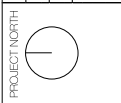
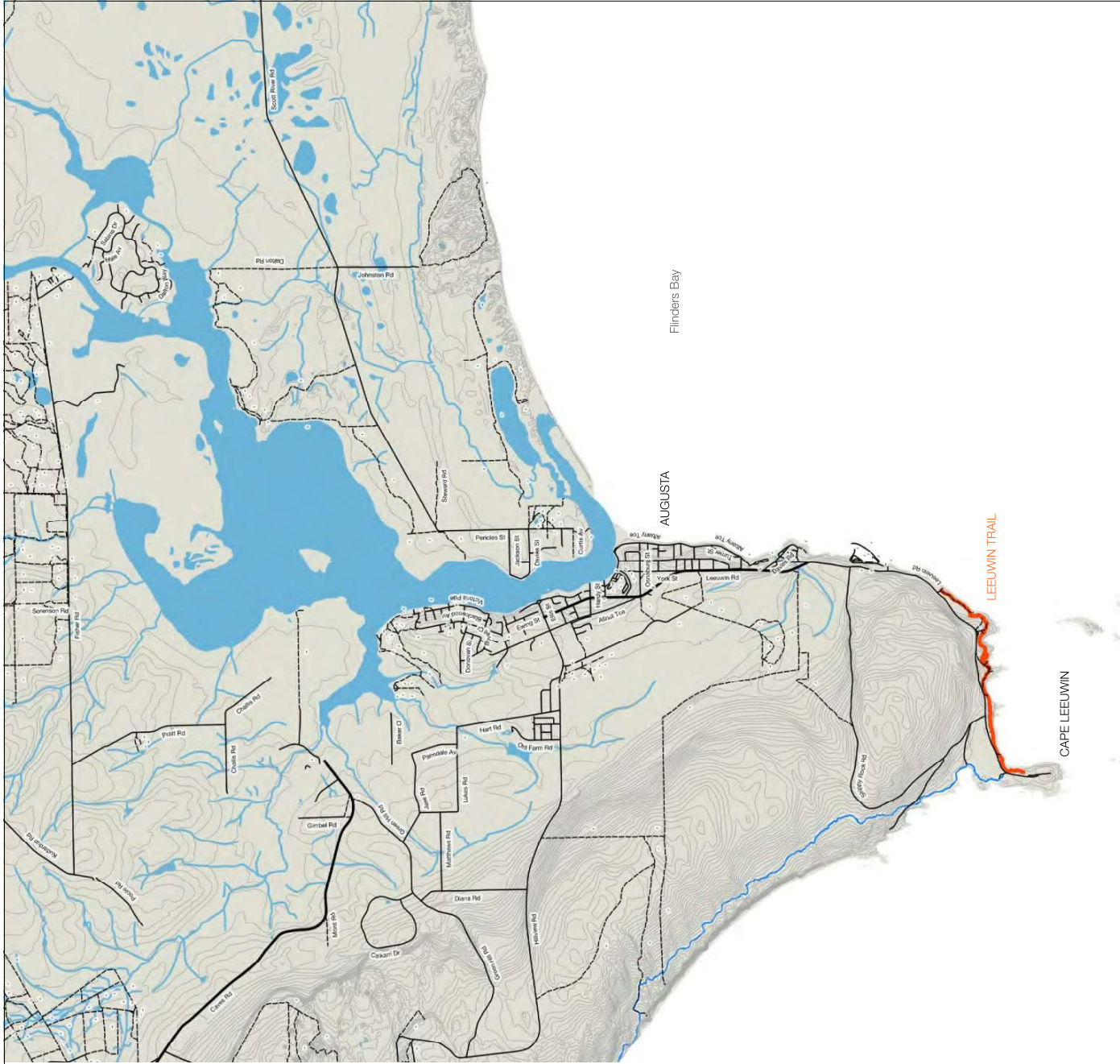


# LEEUWIN TRAIL SHIRE OF AUGUSTA MARGARET RIVER DETAILED DESIGN



## GENERAL CONSTRUCTION NOTES

### SITE WORKS

- A 'FOR CONSTRUCTION' DRAWING SET WILL BE ISSUED. NO WORKS TO BE COMPLETED USING CONCEPT DRAWINGS.
- ALL SITE AND CONSTRUCTION WORKS ARE TO BE CARRIED OUT TO THE STANDARDS SHOWN IN THESE DRAWINGS.
- THE CONSTRUCTION ACCESS REQUIREMENTS WITH THE SHIRE REPRESENTATIVE EXTENT OF WORKS BOUNDARY INCLUDES THE TRAIL CORRIDOR AND ANY ADDITIONAL AREAS NOMINATED BY THE SHIRE REPRESENTATIVE.
- ALL SITE WORKS, STORAGE OF MATERIALS AND GENERAL SITE DISTURBANCE SHALL OCCUR WITHIN THE EXTENT OF WORKS BOUNDARY OR APPROPRIATE.
- UNLESS OTHERWISE APPROVED BY THE SHIRE REPRESENTATIVE.
- NO CONSTRUCTION MATERIAL OFF CUTS, DUST OR ANY OTHER ITEMS ARE TO IMPACT THE SURROUNDING LANDSCAPE (OUTSIDE OF EXTENT OF WORKS BOUNDARY) OR WATER COURSES UNDER ANY CIRCUMSTANCES.
- THE CONTRACTOR SHALL PROVIDE ADEQUATE WARNING SIGNAGE REGARDING THE CONSTRUCTION AREA, FENCES, BUNTING OR OTHER NECESSARY SECURITY AND PUBLIC SEPARATION MEASURES AT ALL TIMES DURING THE CONSTRUCTION PERIOD.
- SECURITY FOR PLANT, MATERIALS AND TOOLS IS THE RESPONSIBILITY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL CONFIRM APPROVED FIRE SUPPRESSION EQUIPMENT WITH THE SHIRE REPRESENTATIVE.

### SITE ACCESS

- THE CONTRACTOR SHALL ACCESS THE SITE VIA EXISTING SEALED ROADS, MANAGEMENT ACCESS TRACKS AND ALONG CONSTRUCTED TRAIL ONLY.
- ALTERNATE CONSTRUCTION ACCESS TO BE DISCUSSED/APPROVED BY SHIRE REPRESENTATIVE.

### HYGIENE

- ALL MACHINERY, EQUIPMENT AND PERSONNEL USED FOR CONSTRUCTION OR ENTERING THE EXTENT OF WORKS AREA SHALL BE FREE OF SOIL AND SEEDS.
- ALL MACHINERY, EQUIPMENT AND PERSONNEL SHALL BE WASHED AND CLEANED TO THE SATISFACTION OF THE SHIRE REPRESENTATIVE PRIOR TO ENTERING THE EXTENT OF WORKS AREA.
- ALL MACHINERY AND EQUIPMENT SHALL BE WASHED AND CLEANED ON COMPLETION OF WORKS AND DEMOBILISATION OUTSIDE OF THE EXTENT OF WORKS AREA

### FIRE PREPARATION/ PREVENTION

- THE CONTRACTOR SHALL NOT LIGHT FIRES OF ANY MANNER
- EXTREME CARE SHALL BE TAKEN WHEN USING MACHINERY THAT CREATES SPARKS OR POTENTIAL FIRE HAZARDS SUCH AS WELDING AND GRINDING.
- THE CONTRACTOR SHALL AVOID ALL FIRE RESTRICTIONS OR MACHINERY MOVEMENT BANS WHETHER SET BY THE SHIRE OR OTHER AGENCIES.
- ALL FUEL AND FLAMMABLE LIQUIDS SHALL BE LABELLED AND STORED IN APPROVED CONTAINERS.
- THE CONTRACTOR SHALL HAVE ON SITE FIRE SUPPRESSION EQUIPMENT SUITABLE TO THE LANDSCAPE AND SCALE OF WORKS. THIS EQUIPMENT SHALL BE IN EXCELLENT WORKING ORDER AND READY FOR IMMEDIATE USE.

### SITE VEGETATION

- REFER TO CLEARING PERMIT SPECIAL CONDITIONS
- MATURE TREES WITH DBH > 100mm SHOULD BE AVOIDED IN TRAIL ALIGNMENT WHERE POSSIBLE. NO MATURE TREES WITH DBH > 150mm SHOULD BE REMOVED.
- VEGETATION IN THE TRAIL TREAD MUST BE FULLY UNROOTED, NOT CUT OFF AT GROUND LEVEL.
- WEED MATERIAL IS TO BE TRANSPORTED OFF SITE. NON-WEED MATERIAL IS TO BE REUSED ON SITE FOR NATURALISATION OF CONSTRUCTED TRAIL EDGES AND/OR CLOSURE OF REDUNDANT EXISTING TRAILS.
- BLENDED OF MATERIAL WITHIN THE TRAIL CORRIDOR IS REQUIRED TO REHABILITATE ANY DISTURBED CONSTRUCTION FOOTPRINT AND CONSTRUCTION ACCESS POINTS.
- ANY DAMAGE CAUSED BY THE CONTRACTOR TO VEGETATION OUTSIDE THE EXTENT OF WORKS SHALL BE REHABILITATED AT THE CONTRACTOR'S COST.

### SITE WATER

- ALL WATER REQUIRED FOR COMPACTION OR CONSTRUCTION SHALL BE PROVIDED BY THE CONTRACTOR AND STORED IN A SEALED CONTAINER OR TANK.

### HOLD POINTS

- THE CONTRACTOR SHALL ADHERE TO THE FOLLOWING PROJECT HOLD POINTS AND ANY OTHERS SPECIFIED OR INSTRUCTED BY THE SHIRE REPRESENTATIVE
- THE HOLD POINTS HAVE BEEN ESTABLISHED FOR THE CONTRACTOR TO PROVIDE TEST RESULTS, ASSESSMENT OF WORKS, CLARIFICATION OF LEVELS OR OTHER SPECIFIED REQUIREMENTS TO BE APPROVED PRIOR TO PROCEEDING WITH THE NEXT STAGE OF WORKS.
- THE HOLD POINTS SHALL INCLUDE BUT NOT LIMITED TO:

HOLD POINT	APPROVAL REQUIREMENT
IMPORTED MATERIAL	COLOUR, VARIATION, AGGREGATE, 'LOW RISK' PHYTOPHORA DIEBACK
REMOVAL OF VEGETATION	ALL VEGETATION MARKED AND INSPECTED BY SHIRE REPRESENTATIVE PRIOR TO REMOVAL
ABORIGINAL HERITAGE AREAS	TRAIL ALIGNMENT WITHIN OR IN PROXIMITY TO MAPPED HERITAGE AREAS TO BE FLAGGED AND INSPECTED BY UNDULUP ASSOCIATION PRIOR TO CONSTRUCTION

- IF COMPLETED WORK IS NOT IN ACCORDANCE WITH DETAIL DRAWINGS AND CONSTRUCTION NOTES, THE SHIRE REPRESENTATIVE SHALL BE CONSULTED AND AN ONSITE REVIEW SHALL TAKE PLACE. ANY WORK DEEMED NOT TO MEET STANDARDS IN DRAWINGS AND CONSTRUCTION NOTES MAY BE REJECTED.

