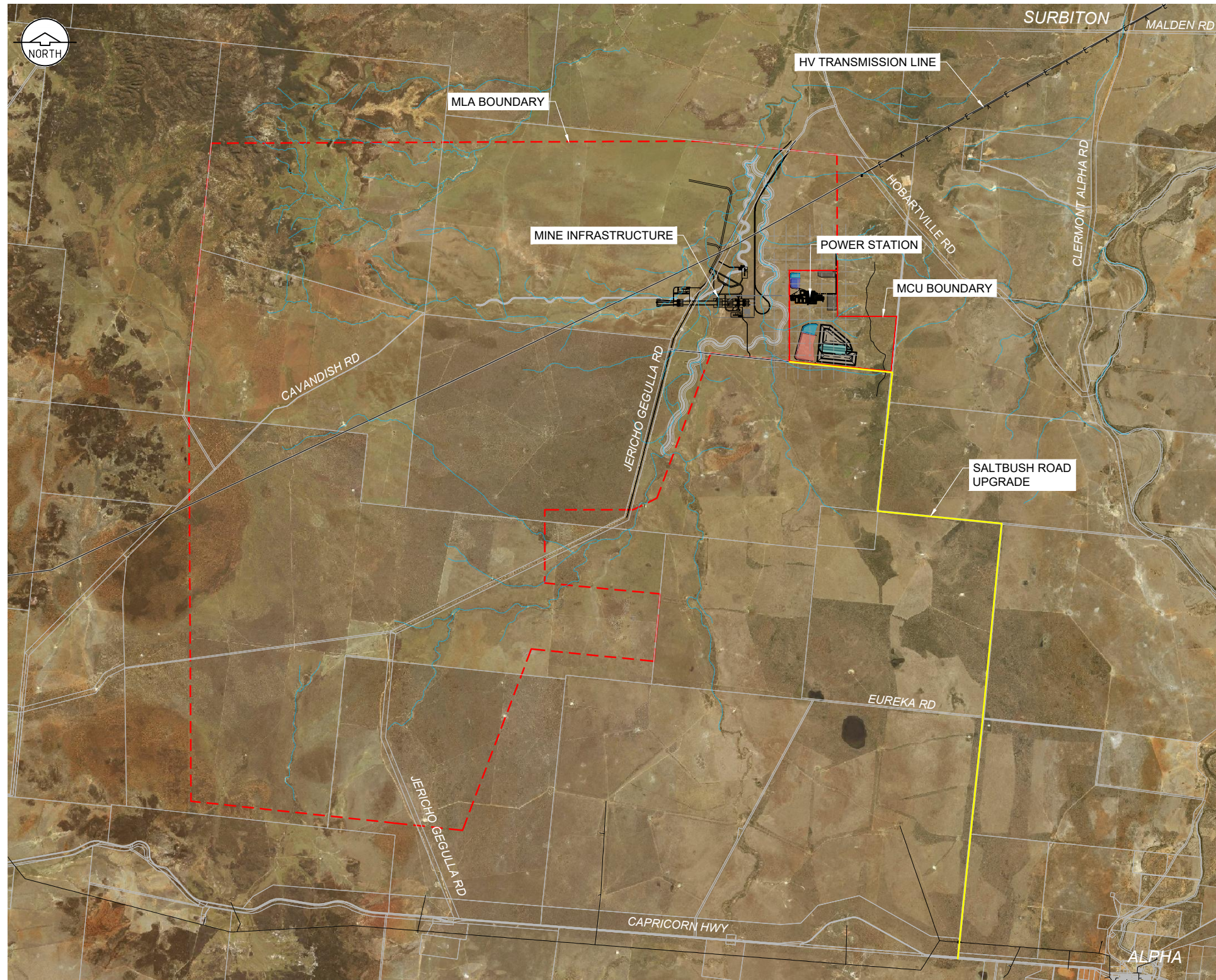


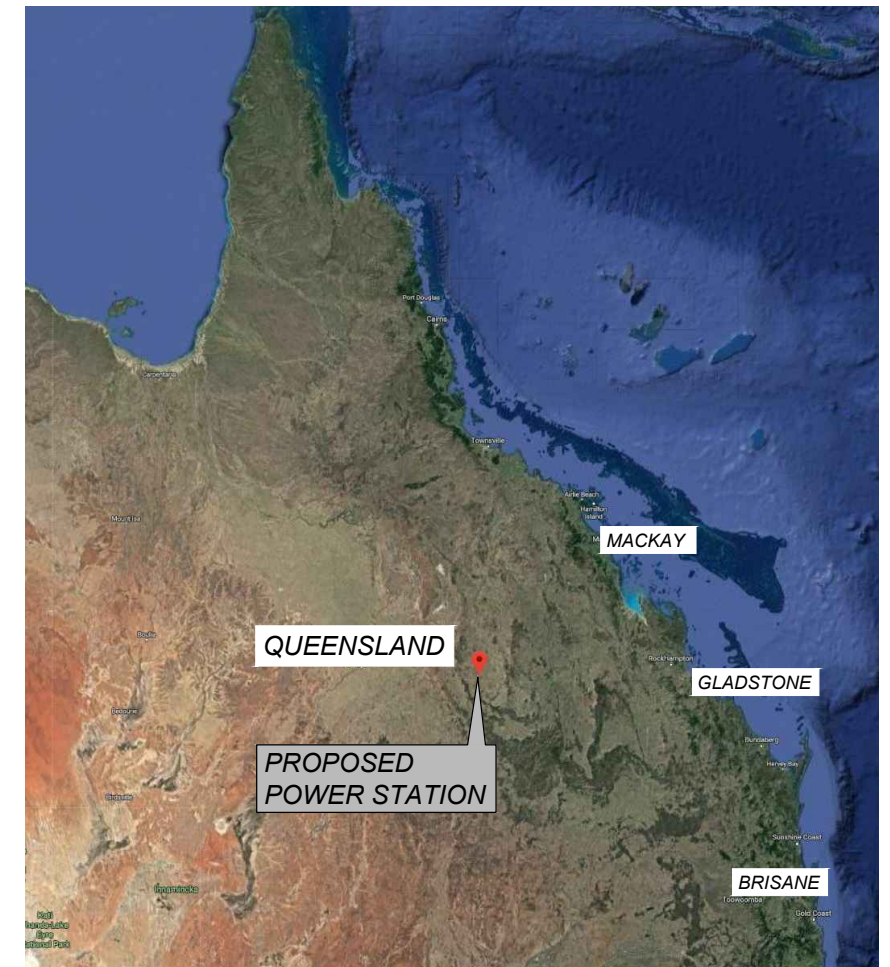
# GALILEE POWER STATION PROJECT

## CONCEPT DESIGN

144-2-GA-DWG-0001



**AREA PLAN**  
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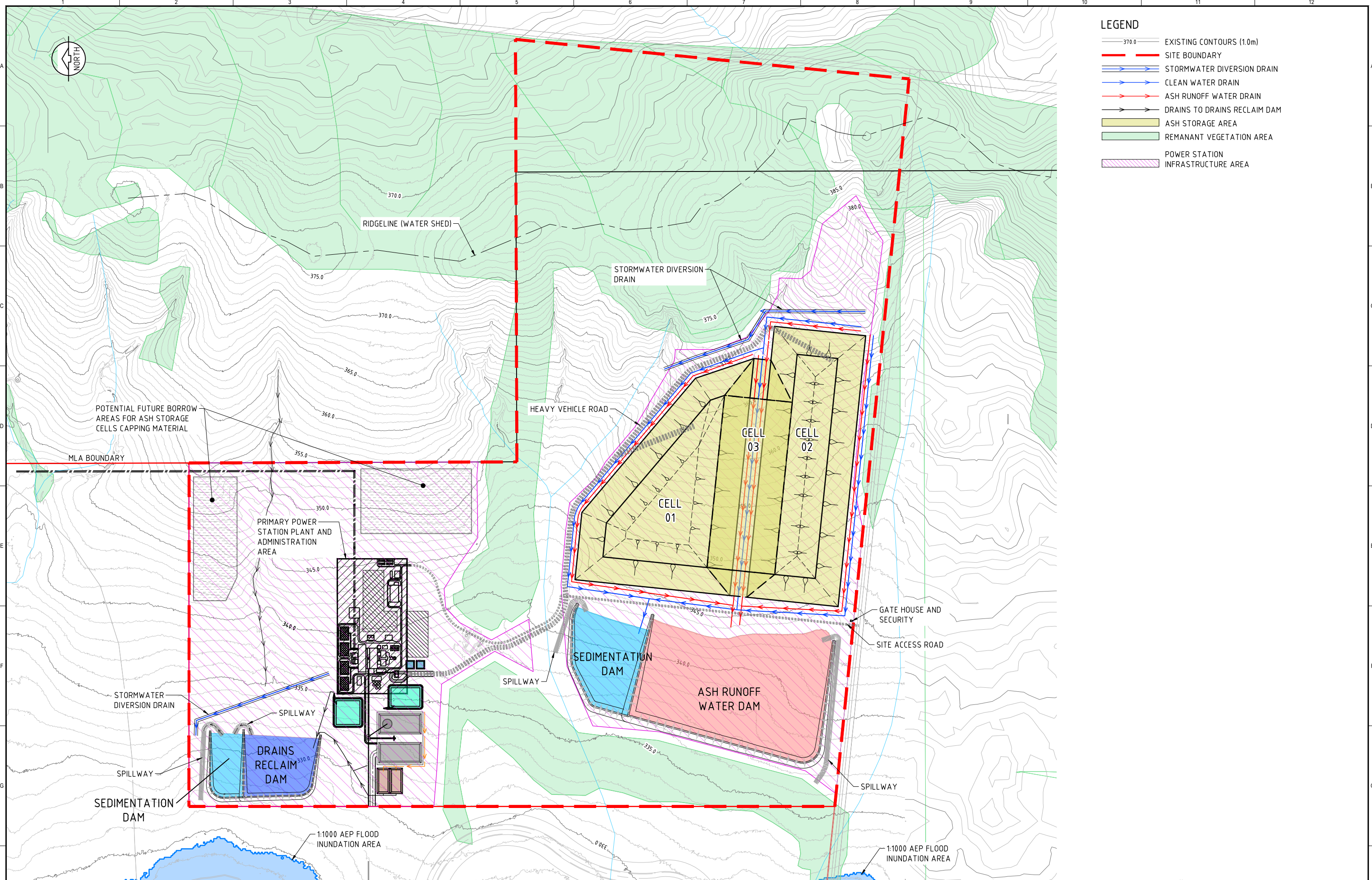


**LOCALITY PLAN**  
NTS

DRAWING No.	TITLE
144-2-GA-DWG-0001	LOCALITY PLAN
144-2-GA-DWG-0002	SITE LAYOUT PLAN
144-2-GA-DWG-0003	PLANT PLAN
144-2-GA-DWG-0004	PLANT ELEVATIONS
144-2-GA-DWG-0005	SITE STORMWATER MANAGEMENT
144-2-CI-DWG-0001	ASH STORAGE CELL 1 STAGING PLAN
144-2-CI-DWG-0002	ASH STORAGE CELL 2 STAGING PLAN
144-2-CI-DWG-0003	ASH STORAGE CELL 3 STAGING PLAN
144-2-CI-DWG-0004	ASH STORAGE CELL DETAILS PLAN
144-2-CI-DWG-0005	ASH STORAGE CELL SECTIONS
144-2-CI-DWG-0006	WATER BALANCE SCHEMATIC

