

31 March 2020

Queensland Alumina Limited
 c/- Alison Green
 Parsons Point
 GLADSTONE QLD 4680

Applicant email: greena@qal.com.au

Dear Ms Green

DECISION NOTICE – APPROVAL WITH CONDITIONS – DA2020/04/01

(GIVEN UNDER THE PROVISIONS OF GPC LAND USE PLAN 2012V2)

1. Application Details

This development application was properly made to the Gladstone Ports Corporation Limited on **3 March 2020**.

Application Number:	DA2020/04/01
Applicant Name:	Queensland Alumina Limited (QAL)
Applicant Contact Details:	Alison Green Queensland Alumina Limited Parsons Point GLADSTONE QLD 4680 Email: greena@qal.com.au
Approvals Sought:	Port application for high risk pipelines project
Details of Proposed Development:	Replace five existing pipelines (in existing and new routes) and remove one pipeline
Location Street Address:	Harbour Street, Gladstone QLD 4680
Location Real Property Description:	Lot 78 on CTN1295, Lot 76 on CTN2051, Lot 52 on CTN1105, Lot 82 on SP283351, Lot 194 on CTN1105
Land Owner:	Gladstone Ports Corporation Limited and Department of Natural Resources, Mines and Energy
Present Zoning & Precinct	Strategic Port Land – Wharves (offshore) and Port Operations Support Precinct

2. Details Of Proposed Development

Replace the following pipelines in existing routes unless stated otherwise:

- 14" 50% caustic line from the wharf to the caustic storage tanks on South Trees Island
- 12" 50% caustic transfer pump line;
- 6" 50% caustic line from the caustic storage tanks to the refinery (re-routed on other side of conveyor on the causeway);
- 4" contaminated ground water pipeline from the South Trees Island tank farm to the refinery (re-routed on other side of conveyor on the causeway); and
- 6" bauxite slurry line from the wharf to South Tree Island management pond (re-routed along the side of 12306 conveyor).

Remove the following pipeline:

- 8" polyethylene backup caustic line.

3. Details Of Decision

This development application was **decided** on **31 March 2020**.

This development application is **approved in full with conditions**. These conditions are set out in Attachment 1 and are clearly identified to indicate whether the assessment manager or a concurrence agency imposed them.

4. Details Of Approval

This development approval is a **Development Permit** given for:

- a) Port Application for undertaking work in, on, over or under premises that materially affects the premises or their use including excavating or filling (*GPC Land Use Plan 2012v2*).

5. Conditions

This development approval is subject to the conditions in Attachment 1 - Part 1 and Part 2.

6. Further Development Permits

Please be advised that the following development permits are required to be obtained before the development can be carried out:

1. Building works.

7. Properly made submissions

Not applicable – No part of the application required public notification.

8. Approved Plans and Specifications –

Copies of the following plans, specifications and drawings are enclosed in **Attachment 2**:

Drawing/report title	Prepared by	Date	Reference no.	Rev
Aspect of development: insert e.g. Port Application				
Construction specification	Worley	24/01/2020	CS Num. CS19-137	
P&ID Drawings	Worley	19/11/2019	258861 to 258866 inclusive	0

Drawing/report title	Prepared by	Date	Reference no.	Rev
Civil and Structural Drawings				
Bauxite slurry line	Worley	17/11/2019	258976	0
Bauxite slurry line	Worley	19/11/2019	258977 sheet 1,2,3	0
Bauxite slurry line	Worley	29/11/2019	258978 sheet 1	0
Bauxite slurry line	Worley	27/11/2019	258978 sheet 2,3,4,5	0
Caustic & ground water lines	Worley	27/11/2019	258979	0
Caustic & ground water lines	Worley	27/11/2019	258980 sheet 1,3,4,5	0
Caustic & ground water lines	Worley	29/11/2019	258980 sheet 2	0
Caustic & ground water lines	Worley	27/11/2019	258981 sheet 0	0
Mechanical & Piping Drawing				
High Risk Pipeline Replacement	Worley	09/12/2019	258881 sheet 1 to 20 inclusive	0
Bauxite slurry line	Worley	27/11/2019	258882 sheet 1,2,3,4,5	0
Caustic suction line	Worley	11/12/2019	258883 sheet 1,2,3	0
Caustic and ground water lines	Worley	27/11/2019	258884 sheet 1 to 11 inclusive	0
Caustic and ground water lines	Worley	27/11/2019	258885 sheet 1 to 14 inclusive	0
Caustic and ground water lines – high level pipe supports	Worley	19/12/2019	258982 sheet 1 to 8 inclusive	0
Caustic and ground water lines – in plant flow meters	Worley	11/12/2019	258983 sheet 1,2	0
Caustic and ground water lines	QAL	29/04/2019	201005-01157 sketch sheet 4	0A

9. Currency Period for the Approval

This development approval will lapse at the end of the periods set out below:

- For Port Application this approval lapses 6 years after this approval decision date.

10. Rights of Appeal

No legislated appeal rights are afforded with this decision notice as the application was not made under the provisions of the *Planning Act 2016*.

For further information please contact Judy Horsfall, Planning Officer, on 07 4976 1314 or Erin Clark, Principal Planner, on 07 4976 1287 or via email planning@gpcl.com.au.

Yours sincerely



Erin Clark
Principal Planner
31 March 2020

- Enc. Attachment 1: Conditions of Approval
Part 1 – Conditions imposed by the assessment manager
Attachment 2: Approved plans and specifications

ATTACHMENT 1: CONDITIONS OF APPROVAL

PART 1: ASSESSMENT MANAGER CONDITIONS

In general the development proposal is in compliance with the requirements of Gladstone Ports Corporation Limited (GPC). This development approval is subject to each the following conditions which are stated by GPC, the assessment manager.

Part 1a: Approval sought under *Land Use Plan 2012 – Port Application*

GENERAL

1. Development must be carried out generally in accordance with the approved plans as lodged with the application except where modified by conditions of this permit.
2. Unless otherwise stated, all conditions must be complied with and completed prior to the commencement of the use.
3. Where additional "approval" is required under these conditions by the Gladstone Ports Corporation for drawings or documentation, the applicant must submit for review, amend to the satisfaction of, and obtain written acceptance from the Gladstone Ports Corporation. Only in this manner can compliance with the condition be achieved.

Furthermore, GPC will require no less than 10 business days, unless otherwise conditioned by GPC, to initially assess the drawings or documentation provided prior to the initiation of works. Should further information be required to be provided for assessment, GPC will require a further 5 business days to complete the information request response.

4. All other relevant approvals must be obtained before commencement of works or operation of the facility, including any Building works or Plumbing and drainage works.
5. The applicant must obtain certification for plumbing and drainage work and for building work as required by legislation.
6. The applicant must inform GPC of completion of construction works within 14 days of practical completion and undertake a site inspection with GPC.
7. The applicant must at its cost and expense, keep and maintain the development footprint, including existing services, in a state that is satisfactory to the Port.

ENGINEERING

8. Prior to commencing works, the applicant must supply the Assessment Manager (GPC) with RPEQ certified 'For Construction' drawings for all proposed works in Lot 78 on CTN1295 (wharf) and Lot 82 on SP283351 (causeway bridge).
9. Upon completion of construction, the applicant must supply the Assessment Manager (GPC) with RPEQ certified "As Constructed" plans in both hard copy (2 of) and electronic (CAD format) which illustrates all infrastructure on Port land which is associated with the activity. The applicant must also certify that the development is constructed as per design and that the development has been constructed generally in accordance with the approved plans prior to the development commencing.
10. Prior to completion of construction, submit to and have approved by the Assessment Manager (GPC) an amended plan which clearly demonstrates safe two-way vehicle access is maintained on strategic port land adjacent to the pipeline corridor. Once approved, the amended plan will form part of the Approved plans.
11. The applicant must notify the Assessment Manager (GPC) of damage caused to any port or port user infrastructure or services e.g. roads, water mains etc. as a result of this

activity. The applicant may undertake the repairs directly in consultation with GPC, however, depending upon the nature and location of the damage, GPC retains the right to undertake the repairs at the expense of the proponent.

12. Any site lighting used during construction and operations should not negatively impact on the visibility of Navigational Aids utilised for the primary shipping channels nor illuminate a landward glare beyond the site boundary. Lighting is to be reviewed by applicant during construction and operations with respect to navigation. Where an issue is identified or a validated external complaint received, the applicant must immediately rectify to the satisfaction of GPC.
13. Upon completion of the construction works, the proponent must reinstate the remainder of the property and general surrounds to the same condition prior to the works being undertaken unless agreed to in writing by GPC.
14. Any material which is deposited or any debris which falls or is deposited on tidal lands or into tidal waters during the construction of the approved development shall be removed by the applicant at their cost and expense. Upon completion of construction works, the applicant must provide GPC with written confirmation that the seabed is clear of foreign materials upon completion of construction.
15. If, as a result of the works, or other cause attributable to the proponent any bank or tidal structure is displaced, the proponent at its cost and expense shall restore the bank or structure to its former condition and take such other action as is necessary to ensure the stability of the bank or structure to the satisfaction of the Regional Harbour Master.

ENVIRONMENT

Construction Environmental Management Plan

16. Prior to works commencing on site, a Construction Environmental Management Plan (CEMP) specific to this application and its associated works, is to be submitted to the Assessment Manager (GPC) for approval, that ensures:
 - (a) environmental risks, including but not limited to, noise, odour, lighting, dust, are identified, managed and continually assessed in relation to the construction activity;
 - (b) staff are trained and aware of their obligations under the CEMP, including a copy of the management plan and development approval available on site at all times;
 - (c) reviews of environmental performance are undertaken at least annually; and
 - (d) any amendments to the CEMP are to be submitted to GPC for review and approval.

Note: GPC has a guideline for the development of environmental management plans that may be utilised in meeting the requirements of this condition.

17. Once approved by the Assessment Manager, the construction works must be undertaken in accordance with the CEMP approved under Condition 14.

Environmental Incident Notification

18. At all times, the Gladstone Ports Corporation Environment Hotline (07) 4976 1617) is to be notified of the occurrence of any;
 - (a) release / spill of contaminants (e.g. fuels / chemicals / sewerage) greater than 250L to land;
 - (b) release / spill of contaminants (e.g. fuels / chemicals / sewerage) of any amount to water;
 - (c) environmental complaints received by the holder of this approval; and
 - (d) non-compliance with conditions of this approval or any environmental approval obtained in relation to the development.

PART 2: ASSESSMENT MANAGER ADVICE NOTES

1. Part of these works applied for have been considered as 'excluded works' by the Applicant. In order for this to apply, the applicant is required to comply with the requirements for excluded tidal works in the *Excluded Works (Coastal) Guideline*.

ATTACHMENT 2: APPROVED PLANS AND SPECIFICATIONS



Construction Specification					
CS Number:	CS19-137	Rev:	0	Prepared by:	Worley
SAP Number	14606	Date:	24/01/20	Environmental Approval:	<i>[Signature]</i> 5/2/2020
Project No:	C-002987			Engineering Approval (C) <i>[Signature]</i> (M) <i>[Signature]</i> (E) <i>[Signature]</i>	<i>[Signature]</i> 6/2/20
Functional Location:	1500.QAL1.RWMS.CAUC			Construction Operation Approval:	<i>[Signature]</i> 5-2-2020
Location:	Wharf, South Trees Island, and Bauxite Stockpile			Project Leader Approval:	<i>[Signature]</i> 5/2/20
Title:	Caustic Pipeline Integrity				

Summary

This Construction Specification covers all works necessary to replace and tie-in all mechanical piping, structural modification, structural pipe supports, electrical flow meters, and associated hardware required for the Caustic Pipeline Integrity Project (refer Figure 1):

- A. DN150 Bauxite Slurry Line
- B. DN350 Caustic Line
- C. DN300 Caustic Transfer Pump Suction Line
- D. DN150/DN100 STI to Causeway Lines
- E. DN200/DN100 Causeway Lines
- F. DN150/DN100 Causeway to Mainland Lines
- G. DN150/DN100 Bauxite Stockpile Area Lines
- H. DN150/DN100 Piperack Lines
- I. DN150/DN100 Flowmeters Installation – Mainland Plant Areas
- J. Electrical and Instrumentation Works