### TOLERANCES

- NEW TRAIL ALIGNMENTS HAVE BEEN FLAGGED AT APPROXIMATELY 5m CENTRES IN THE FIELD USING FLAGGING TAPE, DEFINING THE APPROXIMATE CENTERLINE OF A 5m DESIGN CORRIDOR. THE DESIGN CORRIDOR REPRESENTS THE CORRIDOR WITHIN WHICH THE TRAIL CAN BE CONSTRUCTED.
- TRAIL CORRIDOR LIMITS SHALL NOT EXCEED THOSE INDICATED IN THE DRAWINGS

### TRAIL GRADIENT

- TRAIL TO ALLOW FOR NATURAL CROSS SLOPE DRAINAGE. EROSION AND DRAINAGE FEATURES ARE INSTALLED TO STOP TRAIL AND FEATURE DEGRADATION, MINIMIZE POSSIBILITY OF DOWN TRAIL WATER CHANNELING.
- ROLLING DIPS AND GRADE REVERSAL FEATURES SHALL BE INSTALLED IN ACCORDANCE WITH WA MOUNTAIN BIKE MANAGEMENT GUIDELINES, CONTOURING WATER BACK TO NATURAL SLOPE.

### TRAIL PROFILE AND SURFACING

- THE FINISHED TRAIL PROFILE SHOULD BE CROWNED, OUTFLOPED OR LIFTED AND TILTED AS APPROPRIATE TO THE TERRAIN. THE SURFACE TREAD IS IMPORTED MATERIAL, TRAIL WIDTH AS PER TRAIL DETAILS SPECIFICATION.
- WHERE BATTER HEIGHT OR BACK-CUT EXCEEDS A HEIGHT OF 250MM IN THE VERTICAL PLANE, JUTE MAT (OR EQUIVALENT) IS TO BE INSTALLED TO PREVENT SLUMPING.
- IMPORTED MATERIAL HAS BEEN SPECIFIED WHERE THE NATURAL TERRAIN IS PARTICULARLY SANDY. IN THESE SECTIONS THE FOLLOWING METHODOLOGY APPLIES:

- GRUB AND REMOVE ALL VEGETATION AND TOPSOIL TO EXPOSE MINERAL EARTH TO FULL WIDTH OF SPECIFIED TRAIL.
- SURPLUS TOPSOIL AND VEGETATION TO BE STOCKPILED/WINDROWED SO AS TO BE PULLED BACK ONTO BATTERS WHEN COMPLETED. ANY EXCESS TO REQUIREMENTS SHALL BE CARTED OFF SITE AT CONTRACTOR'S EXPENSE.
- CUT SUB GRADE TO CREATE DRAINAGE AND TRAIL LOW POINTS AND UTILISE FILL WHERE POSSIBLE TO CREATE LIFTED AND TILTED TRAIL SUB GRADE. SURPLUS CUT TO BE CARTED/USED ELSEWHERE ON SITE WHERE POSSIBLE, AS GENERAL FILL. ANY EXCESS TO REQUIREMENTS SHALL BE CARTED OFF SITE AT CONTRACTOR'S EXPENSE.
- SURFACE COURSE MATERIAL TO BE DERIVED FROM CRUSHED GRANITE OF THE FOLLOWING SPECIFICATION, OR AN EQUIVALENT MATERIAL THAT IS 'LOW RISK' REGARDING HOSTING PHYTOPHORA/DIEBACK:

- 20MM AGGREGATE 14.7%
- 14MM AGGREGATE 26.065%
- 10MM AGGREGATE 17.47%
- 7MM AGGREGATE 7.76%
- CRUSHER FINES 26.26%
- CLAY 7.76%

- WATER & COMPACT THE FULL WIDTH OF IMPORTED MATERIAL TO 95% MDD OR TO EQUIVALENT AGREED SPECIFICATION, FORMING A SMOOTH AND STABLE COMPACTED SURFACE.

### ROCK WORK

- THE CONTRACTOR IS TO SOURCE STONE FOR ROCK WORK FROM LOCAL QUARRY FOR RETAINING.
- THE CONTRACTOR SHALL CONSTRUCT RETAINING FEATURES TO THE EXTENTS AND DETAILS SHOWN IN THE DRAWINGS.

### SITE CLEAN UP

- FOLLOWING COMPLETION OF WORKS, CONSTRUCTION SITES SHALL BE LEFT CLEAN, TIDY AND FREE OF CONSTRUCTION RUBBLE, WASTE AND OVERBURDEN TO THE SATISFACTION OF THE SHIRE REPRESENTATIVE.
- WITHIN TRAIL EXTENT, TRAIL AREA TO BE MADE GOOD TO ADJACENT TOPOGRAPHY TO A FINISH APPROVED BY THE SHIRE REPRESENTATIVE.

### CONSTRUCTION INDUCTION

- AT THE COMMENCEMENT OF CONSTRUCTION, ALL CONTRACTORS WILL BE REQUIRED TO ATTEND A CONSTRUCTION INDUCTION. KEY ITEMS TO BE COVERED IN THE CONSTRUCTION INDUCTION INCLUDE (BUT ARE NOT LIMITED TO):
- REQUIRED PPE (INCLUDING STEEL TOE BOOTS LONG PANTS, LONG SLEEVE SHIRTS AND BROAD BRIMMED HAT)
- PROJECT LOCATION, INCLUDING ACCESS ROADS, STOCKPILE LOCATIONS, EMERGENCY EVACUATION POINTS ETC;
- PROJECT SCOPE OF WORKS, INCLUDING DESIRED OUTCOME OF THE PROJECT, CONSTRUCTION PROGRAM, KEY MILESTONES, COMPLETION ETC;
- CONSTRUCTION SPECIFICATIONS
- PROJECT MANAGEMENT PROTOCOLS AROUND REPORTING, PROCEDURES TO FOLLOW IF THERE ARE ISSUES WITH CONSTRUCTION WORKS OR THE DESIGN, VARIATIONS, ETC;
- CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN;
- WORK HEALTH AND SAFETY MANAGEMENT PLAN;
- VISITOR RISK MANAGEMENT PROTOCOLS TO MINIMISE THE RISK OF VISITORS USING THE TRAIL WHILE IT IS UNDER CONSTRUCTION;
- HYGIENE PROTOCOLS TO ENSURE ANY MACHINERY OR TOOLS ARE FREE FROM CONTAMINATED SOIL, WEEDS OR SEEDS;
- CULTURAL HERITAGE PROTECTION PROTOCOLS;
- SIGNIFICANT FLORA AREA AND HABITAT TREE PROTOCOLS;
- PROPOSED MATERIALS.

### EMERGENCY PROCEDURES

THE CONTRACTOR WILL BE REQUIRED TO PROVIDE AN EMERGENCY RESPONSE PLAN AND FOR THIS PLAN TO BE THOROUGHLY COMMUNICATED TO ALL STAFF MEMBERS IN THE CONSTRUCTION INDUCTION. THE EMERGENCY RESPONSE PLAN SHOULD IDENTIFY EVACUATION ROUTES, MUSTERING POINTS, COMMUNICATION PROTOCOLS AND PROVIDE KEY CONTACT DETAILS FOR LOCAL AUTHORITIES AND SERVICES. IT SHOULD BE COMPATIBLE WITH THE INTERNAL EMERGENCY RESPONSE PROTOCOLS OF THE VARIOUS LAND MANAGERS.

ENVIRONMENTAL INCIDENTS AND EMERGENCIES WILL BE IDENTIFIED WITHIN INDIVIDUAL ENVIRONMENTAL RISK MANAGEMENT PLANS. HOWEVER, PRO-ACTIVE ENVIRONMENTAL RISK MANAGEMENT MEASURES SHOULD BE UNDERTAKEN WHEREVER POSSIBLE, IF EVENTS SUCH AS HIGH/EXTREME FIRE DANGER ARE FORECAST

### ACCESS

LAYDOWN AREA FOR WORKS IS LOCATED XXX ACCESSED OFF OF LEEUWIN ROAD - REFER DRAWING NUMBER GD7. THE CONTRACTOR SHALL ACCESS THE SITE VIA EXISTING SEALED ROADS. UNSEALED MANAGEMENT ACCESS TRACKS AND ALONG CONSTRUCTED TRAIL ONLY. ALTERNATE CONSTRUCTION ACCESS BY AGREEMENT WITH SHIRE REPRESENTATIVE.



**TRAIL DESCRIPTION**

The Leeuwin Trail is a 3,716m shared use, dual direction walk and cycle point to point trail. This is the final remaining section that will complete the link from Flinders Bay in Augusta to the Cape Leeuwin Lighthouse. The trail features a wide smooth surface to minimise soil displacement due to erosion. The understorey ranges from clear to dense with shallow to thick vegetative duff layer over sandy and gravelly ground free of rock. There are some sections of granite which will be protected by lifting and retaining the trail around the edges with boardwalk used in some cases to restrict trail user movement and protect the granite ecosystem.

**TRAIL DETAILS**

Classification Grade 2 Walk, Very Easy Mountain Bike  
 Trail Length 3,792m  
 Trail Type Shared use  
 Trail Style Open  
 Direction Dual Direction  
 Orientation Undulating

**TREAD PROFILE**

Tread Type Even Surface  
 Minimum Tread Width 2,000mm  
 Trailbed Width 2,500mm  
 Maximum Disturbance Width 3,000mm

**CONSTRUCTION TYPE**

New Trail Construction 3,176m  
 Upgrade Existing 616m

**CLEARING DETAILS**

Max Corridor Width 3,000mm  
 Minimum Line of Sight 20m  
 Broad Hazard Clearing 4,000mm  
 Obstruction Clear Zone @1m 3,000mm  
 Vegetative Material Retention Retained for naturalisation  
 Vegetative Material Disposal Broadcast/scattered

**GRADIENT & LANDFORM**

Average Trail Gradient 0.8%  
 Maximum Trail Gradient 4%  
 Side Slope Range 0-2%  
 Slope Aspect Southerly  
 Slope Complexity Simple  
 Landform Features Coast vegetation some granite outcrops

**VEGETATION CONDITIONS**

Vegetation Types Unknown  
 Vegetation Condition Unknown  
 Understorey Cover Clear > Dense  
 Hygiene Condition Infested/unprotectable

**GROUND CONDITIONS**

Soil Types Sandy, loamy rocky  
 Mineral soil depth range 0mm-50mm  
 Geology Type Soil Generally Free Of Rock  
 Hydrology Nil

**FINISHING**

Surface Types Imported  
 Surface Materials Crushed granite  
 Trail Naturalisation Landscaped Corridor & Shoulder  
 Trail Blending Blend excavation & backslope  
 Compaction Type Mechanical Compaction  
 Demarcation Depth 150mm  
 Demarcation Nil

**EQUIPMENT & ACCESS**

Permitted Machine Types Tracked Excavator  
 Tracked Skid Steer  
 Tracked Dumper  
 2000mm Track Width  
 From Leeuwin Road  
 In locations specified

