SURFACING OCCURS AND BE REINSTALLED UPON COMPLETION.
5. NO VEGETATION OR TREES SHALL BE REMOVED OR DAMAGED AS PART OF THESE WORKS.
6. ANY ALREADY FALLEN LOGS ADJACENT PATHWAY SHALL BE RELOCATED UPHILL AND PLACED HORIZONTAL ALONG THE EMBANKMENT TO PROVIDE EROSION PROTECTION TO NEW PATH SURFACE

STANDARD NOTES

**1. SET OUT & DIMENSIONS.** THE CONTRACTOR SHALL SET OUT ALL PATHS, WALLS, HARD SURFACES AND ELEMENTS EITHER ON OR OFFSITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL DIMENSIONS SET OUT APPROVAL PRIOR TO WORKS COMMENCING. WRITTEN DIMENSIONS SHALL BE OBTAINED FROM THE LOCAL COUNCIL. THE CONTRACTOR SHALL CONDUCT A SURVEY OF ALL LOCAL COUNCIL DRAWINGS SCALE IN CONJUNCTION WITH DRAWING SCALE.

**2. SERVICES & SITE ASSESSION.** THE CONTRACTOR SHALL INVESTIGATE THE NATURE AND LOCATION OF ALL EXISTING SERVICES AND RETAINED SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING CARE TO NOT DAMAGE OR SHALL NOT LIMIT THE CONTRACTORS LIABILITIES.

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**5. RELEVANT STANDARDS.** THE CONTRACTOR SHALL UNDERTAKE ALL WORKS IN ACCORDANCE WITH THE NATIONAL STANDARD AND BEST PRACTICE AND ALL RELEVANT AUSTRALIAN STANDARDS.

**6. SERVICE LOCATOR.** THE CONTRACTOR SHALL OBTAIN ALL NECESSARY INFORMATION FROM THE LOCAL COUNCIL PRIOR TO COMMENCING WORKS ON SITE. THE CONTRACTOR SHALL OBTAIN A SERVICE LOCATOR FROM THE LOCAL COUNCIL TO IDENTIFY THE LOCATION AND DEPTH OF ALL SERVICES AND ADVISE ALL RELEVANT STAFF AND SUBCONTRACTORS IN WRITING PRIOR TO COMMENCING WORKS.

A	08.05.20	CE	ISSUE FOR COMMENT
REV	DATE	BY	ISSUE OR AMENDMENT

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EMERGE DIRECTOR	DATE

AUTHORISED FOR CONSTRUCTION



PROJECT  
BLACKWOOD RIVER FORESHORE  
BRIDGETOWN, WA  
STAGE OR PHASE  
EXISTING RIVERWALK  
PATH UPGRADE  
DRAWING TITLE  
EXTENT OF WORKS PLAN  
CLIENT  
SHIRE OF BRIDGETOWN - GREENBUSHES

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DESIGNED BY	CE	PRELIM DESIGN REVIEWED BY	CE
DRAWN BY	CE	PRELIM DWG REVIEWED BY	CE

DATE INITIALLY DRAWN 08.05.2020

SCALE 1:2000 @ A1

0 20 40 60 80 100 m

WOOD RIVER FOREST

DRAWING NUMBER	REV
SOBG-05-101	A

REF W/BLACK

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Project: **BLACKWOOD RIVER FORESHORE : RIVER WALK TRAIL UPGRADE**

Client: Shire of Bridgetown - Greenbushes

Task: Preliminary Cost Estimate

Plan Ref: Emmerge Documentation SOBG-05

Prepared by: Chad Elton

Date: 08.05.20

Revision: **A**

No	ITEM	PROPOSED CONTENTS	QTY	UNIT	\$ RATE	COST
<b>PRELIMINARIES</b>						
	General Preliminaries	Mobilisation, Accommodation etc	1	Item	\$ 2,500.00	\$ 2,500.00
	Building Applications / Licences		1	Item	\$ 1,000.00	\$ 1,000.00
	Production of As Constructed Dwgs inc Survey	O-Spec	1	Item	\$ 2,500.00	\$ 2,500.00
	OHS	OHS compliance and implementation	1	Item	\$ 2,250.00	\$ 2,250.00
					<b>SUB-TOTAL</b>	<b>\$ 8,250.00</b>
<b>SITE WORKS</b>						
	Demolition	Removal of Demolition Waste and Disposal offsite	1	P.Sum	\$ 5,000.00	\$ 5,000.00
	Services / Utilities Location and Identification		1	item	\$ 150.00	\$ 150.00
	Siteworks & Set-out		1	item	\$ 1,250.00	\$ 1,250.00
	Weed / Undergrowth Eradication		1	item	\$ 1,000.00	\$ 1,000.00
					<b>SUB-TOTAL</b>	<b>\$ 7,400.00</b>
<b>EARTHWORKS &amp; GRADING</b>						
	Bulk Earthworks		1	P.Sum	\$ 10,000.00	\$ 10,000.00
	Final Minor Trim	Final trim and grading +/- 100mm	4650	sq m	\$ 0.60	\$ 2,790.00
	Limestone Block Retaining Wall	Supply and install 3-4 x course limestone block retaining walls	60	lin m	\$ 480.00	\$ 28,800.00
	Balustrade	Supply and install HDG balustrade or fencing to path entry points	60	lin m	\$ 80.00	\$ 4,800.00
					<b>SUB-TOTAL</b>	<b>\$ 46,390.00</b>
<b>PAVING</b>						
	Footpath (Black Asphalt)	Supply and install black asphalt including gravel base course	4650	sq m	\$ 62.00	\$ 288,300.00
					<b>SUB-TOTAL</b>	<b>\$ 288,300.00</b>
<b>SITE FURNITURE</b>						
	Picnic Settings & Bench Seats	Remove, store and re-instate existing furniture after path works completed	3	each	\$ 300.00	\$ 900.00
	Removable Bollards	Supply and install removable bollard	2	each	\$ 750.00	\$ 1,500.00
					<b>SUB-TOTAL</b>	<b>\$ 2,400.00</b>
<b>MISCELLANEOUS ITEMS</b>						
	Rocked Pitching Culvert Headwalls	Supply and install rock pitching to existing pipe culverts under path	20	sqm	\$ 350.00	\$ 7,000.00
	Rock Pitching to Batters	Supply and install rock pitching to steep and exposed batters	50	sqm	\$ 120.00	\$ 6,000.00
					<b>SUB-TOTAL</b>	<b>\$ 13,000.00</b>
<b>INSPECTION / CERTIFICATION</b>						
	Structural Engineer	Inspection by Sub-Consultant - inspections of walls and paths	1	ea	\$ 1,000.00	\$ 1,000.00
					<b>SUB-TOTAL</b>	<b>\$ 1,000.00</b>
<b>CONTINGENCY</b>						
	Contingency		1	P.Sum	\$ 15,000.00	\$ 15,000.00

NOTE: These areas and costings are estimates only for the purpose of budget development. Drawings have been based on aerial photo and site inspection data only.

<b>GRAND TOTAL</b>	<b>\$ 381,740.00</b>
<b>GST</b>	<b>\$ 38,174.00</b>
<b>GRAND TOTAL inc GST</b>	<b>\$ 419,914.00</b>