APPROVED
31.03.20 EC

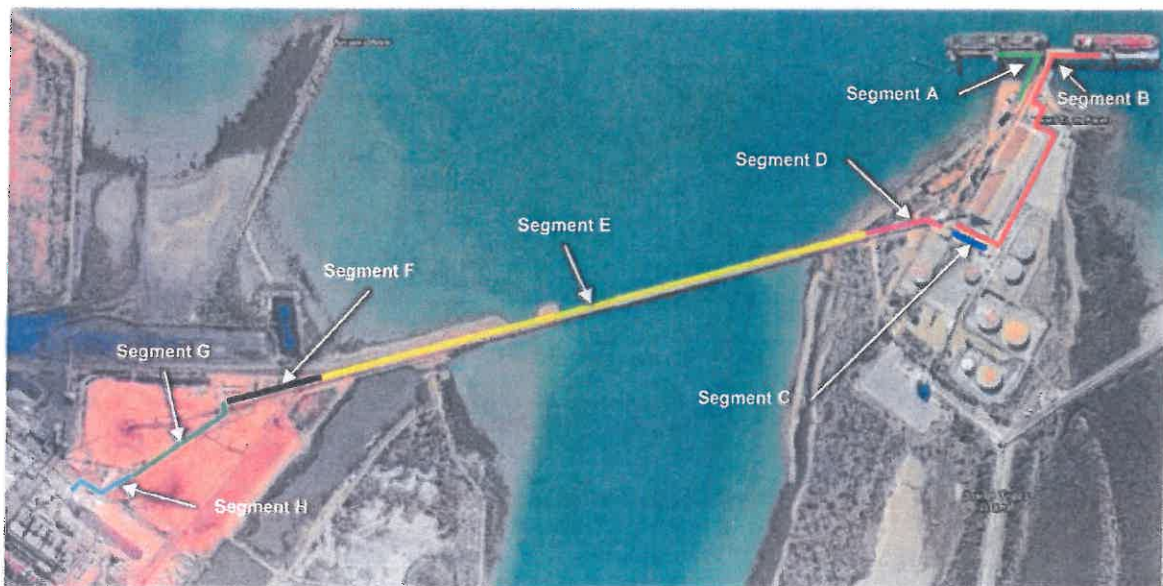
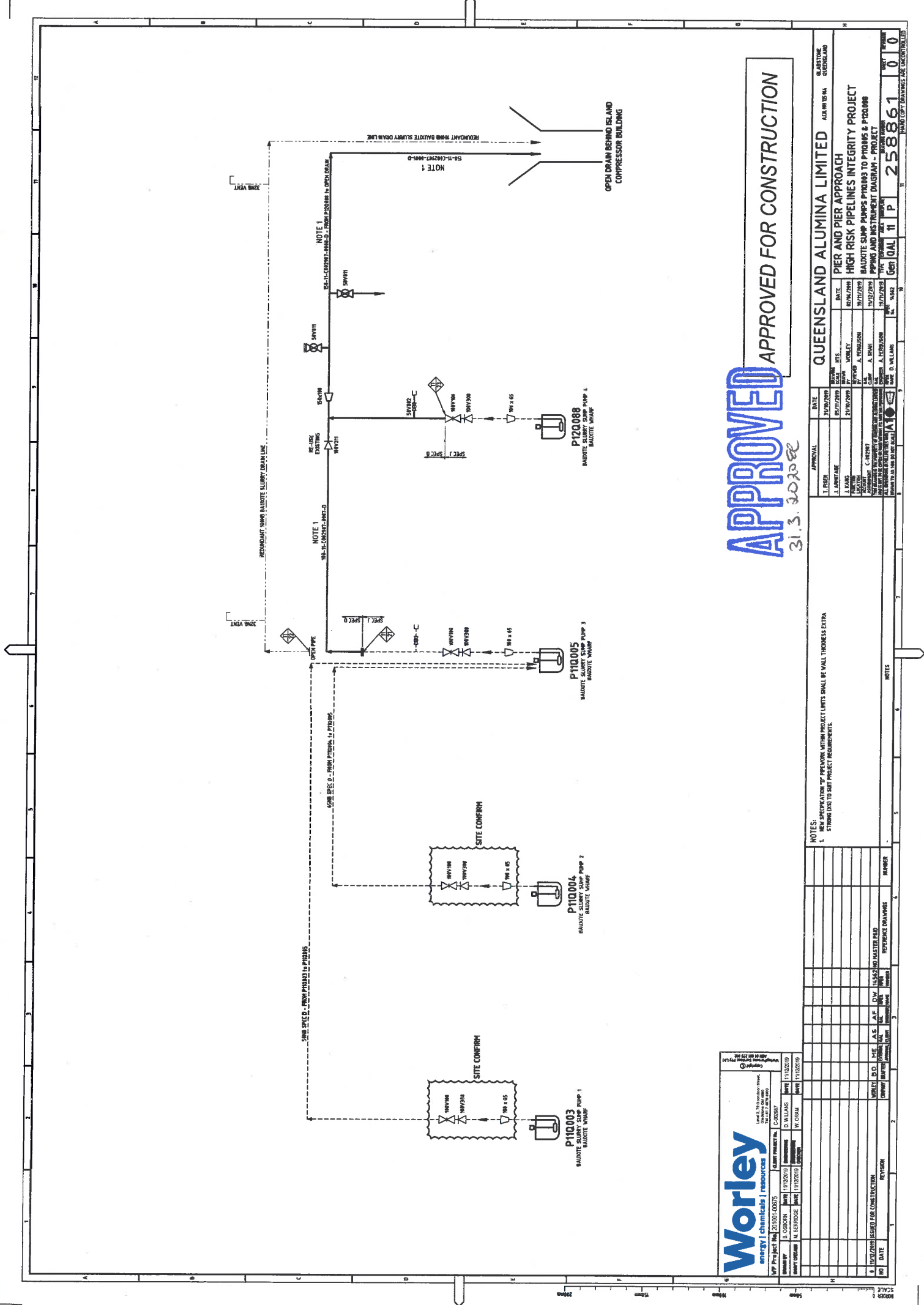


Figure 1 Segment Layout



Worley
energy | chemicals | resources

Worley Pty Ltd
Level 17, 100 Market Street
Sydney NSW 2000
Tel: +61 2 9706 6000
Fax: +61 2 9706 6001

Worley Project No. 201010025 Client Project No. C-00587

Author: B. OSBORN Date: 11/02/2010
Checked: D. WILLIAMS Date: 11/02/2010
Drawn: W. ORAM Date: 11/02/2010

Worley S.D. No. 151472
Worley S.D. No. 151472
Worley S.D. No. 151472

Worley S.D. No. 151472
Worley S.D. No. 151472
Worley S.D. No. 151472

APPROVED
31.3.2020

APPROVED FOR CONSTRUCTION

QUEENSLAND ALUMINA LIMITED A.L.C. 97/05 04
BLAIRSTONE QUEENSLAND

DATE: 31/03/2020
ISSUED BY: J. ARMITAGE
SCALE: A3
PROJECT: P120088

DATE: 02/04/2009
ISSUED BY: M. WOLLEY
SCALE: A3
PROJECT: P120088

DATE: 17/02/2011
ISSUED BY: A. PERRESON
SCALE: A3
PROJECT: P120088

DATE: 27/02/2013
ISSUED BY: A. PERRESON
SCALE: A3
PROJECT: P120088

DATE: 14/02/2015
ISSUED BY: D. WILLIAMS
SCALE: A3
PROJECT: P120088

DATE: 14/02/2015
ISSUED BY: D. WILLIAMS
SCALE: A3
PROJECT: P120088

DATE: 14/02/2015
ISSUED BY: D. WILLIAMS
SCALE: A3
PROJECT: P120088

DATE: 14/02/2015
ISSUED BY: D. WILLIAMS
SCALE: A3
PROJECT: P120088

DATE: 14/02/2015
ISSUED BY: D. WILLIAMS
SCALE: A3
PROJECT: P120088

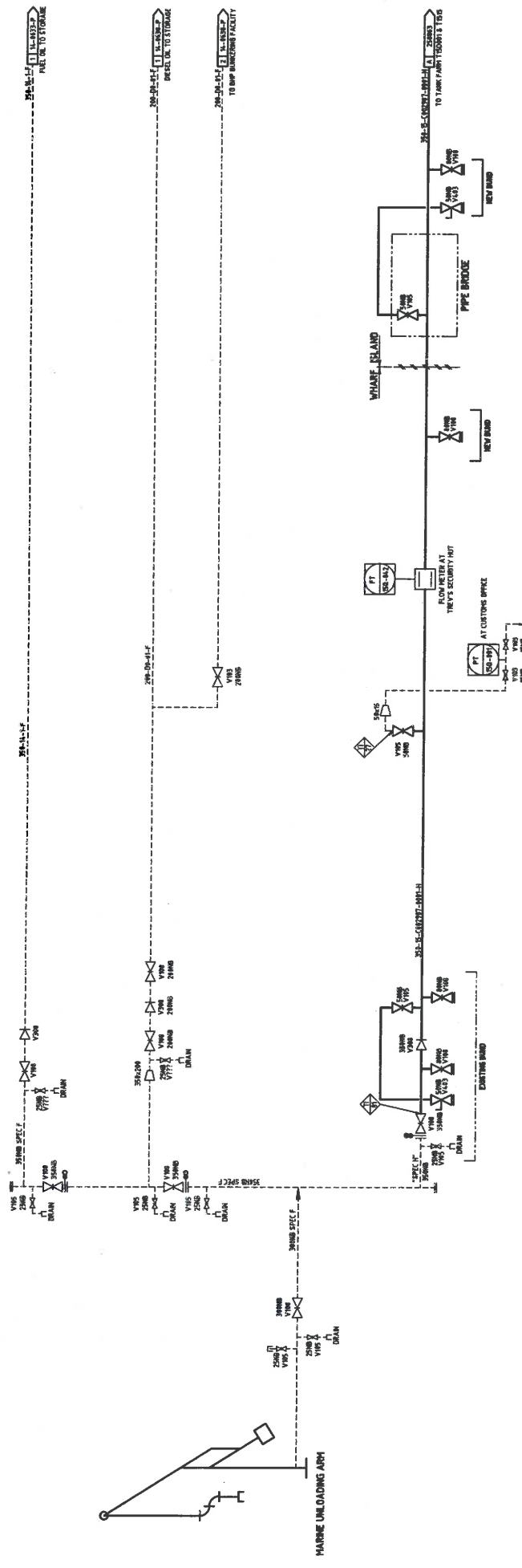
DATE: 14/02/2015
ISSUED BY: D. WILLIAMS
SCALE: A3
PROJECT: P120088

NOTES:

1. ALL SPECIFICATIONS FOR PIPEWORK AND INSTRUMENT LIMITS SHALL BE VALID THROUGHOUT EXTRA STRONG GGS TO SUIT PROJECT REQUIREMENTS.

NO.	DATE	REVISION	DESCRIPTION
1			
2			
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11			
12			

DATE	BY	NO.	REVISION
11/02/2010	W. ORAM	1	ISSUED FOR CONSTRUCTION
11/02/2010	W. ORAM	2	ISSUED FOR CONSTRUCTION
11/02/2010	W. ORAM	3	ISSUED FOR CONSTRUCTION
11/02/2010	W. ORAM	4	ISSUED FOR CONSTRUCTION
11/02/2010	W. ORAM	5	ISSUED FOR CONSTRUCTION
11/02/2010	W. ORAM	6	ISSUED FOR CONSTRUCTION
11/02/2010	W. ORAM	7	ISSUED FOR CONSTRUCTION
11/02/2010	W. ORAM	8	ISSUED FOR CONSTRUCTION
11/02/2010	W. ORAM	9	ISSUED FOR CONSTRUCTION
11/02/2010	W. ORAM	10	ISSUED FOR CONSTRUCTION
11/02/2010	W. ORAM	11	ISSUED FOR CONSTRUCTION
11/02/2010	W. ORAM	12	ISSUED FOR CONSTRUCTION



Level 2, 75 Devonport Street
 Devonport, Tasmania 7310
 Australia
 Phone: +61 8 9339 9000
 Fax: +61 8 9339 9001
 Email: sales@worley.com.au

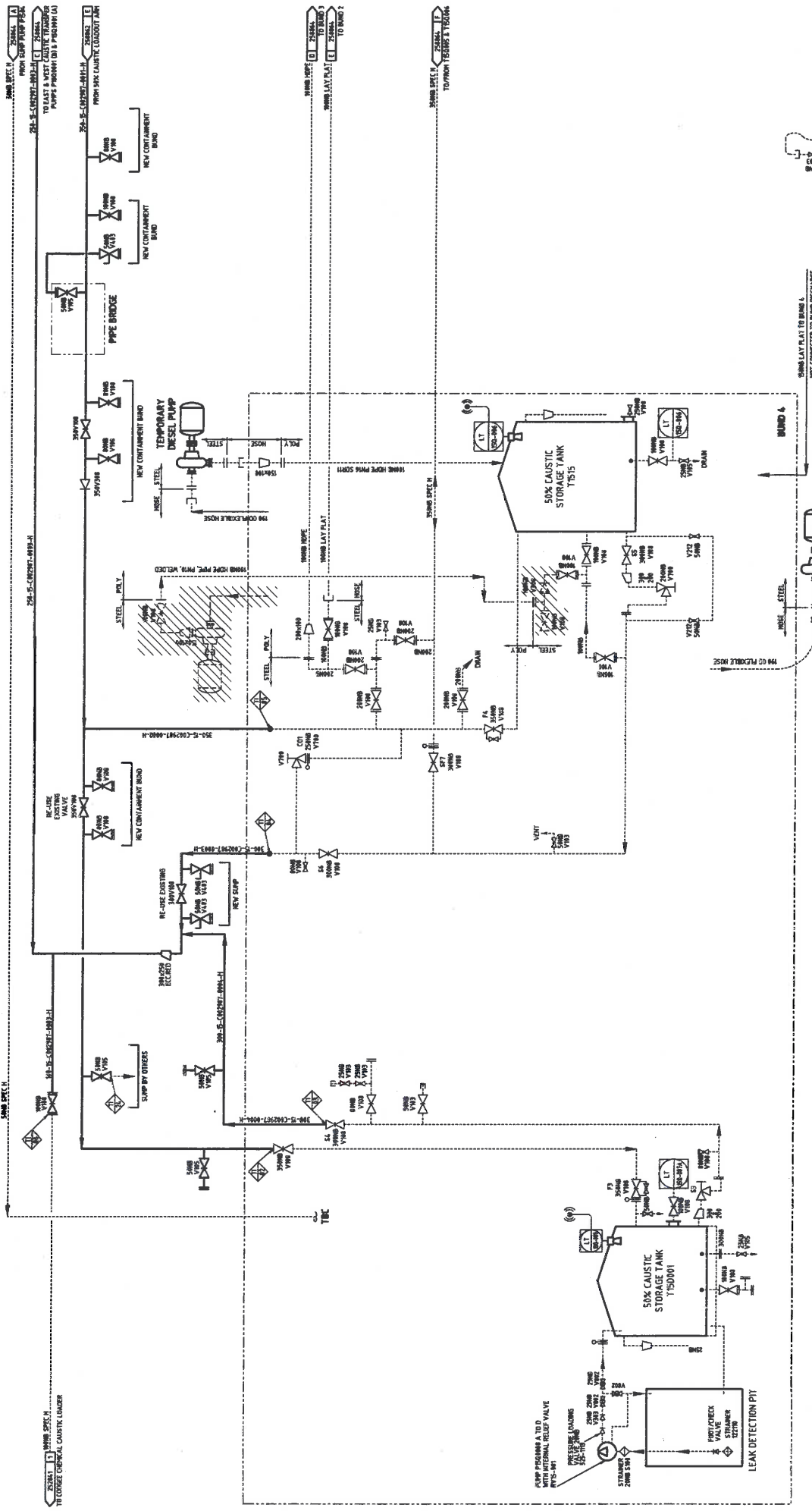
Worley Project No:	201001-00275	Client Project No.:	C-00097
Issued by:	B. OSBORN	Issued on:	11/02/2019
Checked by:	M. BERRIDGE	Checked on:	11/02/2019
Approved by:	W. ORAM	Approved on:	11/02/2019

APPROVED
 31.3.2020 EC

APPROVAL	DATE	BY	FOR
J. FINER	31/07/2019	FINER	ISSUE
J. ARRYANE	05/07/2019	ARRYANE	REVISION
J. MARE	20/02/2019	MARE	REVISION
W. ORAM	17/02/2019	ORAM	REVISION
A. FERRELL	17/02/2019	FERRELL	REVISION
A. SINGH	17/02/2019	SINGH	REVISION
A. FERRELL	17/02/2019	FERRELL	REVISION
G. S. WILLIAMS	17/02/2019	WILLIAMS	REVISION