**TRAIL CHAINAGE**

Type	St.	St. End	Construction	Profile type	Existing natural feature	Geology/soil type	Comments
Chainage	1	474	New Trail Construction	PP - Partial Bench	Closed scrub	Sandy	5m offset from road alignment
Chainage	2	14	Upgrade Existing Vehicle Track	PU - Upgraded Track	Low closed forest/scrub	Gravel/Sand	Existing vehicle track
Chainage	3	226	New Trail Construction	PP - Partial Bench	Low closed forest/scrub	Sandy with granite outcrops	
Chainage	4	10	New Trail Construction	PEB - Elevated Boardwalk	Closed scrub	Sandy with granite outcrops	
Chainage	5	82	New Trail Construction	PP - Partial Bench	Closed scrub	Sandy with granite outcrops	
Chainage	6	114	Upgrade Existing informal track	PU - Upgraded Track	Low closed forest/scrub and dense heath	Sandy	Existing informal walk trail
Chainage	7	6	New Trail Construction	PR - Rock Retained	Low closed forest/scrub and dense heath	Sandy with granite outcrops	
Chainage	8	787	New Trail Construction	PP - Partial Bench	Low closed forest/scrub and dense heath	Sandy	
Chainage	9	23	Upgrade Existing Vehicle Track	PU - Upgraded Track	Low closed forest/scrub and dense heath	Sandy	Existing vehicle Track
Chainage	10	16	Upgrade Existing Vehicle Track	PU - Upgraded Track	Dense heath	Sandy	Existing vehicle Track
Chainage	11	10	Upgrade Existing Vehicle Track	PU - Upgraded Track	Dense heath	Sandy	Existing vehicle Track
Chainage	12	38	New Trail Construction	PL - Lifted	Low closed forest	Sandy	Existing vehicle Track
Chainage	13	137	Upgrade Existing Vehicle Track	PU - Upgraded Track	Low closed forest	Sandy	Existing vehicle Track
Chainage	13.1	61	Upgrade Existing Vehicle Track	PU - Upgraded Track	Low closed forest/dense heath	Sandy	Existing vehicle Track
Chainage	14	305	New Trail Construction	PP - Partial Bench	Low closed forest/dense heath	Sandy	Existing vehicle Track
Chainage	15	46	Upgrade Existing Vehicle Track	PU - Upgraded Track	Low closed forest/dense heath	Sandy	Existing vehicle Track
Chainage	16	809	New Trail Construction	PP - Partial Bench	Low closed forest/dense heath	Sandy	Existing vehicle Track
Chainage	17	39	Upgrade Existing Vehicle Track	PU - Upgraded Track	Dense heath	Sandy	Existing vehicle Track
Chainage	18	277	New Trail Construction	PP - Partial Bench	Dense heath	Sandy	Existing vehicle Track
Chainage	19	91	Upgrade Existing Vehicle Track	PU - Upgraded Track	Dense heath	Sandy	Existing vehicle Track
Chainage	20	42	Upgrade Existing Vehicle Track	PR - Rock Retained	Dense heath	Sandy	Existing vehicle Track
Chainage	21	23	Upgrade Existing Vehicle Track	PU - Upgraded Track	Dense heath	Sandy	Existing vehicle Track
Chainage	22	49	New Trail Construction	PP - Partial Bench	Dense heath	Sandy	Existing vehicle Track
Chainage	23	33	New Trail Construction	PR - Rock Retained	Granite	Granite outcrops	
Chainage	24	80	New Trail Construction	PP - Partial Bench	Dense heath	Sandy	
<b>Total Trail (m)</b>		<b>3,792</b>					





**Construction access**

- Construction Access (Orange diamond)
- Material Laydown (Yellow circle)
- Minor sealed road (Black line)
- Vehicle Track (Dashed line)
- Existing formal trail (Blue line)
- 5m contour (Dotted line)

**Chainage point**

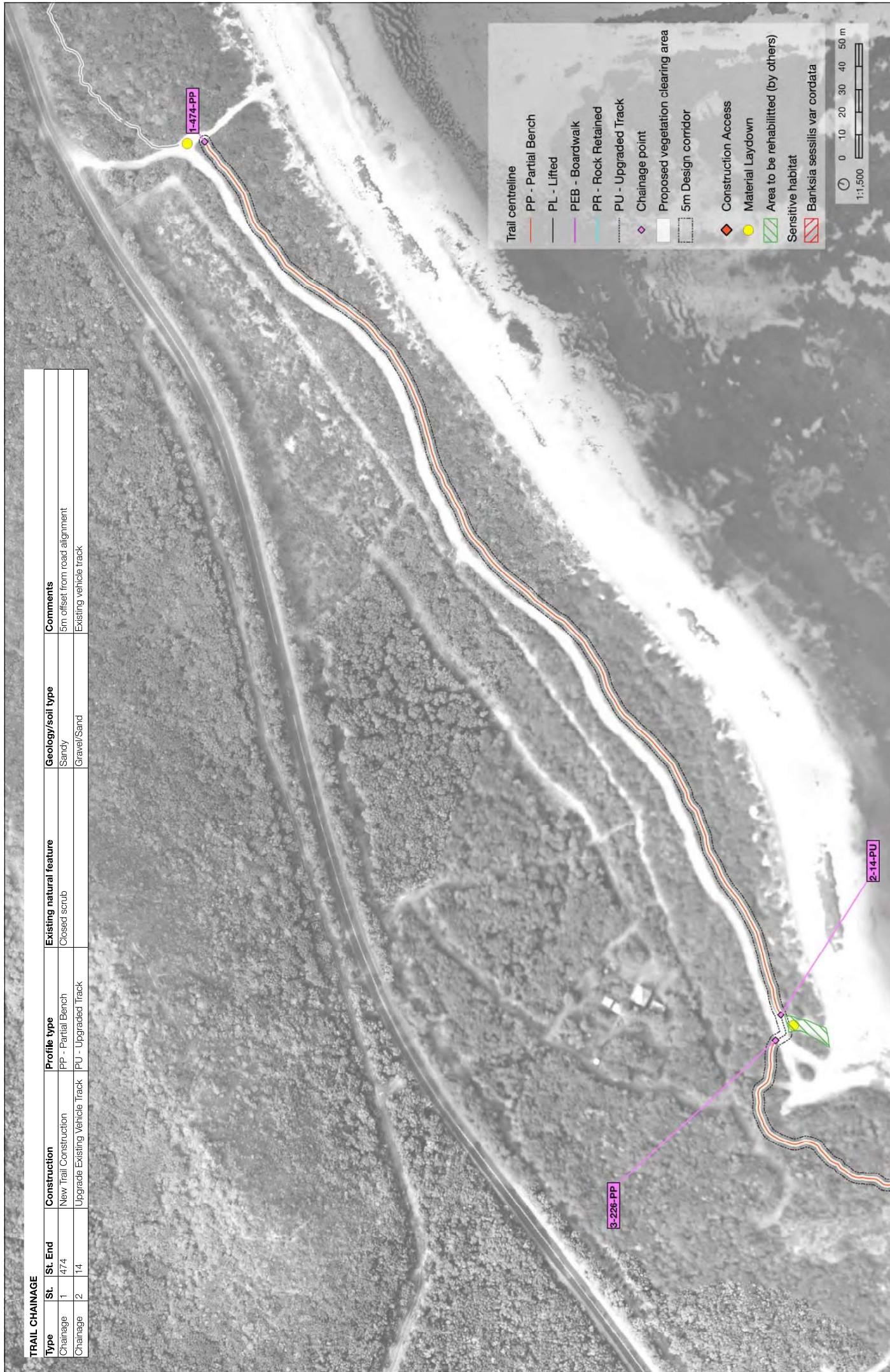
- PP - Partial Bench (Orange line)
- PL - Lifted (Black line)
- PEB - Boardwalk (Purple line)
- PR - Rock Retained (Blue line)
- PU - Upgraded Track (Dotted line)



<p><b>COMMON GROUND</b> COMMON GROUND TRAILS PTY LTD Margaret River WA 8285 PH 0898 304 893 info@cg.com.au</p>	<p>CLIENT</p> <p>SHIRE OF AUGUSTA MARGARET RIVER Augusta WA 8250</p>	<p>SCALE</p> <p>1:7 000 at A3</p> <p>DRAWN: MW</p> <p>PROJECT NUMBER: 2324</p>	<p>DATE</p> <p>03/05/2024</p> <p>CHECKED: DW</p>	<p>PROJECT NORTH</p>	<p>REV</p> <p>A</p>	<p>ISSUE</p> <p>DRAFT FOR REVIEW</p>	<p>DATE</p> <p>03/05/2024</p>	<p>PROJECT</p> <p>LEEUWIN TRAIL DETAILED DESIGN</p>	<p>DRAWING NUMBER</p> <p>2324_DD4</p>	<p>REVISION</p> <p>A</p>
		<p>DRAWING TITLE</p> <p>TRAIL OVERVIEW</p>	<p>ISSUE</p> <p>DRAFT FOR REVIEW</p>							

**TRAIL CHAINAGE**

Type	St.	St. End	Construction	Profile type	Existing natural feature	Geology/soil type	Comments
Chainage	1	474	New Trail Construction	PP - Partial Bench	Closed scrub	Sandy	5m offset from road alignment
Chainage	2	14	Upgrade Existing Vehicle Track	PU - Upgraded Track	Gravel/Sand		Existing vehicle track



**Trail centreline**

- PP - Partial Bench
- PL - Lifted
- PEB - Boardwalk
- PR - Rock Retained
- PU - Upgraded Track

**Chainage point**

- Proposed vegetation clearing area
- 5m Design corridor

**Construction Access**

- Material Laydown
- Area to be rehabilitated (by others)