File name: P:\CLIENTS\WARATAH COAL\144-2-GA-DWG-0001.DWG, printed on Friday, 20 December 2018 9:50:24 AM, by Carol Gallagher

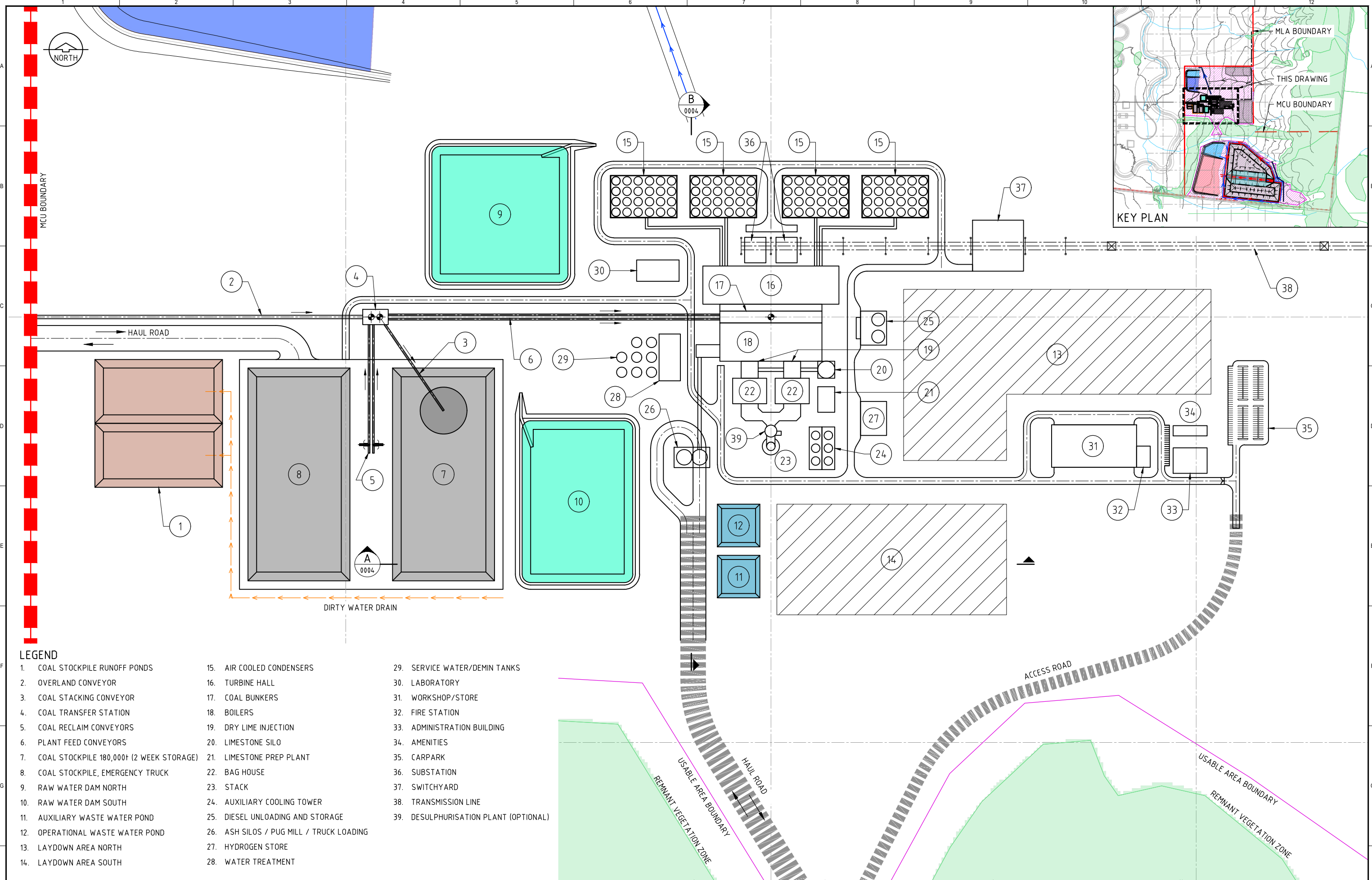
C 18.12.19 B 09.10.19 A 04.10.19	CAG SAS	DRAWINGS ADDED PRELIMINARY ISSUE PRELIMINARY ISSUE	LC PB	SWN SWN	REFERENCE COORDINATION DRAWINGS				SCALES	<b>A1 ORIGINAL</b> DO NOT SCALE THIS DRAWING	 Lvl 5 Bldg 2.50 McDougall St, Milton, Qld 4064 T (07) 3506 1100 Fax (07) 3229 8177 Website: www.phronis.com.au	CLIENT:  THE NEW ENERGY IN COAL	PROJECT: GALILEE POWER STATION PROJECT CONCEPT DESIGN	DRAWING STATUS: <b>PRELIMINARY</b> NOT FOR CONSTRUCTION
					DESCRIPTION DRAWING NO. REV CHK	SURVEY DATUM HORIZONTAL DATUM VERTICAL DATUM	APPROVED SIGNED: DATE:	DESIGNED: SAS PROJECT No: 144-2 DRAWING No: 144-2 - GA - DWG - 0001						