PROJECT NO.	201001-00275
CLIENT PROJECT NO.	C-00097
ISSUE DATE	11/02/2019
ISSUED BY	B. OSBORN
CHECKED BY	M. BERRIDGE
APPROVED BY	W. ORAM
PROJECT NAME	CAUSTIC STORAGE HIGH RISK PIPELINES INTEGRITY PROJECT
WHARF TO TANK FARM	WHARF TO TANK FARM
PIPING AND INSTRUMENT DIAGRAM - PROJECT	PIPING AND INSTRUMENT DIAGRAM - PROJECT
GEN ID	15 PID
REV	0
DATE	25/08/20
BY	G. S. WILLIAMS
CHECKED BY	G. S. WILLIAMS
APPROVED BY	G. S. WILLIAMS

QUEENSLAND ALUMINA LIMITED
 CAUSTIC STORAGE
 HIGH RISK PIPELINES INTEGRITY PROJECT
 WHARF TO TANK FARM
 PIPING AND INSTRUMENT DIAGRAM - PROJECT
 GEN ID 15 PID 258862 00



Worley
energy | chemicals | resources

Level 7, 200 Williamstown Road
Melbourne, Victoria 3008
Australia
Tel: +61 3 9595 6000
Fax: +61 3 9595 6001

Worley Project No. 21001-00675
Client Project No. C0087

Issued By: B. OSBORN Date: 11/02/2019
Checked By: M. BERNDORF Date: 11/02/2019
Drawn By: W. ORAM Date: 11/02/2019

Project: 50K CAUSTIC STORAGE TANK
Revision: REVISION

Scale: 1:1000
Sheet No: 258863
Sheet Count: 0

APPROVED FOR CONSTRUCTION

APPROVED

S.I.S. 2019

APPROVAL		DATE	REVISION
T. FRIER	31/01/2019		
J. HAYLOR	04/12/2019		
L. KANE	21/09/2019		

DESIGNED BY	A. ROSS
CHECKED BY	A. ROSS
DATE	11/02/2019
PROJECT	50K CAUSTIC STORAGE TANK
DRAWING NO.	258863
SHEET NO.	0
TOTAL SHEETS	0

PROJECT	50K CAUSTIC STORAGE TANK
CLIENT	QUEENSLAND ALUMINA LIMITED
LOCATION	ALUMINA PROJECT
SCALE	AS SHOWN
DATE	11/02/2019
PROJECT NO.	21001-00675
DRAWING NO.	258863
SHEET NO.	0
TOTAL SHEETS	0

EXISTING GROUND WATER/CAUSTIC SUPPLY LINES MAY CONTAIN ERRORS. REFER TO QAL PROJECT C-2945 DRAWING 257849 SHEET 7 & DRAWING 257944 SHEET 9.

APPROVED FOR CONSTRUCTION

APPROVED
31.3.2020



DATE	31/03/2020	BY	J. KANE
DATE	21/03/2020	BY	A. FERRELL
DATE	11/02/2019	BY	A. SHAW
DATE	11/02/2019	BY	D. WILLIAMS

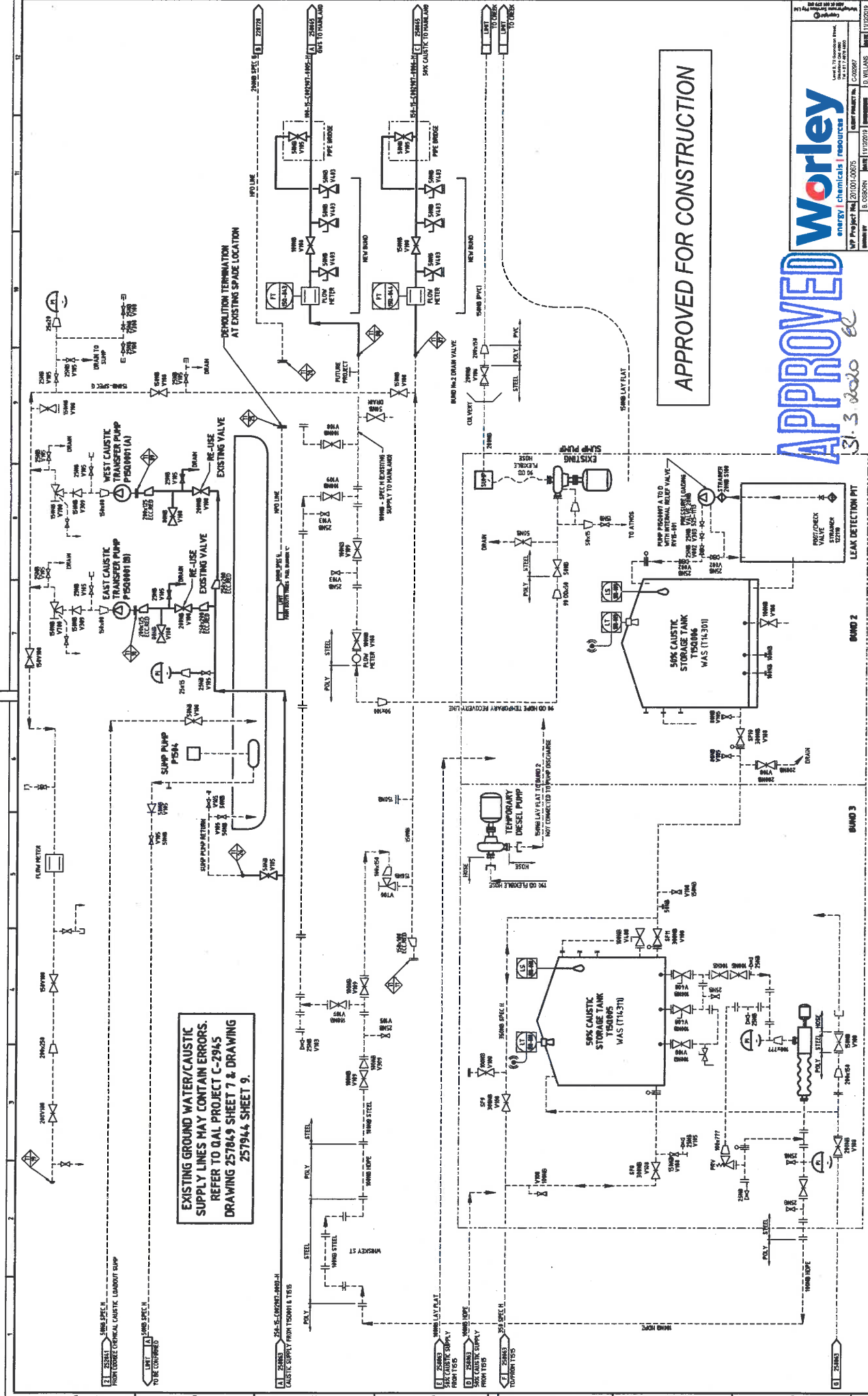
APPROVAL	T. FISHER
DATE	31/03/2020
SCALE	1:1
PROJECT	CAUSTIC STORAGE
LOCATION	TANK FARM - SHEET 2
PROJECT NO.	20107-05015
DATE	11/02/2019
BY	D. WILLIAMS
PROJECT NO.	20107-05015
DATE	11/02/2019
BY	D. WILLIAMS

PROJECT	CAUSTIC STORAGE
LOCATION	TANK FARM - SHEET 2
PROJECT NO.	20107-05015
DATE	11/02/2019
BY	D. WILLIAMS
PROJECT NO.	20107-05015
DATE	11/02/2019
BY	D. WILLIAMS

PROJECT	CAUSTIC STORAGE
LOCATION	TANK FARM - SHEET 2
PROJECT NO.	20107-05015
DATE	11/02/2019
BY	D. WILLIAMS
PROJECT NO.	20107-05015
DATE	11/02/2019
BY	D. WILLIAMS

PROJECT	CAUSTIC STORAGE
LOCATION	TANK FARM - SHEET 2
PROJECT NO.	20107-05015
DATE	11/02/2019
BY	D. WILLIAMS
PROJECT NO.	20107-05015
DATE	11/02/2019
BY	D. WILLIAMS

PROJECT	CAUSTIC STORAGE
LOCATION	TANK FARM - SHEET 2
PROJECT NO.	20107-05015
DATE	11/02/2019
BY	D. WILLIAMS
PROJECT NO.	20107-05015
DATE	11/02/2019
BY	D. WILLIAMS



PROJECT	CAUSTIC STORAGE
LOCATION	TANK FARM - SHEET 2
PROJECT NO.	20107-05015
DATE	11/02/2019
BY	D. WILLIAMS
PROJECT NO.	20107-05015
DATE	11/02/2019
BY	D. WILLIAMS

APPROVED

31/7/2020

APPROVAL	DATE	BY	FOR
T. FISHER	31/07/2020	J. BIRCHALL	DESIGN
J. BIRCHALL	06/11/2019	J. BIRCHALL	DESIGN
J. BIRCHALL	24/02/2019	A. PERRESON	DESIGN
A. PERRESON	17/02/2019	A. PERRESON	DESIGN
C. BIRCHALL	17/02/2019	A. PERRESON	DESIGN
A. PERRESON	17/02/2019	A. PERRESON	DESIGN

GEN. QAL	GEN. QAL	GEN. QAL	GEN. QAL
15	15	15	15

NO.	DATE	DESCRIPTION	BY	FOR
1	11/02/2019	ISSUED FOR CONSTRUCTION	REVISION	REVISION
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NO.	DATE	DESCRIPTION	BY	FOR
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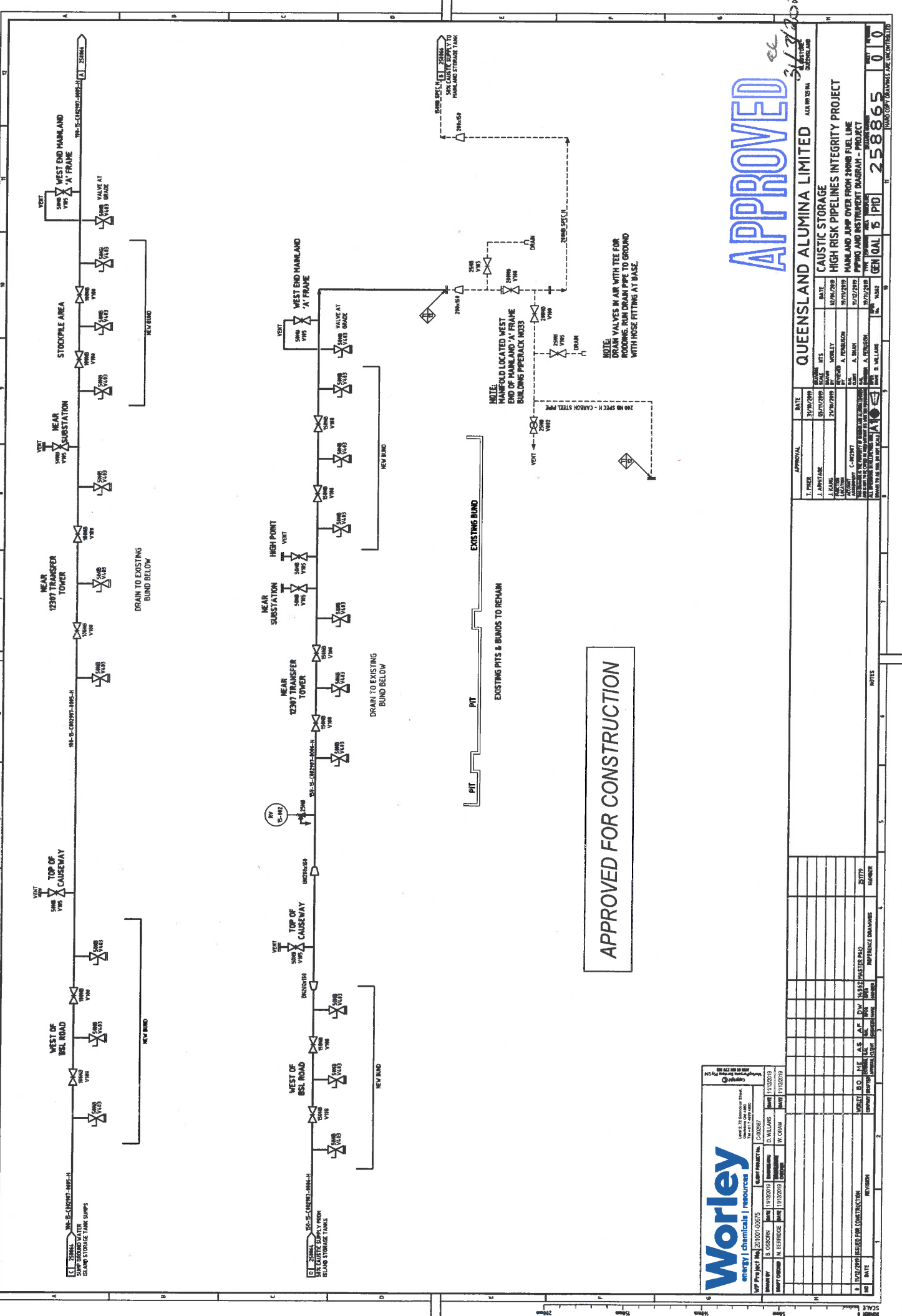
Worley
energy | chemicals | resources

Level 2, 75 Dominion Street
Melbourne VIC 3000
Phone: +61 (0)3 9592 1000
Fax: +61 (0)3 9592 1000

Worley Project No.	Worley Project Name	Worley Project No.	Worley Project Name
20100100675	C-000587	11/02/2019	11/02/2019
B. OSBORNE	D. WILLIAMS	11/02/2019	11/02/2019
N. ERMERSON	W. O'NEIL	11/02/2019	11/02/2019

Worley B.O. NE. L.A.S. L.A.F. D.W. 15542 MASTER PAD. 201778
 W. O'NEIL (SUPERVISOR) | W. O'NEIL (SUPERVISOR) | W. O'NEIL (SUPERVISOR)
 W. O'NEIL (SUPERVISOR) | W. O'NEIL (SUPERVISOR) | W. O'NEIL (SUPERVISOR)