**Sensitive habitat**

- Banksia sessilis var cordata

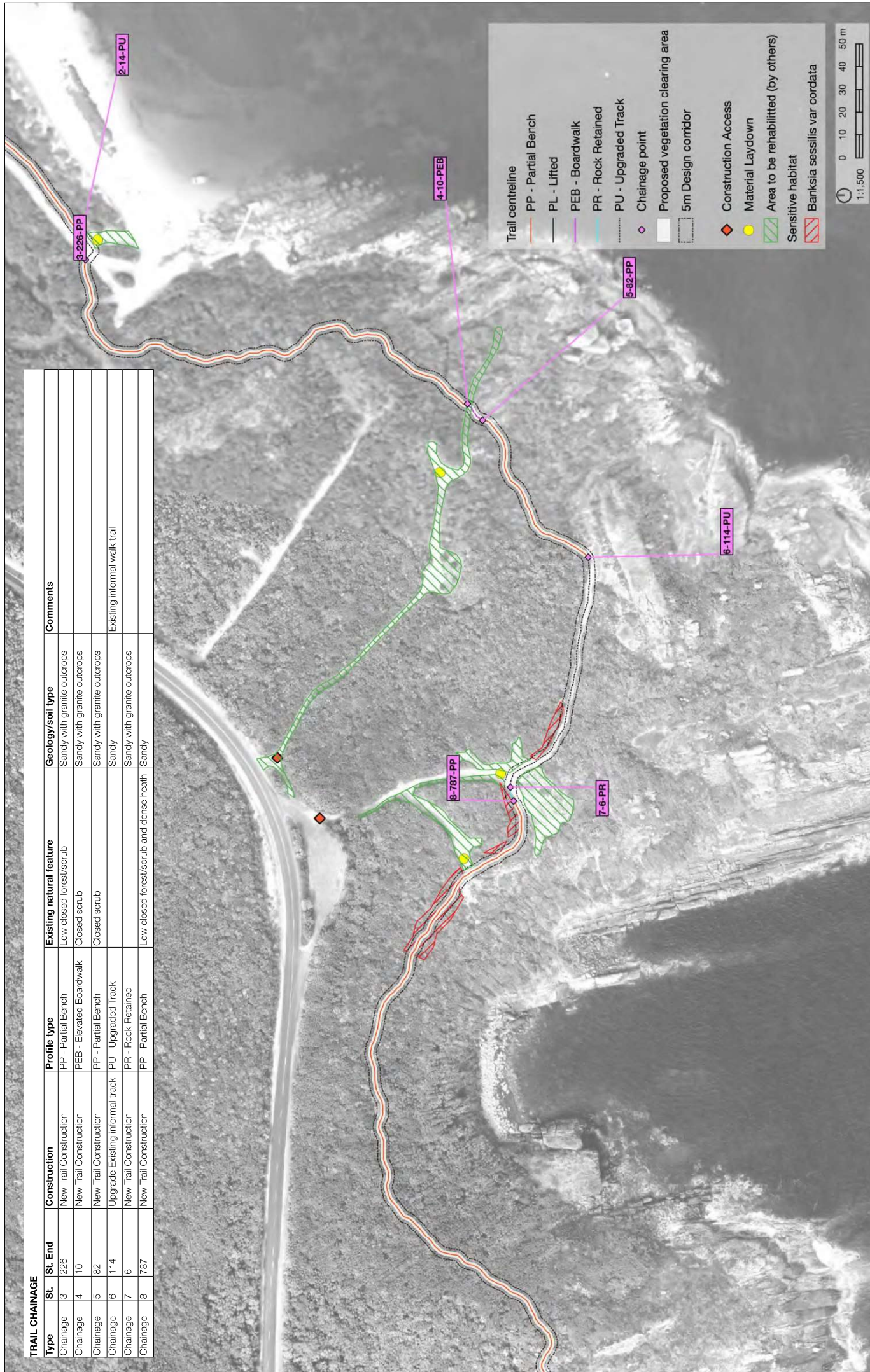


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	<p>DRAWING TITLE</p> <p>TRAIL DETAIL</p>		<p>ISSUE</p> <p>DRAFT FOR REVIEW</p>		<p>PROJECT</p> <p>LEEWIN TRAIL DETAILED DESIGN</p>		<p>DRAWING NUMBER</p> <p>2324_DD5</p>		<p>REVISION</p> <p>A</p>	

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**TRAIL CHAINAGE**

Type	St.	St. End	Construction	Profile type	Existing natural feature	Geology/soil type	Comments
Chainage	3	226	New Trail Construction	PP - Partial Bench	Low closed forest/scrub	Sandy with granite outcrops	
Chainage	4	10	New Trail Construction	PEB - Elevated Boardwalk	Closed scrub	Sandy with granite outcrops	
Chainage	5	82	New Trail Construction	PP - Partial Bench	Closed scrub	Sandy with granite outcrops	Existing informal walk trail
Chainage	6	114	Upgrade Existing informal track	PU - Upgraded Track		Sandy	
Chainage	7	6	New Trail Construction	PR - Rock Retained	Low closed forest/scrub and dense heath	Sandy with granite outcrops	
Chainage	8	787	New Trail Construction	PP - Partial Bench		Sandy	

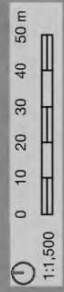


**Trail centreline**

- PP - Partial Bench
- PL - Lifted
- PEB - Boardwalk
- PR - Rock Retained
- PU - Upgraded Track
- Chainage point
- Proposed vegetation clearing area
- 5m Design corridor

**Construction Access**

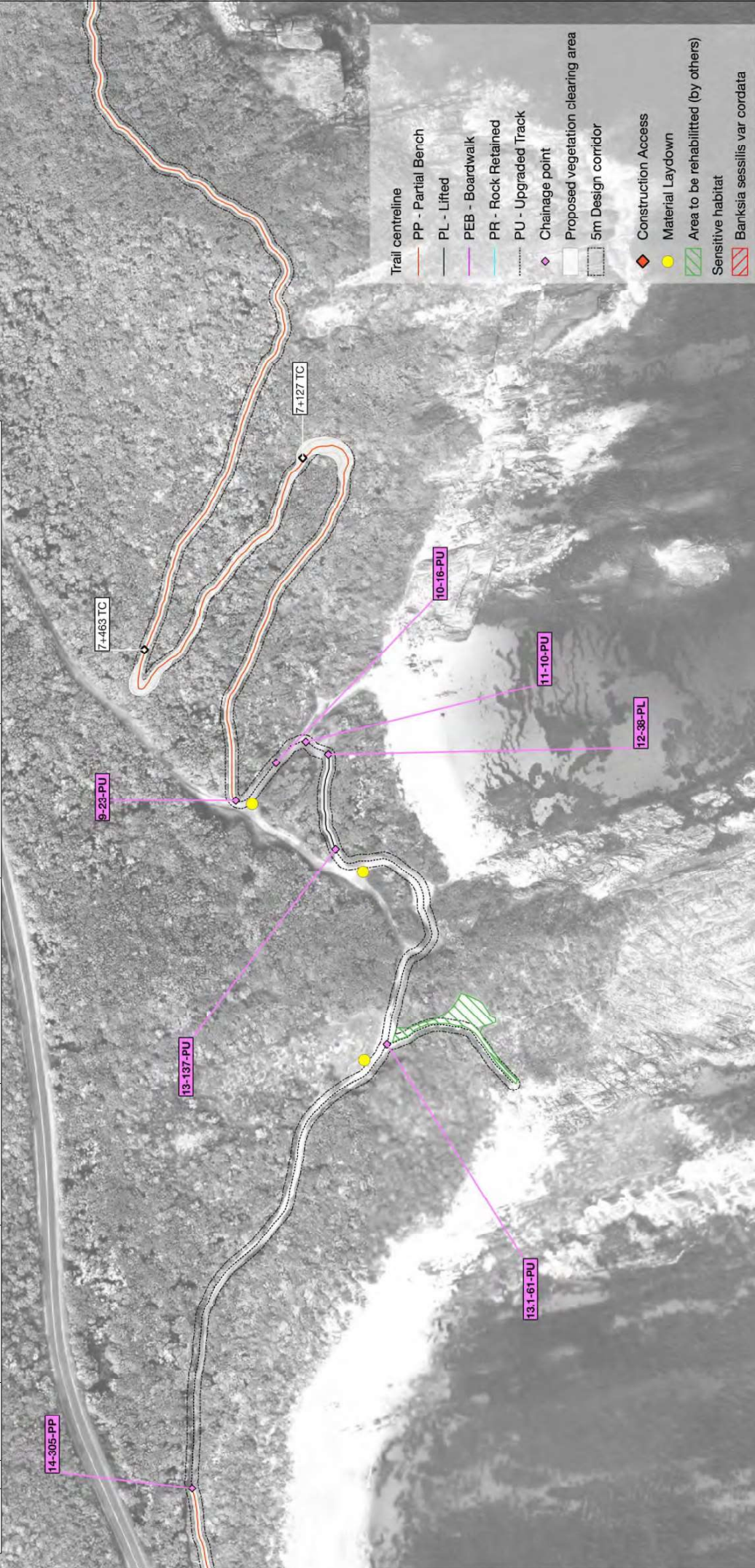
- Material Laydown
- Area to be rehabilitated (by others)
- Sensitive habitat
- Banksia sessilis var cordata



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	<p>DRAWING TITLE</p> <p>TRAIL DETAIL</p>		<p>ISSUE</p> <p>DRAFT FOR REVIEW</p>		<p>PROJECT</p> <p>LEEUWIN TRAIL DETAILED DESIGN</p>		<p>DRAWING NUMBER</p> <p>2324_DD6</p>		<p>REVISION</p> <p>A</p>	

**TRAIL CHAINAGE**

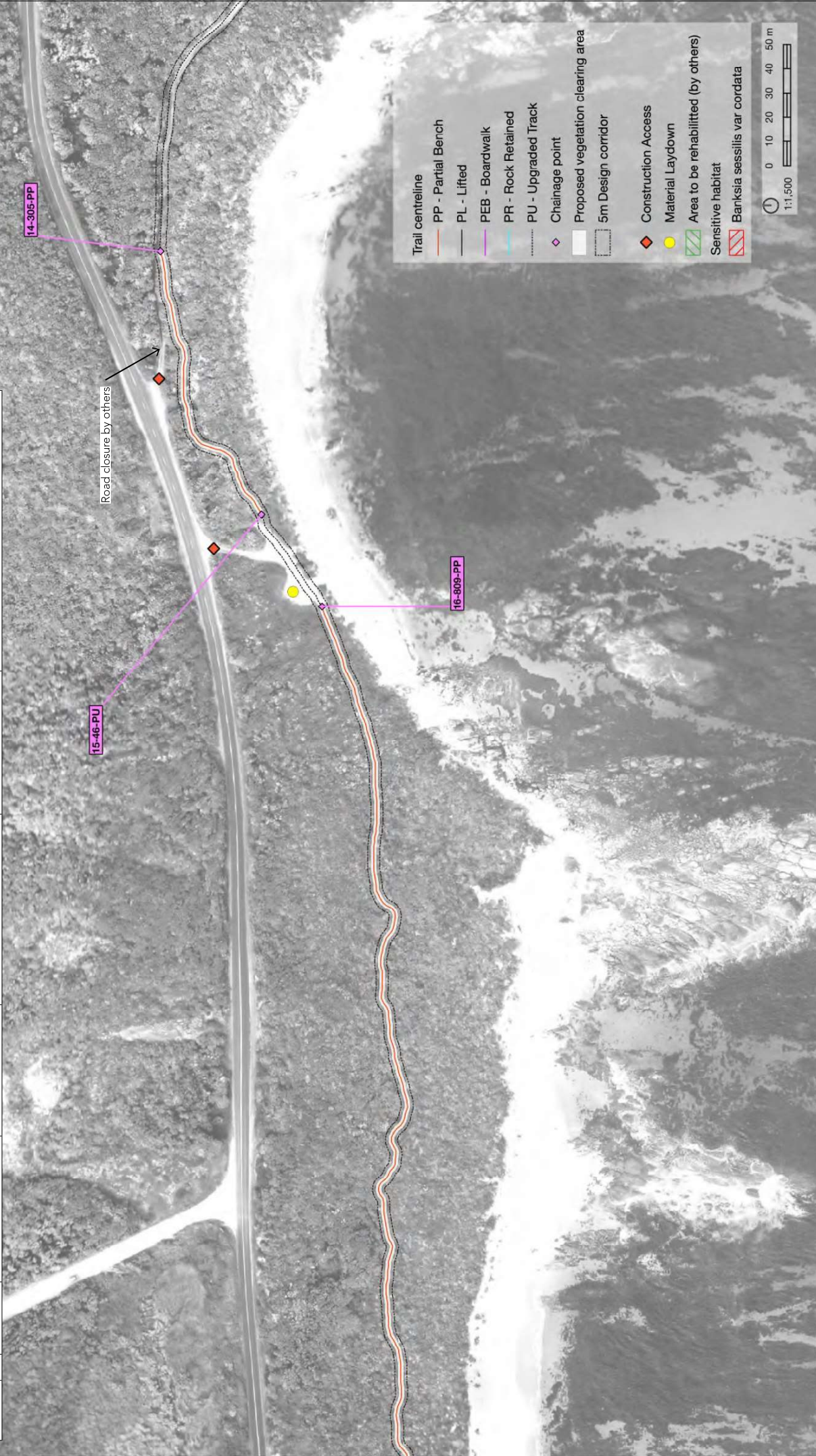
Type	St.	St. End	Construction	Profile type	Existing natural feature	Geology/soil type	Comments
Chainage	8	787	New Trail Construction	PP - Partial Bench	Low closed forest/scrub and dense heath	Sandy	
Chainage	9	23	Upgrade Existing Vehicle Track	PU - Upgraded Track		Sandy	Existing vehicle track
Chainage	10	16	Upgrade Existing Vehicle Track	PU - Upgraded Track		Sandy	Existing vehicle track
Chainage	11	10	Upgrade Existing Vehicle Track	PU - Upgraded Track		Sandy	Existing vehicle track
Chainage	12	38	New Trail Construction	PL - Lifted	Low closed forest	Sandy	
Chainage	13	137	Upgrade Existing Vehicle Track	PU - Upgraded Track		Sandy	Existing vehicle track
Chainage	13.1	61	Upgrade Existing Vehicle Track	PU - Upgraded Track		Sandy	Existing vehicle track