**LEGEND**

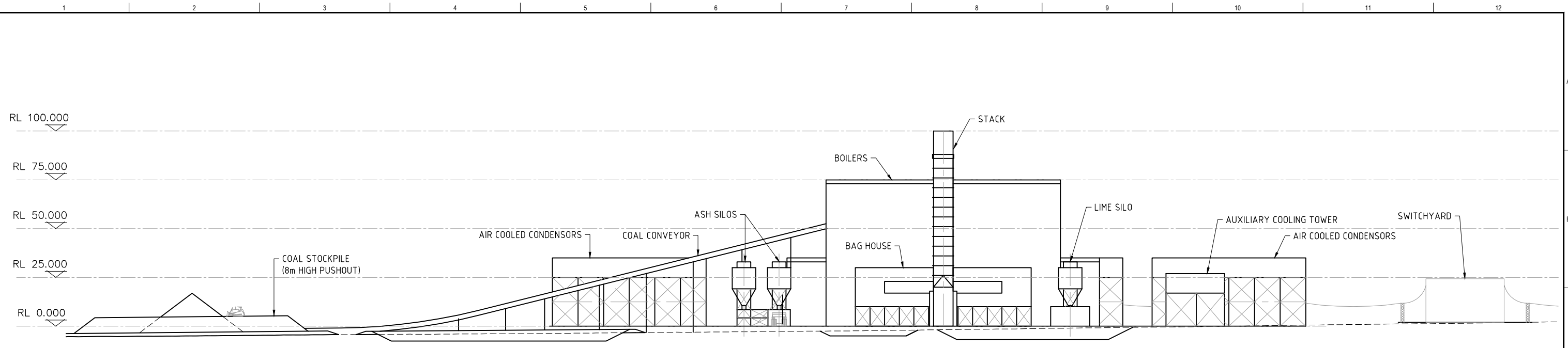
	EXISTING CONTOURS (1.0m)
	SITE BOUNDARY
	STORMWATER DIVERSION DRAIN
	CLEAN WATER DRAIN
	ASH RUNOFF WATER DRAIN
	DRAINS TO DRAINS RECLAIM DAM
	ASH STORAGE AREA
	REMANANT VEGETATION AREA
	POWER STATION INFRASTRUCTURE AREA

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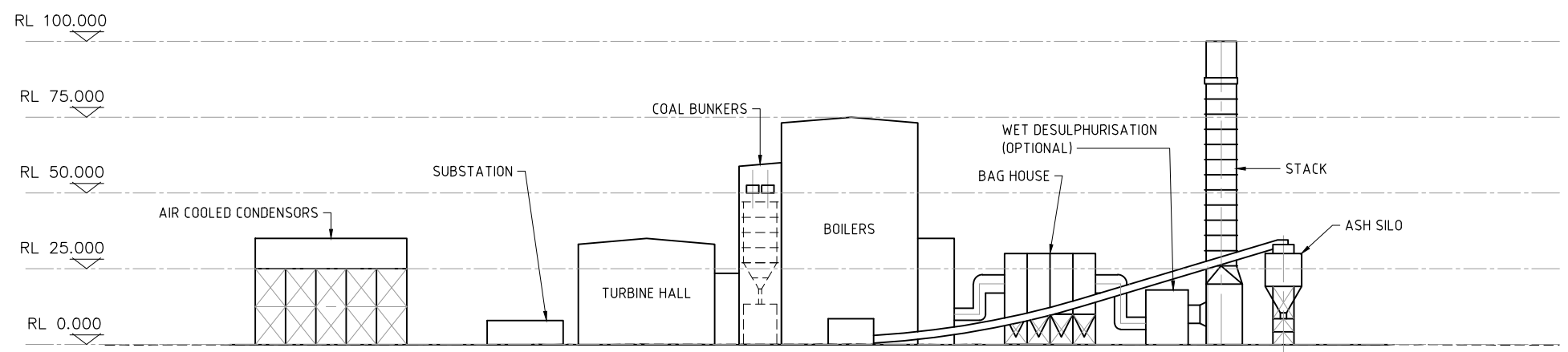


- LEGEND**
- |   |  |                                       |
|---|--|---------------------------------------|
| 1. COAL STOCKPILE RUNOFF PONDS              | 15. AIR COOLED CONDENSERS                | 29. SERVICE WATER/DEMIN TANKS         |
| 2. OVERLAND CONVEYOR                        | 16. TURBINE HALL                         | 30. LABORATORY                        |
| 3. COAL STACKING CONVEYOR                   | 17. COAL BUNKERS                         | 31. WORKSHOP/STORE                    |
| 4. COAL TRANSFER STATION                    | 18. BOILERS                              | 32. FIRE STATION                      |
| 5. COAL RECLAIM CONVEYORS                   | 19. DRY LIME INJECTION                   | 33. ADMINISTRATION BUILDING           |
| 6. PLANT FEED CONVEYORS                     | 20. LIMESTONE SILO                       | 34. AMENITIES                         |
| 7. COAL STOCKPILE 180,000t (2 WEEK STORAGE) | 21. LIMESTONE PREP PLANT                 | 35. CARPARK                           |
| 8. COAL STOCKPILE, EMERGENCY TRUCK          | 22. BAG HOUSE                            | 36. SUBSTATION                        |
| 9. RAW WATER DAM NORTH                      | 23. STACK                                | 37. SWITCHYARD                        |
| 10. RAW WATER DAM SOUTH                     | 24. AUXILIARY COOLING TOWER              | 38. TRANSMISSION LINE                 |
| 11. AUXILIARY WASTE WATER POND              | 25. DIESEL UNLOADING AND STORAGE         | 39. DESULPHURISATION PLANT (OPTIONAL) |
| 12. OPERATIONAL WASTE WATER POND            | 26. ASH SILOS / PUG MILL / TRUCK LOADING |                                       |
| 13. LAYDOWN AREA NORTH                      | 27. HYDROGEN STORE                       |                                       |
| 14. LAYDOWN AREA SOUTH                      | 28. WATER TREATMENT                      |                                       |