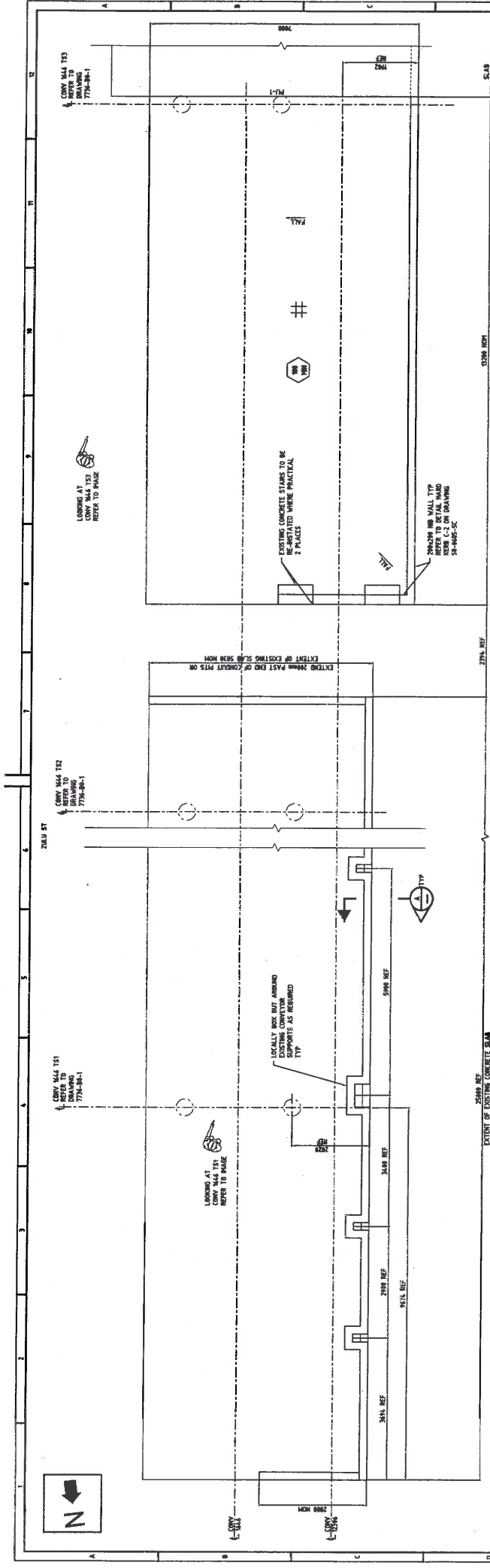
APPROVED FOR CONSTRUCTION



QUEENSLAND ALUMINA LIMITED ALEX RD 70 WA
CAUSTIC STORAGE
HIGH RISK PIPELINES INTEGRITY PROJECT
 MAINLAND JUMP OVER FROM 25888 FUEL LINE
 PIPING AND INSTRUMENT DIAGRAM - PROJECT

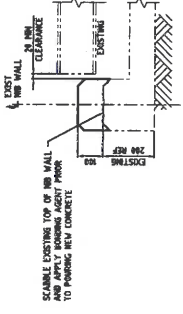
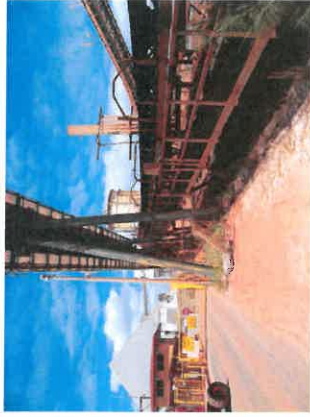
NOTE:
 DRAIN VALVES IN AIR WITH TEE FOR
 WOODRIDGE OR DRAIN PIPE TO GROUND
 WITH HOSE FITTING AT BASE.

GEN. QAL 15 PID 258865
 W. O'NEIL (SUPERVISOR) | W. O'NEIL (SUPERVISOR) | W. O'NEIL (SUPERVISOR)
 W. O'NEIL (SUPERVISOR) | W. O'NEIL (SUPERVISOR) | W. O'NEIL (SUPERVISOR)



NEW CONCRETE SLAB AND NIB WALL PLAN
SCALE 1:50

EXISTING NIB RECTIFICATION PLAN
SCALE 1:50



SECTION A
SCALE 1:8

APPROVED

31.3.2020

APPROVED FOR CONSTRUCTION

Worley
energy | chemicals | resources

Level 4, 20 Goodwin Street, Sydney NSW 2000
Tel: 61 2 9230 3000
www.worley.com.au

Worley Project No: 201001-00875
Client: BHP
Contract No: C000887
Contract Name: LUCKLE
Contract Start: 2017/02/01
Contract End: 2017/02/01

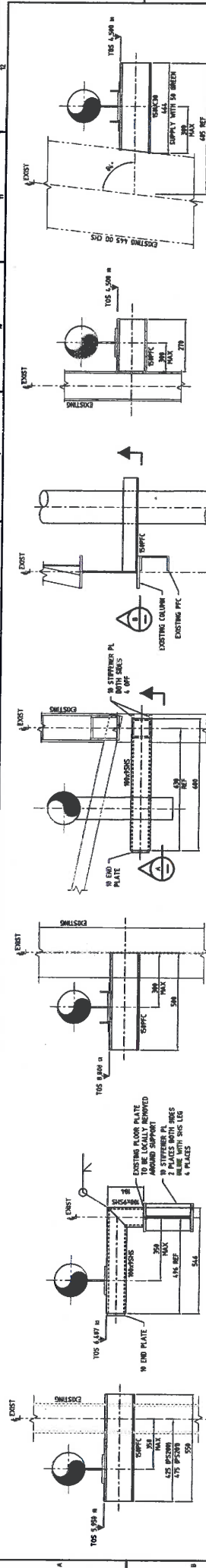
Worley Contract No: 2017/02/01
Contract Name: LUCKLE
Contract Start: 2017/02/01
Contract End: 2017/02/01

NO	DATE	DESCRIPTION	BY	CHECKED	APPROVED
1					
2					
3					
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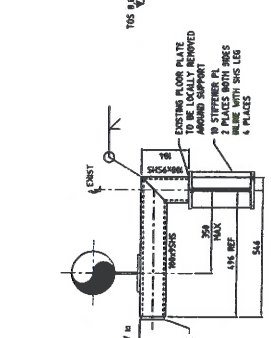
QUEENSLAND ALUMINA LIMITED
PIER AND PIER APPROACH
INTEGRITY OF HIGH RISK PIPELINES
BALDOTE SLURRY LINE
CONCRETE GENERAL ARRANGEMENT

DATE: 17/11/2019
DRAWN BY: J. PERER
CHECKED BY: J. PERER
APPROVED BY: J. PERER
SCALE: A3
PROJECT NO: 201001-00875
DRAWING NO: 7734-06-1
REV: 01

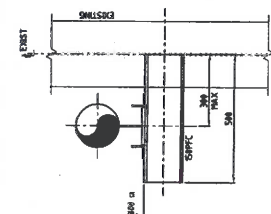
Gen 011 SC 125897600



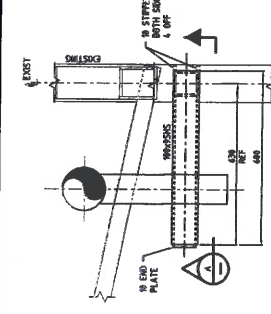
PIPE SUPPORTS PS200 & PS201
LOOKING SOUTH WEST
2 REQUIRED AS NOTED



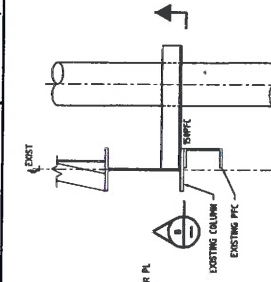
PIPE SUPPORT PS202
LOOKING NORTH WEST
1 REQUIRED



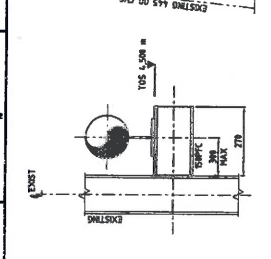
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LOOKING SOUTH WEST
1 REQUIRED



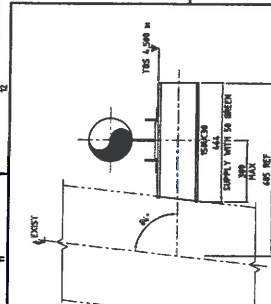
PIPE SUPPORT PS204
1 REQUIRED



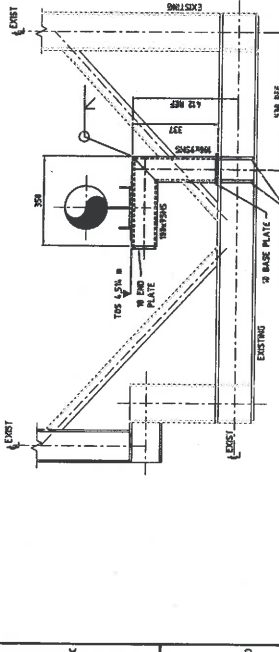
PIPE SUPPORT PS205
1 REQUIRED



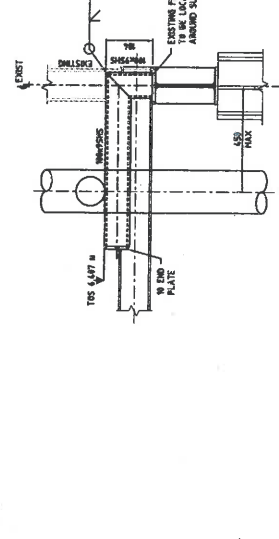
PIPE SUPPORTS PS206 & PS208
LOOKING NORTH WEST
2 REQUIRED



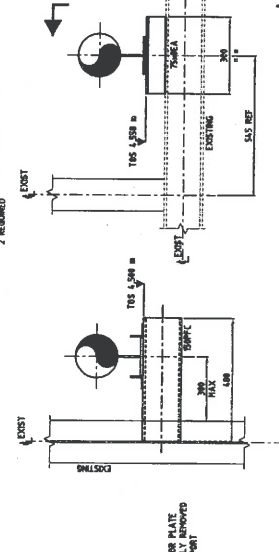
PIPE SUPPORT PS207
LOOKING NORTH WEST
1 REQUIRED



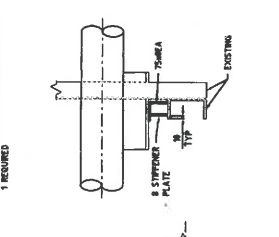
PIPE SUPPORT PS209
LOOKING NORTH WEST
1 REQUIRED



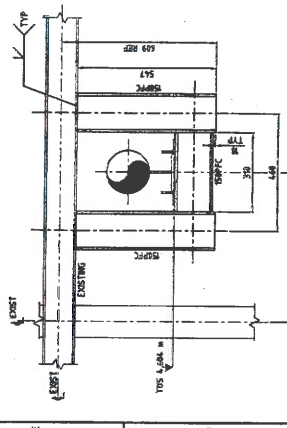
PIPE SUPPORT PS210
LOOKING SOUTH EAST
1 REQUIRED



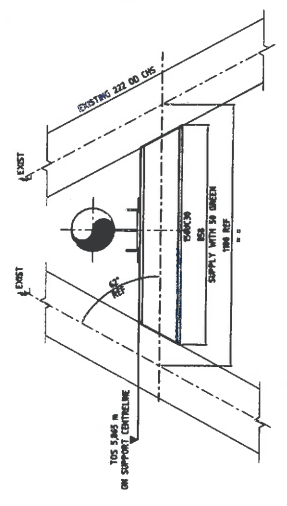
PIPE SUPPORT PS211
LOOKING SOUTH EAST
1 REQUIRED



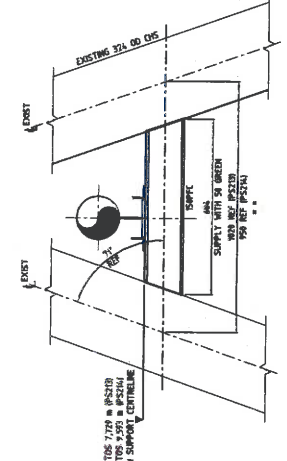
PIPE SUPPORT PS212
LOOKING NORTH WEST
2 REQUIRED AS NOTED



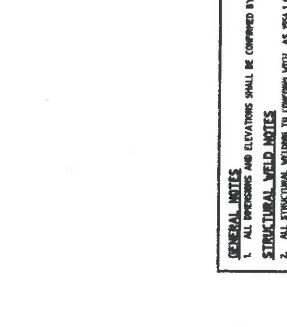
PIPE SUPPORTS PS213 & PS214
LOOKING NORTH WEST
2 REQUIRED AS NOTED



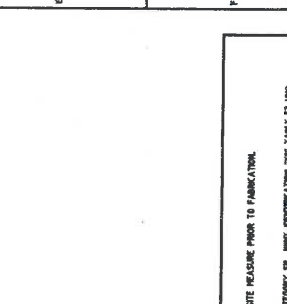
PIPE SUPPORT PS215
LOOKING NORTH WEST
1 REQUIRED



PIPE SUPPORTS PS216 & PS217
LOOKING NORTH WEST
2 REQUIRED AS NOTED



PIPE SUPPORT PS218
LOOKING SOUTH EAST
1 REQUIRED



PIPE SUPPORT PS219
LOOKING NORTH WEST
1 REQUIRED

GENERAL NOTES

1. ALL DIMENSIONS AND ELEVATIONS SHALL BE CONFIRMED BY SITE MEASURE PRIOR TO FABRICATION.
2. ALL STRUCTURAL WELDS TO COMPLY WITH AS PER CATEGORY OR, WORK SPECIFICATION TYPE TABLE E3 100.
3. ALL PLATE WELDS TO BE COMPLETE PENETRATION BUTT WELD UNLESS OTHERWISE SPECIFIED. ALL OTHER WELDED CONNECTIONS SHALL BE 6 mm MINIMUM WELD SIZE. ALL WELDS SHALL BE MADE USING B-6100/6100A ELECTRODES IN ACCORDANCE WITH AS 1554. ALL WELDS SHALL BE FULL PENETRATION BUTT WELDS. ALL CONTACT WELDS OF NEW TO EXISTING STEELWORK SHALL BE 6mm MIN.
4. ALL STRUCTURAL WELDS COMPLETION SHALL BE TO AS 1554-100/6100A, OR EQUIVALENT.
5. ALL STRUCTURAL WELDS SHALL BE VISUALLY INSPECTED BY A QUALIFIED WELDING INSPECTOR.
6. ALL STRUCTURAL WELDS SHALL BE FREE FROM DEFECTS SUCH AS CRACKS, EXCESSIVE UNDERCUTS & BROSS PENETRATION.

STRUCTURAL WELD NOTES

1. ALL STRUCTURAL WELDS TO COMPLY WITH AS PER CATEGORY OR, WORK SPECIFICATION TYPE TABLE E3 100.
2. ALL PLATE WELDS TO BE COMPLETE PENETRATION BUTT WELD UNLESS OTHERWISE SPECIFIED. ALL OTHER WELDED CONNECTIONS SHALL BE 6 mm MINIMUM WELD SIZE. ALL WELDS SHALL BE MADE USING B-6100/6100A ELECTRODES IN ACCORDANCE WITH AS 1554. ALL WELDS SHALL BE FULL PENETRATION BUTT WELDS. ALL CONTACT WELDS OF NEW TO EXISTING STEELWORK SHALL BE 6mm MIN.
3. ALL STRUCTURAL WELDS COMPLETION SHALL BE TO AS 1554-100/6100A, OR EQUIVALENT.
4. ALL STRUCTURAL WELDS SHALL BE VISUALLY INSPECTED BY A QUALIFIED WELDING INSPECTOR.
5. ALL STRUCTURAL WELDS SHALL BE FREE FROM DEFECTS SUCH AS CRACKS, EXCESSIVE UNDERCUTS & BROSS PENETRATION.