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		<p>DRAFTING TITLE</p> <p>TRAIL DETAIL</p>	<p>ISSUE</p> <p>DRAFT FOR REVIEW</p>	<p>PROJECT NUMBER</p> <p>2324</p>	<p>PROJECT TITLE</p> <p>TRAIL DETAIL</p>	<p>ISSUE</p> <p>DRAFT FOR REVIEW</p>	<p>REVISION</p> <p>A</p>			

**TRAIL CHAINAGE**

Type	St.	St. End	Construction	Profile type	Existing natural feature	Geology/soil type	Comments
Chainage	13	137	Upgrade Existing Vehicle Track	PU - Upgraded Track		Sandy	Existing vehicle Track
Chainage	14	305	New Trail Construction	PP - Partial Bench	Low closed forest/dense heath	Sandy	Existing vehicle Track
Chainage	15	46	Upgrade Existing Vehicle Track	PU - Upgraded Track	Low closed forest/dense heath	Sandy	
Chainage	16	809	New Trail Construction	PP - Partial Bench		Sandy	



**Trail centreline**

- PP - Partial Bench
- PL - Lifted
- PEB - Boardwalk
- PR - Rock Retained
- PU - Upgraded Track
- Chainage point
- Proposed vegetation clearing area
- 5m Design corridor
- Construction Access
- Material Laydown
- Area to be rehabilitated (by others)
- Sensitive habitat
- Banksia sessilis var cordata

Scale: 1:1,500  
0 10 20 30 40 50 m

<p><b>COMMON GROUND</b> COMMON GROUND TRAILS PTY LTD Margaret River WA 8285 ph 0898 304 893 info@cgtrails.com.au</p>	<p>CLIENT</p> <p>SHIRE OF AUGUSTA MARGARET RIVER AUGUSTA WA 8250</p>	<p>SCALE</p> <p>1:1 500 at A3</p> <p>DRAWN</p> <p>MW</p> <p>PROJECT NUMBER</p> <p>2324</p>	<p>DATE</p> <p>03/05/2024</p> <p>CHECKED</p> <p>DW</p>	<p>PROJECT NORTH</p>	<p>REV</p> <p>A</p>	<p>ISSUE</p> <p>DRAFT FOR REVIEW</p>	<p>DATE</p> <p>03/05/2024</p>	<p>PROJECT</p> <p>LEEWIN TRAIL DETAILED DESIGN</p>	<p>DRAWING NUMBER</p> <p>2324_DD8</p>	<p>REVISION</p> <p>A</p>
		<p>DRAFTING TITLE</p> <p>TRAIL DETAIL</p>		<p>ISSUE</p> <p>DRAFT FOR REVIEW</p>		<p>PROJECT</p> <p>LEEWIN TRAIL DETAILED DESIGN</p>		<p>DRAWING NUMBER</p> <p>2324_DD8</p>		<p>REVISION</p> <p>A</p>

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**TRAIL CHAINAGE**

Type	St	St End	Construction	Profile type	Existing natural feature	Geology/soil type	Comments
Chainage	16	1809	New Trail Construction	PP - Partial Bench	Low dissected forest/dense heath	Sandy	
Chainage	17	39	Upgrade Existing Vehicle Track	PU - Upgraded Track	Dense heath	Sandy	Existing vehicle Track
Chainage	18	277	New Trail Construction	PP - Partial Bench		Sandy	

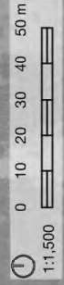


**Trail centreline**

- PP - Partial Bench
- PL - Lifted
- PEB - Boardwalk
- PR - Rock Retained
- PU - Upgraded Track
- Chainage point
- Proposed vegetation clearing area
- 5m Design corridor

**Construction Access**

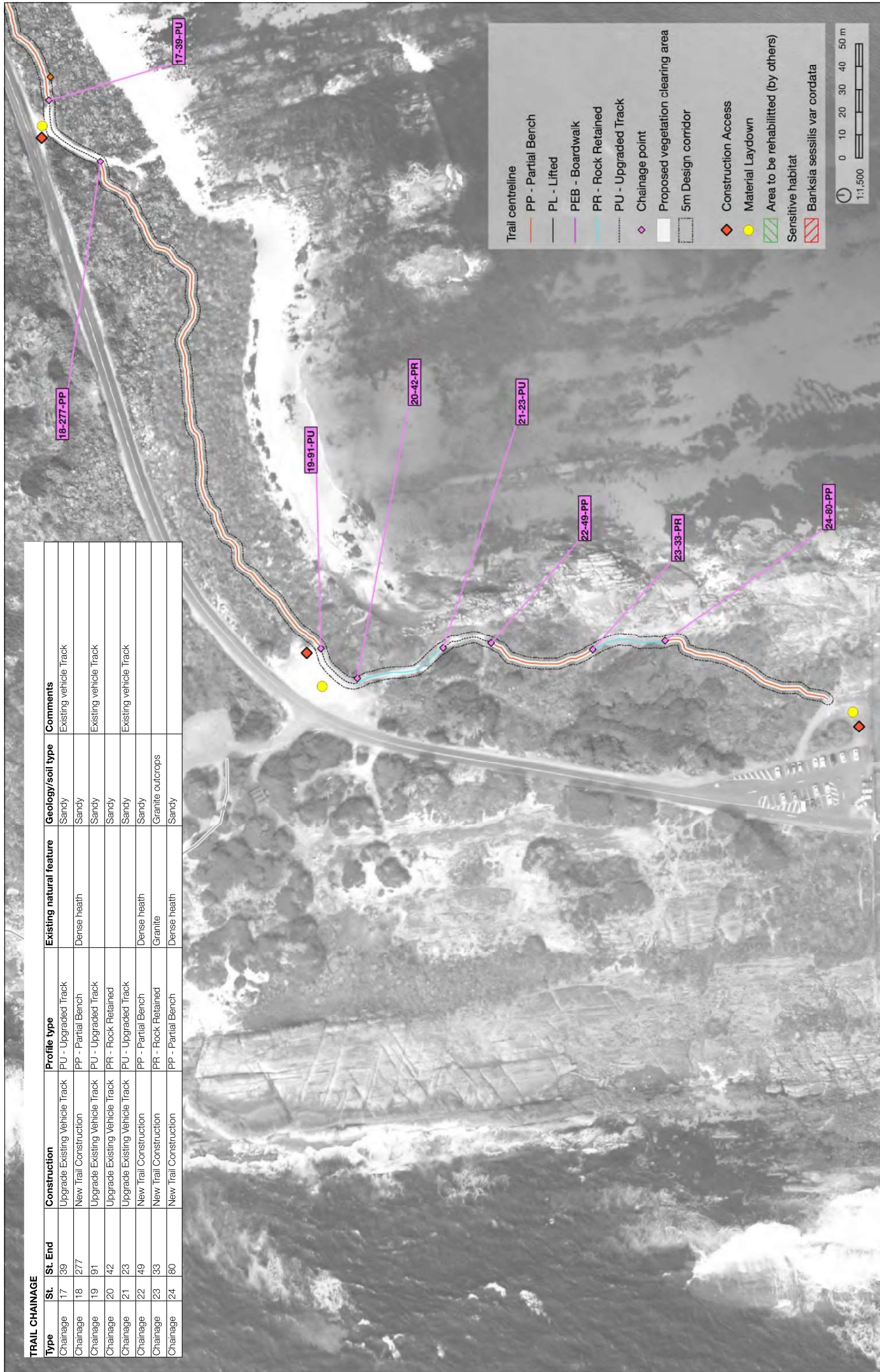
- Material Laydown
- Area to be rehabilitated (by others)
- Sensitive habitat
- Banksia sessilis var cordata



<p><b>COMMON GROUND</b> COMMON GROUND TRAILS PTY LTD Margaret River WA 8285 ph 0898 304 893 info@cg.com.au</p>	<p>PO Box 122 Margaret River WA 8285 ABN 51 623 527 776 ACN 162627776</p>	<p>SHIRE OF AUGUSTA MARGARET RIVER AUGUSTA WA 8250</p>	<p>CLIENT</p>	<p>SCALE 1:1 500 at A3 DRAWN MW PROJECT NUMBER 2324</p>	<p>DATE 03/05/2024 CHECKED DW</p>	<p>PROJECT NORTH</p>	<p>REV A</p>	<p>ISSUE DRAFT FOR REVIEW</p>	<p>DATE 03/05/2024</p>	<p>PROJECT LEEUWIN TRAIL DETAILED DESIGN</p>	<p>DRAWING NUMBER 2324_DD9</p>	<p>REVISION A</p>
			<p>PROJECT TITLE <b>TRAIL DETAIL</b></p>	<p>ISSUE <b>DRAFT FOR REVIEW</b></p>								

**TRAIL CHAINAGE**

Type	St.	St. End	Construction	Profile type	Existing natural feature	Geology/soil type	Comments
Chainage	17	39	Upgrade Existing Vehicle Track	PU - Upgraded Track		Sandy	Existing vehicle Track
Chainage	18	277	New Trail Construction	PP - Partial Bench	Dense heath	Sandy	
Chainage	19	91	Upgrade Existing Vehicle Track	PU - Upgraded Track		Sandy	Existing vehicle Track
Chainage	20	42	Upgrade Existing Vehicle Track	PR - Rock Retained		Sandy	Existing vehicle Track
Chainage	21	23	Upgrade Existing Vehicle Track	PU - Upgraded Track		Sandy	Existing vehicle Track
Chainage	22	49	New Trail Construction	PP - Partial Bench	Dense heath	Sandy	
Chainage	23	33	New Trail Construction	PR - Rock Retained	Granite	Granite outcrops	
Chainage	24	80	New Trail Construction	PP - Partial Bench	Dense heath	Sandy	