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>REV</th> <th>DATE</th> <th>BY</th> <th>DESCRIPTION</th> <th>CHK</th> <th>APPD</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	REV	DATE	BY	DESCRIPTION	CHK	APPD							<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="4">REFERENCE COORDINATION DRAWINGS</th> </tr> <tr> <th>DESCRIPTION</th> <th>DRAWING NO.</th> <th>REV</th> <th>CHK</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <th colspan="4">SURVEY DATUM</th> </tr> <tr> <td colspan="2">HORIZONTAL DATUM:</td> <td colspan="2">VERTICAL DATUM:</td> </tr> </table>	REFERENCE COORDINATION DRAWINGS				DESCRIPTION	DRAWING NO.	REV	CHK					SURVEY DATUM				HORIZONTAL DATUM:		VERTICAL DATUM:		<p>SCALE: 0 20 40 80 120</p> <p>Full Size 1:2000 ; Half Reduction 1:4000</p> <p>SCALE (m)</p>	<p><b>A1 ORIGINAL</b></p> <p>DO NOT SCALE THIS DRAWING</p> <p>APPROVED</p> <p>SIGNED: _____</p> <p>DATE: _____</p> <p>REQ: _____</p> <p>© Phronis Consulting Pty Ltd.</p>	<p>CLIENT:</p> <p><b>PHRONIS CONSULTING</b></p> <p>Lvl 5 Bldg 2 50 McDougall St, Milton, Qld 4064</p> <p>T (07) 3506 1100 Fax (07) 3229 8177</p> <p>Website: www.phronis.com.au</p>	<p>PROJECT:</p> <p><b>Waratah Coal</b></p> <p>THE NEW ENERGY IN COAL</p>	<p>PROJECT: GALILEE POWER STATION PROJECT</p> <p>CONCEPT DESIGN</p> <p>TITLE: GALILEE POWER STATION</p> <p>CONCEPT DESIGN</p> <p>PLANT PLAN</p>	<p>DRAWING STATUS: <b>PRELIMINARY</b></p> <p>NOT FOR CONSTRUCTION</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>DESIGNED: SAS</td> <td>CHECKED: PB</td> <td>APPROVED: SWN</td> </tr> <tr> <td>PROJECT No: 144-2</td> <td>DRAWN: SAS</td> <td>DATE: 26.09.19</td> </tr> <tr> <td>DRAWING No:</td> <td></td> <td>REV:</td> </tr> </table> <p><b>144-2 - GA - DWG - 0003</b></p>	DESIGNED: SAS	CHECKED: PB	APPROVED: SWN	PROJECT No: 144-2	DRAWN: SAS	DATE: 26.09.19	DRAWING No:		REV:
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DRAWING No:		REV:																																														



ELEVATION **A** SOUTH  
SCALE 1:1000 0003



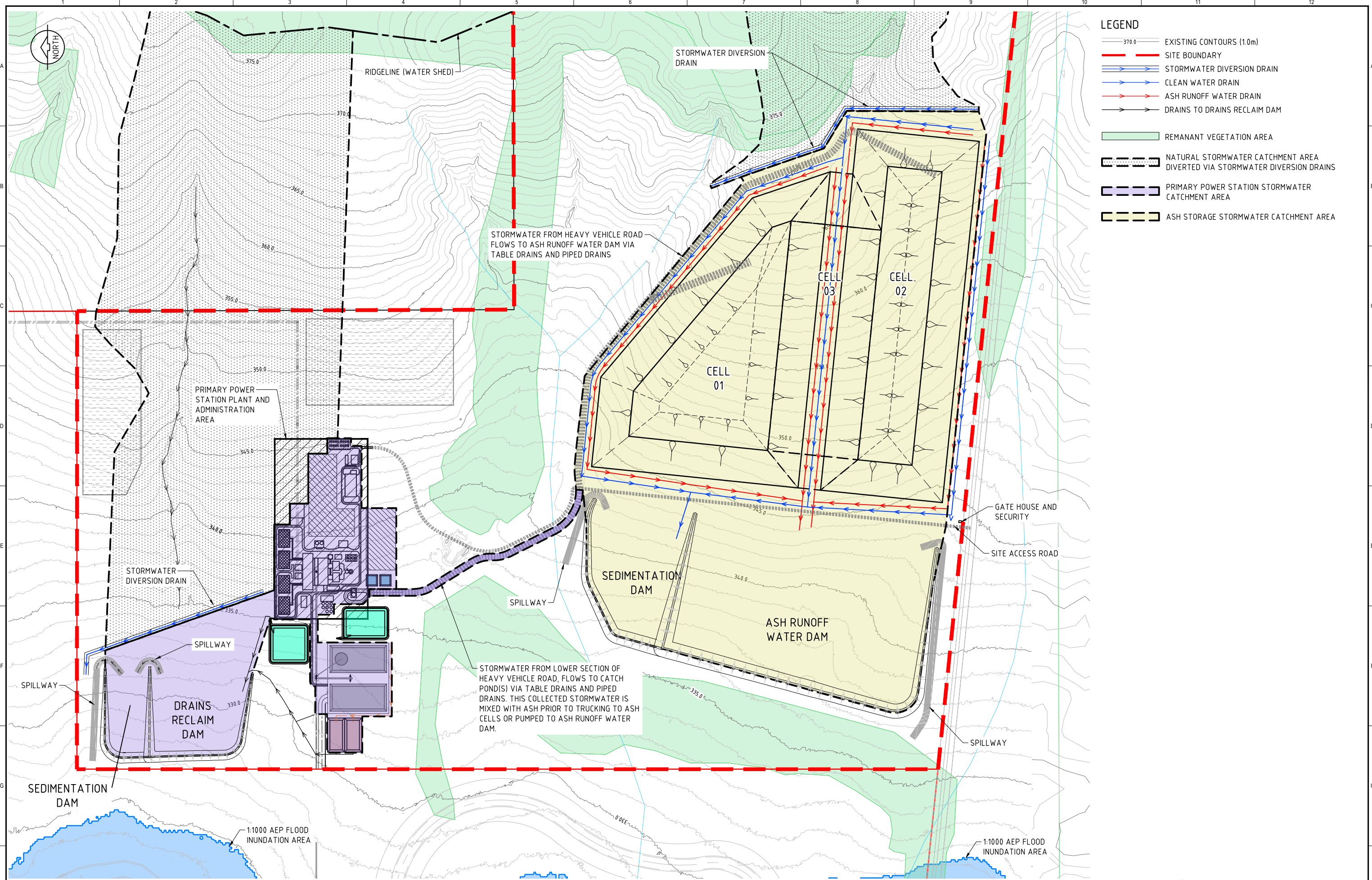
ELEVATION **B** WEST  
SCALE 1:1000 0003

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144-2-GA-DWG-0005

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- EXISTING CONTOURS (1.0m)
  - SITE BOUNDARY
  - STORMWATER DIVERSION DRAIN
  - CLEAN WATER DRAIN
  - ASH RUNOFF WATER DRAIN
  - DRAINS TO DRAINS RECLAIM DAM
  - REMANANT VEGETATION AREA
  - NATURAL STORMWATER CATCHMENT AREA DIVERTED VIA STORMWATER DIVERSION DRAINS
  - PRIMARY POWER STATION STORMWATER CATCHMENT AREA
  - ASH STORAGE STORMWATER CATCHMENT AREA