STRUCTURAL NOTES

1. STRUCTURAL STEELWORK TO COMPLY WITH AS 1554.
2. WILD STEEL PLATE TO AS/NZS 3472-250 MINIMUM.
3. WILD STEEL SECTIONS TO AS/NZS 3471-1-300.

CONCRETE NOTES

1. FOR CONCRETE NOTES REFER STANDARD DRAWING 20-005-5C.

APPROVAL		DATE	BY
I. USER		17/11/2020	J. HAYTAGE
II. CHECKED		17/11/2020	J. HAYTAGE
III. DESIGNED		17/11/2020	J. HAYTAGE
IV. ENGINEER		17/11/2020	J. HAYTAGE
V. PROJECT MANAGER		17/11/2020	J. HAYTAGE
VI. SUPERVISOR		17/11/2020	J. HAYTAGE
VII. CLIENT REPRESENTATIVE		17/11/2020	J. HAYTAGE
VIII. CONTRACTOR REPRESENTATIVE		17/11/2020	J. HAYTAGE
IX. APPROVED FOR CONSTRUCTION		17/11/2020	J. HAYTAGE
X. APPROVED FOR FABRICATION		17/11/2020	J. HAYTAGE

CLIENT	QUEENSLAND ALUMINA LIMITED
PROJECT	PIER AND PIER APPROACH
DESCRIPTION	INTEGRITY OF HIGH RISK PIPELINES
DATE	17/11/2020
BY	J. HAYTAGE
CHECKED	J. HAYTAGE
DESIGNED	J. HAYTAGE
ENGINEER	J. HAYTAGE
PROJECT MANAGER	J. HAYTAGE
SUPERVISOR	J. HAYTAGE
CLIENT REPRESENTATIVE	J. HAYTAGE
CONTRACTOR REPRESENTATIVE	J. HAYTAGE
APPROVED FOR CONSTRUCTION	J. HAYTAGE
APPROVED FOR FABRICATION	J. HAYTAGE

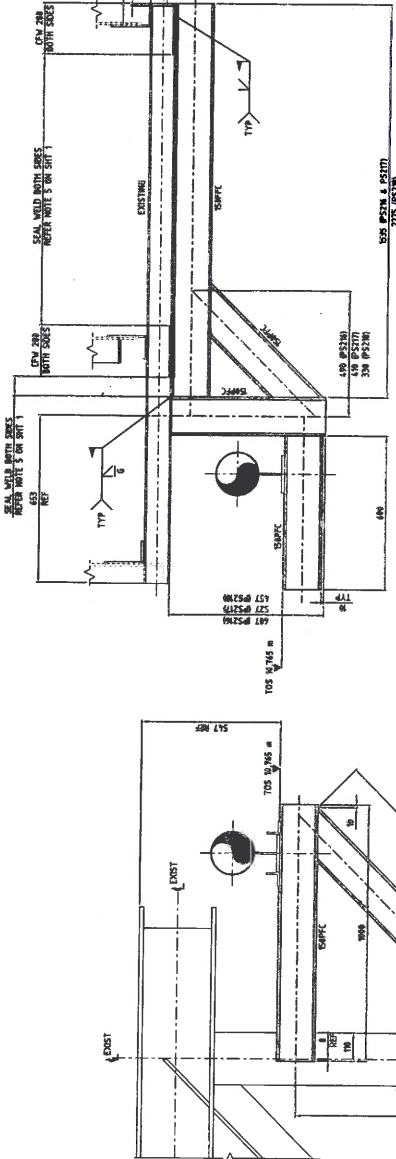
APPROVED

31-3-2020

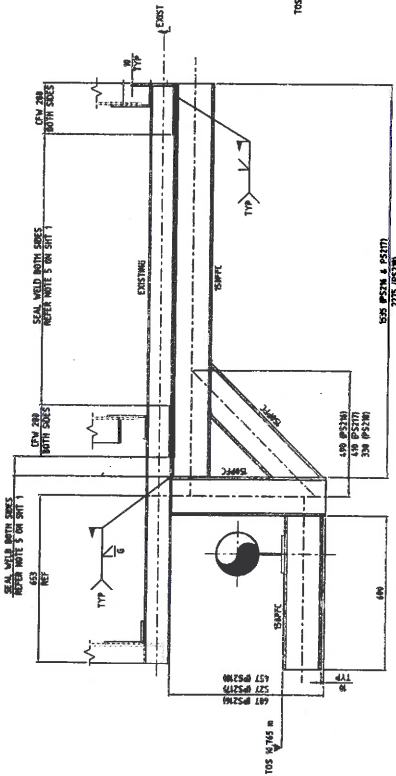
APPROVED FOR CONSTRUCTION

Worley energy | chemicals | resources

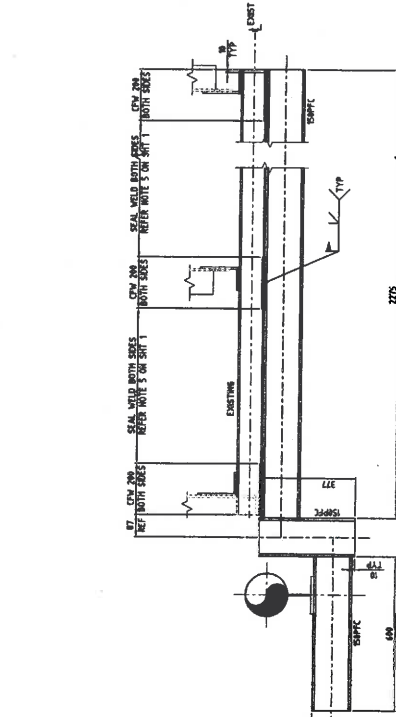
Worley Project No: 20100-00075
 Location: 20100-00075
 Client: ALUMINA
 Project: PIER AND PIER APPROACH
 Drawing No: 20100-00075-00001
 Title: PIPE SUPPORTS FOR CONSTRUCTION AND FABRICATION
 Date: 17/11/2020
 Author: J. HAYTAGE
 Checked: J. HAYTAGE
 Designed: J. HAYTAGE
 Engineered: J. HAYTAGE
 Project Manager: J. HAYTAGE
 Supervisor: J. HAYTAGE
 Client Representative: J. HAYTAGE
 Contractor Representative: J. HAYTAGE
 Approved for Construction: J. HAYTAGE
 Approved for Fabrication: J. HAYTAGE



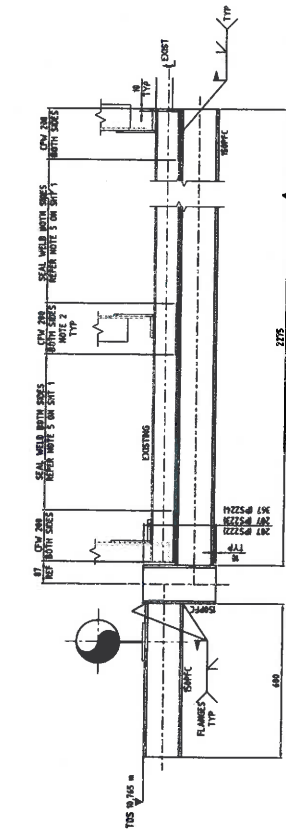
PIPE SUPPORT PS215
LOOKING SOUTH EAST
1 REQUIRED



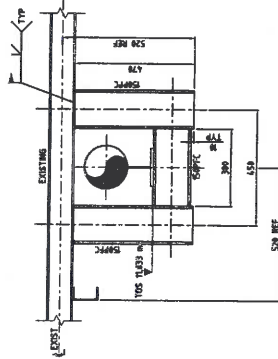
PIPE SUPPORTS PS216 - PS218
LOOKING NORTH WEST
3 REQUIRED



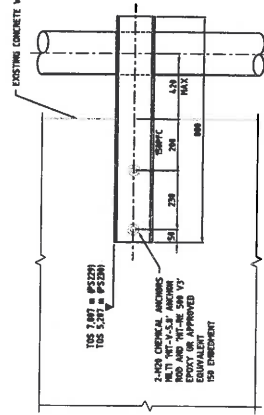
PIPE SUPPORT PS219
LOOKING NORTH WEST
1 REQUIRED



PIPE SUPPORTS PS222 - PS224
LOOKING NORTH WEST
3 REQUIRED



PIPE SUPPORTS PS227 & PS228
LOOKING NORTH EAST
2 REQUIRED



PIPE SUPPORTS PS229 & PS230
LOOKING SOUTH EAST
2 REQUIRED

Worley energy | chemicals | resources

Level 20, Gloucester Street,
Sydney NSW 2000 Australia
Tel: +61 (0) 2 9550 6200
Fax: +61 (0) 2 9550 6201

Worley Project No: 210100-0007
Client: Energy Australia
Contract No: C-00097
Issue: 2001/0200
Revision: 1
Date: 2001/02/00

Author: K-POLE
Checked: J-ZHANG
Date: 2001/02/00

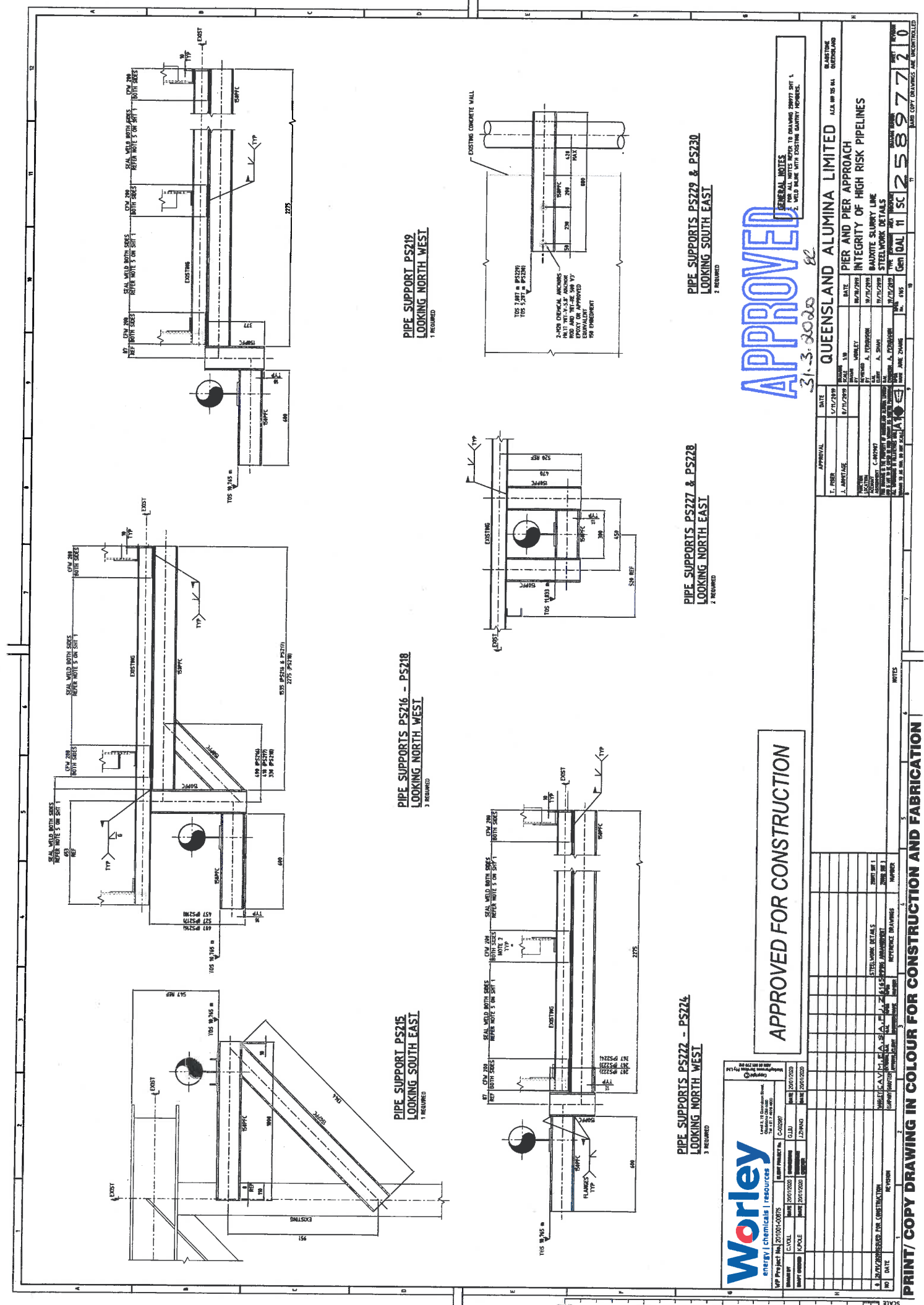
Project: 210100-0007
Drawing No: 210100-0007-0001
Drawing Title: PIPE SUPPORTS FOR CONSTRUCTION
Revision: REV:001
Date: 2001/02/00

APPROVED FOR CONSTRUCTION

31.3.2020 EC
APPROVED

GENERAL NOTES
FOR ALL NOTES REFER TO DRAWING 200777 SHIT 1
2. WELD MADE WITH EXISTING GUNTRY ROBBERS.