**Trail centreline**

- PP - Partial Bench
- PL - Lifted
- PEB - Boardwalk
- PR - Rock Retained
- PU - Upgraded Track
- Chainage point
- Proposed vegetation clearing area
- 5m Design corridor

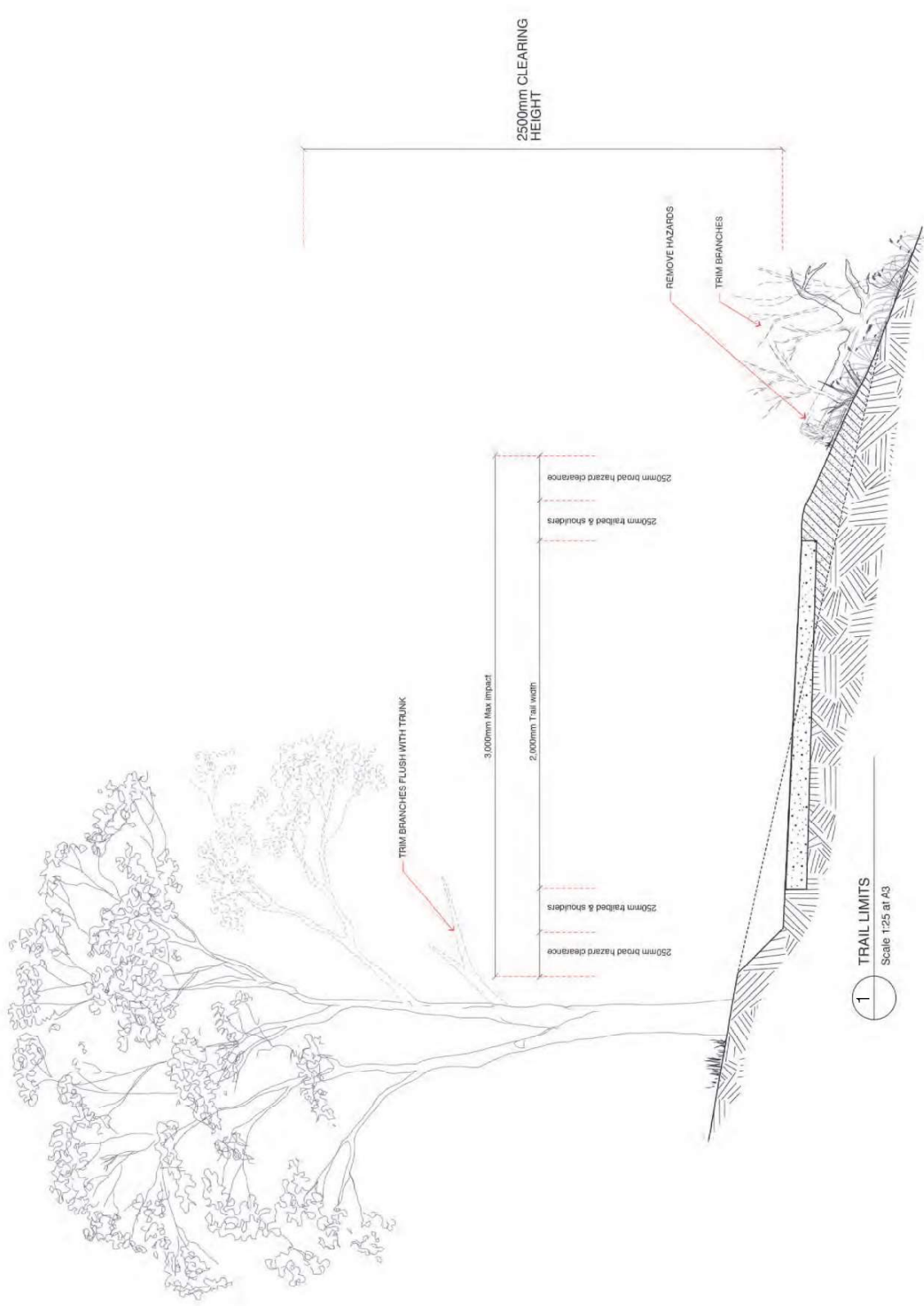
**Construction Access**

- Material Laydown
- Area to be rehabilitated (by others)
- Sensitive habitat
- Banksia sessilis var cordata

Scale: 1:1,500  
0 10 20 30 40 50 m

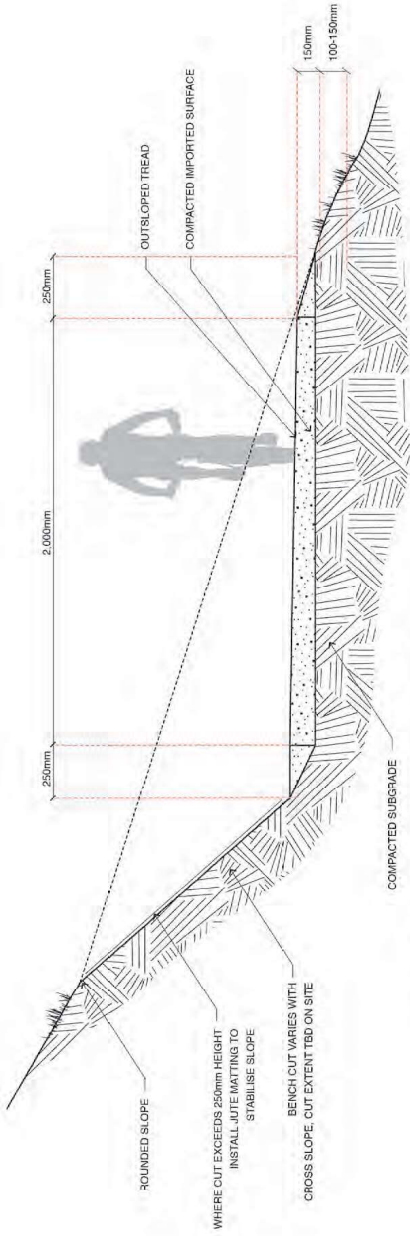
<p><b>COMMON GROUND</b> COMMON GROUND TRAILS PTY LTD Margaret River WA 8205 ph 0898 304 893 info@cgtrails.com.au</p>	<p>CLIENT</p> <p>SHIRE OF AUGUSTA MARGARET RIVER AUGUSTA WA 8250</p>	<p>SCALE</p> <p>1:1 500 at A3</p> <p>DRAWN: MW</p> <p>CHECKED: DW</p> <p>PROJECT NUMBER: 2324</p>	<p>DATE</p> <p>03/05/2024</p>	<p>PROJECT NORTH</p>	<p>REV</p> <p>A</p>	<p>ISSUE</p> <p>DRAFT FOR REVIEW</p>	<p>DATE</p> <p>03/05/2024</p>	<p>PROJECT</p> <p>LEEWIN TRAIL DETAILED DESIGN</p>	<p>DRAWING NUMBER</p> <p>2324_DD10</p>	<p>REVISION</p> <p>A</p>
		<p>PROJECT TITLE</p> <p>TRAIL DETAIL</p>	<p>ISSUE</p> <p>DRAFT FOR REVIEW</p>	<p>DRAWING TITLE</p> <p>TRAIL DETAIL</p>						

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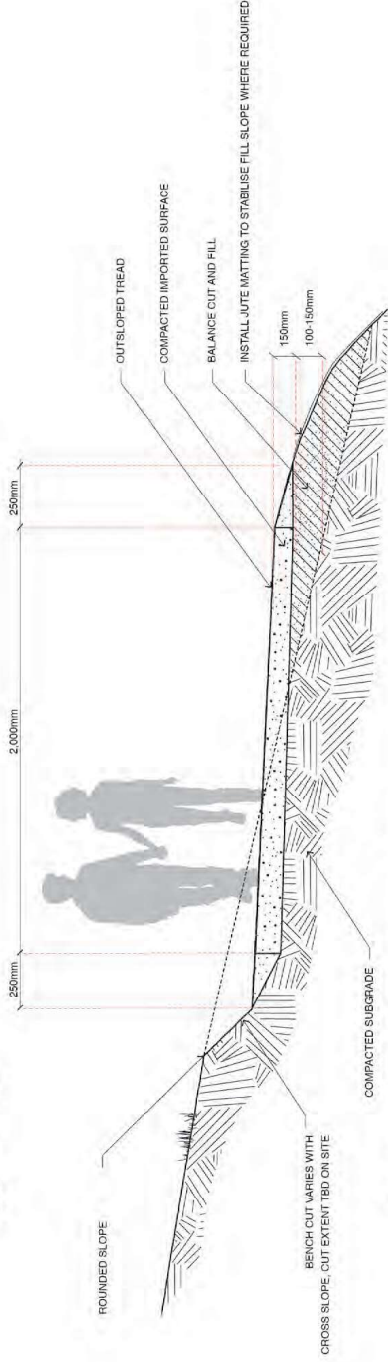


<p><b>COMMON GROUND</b> COMMON GROUND TRAILS PTY LTD PO Box 122 Margaret River WA 8265 ABN 51 162327776 ACN 162327776 info@cgtrails.com.au</p>	<p>SHIRE OF AUGUSTA MARGARET RIVER Augusta WA 8250</p>	SCALE	DATE	PROJECT NORTH	REV	ISSUE	DATE	PROJECT	DRAWING NUMBER	REVISION
		MM	03/05/2024	1	A	DRAFT FOR REVIEW	03/05/2024	LEEWIN TRAIL DETAILED DESIGN	2324_DD11	A
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<p>TYPICAL DETAILS</p>										

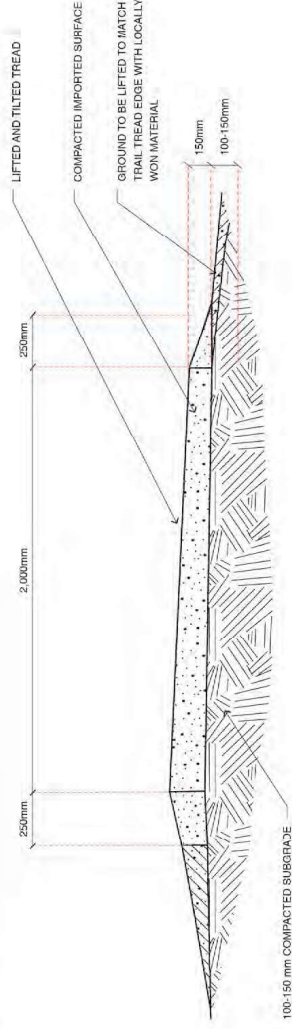
- NOTES:**
- Trail is to be constructed according to WA I/ITB Management Guidelines.
  - Tread surface should be imported gravel/clay mix 150mm thickness.
  - Imported material should be of a texture and colour that fits relative to the surrounding location.
  - Scarify top layer of existing ground to remove small rocks and organic matter to approx 100mm.
  - Compact existing subgrade as specified using wheel or track rolling until particles are firmly packed.
  - Compact surface course as specified using wheel or track rolling until particles are firmly packed.
  - Install jute matting to stabilise uphill cut and downhill fill slopes
  - The topsoil and mineral earth removed from the inner side of the bench should be used to build up the outer edge of the bench. Excess material should be used locally along the trail where fill material is required.
  - Partial bench cut extent to be determined on site
  - Lifted and tilted profile to be used in flatter areas with tilt direction shifting to allow for drainage