REV	DATE	BY	DESCRIPTION	CHK	APPD
A	18.12.19	CAG	PRELIMINARY ISSUE	LC	SWN

REFERENCE COORDINATION DRAWINGS			
DESCRIPTION	DRAWING NO.	REV	CHK
SURVEY DATUM			
HORIZONTAL DATUM:		VERTICAL DATUM:	

SCALES

0 75 150 300 450

Full Size 1:7500 ; Half Reduction 1:15000

SCALE (m)

**A1 ORIGINAL**

DO NOT SCALE THIS DRAWING

APPROVED

SIGNED: \_\_\_\_\_

DATE: \_\_\_\_\_

REQ: \_\_\_\_\_

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**PHRONIS CONSULTING**

Lvl 5 Bldg 2 50 McDougall St, Milton, Qld 4064  
T (07) 3506 1100 Fax (07) 3229 8177  
Website: www.phronis.com.au

**Waratah Coal**

THE NEW ENERGY IN COAL

CLIENT: GALILEE POWER STATION PROJECT

PROJECT: GALILEE POWER STATION PROJECT CONCEPT DESIGN

TITLE: GALILEE POWER STATION CONCEPT DESIGN SITE STORMWATER MANAGEMENT

DRAWING STATUS: **PRELIMINARY**  
NOT FOR CONSTRUCTION

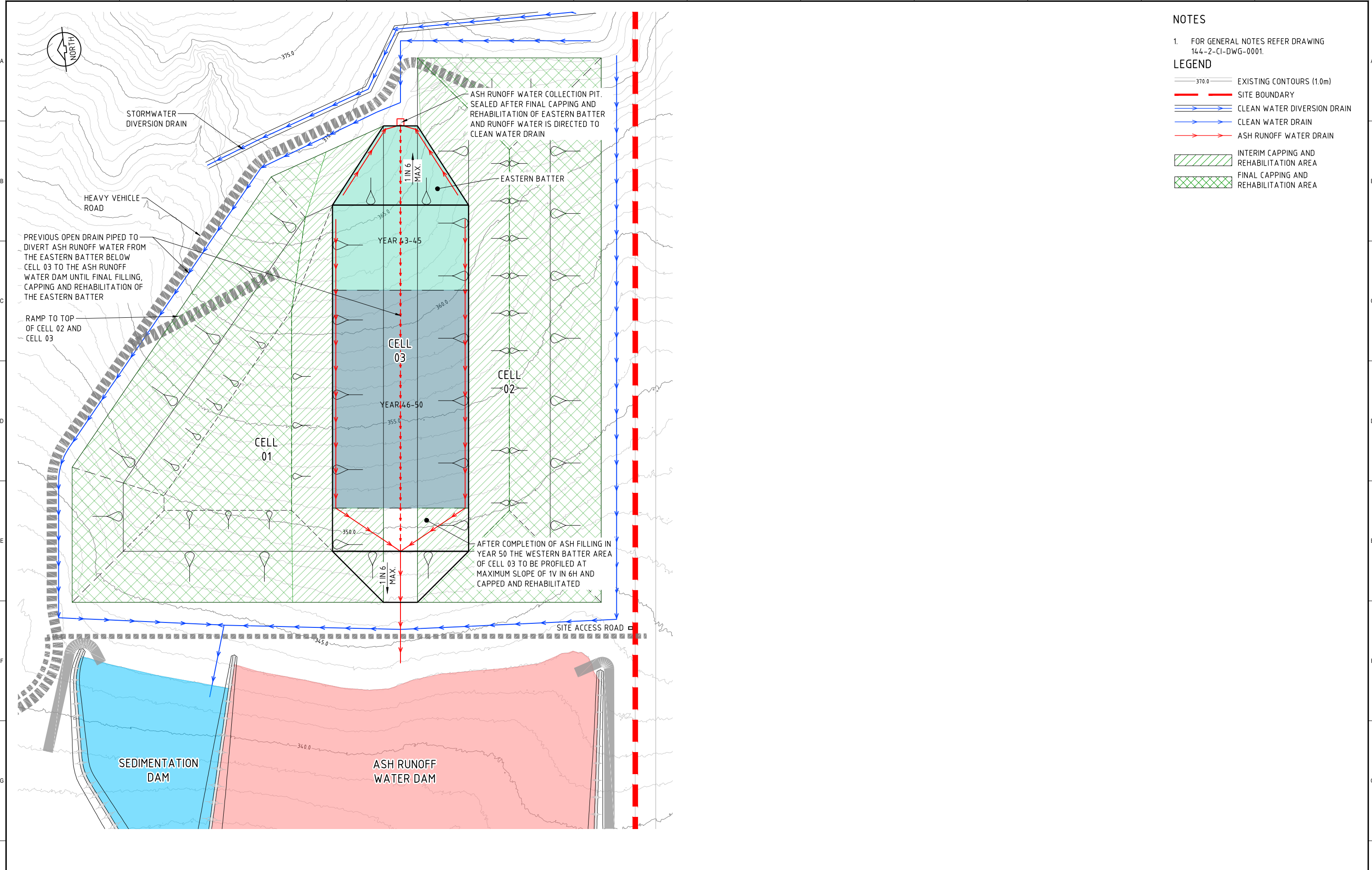
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144-2-CI-DWG-0003

File name: P:\CLIENTS\WARATAH\COAL\144-2\CADD\DRAWINGS\144-2-CI-DWG-0003.DWG, printed on Friday, 20 December 2019 8:58:31 AM, by Carla Gallagher



- NOTES**
- FOR GENERAL NOTES REFER DRAWING 144-2-CI-DWG-0001.
- LEGEND**
- EXISTING CONTOURS (1.0m)
  - SITE BOUNDARY
  - CLEAN WATER DIVERSION DRAIN
  - CLEAN WATER DRAIN
  - ASH RUNOFF WATER DRAIN
  - INTERIM CAPPING AND REHABILITATION AREA
  - FINAL CAPPING AND REHABILITATION AREA