APPROVAL		DATE	BY	FOR	DATE	BY	FOR
1. DESIGNED	J. ARMITAGE	1/12/2019	J. ARMITAGE	DESIGN	18/07/2019	J. ARMITAGE	DESIGN
2. CHECKED	C. HAYES	1/12/2019	C. HAYES	CHECK	18/07/2019	C. HAYES	CHECK
3. ENGINEERED	A. FERRESON	1/12/2019	A. FERRESON	ENGINEER	18/07/2019	A. FERRESON	ENGINEER
4. APPROVED	A. FERRESON	1/12/2019	A. FERRESON	APPROVE	18/07/2019	A. FERRESON	APPROVE
DRAWN BY: J. ZHANG		DATE: 2001/02/00	CHECKED BY: J. ZHANG		DATE: 2001/02/00	APPROVED BY: J. ZHANG	
PROJECT NO: 210100-0007		PROJECT NAME: PIPE SUPPORTS FOR CONSTRUCTION	DRAWING NO: 210100-0007-0001		SCALE: AS SHOWN	SHEET NO: 1 OF 1	
PROJECT LOCATION: QUEENSLAND ALUMINA LIMITED		PIER AND PIER APPROACH		INTEGRITY OF HIGH RISK PIPELINES		BLASTING RECORDING	
PROJECT MANAGER: J. ZHANG		DESIGNER: J. ZHANG		CHECKER: C. HAYES		ENGINEER: A. FERRESON	
APPROVED BY: J. ZHANG		DATE: 2001/02/00		SCALE: AS SHOWN		SHEET NO: 1 OF 1	
PROJECT NO: 210100-0007		PROJECT NAME: PIPE SUPPORTS FOR CONSTRUCTION		DRAWING NO: 210100-0007-0001		SCALE: AS SHOWN	
PROJECT LOCATION: QUEENSLAND ALUMINA LIMITED		PIER AND PIER APPROACH		INTEGRITY OF HIGH RISK PIPELINES		BLASTING RECORDING	
PROJECT MANAGER: J. ZHANG		DESIGNER: J. ZHANG		CHECKER: C. HAYES		ENGINEER: A. FERRESON	
APPROVED BY: J. ZHANG		DATE: 2001/02/00		SCALE: AS SHOWN		SHEET NO: 1 OF 1	



PIPE SUPPORT PS219
LOOKING NORTH WEST
1 REQUIRED

PIPE SUPPORTS PS229 & PS230
LOOKING SOUTH EAST
2 REQUIRED

PIPE SUPPORTS PS216 - PS218
LOOKING NORTH WEST
3 REQUIRED

PIPE SUPPORTS PS227 & PS228
LOOKING NORTH EAST
2 REQUIRED

PIPE SUPPORT PS215
LOOKING SOUTH EAST
1 REQUIRED

PIPE SUPPORTS PS222 - PS224
LOOKING NORTH WEST
3 REQUIRED

APPROVED

31-3-2020 EC

GENERAL NOTES
FOR ALL NOTES REFER TO DRAWING 200777.001
2. WELD MADE WITH EXISTING SHAPLY FORBIDE.

APPROVAL		DATE	QUEENSLAND ALUMINA LIMITED		SCALE
T. FISER	J. AMPTHALE	12/12/2019	PROJECT NO.	ALUMINA WALKERS	AS SHOWN
DESIGNED BY		DATE	PROJECT NO.	ALUMINA WALKERS	AS SHOWN
CHECKED BY		DATE	PROJECT NO.	ALUMINA WALKERS	AS SHOWN
APPROVED BY		DATE	PROJECT NO.	ALUMINA WALKERS	AS SHOWN

FOR ALL NOTES REFER TO DRAWING 200777.001	
2. WELD MADE WITH EXISTING SHAPLY FORBIDE.	

PIER AND PIER APPROACH				
INTEGRITY OF HIGH RISK PIPELINES				
BAUNITE SLURRY LINE				
STEELWORK DETAILS				
NO	DATE	BY	FOR	REVISION
1	12/12/2019	J. AMPTHALE	T. FISER	ISSUED FOR CONSTRUCTION

DATE		25/01/2020	SCALE	AS SHOWN
PROJECT NO.		ALUMINA WALKERS	SCALE	AS SHOWN
PROJECT NO.		ALUMINA WALKERS	SCALE	AS SHOWN

DATE		25/01/2020	SCALE	AS SHOWN
PROJECT NO.		ALUMINA WALKERS	SCALE	AS SHOWN

APPROVED FOR CONSTRUCTION

energy | chemical | resources

Worley is a Division of Brookfield Multiples Limited

Worley Project No: 201004-00078 WAP PROJECT No: C-00097

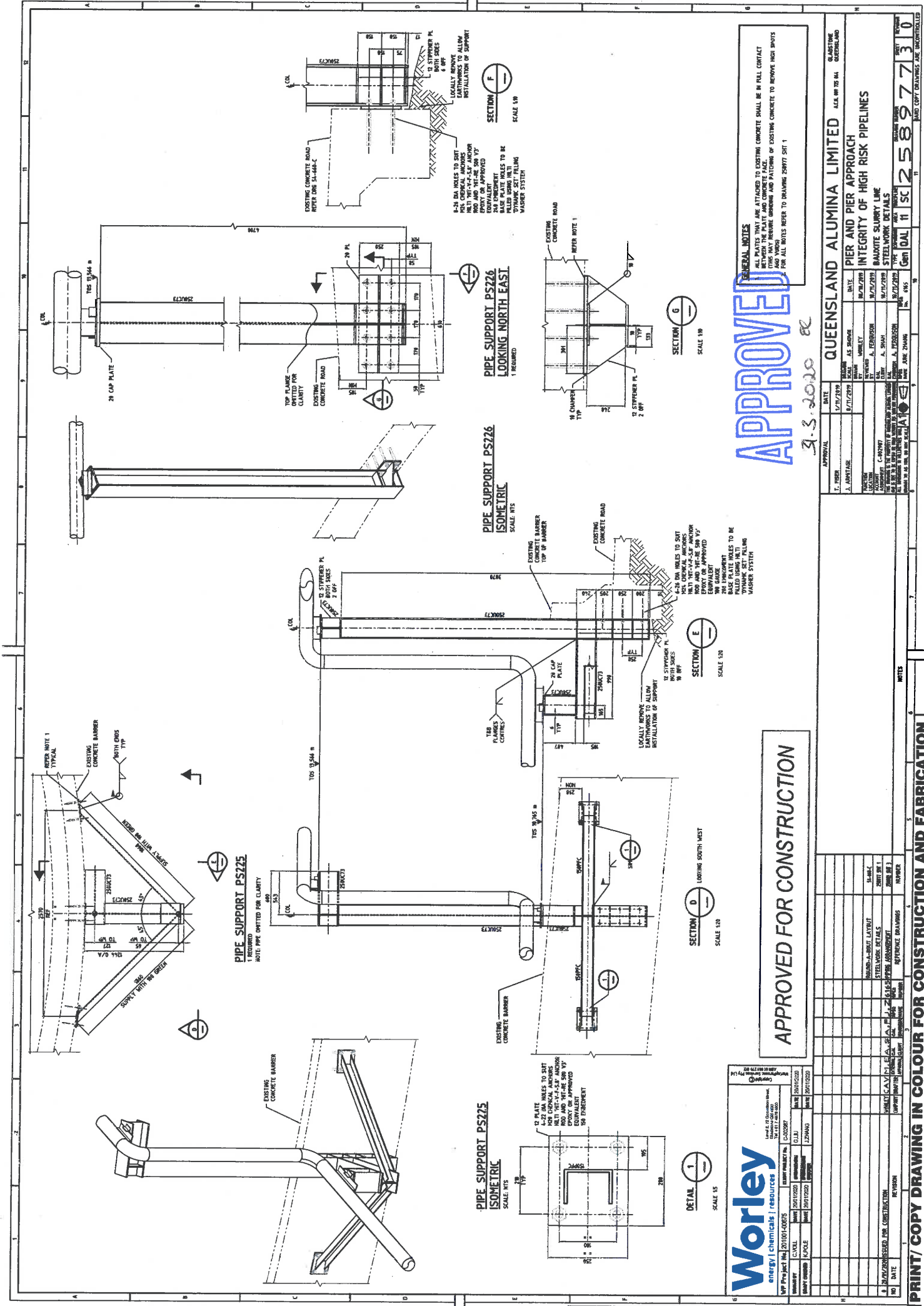
DATE: 25/01/2020 ISSUE: 2007/2020

DESIGNED BY: C. VALL CHECKED BY: J. ZWANE

DATE: 20/12/2019 ISSUE: 2007/2020

DATE		25/01/2020	SCALE	AS SHOWN
PROJECT NO.		ALUMINA WALKERS	SCALE	AS SHOWN

PRINT/ COPY DRAWING IN COLOUR FOR CONSTRUCTION AND FABRICATION



Worley
energy | chemicals | resources

Worley Project No. 2010H-00075
 SHEET NO. 1
 SHEET TOTAL 1

DATE	2010/02/02	BY	LEJ/AND
DATE	2010/02/02	BY	LEJ/AND
DATE	2010/02/02	BY	LEJ/AND

Worley Project No. 2010H-00075
 SHEET NO. 1
 SHEET TOTAL 1

APPROVED FOR CONSTRUCTION

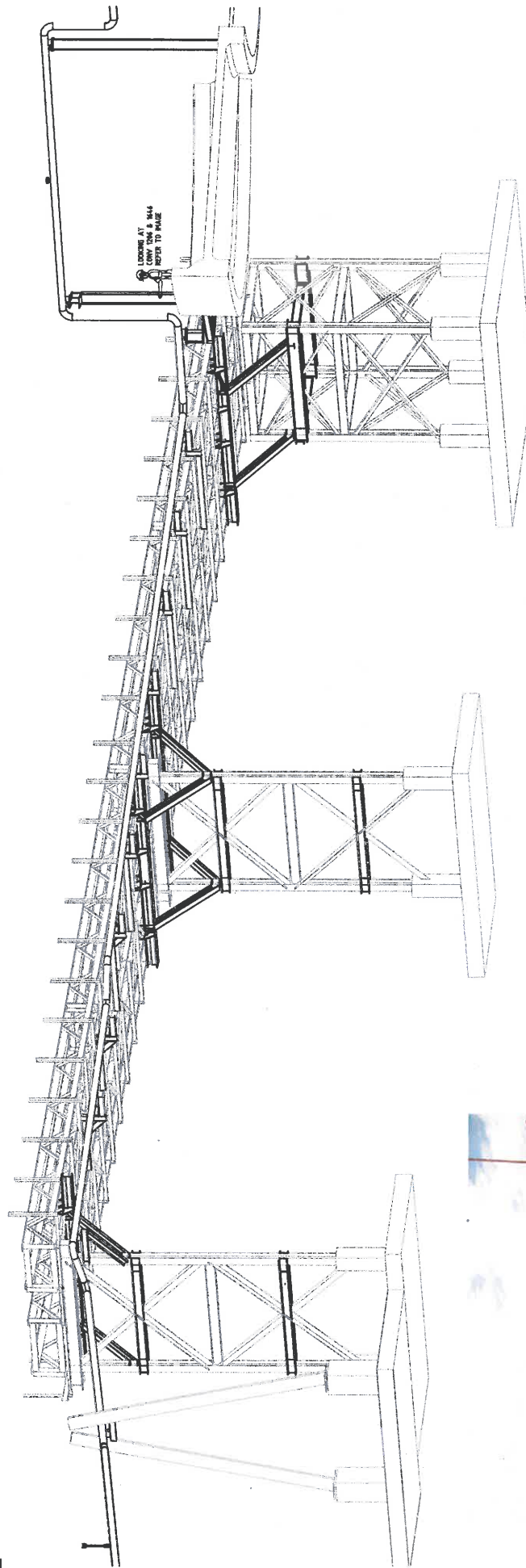
APPROVED

3.3.2010

APPROVAL	DATE	DESIGNER	DATE	CLIENT
J. LAMBERT	1/11/2010	A. FERRO	1/11/2010	QUEENSLAND ALUMINA LIMITED
C. SHAW	1/11/2010	A. FERRO	1/11/2010	PIER AND PIER APPROACH
A. FERRO	1/11/2010	A. FERRO	1/11/2010	INTEGRITY OF HIGH RISK PIPELINES
A. FERRO	1/11/2010	A. FERRO	1/11/2010	BAOUSTE SLURRY LINE
A. FERRO	1/11/2010	A. FERRO	1/11/2010	STEELWORK DETAILS

PRINT/ COPY DRAWING IN COLOUR FOR CONSTRUCTION AND FABRICATION

Gen 04L H SC 25897310



STRENGTHENING ISOMETRIC
(LOOKING SOUTH EAST)
SCALE: NTS



CONY 1206 & 1644 IMAGE
LOOKING NORTH EAST

GENERAL NOTES

1. ALL DIMENSIONS AND ELEVATIONS SHALL BE GOVERNED BY SITE MEASUREMENT PRIOR TO FABRICATION.
2. ALL STRUCTURAL WORKING TO CONFORM WITH AS 1521 LATEST EDITION. "TY" TABLE IS TO BE USED.
3. ALL FLANGE WELDS TO BE COMPLETE PENETRATION BUTT WELD UNLESS OTHERWISE SPECIFIED. ALL OTHER WELDED CONNECTIONS SHALL BE A AND B PENETRATION BUTT WELDS UNLESS OTHERWISE SPECIFIED. ALL WELDED JOINTS SHALL BE WELDED IN ACCORDANCE WITH AS 1521 UNLESS OTHERWISE SPECIFIED. ALL WELDED JOINTS SHALL BE WELDED IN ACCORDANCE WITH AS 1521 UNLESS OTHERWISE SPECIFIED.
4. ALL WELDED JOINTS SHALL BE WELDED IN ACCORDANCE WITH AS 1521 UNLESS OTHERWISE SPECIFIED.
5. ALL WELDED JOINTS SHALL BE WELDED IN ACCORDANCE WITH AS 1521 UNLESS OTHERWISE SPECIFIED.
6. ALL WELDED JOINTS SHALL BE WELDED IN ACCORDANCE WITH AS 1521 UNLESS OTHERWISE SPECIFIED.
7. ALL STRUCTURAL WELDS SHALL BE FREE FROM DEFECTS SUCH AS CRACKS, EXCESSIVE UNDERCUTS & GROSS POROSITY.

STRUCTURAL NOTES

1. STRUCTURAL STEEL WORK TO CONFORM WITH AS 1521.
2. ALL STEEL PLATE TO AS 3682 S275 SR 300MM.
3. ALL STEEL WORKING TO AS 1521 UNLESS OTHERWISE SPECIFIED.
4. ALL STEEL WORKING TO AS 1521 UNLESS OTHERWISE SPECIFIED.
5. ALL STEEL WORKING TO AS 1521 UNLESS OTHERWISE SPECIFIED.
6. ALL STEEL WORKING TO AS 1521 UNLESS OTHERWISE SPECIFIED.
7. ALL STEEL WORKING TO AS 1521 UNLESS OTHERWISE SPECIFIED.
8. ALL STEEL WORKING TO AS 1521 UNLESS OTHERWISE SPECIFIED.
9. ALL STEEL WORKING TO AS 1521 UNLESS OTHERWISE SPECIFIED.
10. ALL STEEL WORKING TO AS 1521 UNLESS OTHERWISE SPECIFIED.
11. ALL STEEL WORKING TO AS 1521 UNLESS OTHERWISE SPECIFIED.
12. ALL STEEL WORKING TO AS 1521 UNLESS OTHERWISE SPECIFIED.
13. ALL STEEL WORKING TO AS 1521 UNLESS OTHERWISE SPECIFIED.
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15. ALL STEEL WORKING TO AS 1521 UNLESS OTHERWISE SPECIFIED.
16. ALL STEEL WORKING TO AS 1521 UNLESS OTHERWISE SPECIFIED.
17. ALL STEEL WORKING TO AS 1521 UNLESS OTHERWISE SPECIFIED.
18. ALL STEEL WORKING TO AS 1521 UNLESS OTHERWISE SPECIFIED.
19. ALL STEEL WORKING TO AS 1521 UNLESS OTHERWISE SPECIFIED.
20. ALL STEEL WORKING TO AS 1521 UNLESS OTHERWISE SPECIFIED.