**2** BENCH CUT TRAIL - IMPORTED SURFACE  
Scale 1:25 at A3



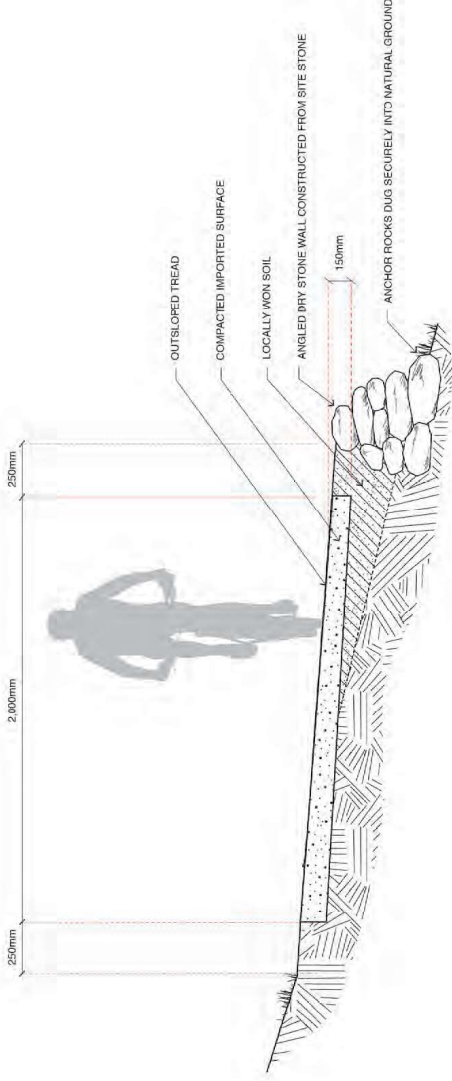
**3** PARTIAL BENCH TRAIL - IMPORTED SURFACE  
Scale 1:25 at A3



**4** LIFTED AND TILTED TRAIL - IMPORTED SURFACE  
Scale 1:25 at A3

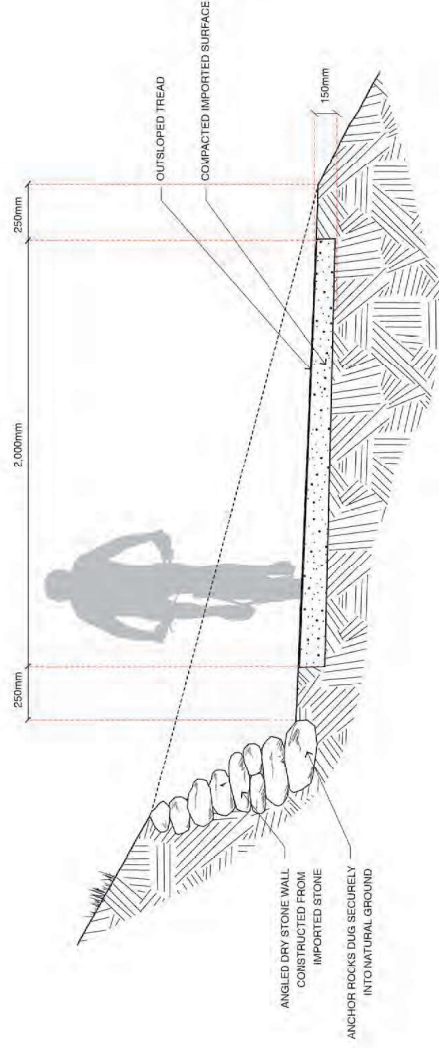
**NOTES:**

- Trail is to be constructed according to WA MTB Management Guidelines.
- Tread surface should be imported gravel/clay mix 150mm thickness.
- Imported material should be of a texture and colour that fits relative to the surrounding location.
- Scarify top layer of existing ground to remove small rocks and organic matter to approx 100mm.
- Compact existing subgrade to 100 - 150mm using wheel or track rolling until particles are firmly packed.
- Compact surface course to 150mm using wheel or track rolling until particles are firmly packed.
- Use naturally occurring rock where available to stabilise uphill cut and downhill fill
- The topsoil and mineral earth removed from the inner side of the bench should be used to build up the outer edge of the bench. Excess material should be used locally along the trail where fill material is required.
- Rock retained profile should be used where bedrock prevents adequate bench cut.
- Rock retained cut should be used where the backcut needs to be steeper than 70°



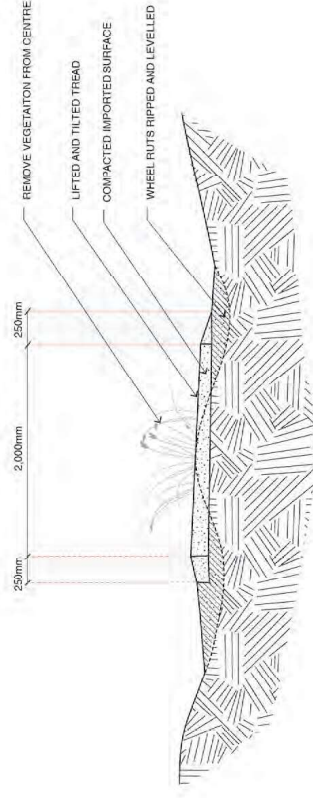
5 ROCK RETAINED PROFILE - IMPORTED SURFACE