<table border="1"> <tr> <th colspan="4">REFERENCE COORDINATION DRAWINGS</th> </tr> <tr> <th>DESCRIPTION</th> <th>DRAWING NO.</th> <th>REV</th> <th>CHK</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>		REFERENCE COORDINATION DRAWINGS				DESCRIPTION	DRAWING NO.	REV	CHK					<table border="1"> <tr> <th colspan="2">SURVEY DATUM</th> </tr> <tr> <td>HORIZONTAL DATUM:</td> <td>VERTICAL DATUM:</td> </tr> </table>		SURVEY DATUM		HORIZONTAL DATUM:	VERTICAL DATUM:	<table border="1"> <tr> <th colspan="2">SCALES</th> </tr> <tr> <td colspan="2">0 50 100 200 300</td> </tr> <tr> <td colspan="2">Full Size 1:5000 ; Half Reduction 1:10000</td> </tr> <tr> <td colspan="2">SCALE (m)</td> </tr> </table>		SCALES		0 50 100 200 300		Full Size 1:5000 ; Half Reduction 1:10000		SCALE (m)		<table border="1"> <tr> <th colspan="2">A1 ORIGINAL</th> </tr> <tr> <td colspan="2">DO NOT SCALE THIS DRAWING</td> </tr> <tr> <td colspan="2">APPROVED</td> </tr> <tr> <td>SIGNED:</td> <td> </td> </tr> <tr> <td>DATE:</td> <td>REQ:</td> </tr> <tr> <td colspan="2">© Phronis Consulting Pty Ltd.</td> </tr> </table>		A1 ORIGINAL		DO NOT SCALE THIS DRAWING		APPROVED		SIGNED:		DATE:	REQ:	© Phronis Consulting Pty Ltd.		<p>Lvl 5 Bldg 2.50 McDougall St, Milton, Qld 4064 T (07) 3506 1100 Fax (07) 3229 8177 Website: www.phronis.com.au</p>		<table border="1"> <tr> <td colspan="3">CLIENT:</td> </tr> <tr> <td colspan="3">Waratah Coal</td> </tr> <tr> <td colspan="3">THE NEW ENERGY IN COAL</td> </tr> </table>		CLIENT:			Waratah Coal			THE NEW ENERGY IN COAL			<table border="1"> <tr> <td colspan="3">PROJECT:</td> </tr> <tr> <td colspan="3">GALILEE POWER STATION PROJECT</td> </tr> <tr> <td colspan="3">CONCEPT DESIGN</td> </tr> <tr> <td colspan="3">TITLE:</td> </tr> <tr> <td colspan="3">GALILEE POWER STATION</td> </tr> <tr> <td colspan="3">CONCEPT DESIGN</td> </tr> <tr> <td colspan="3">ASH STORAGE</td> </tr> <tr> <td colspan="3">CELL 3 STAGING PLAN</td> </tr> </table>		PROJECT:			GALILEE POWER STATION PROJECT			CONCEPT DESIGN			TITLE:			GALILEE POWER STATION			CONCEPT DESIGN			ASH STORAGE			CELL 3 STAGING PLAN			<table border="1"> <tr> <th colspan="3">DRAWING STATUS:</th> </tr> <tr> <td colspan="3"><b>PRELIMINARY</b></td> </tr> <tr> <td colspan="3">NOT FOR CONSTRUCTION</td> </tr> <tr> <td>DESIGNED:</td> <td>CHECKED:</td> <td>APPROVED:</td> </tr> <tr> <td>LC</td> <td>PB</td> <td>SWN</td> </tr> <tr> <td>PROJECT No:</td> <td>DRAWN:</td> <td>DATE:</td> </tr> <tr> <td>144-2</td> <td>CG</td> <td>26.09.19</td> </tr> <tr> <td>DRAWING No:</td> <td colspan="2">REV:</td> </tr> <tr> <td>144-2 - CI - DWG-0003</td> <td colspan="2">A</td> </tr> </table>		DRAWING STATUS:			<b>PRELIMINARY</b>			NOT FOR CONSTRUCTION			DESIGNED:	CHECKED:	APPROVED:	LC	PB	SWN	PROJECT No:	DRAWN:	DATE:	144-2	CG	26.09.19	DRAWING No:	REV:		144-2 - CI - DWG-0003	A	
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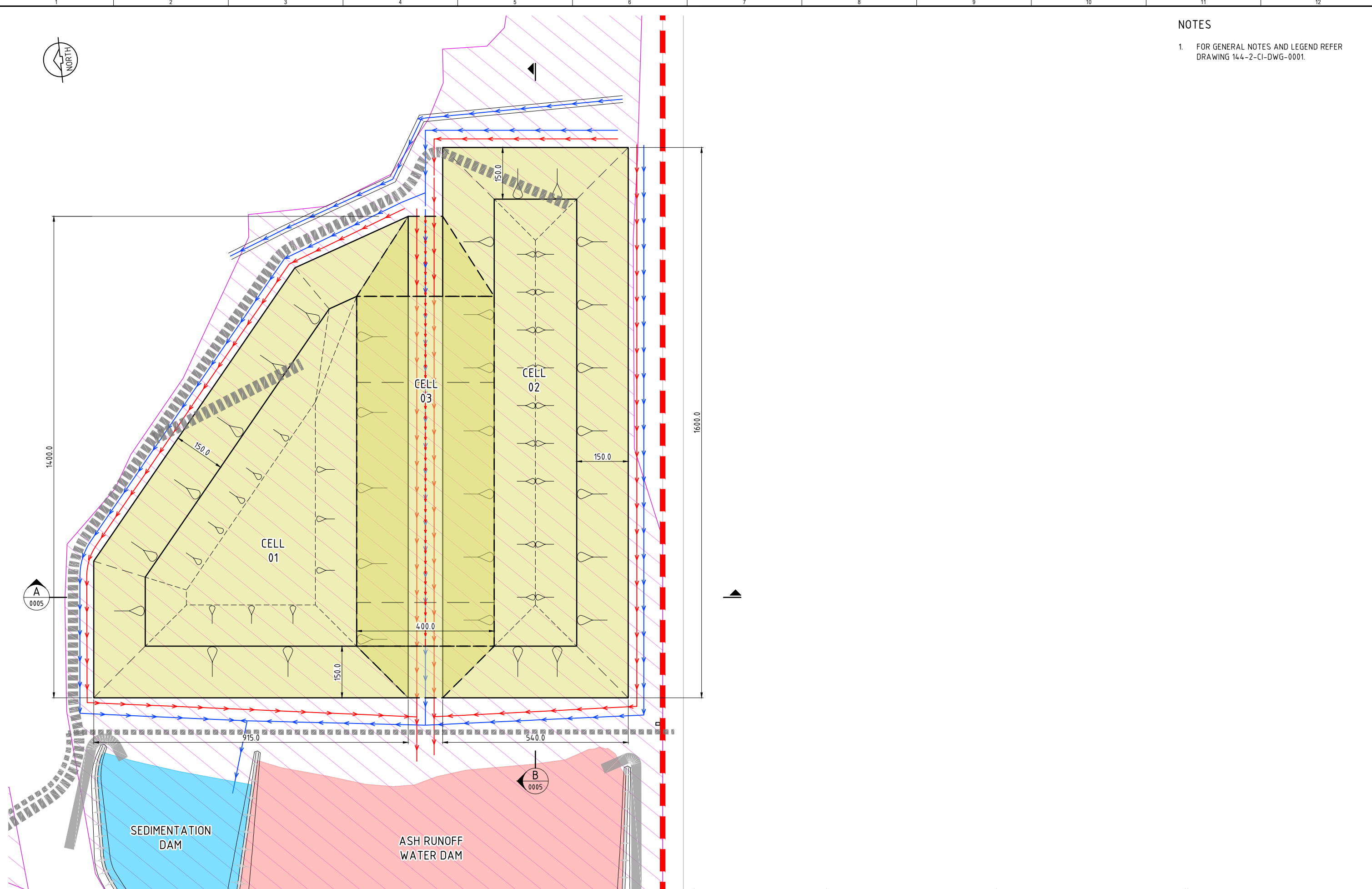


144-2-CI-DWG-0004

File name: P:\CLIENTS\WARATAH\COAL\144-2\CADD\DRAWINGS\144-2-CI-DWG-0004.DWG, printed on Friday, 20 December 2019 8:58:47 AM, by Carla Gallagher

**NOTES**

- FOR GENERAL NOTES AND LEGEND REFER DRAWING 144-2-CI-DWG-0001.