PAINTING NOTES

1. PAINTING FOR STRUCTURAL STEEL SHALL CONFORM WITH BAL EN6 STD 0454-021-02 SYSTEM "Y" COLOUR COFFEE OXID UNO.

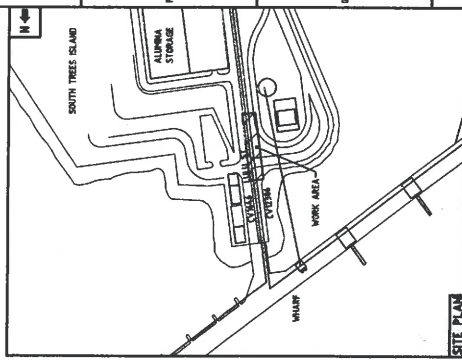
SPECIAL NOTES

1. WHERE SCOPE OF WORK INVOLVES ONLY NEW PIPE SUPPORTS & STRENGTHENING WORKS WHERE INDICATED ON DRAWINGS.
2. ALL STRENGTHENING WORKS ARE BASED ON EXISTING AVAILABLE DRAWINGS SUPPLIED BY BAL.
3. EXISTING STEEL STRUCTURES SHOWN ON THESE DRAWINGS & IN THE 3D MODEL HAVE BEEN PROVIDED BY THE CLIENT.
4. EXISTING STEELWORK THICKNESS TO BE CHECKED FOR COMPLIANCE BY ANALYSING MATERIALS AND WORK APPLICABLE.
5. DRAWINGS TO BE REVISITED TO ENHANCE FOR CLARITY AND TO BE UP TO DATE.

APPROVED FOR CONSTRUCTION

Worley
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Worley Project No: 201001-00875
 SHEET NO: 01/01
 SHEET TITLE: CONY 1206 & 1644
 SHEET DATE: 20/01/2019
 SHEET SCALE: 1:1000
 SHEET STATUS: ISSUED FOR CONSTRUCTION
 SHEET NO: 01/01
 SHEET TITLE: CONY 1206 & 1644
 SHEET DATE: 20/01/2019
 SHEET SCALE: 1:1000
 SHEET STATUS: ISSUED FOR CONSTRUCTION

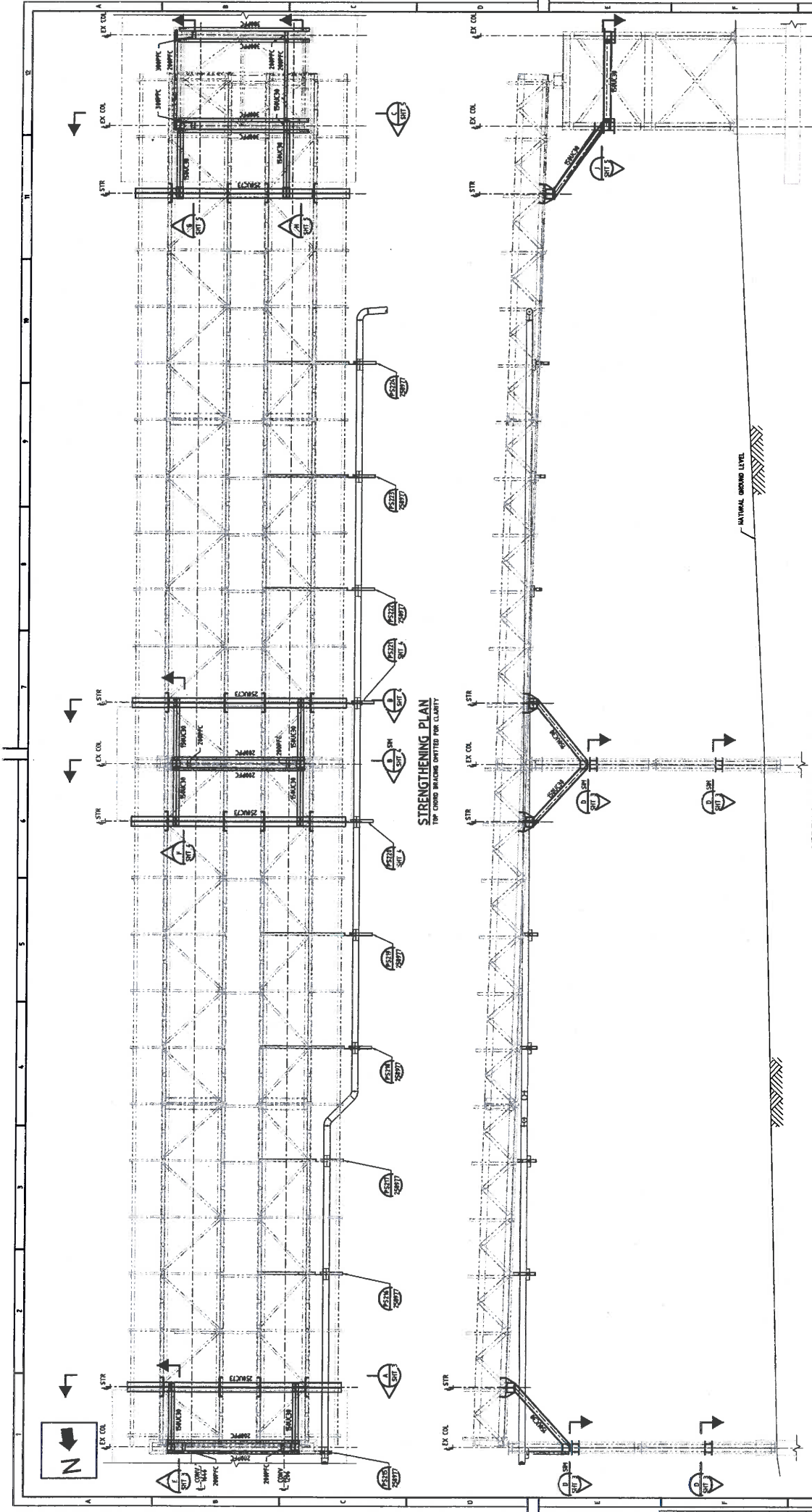


QUEENSLAND ALUMINA LIMITED
 A.C.N. 007 25 897 811
 11 SC 258978110
 11 SC 258978110

APPROVAL	DATE	FOR
J. PERKINS	18/01/2019	DESIGN
L. JARVIE	24/01/2019	ISSUE
M. WILSON	27/01/2019	CONSTRUCTION
A. FERROSH	27/01/2019	FINAL

NO	DATE	DESCRIPTION	BY	FOR
1	20/01/2019	ISSUED FOR CONSTRUCTION	J. PERKINS	DESIGN
2	24/01/2019	ISSUED FOR CONSTRUCTION	L. JARVIE	ISSUE
3	27/01/2019	ISSUED FOR CONSTRUCTION	M. WILSON	CONSTRUCTION
4	27/01/2019	ISSUED FOR CONSTRUCTION	A. FERROSH	FINAL

NO	DATE	DESCRIPTION	BY	FOR
1	20/01/2019	ISSUED FOR CONSTRUCTION	J. PERKINS	DESIGN
2	24/01/2019	ISSUED FOR CONSTRUCTION	L. JARVIE	ISSUE
3	27/01/2019	ISSUED FOR CONSTRUCTION	M. WILSON	CONSTRUCTION
4	27/01/2019	ISSUED FOR CONSTRUCTION	A. FERROSH	FINAL



APPROVED

31.3.2020

GENERAL NOTES
1. FOR ALL NOTES REFER TO DRAWING 25078-DIT-1

APPROVED FOR CONSTRUCTION

Worley
energy | chemicals | resources

Worley Project No. 201001-00075
 CLIENT: Queensland Alumina Limited
 PROJECT: Bauxite Slurry Line Strengthening Work
 DRAWING: 25078-DIT-1
 DATE: 20/07/2020

NO	DATE	DESCRIPTION	BY	CHECKED	DATE
1	20/07/2020	ISSUED FOR CONSTRUCTION	J. PEREIRA	A. PEREIRA	20/07/2020
2	20/07/2020	REVISED	J. PEREIRA	A. PEREIRA	20/07/2020
3	20/07/2020	REVISED	J. PEREIRA	A. PEREIRA	20/07/2020
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9	20/07/2020	REVISED	J. PEREIRA	A. PEREIRA	20/07/2020
10	20/07/2020	REVISED	J. PEREIRA	A. PEREIRA	20/07/2020

NO	DATE	DESCRIPTION	BY	CHECKED	DATE
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8	20/07/2020	REVISED	J. PEREIRA	A. PEREIRA	20/07/2020
9	20/07/2020	REVISED	J. PEREIRA	A. PEREIRA	20/07/2020
10	20/07/2020	REVISED	J. PEREIRA	A. PEREIRA	20/07/2020

NO	DATE	DESCRIPTION	BY	CHECKED	DATE
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3	20/07/2020	REVISED	J. PEREIRA	A. PEREIRA	20/07/2020
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6	20/07/2020	REVISED	J. PEREIRA	A. PEREIRA	20/07/2020
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10	20/07/2020	REVISED	J. PEREIRA	A. PEREIRA	20/07/2020

NO	DATE	DESCRIPTION	BY	CHECKED	DATE
1	20/07/2020	ISSUED FOR CONSTRUCTION	J. PEREIRA	A. PEREIRA	20/07/2020
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3	20/07/2020	REVISED	J. PEREIRA	A. PEREIRA	20/07/2020
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8	20/07/2020	REVISED	J. PEREIRA	A. PEREIRA	20/07/2020
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10	20/07/2020	REVISED	J. PEREIRA	A. PEREIRA	20/07/2020

NO	DATE	DESCRIPTION	BY	CHECKED	DATE
1	20/07/2020	ISSUED FOR CONSTRUCTION	J. PEREIRA	A. PEREIRA	20/07/2020
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5	20/07/2020	REVISED	J. PEREIRA	A. PEREIRA	20/07/2020
6	20/07/2020	REVISED	J. PEREIRA	A. PEREIRA	20/07/2020
7	20/07/2020	REVISED	J. PEREIRA	A. PEREIRA	20/07/2020
8	20/07/2020	REVISED	J. PEREIRA	A. PEREIRA	20/07/2020
9	20/07/2020	REVISED	J. PEREIRA	A. PEREIRA	20/07/2020
10	20/07/2020	REVISED	J. PEREIRA	A. PEREIRA	20/07/2020

QUEENSLAND ALUMINA LIMITED
 A.C.N. 61 75 84
 BLUESKINE
 DATE: 20/07/2020
 DRAWN: A. PEREIRA
 CHECKED: A. PEREIRA
 PROJECT: BAUXITE SLURRY LINE STRENGTHENING WORK
 DRAWING: 25078-DIT-1
 SCALE: 1:1
 SHEET NO: 015
 SHEET TOTAL: 015

APPROVAL
 T. PEREIRA DATE: 20/07/2020
 J. PEREIRA DATE: 20/07/2020
 PROJECT: BAUXITE SLURRY LINE STRENGTHENING WORK
 DRAWING: 25078-DIT-1
 SCALE: 1:1
 SHEET NO: 015
 SHEET TOTAL: 015

GENERAL NOTES
 1. FOR ALL NOTES REFER TO DRAWING 25078-DIT-1

APPROVED FOR CONSTRUCTION

Worley Project No. 201001-00075
 CLIENT: Queensland Alumina Limited
 PROJECT: Bauxite Slurry Line Strengthening Work
 DRAWING: 25078-DIT-1
 DATE: 20/07/2020

SCALE: 1:1
 SHEET NO: 015
 SHEET TOTAL: 015

APPROVED FOR CONSTRUCTION

APPROVED
31.3.2020. EC

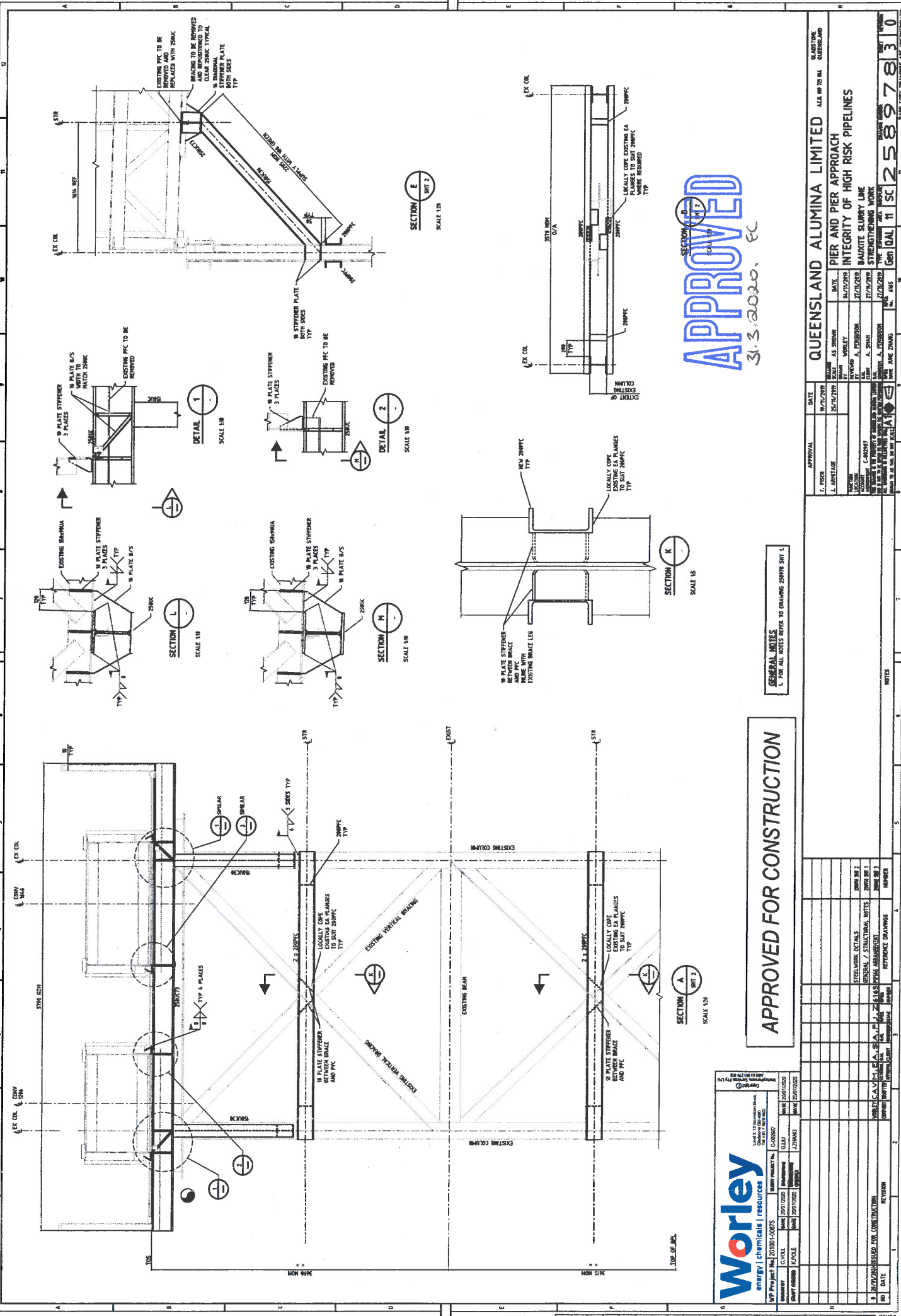
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3				
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9				
10				