Scale 1:25 at A3



6 ROCK RETAINED CUT - IMPORTED SURFACE

Scale 1:25 at A3

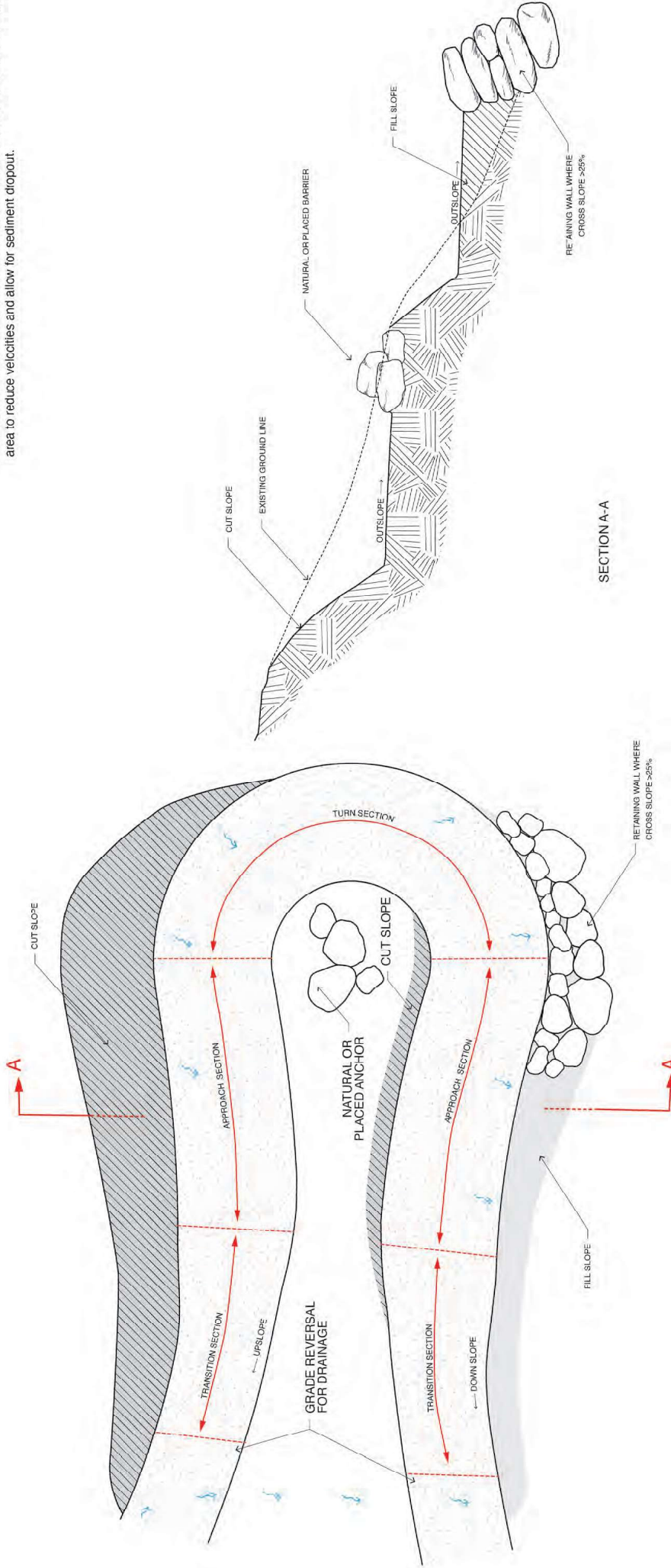


7 UPGRADE VEHICLE TRACK

Scale 1:50 at A3

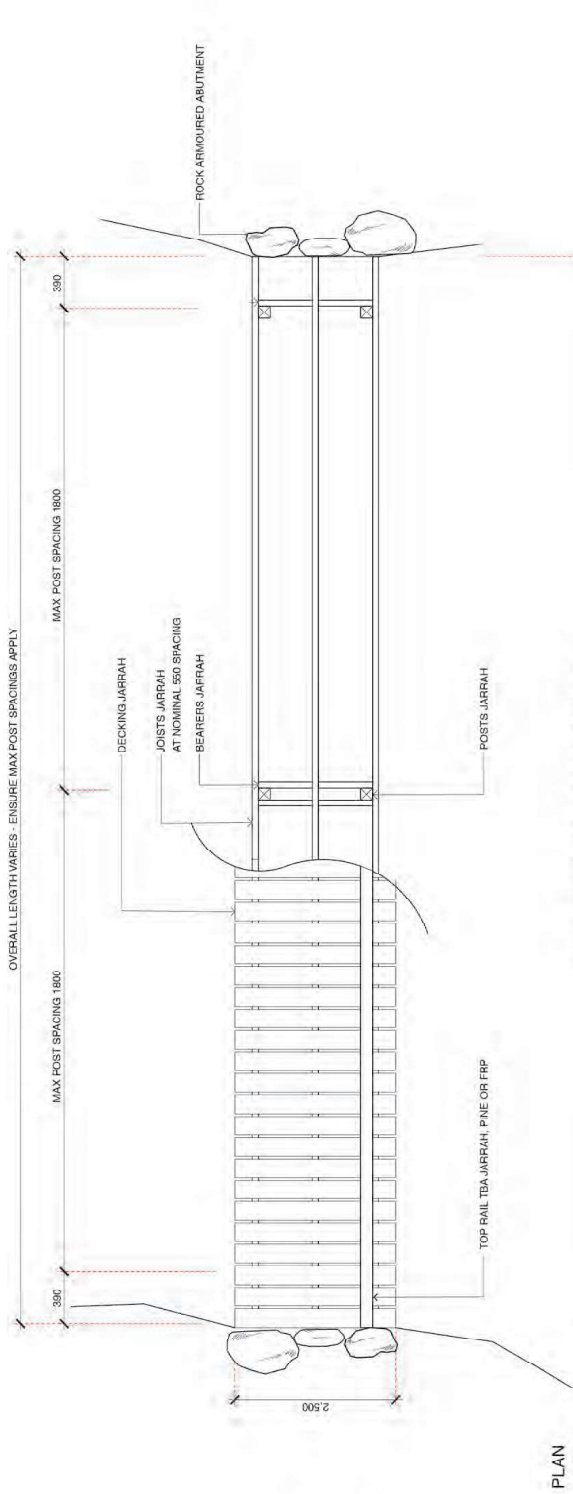
**NOTES:**

- Standard switchbacks are suitable for shallower sideslopes less than 23%.
- Switchbacks are to be used where there are stacked turns on a slope as they shed water away from the trail downslope
- The switchback depicted is indicative only with variations in shape and dimensions expected with variations in topography and hydrology across the trail alignment.
- Embankment cuts should not exceed 1.5m in height.
- Construct constant grade through both approach sections and turn section.
- Trail widening will be required around the arc of the switchback.
- Use naturally occurring rock where available to stabilise uphill cut and downhill fill.
- Construct grade reversals at entry and exit of switchback to facilitate drainage.
- Drainage outlet should disperse water along the contour or across a broad discharge area to reduce velocities and allow for sediment dropout.

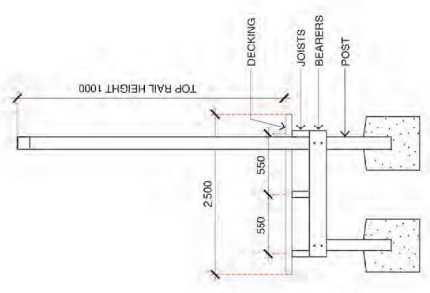


**8** TYPICAL SWITCHBACK / CLIMBING TURN  
Scale 1:50 at A3

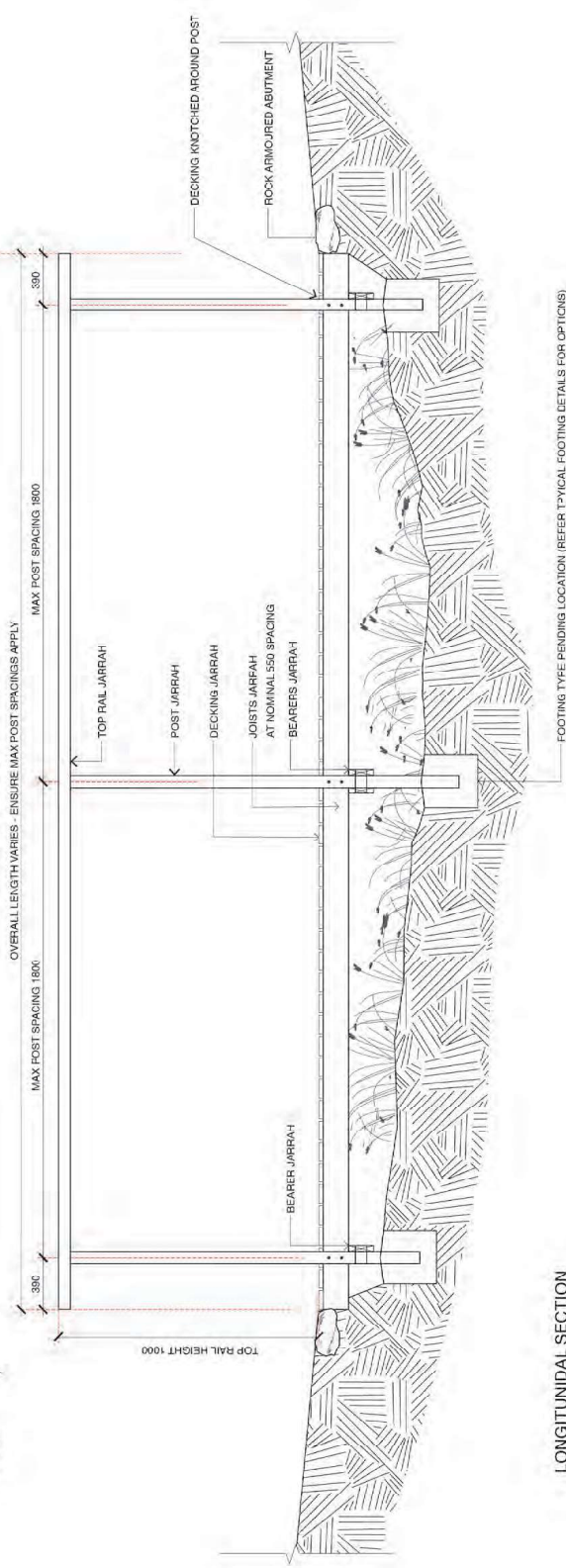
**NOTES:**  
Handrail to be installed where fall is greater than 1m



PLAN



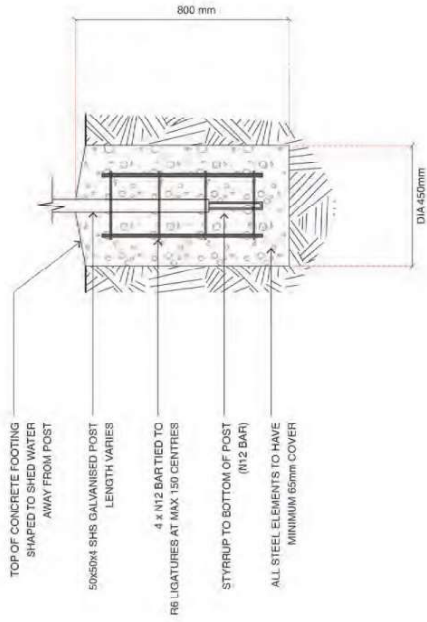
SHORT SECTION



LONGITUDINAL SECTION



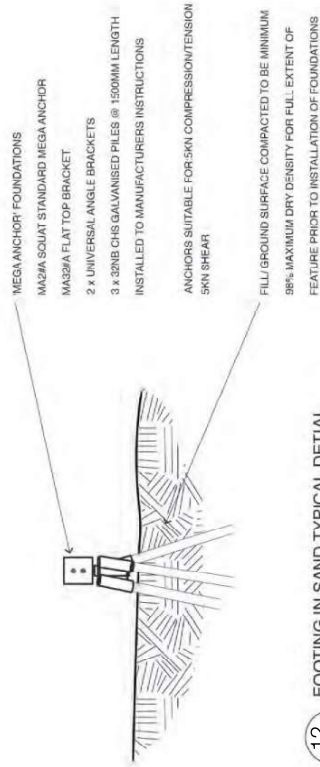
<p><b>COMMON GROUND</b> COMMON GROUND TRAILS PTY LTD Margaret River WA 8285 ph 0899 304 893 info@cg.com.au</p>	<p>CLIENT</p> <p>SHIRE OF AUGUSTA MARGARET RIVER AUGUSTA WA 8250</p>	<p>SCALE</p> <p>DRAWN: MW PROJECT NUMBER: 2324</p>	<p>DATE: 03/05/2024 CHECKED: DW</p>	<p>PROJECT NORTH</p>	<p>REV: A ISSUE: DRAFT FOR REVIEW</p>	<p>DATE: 03/05/2024</p>	<p>PROJECT: LEEUWIN TRAIL DETAILED DESIGN</p>	<p>DRAWING NUMBER: 2324_DD15 ISSUE: DRAFT FOR REVIEW</p>	<p>REVISION: A</p>
		<p>TYPICAL DETAILS</p>							



TYPICAL POST FOOTING

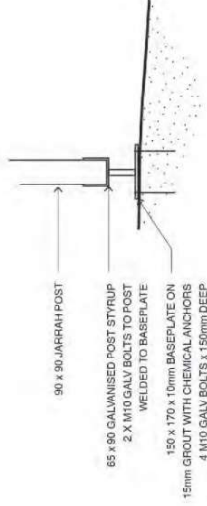
10 FOOTING IN SAND TYPICAL DETAIL

NTS



12 FOOTING IN SAND TYPICAL DETAIL

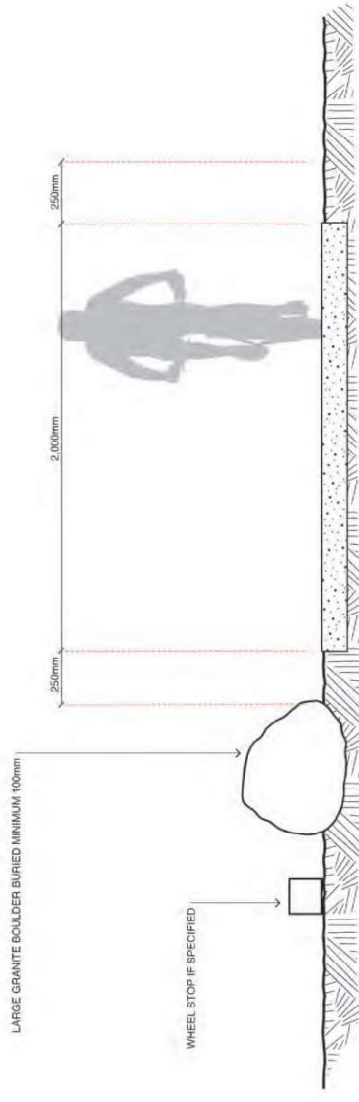
NTS



11 FOOTING ON ROCK TYPICAL DETAIL

NTS





**13** VEHICLE TRAIL SEPARATION DETAIL  
Scale 1:25 at A3

<p><b>COMMON GROUND</b> COMMON GROUND TRAILS PTY LTD Margaret River WA 6265 ph 0899 304 893 info@cg.com.au</p>	<p>SHIRE OF AUGUSTA MARGARET RIVER AUGUSTA WA 6250</p>	<p>SCALE</p> <p>DRAWN <b>MW</b> PROJECT NUMBER <b>2324</b></p>	<p>DATE <b>03/05/2024</b></p> <p>CHECKED <b>DW</b></p>	<p>PROJECT NORTH</p>	<p>REV</p> <p>A</p>	<p>ISSUE</p> <p>DRAFT FOR REVIEW</p>	<p>DATE</p> <p>03/05/2024</p>	<p>PROJECT</p> <p>LEEWIN TRAIL DETAILED DESIGN</p>	<p>DRAWING NUMBER</p> <p><b>2324_DD17</b></p>	<p>ISSUE</p> <p>DRAFT FOR REVIEW</p>	<p>REVISION</p> <p><b>A</b></p>
		<p>DRAWING TITLE</p> <p><b>TYPICAL DETAILS</b></p>									

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