REV	DATE	BY	DESCRIPTION	CHK	APPD
A	04.10.19	SAS	PRELIMINARY ISSUE	PB	SWN

REFERENCE COORDINATION DRAWINGS			
DESCRIPTION	DRAWING NO.	REV	CHK
SURVEY DATUM			
HORIZONTAL DATUM:		VERTICAL DATUM:	

SCALES

0 50 100 200 300

Full Size 1:5000 ; Half Reduction 1:10000

SCALE (m)

**A1 ORIGINAL**  
DO NOT SCALE THIS DRAWING

APPROVED

SIGNED: \_\_\_\_\_

DATE: \_\_\_\_\_

REQ: \_\_\_\_\_

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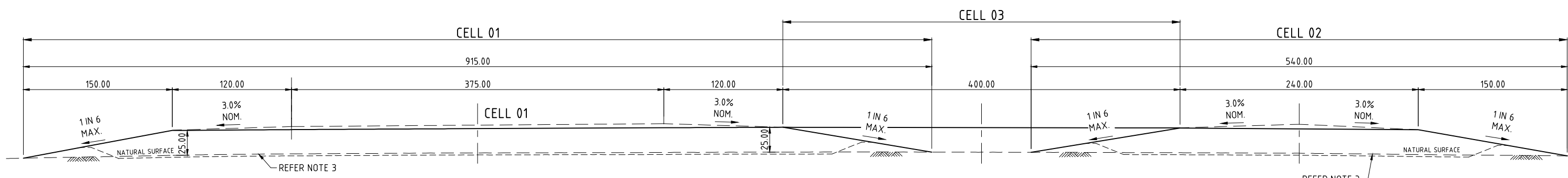
Lvl 5 Bldg 2.50 McDougall St, Milton, Qld 4064  
T (07) 3506 1100 Fax (07) 3229 8177  
Website: www.phronis.com.au

**Waratah Coal**  
THE NEW ENERGY IN COAL

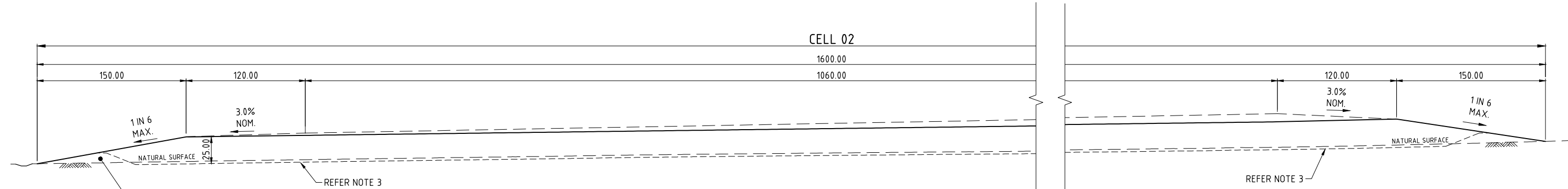
PROJECT:	GALILEE POWER STATION PROJECT CONCEPT DESIGN
TITLE:	GALILEE POWER STATION CONCEPT DESIGN ASH STORAGE CELL DETAILS PLAN

DESIGNED:	LC	CHECKED:	PB	APPROVED:	SWN	
PROJECT No:	144-2	DRAWN:	CG	DATE:	26.09.19	
DRAWING No:	144-2 - CI - DWG-0004				REV:	A

DRAWING STATUS: **PRELIMINARY**  
NOT FOR CONSTRUCTION



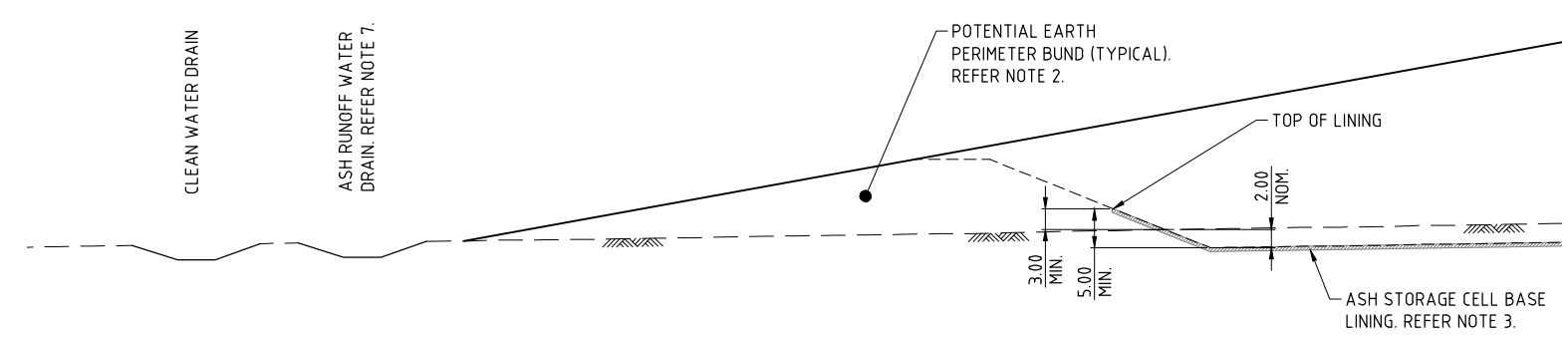
SECTION A  
SCALE 1:12000  
0004



SECTION B  
SCALE 1:12000  
0004

**NOTES**

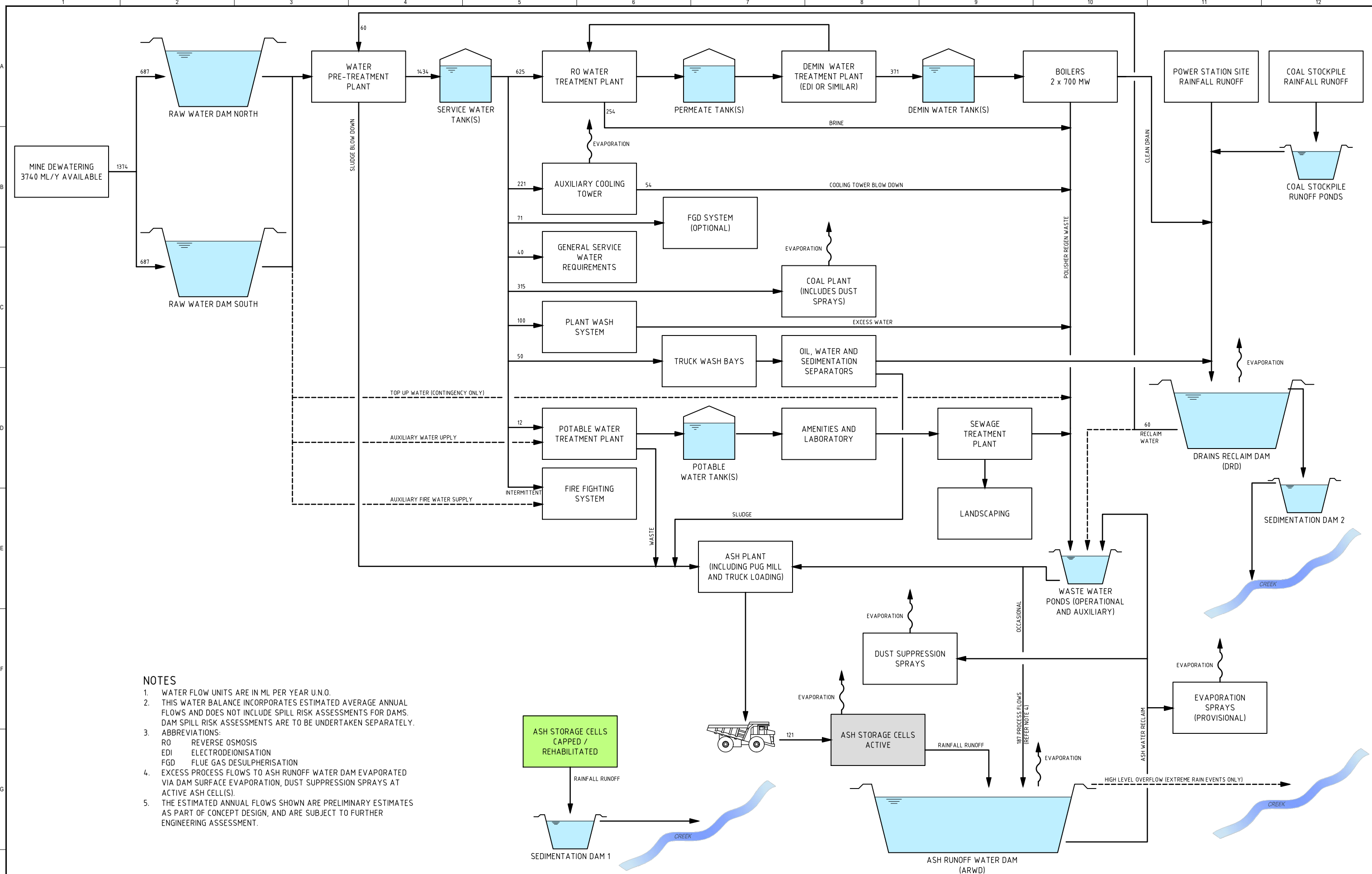
1. FOR GENERAL NOTES REFER TO DRAWING 144-2-CI-DWG-0003.
2. POTENTIAL, SIZE AND EXTENT OF EARTH PERIMETER BUNDS TO ASSIST WITH CONTROL OF ASH FILLING ARE SUBJECT TO FURTHER ENGINEERING ASSESSMENT, INCLUDING GEOTECHNICAL ASSESSMENT.
3. PRIOR TO ASH PLACEMENT, CELL BASE TO BE PREPARED AS FOLLOWS:
  - REMOVAL OF TOPSOIL AND OTHER MATERIAL FOR POTENTIAL EARTH PERIMETER BUNDS AND FUTURE CAPPING, TO DEPTH UP TO 2.0 m NOMINAL. STOCKPILES OF THESE MATERIALS TO BE ESTABLISHED FOR THE FUTURE ASH CELL CAPPING WORK.
  - ESTABLISHMENT OF BASE LINING BY EITHER:
    - COMPACTION OF EXISTING/INSITU HIGH CLAY CONTENT MATERIAL (0.5m THICK MIN.);
    - IMPORTING, PLACEMENT AND COMPACTION OF HIGH CLAY CONTENT MATERIAL (0.5m THICK MIN.); OR
    - INSTALLATION OF A POLYETHYLENE (PE) LINER, OR SIMILAR GEOMEMBRANE.
 LINING SUBJECT TO DETAILED DESIGN.
4. SLOPE ON PLATEAU AREAS TO BE 3.0% NOMINAL WITH RANGE OF 0.5% TO 5.0% MAXIMUM.
5. CELL TOP SURFACES SHOWN INDICATE FINAL ASH SURFACES, EXCEPT FOR AREAS OF POTENTIAL EARTH PERIMETER BUNDS.
6. FINAL CAPPING MATERIAL NOT SHOWN.
7. ASH RUNOFF WATER DRAIN MAY BE LOCATED AT TOP OF POTENTIAL EARTH PERIMETER BUND, SUBJECT TO FURTHER ENGINEERING ASSESSMENTS DURING DETAILED DESIGN PHASE.



**ASH STORAGE CELL BASE LINING AND DRAINAGE DETAIL (TYPICAL)**

DETAIL 1  
SCALE 1:500

B 18.12.19 A 04.10.19 CAG SAS PRELIMINARY ISSUE PRELIMINARY ISSUE LC PB SWN SWN		REFERENCE COORDINATION DRAWINGS DESCRIPTION DRAWING NO. REV. CHK. SURVEY DATUM HORIZONTAL DATUM VERTICAL DATUM		SCALES 0 5 10 20 30 Full Size 1:500 ; Half Reduction 1:1000 SCALE (m) 0 20 40 80 120 Full Size 1:2000 ; Half Reduction 1:4000 SCALE (m)		A1 ORIGINAL DO NOT SCALE THIS DRAWING APPROVED SIGNED: _____ DATE: _____ REQ: _____		CLIENT:  Lvl 5 Bldg 2.50 McDougall St, Milton, Qld 4064 T (07) 3506 1100 Fax (07) 3229 8177 Website: www.phronis.com.au		PROJECT: GALILEE POWER STATION PROJECT CONCEPT DESIGN TITLE: GALILEE POWER STATION CONCEPT DESIGN ASH STORAGE CELL SECTIONS		DRAWING STATUS: <b style="color: red;">PRELIMINARY</b> NOT FOR CONSTRUCTION	
						DESIGNED: LC PROJECT No: 144-2 DRAWING No: 144-2 - CI - DWG-0005						CHECKED: PB DRAWN: CG	



- NOTES**
1. WATER FLOW UNITS ARE IN ML PER YEAR U.N.O.
  2. THIS WATER BALANCE INCORPORATES ESTIMATED AVERAGE ANNUAL FLOWS AND DOES NOT INCLUDE SPILL RISK ASSESSMENTS FOR DAMS. DAM SPILL RISK ASSESSMENTS ARE TO BE UNDERTAKEN SEPARATELY.
  3. ABBREVIATIONS:  
 RO REVERSE OSMOSIS  
 EDI ELECTRODEIONISATION  
 FGD FLUE GAS DESULPHERISATION
  4. EXCESS PROCESS FLOWS TO ASH RUNOFF WATER DAM EVAPORATED VIA DAM SURFACE EVAPORATION, DUST SUPPRESSION SPRAYS AT ACTIVE ASH CELL(S).
  5. THE ESTIMATED ANNUAL FLOWS SHOWN ARE PRELIMINARY ESTIMATES AS PART OF CONCEPT DESIGN, AND ARE SUBJECT TO FURTHER ENGINEERING ASSESSMENT.

REFERENCE COORDINATION DRAWINGS DESCRIPTION DRAWING NO. REV. CHK. SURVEY DATUM HORIZONTAL DATUM: VERTICAL DATUM:		SCALES NTS	A1 ORIGINAL DO NOT SCALE THIS DRAWING APPROVED SIGNED: _____ DATE: _____ REQ: _____	CLIENT: <b>PHRONIS CONSULTING</b> Lvl 5 Bldg 2.50 McDougall St, Milton, Qld 4064 T (07) 3506 1100 Fax (07) 3229 8177 Website: www.phronis.com.au	PROJECT: GALILEE POWER STATION PROJECT CONCEPT DESIGN TITLE: GALILEE POWER STATION CONCEPT DESIGN WATER BALANCE SCHEMATIC	DRAWING STATUS: <b>PRELIMINARY</b> NOT FOR CONSTRUCTION DESIGNED: LC CHECKED: PB APPROVED: SWN PROJECT No: 144-2 DRAWN: SAS DATE: 17.10.19 DRAWING No: 144-2 - CI - DWG - 0006 REV: B
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