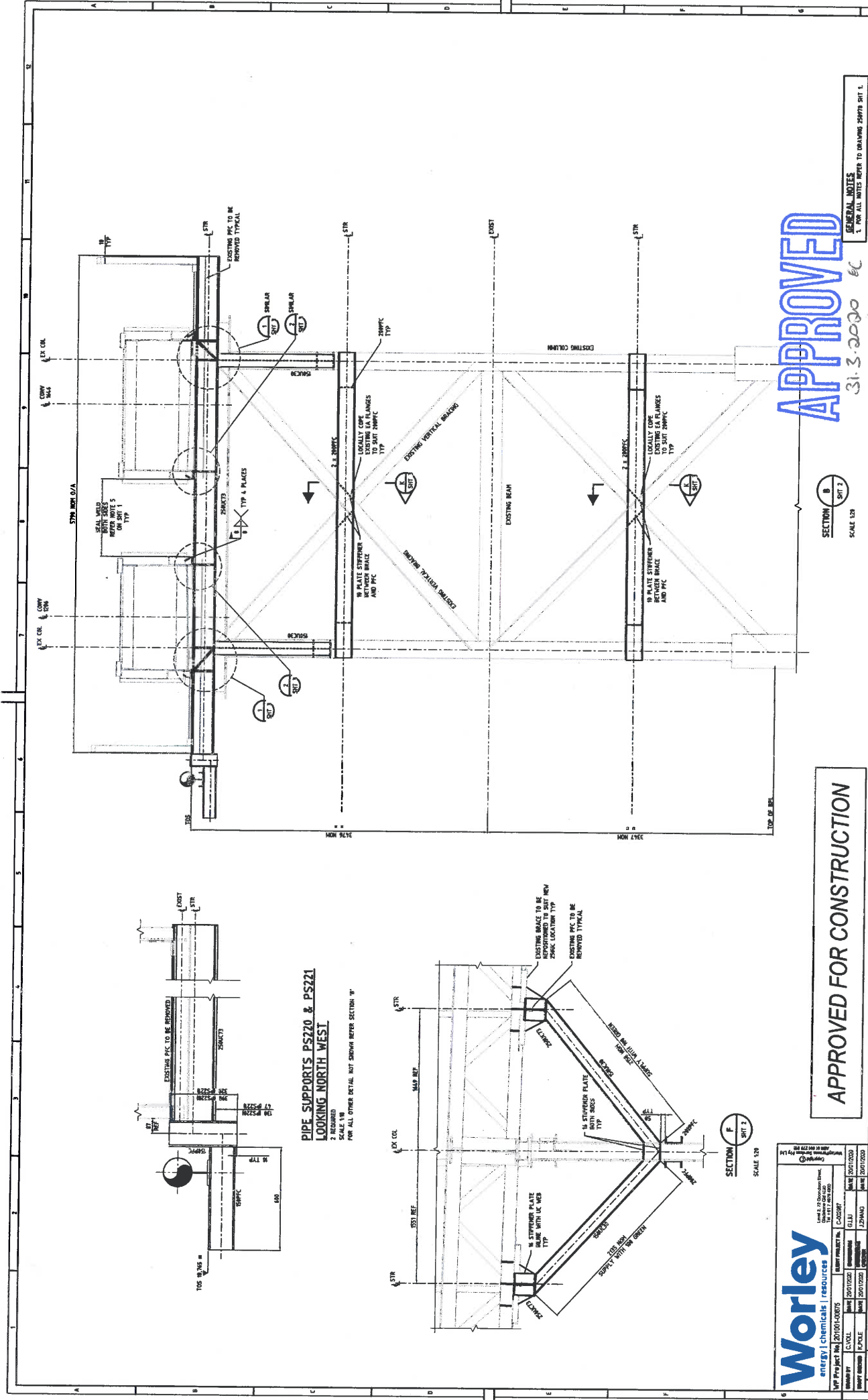
APPROVAL	DATE	BY	FOR
L. PEER	7/11/2019		
A. ARMITAGE	25/11/2019		
M. WILSON	14/12/2019		
A. WHEATLEY	22/12/2019		
A. WHEATLEY	11/01/2020		
A. WHEATLEY	27/01/2020		
A. WHEATLEY	27/01/2020		
A. WHEATLEY	27/01/2020		
A. WHEATLEY	27/01/2020		
A. WHEATLEY	27/01/2020		

DATE	BY	FOR
7/11/2019		
25/11/2019		
14/12/2019		
22/12/2019		
11/01/2020		
27/01/2020		
27/01/2020		
27/01/2020		
27/01/2020		
27/01/2020		
27/01/2020		

QUEENSLAND ALUMINA LIMITED
ALX 09 TO BA
QUEENSLAND
DATE: 14/12/2019
PROJECT: INTEGRITY OF HIGH RISK PIPELINES
DRAWING: BAUXITE SLURRY LINE STRENGTHENING WORK
SCALE: 1:SCALE
DRAWN BY: JANE ZHANG
NO: 695
Rev: 1
Gen: DAL 11 SC 25897830

GENERAL NOTES
L FOR ALL NOTES REFER TO DRAWING 258978 SHT 1.





Worley
 energy | chemicals | resources

Worley Limited
 Level 2, 200 Victoria Street
 Sydney NSW 2000 Australia
 Tel: +61 2 9211 6000
 Fax: +61 2 9211 6001

Project No: 201001-00075
 Client: OJLJ
 Date: 20071020
 Issue: 20071020

Drawn: [Name]
 Checked: [Name]
 Date: 20071020

Authorised for Construction: [Name]
 Date: [Date]
 Revision: [Number]

APPROVED FOR CONSTRUCTION

APPROVED
 31.3.2000 EC

GENERAL NOTES
 1. FOR ALL NOTES REFER TO DRAWING SHAPES SHIT L

APPROVAL			DATE		
NO.	NAME	FUNCTION	NO.	NAME	FUNCTION
1.	T. PISER	DATE	26/11/2007	AS SHOWN	
2.	J. HORTON	DATE	27/11/2007	AS SHOWN	
TYPING		DATE	27/11/2007	AS SHOWN	
CHECKING		DATE	27/11/2007	AS SHOWN	
DRAWING		DATE	27/11/2007	AS SHOWN	
CONSTRUCTION		DATE	27/11/2007	AS SHOWN	

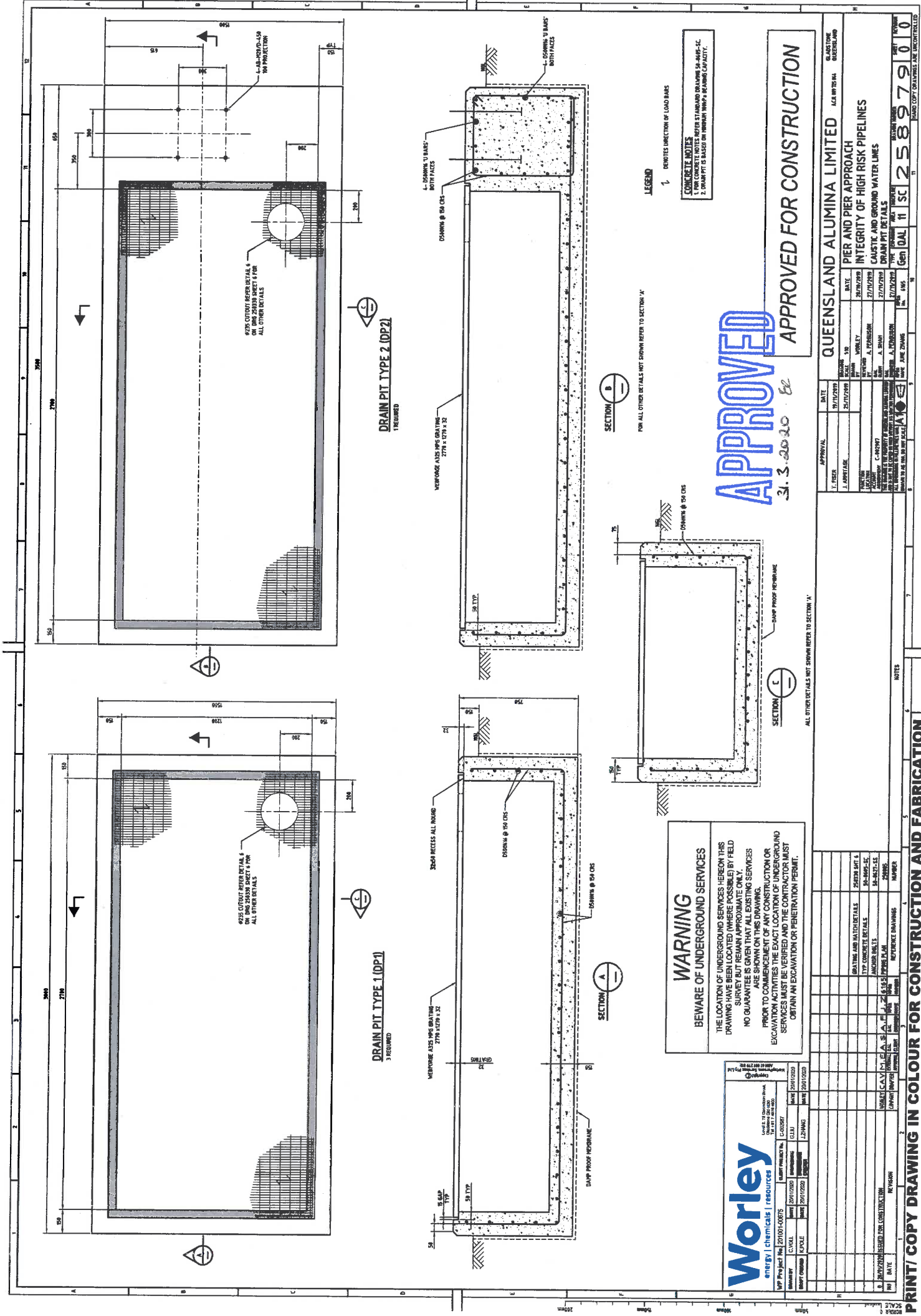
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1.			
2.			
3.			
4.			

QUEENSLAND ALUMINA LIMITED			
NO.	DATE	REVISION	DESCRIPTION
1.	27/11/2007	AS SHOWN	
2.	27/11/2007	AS SHOWN	
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9.	27/11/2007	AS SHOWN	
10.	27/11/2007	AS SHOWN	
11.	27/11/2007	AS SHOWN	

PIER AND PIER APPROACH	
NO.	DATE
1.	27/11/2007
2.	27/11/2007
3.	27/11/2007
4.	27/11/2007
5.	27/11/2007
6.	27/11/2007
7.	27/11/2007
8.	27/11/2007
9.	27/11/2007
10.	27/11/2007
11.	27/11/2007

BAWATE SLURRY LINE	
NO.	DATE
1.	27/11/2007
2.	27/11/2007
3.	27/11/2007
4.	27/11/2007
5.	27/11/2007
6.	27/11/2007
7.	27/11/2007
8.	27/11/2007
9.	27/11/2007
10.	27/11/2007
11.	27/11/2007

STRENGTHENING WORK	
NO.	DATE
1.	27/11/2007
2.	27/11/2007
3.	27/11/2007
4.	27/11/2007
5.	27/11/2007
6.	27/11/2007
7.	27/11/2007
8.	27/11/2007
9.	27/11/2007
10.	27/11/2007
11.	27/11/2007



APPROVED
31.3.2020

APPROVED FOR CONSTRUCTION

Worley energy chemicals resources WPT Project No: 201001-00075 Location: 201001-00075 Drawing No: 201001-00075-0001 Issue No: 01 Issue Date: 20/01/2020 Project Manager: LUJUN Designer: LUJUN Checker: LUJUN Approver: LUJUN Date: 20/01/2020		QUEENSLAND ALUMINA LIMITED ALUMINA PROJECT PIER AND PIER APPROACH INTEGRITY OF HIGH RISK PIPELINES CAUSTIC AND GROUND WATER LINES DRAIN PIT DETAILS DRAWN BY: A. PERSSON CHECKED BY: A. PERSSON DATE: 27/01/2020 SCALE: 1:1 SHEET NO: 11 TOTAL SHEETS: 11 DRAWING NUMBER: 25897910	
APPROVAL I. FISER J. ANDREASE DATE: 25/12/2019 DRAWN BY: A. PERSSON CHECKED BY: A. PERSSON DATE: 27/01/2020 SCALE: 1:1 SHEET NO: 11 TOTAL SHEETS: 11 DRAWING NUMBER: 25897910	APPROVAL I. FISER J. ANDREASE DATE: 25/12/2019 DRAWN BY: A. PERSSON CHECKED BY: A. PERSSON DATE: 27/01/2020 SCALE: 1:1 SHEET NO: 11 TOTAL SHEETS: 11 DRAWING NUMBER: 25897910	APPROVAL I. FISER J. ANDREASE DATE: 25/12/2019 DRAWN BY: A. PERSSON CHECKED BY: A. PERSSON DATE: 27/01/2020 SCALE: 1:1 SHEET NO: 11 TOTAL SHEETS: 11 DRAWING NUMBER: 25897910	APPROVAL I. FISER J. ANDREASE DATE: 25/12/2019 DRAWN BY: A. PERSSON CHECKED BY: A. PERSSON DATE: 27/01/2020 SCALE: 1:1 SHEET NO: 11 TOTAL SHEETS: 11 DRAWING NUMBER: 25897910

PRINT/ COPY DRAWING IN COLOUR FOR CONSTRUCTION AND FABRICATION

APPROVED FOR CONSTRUCTION

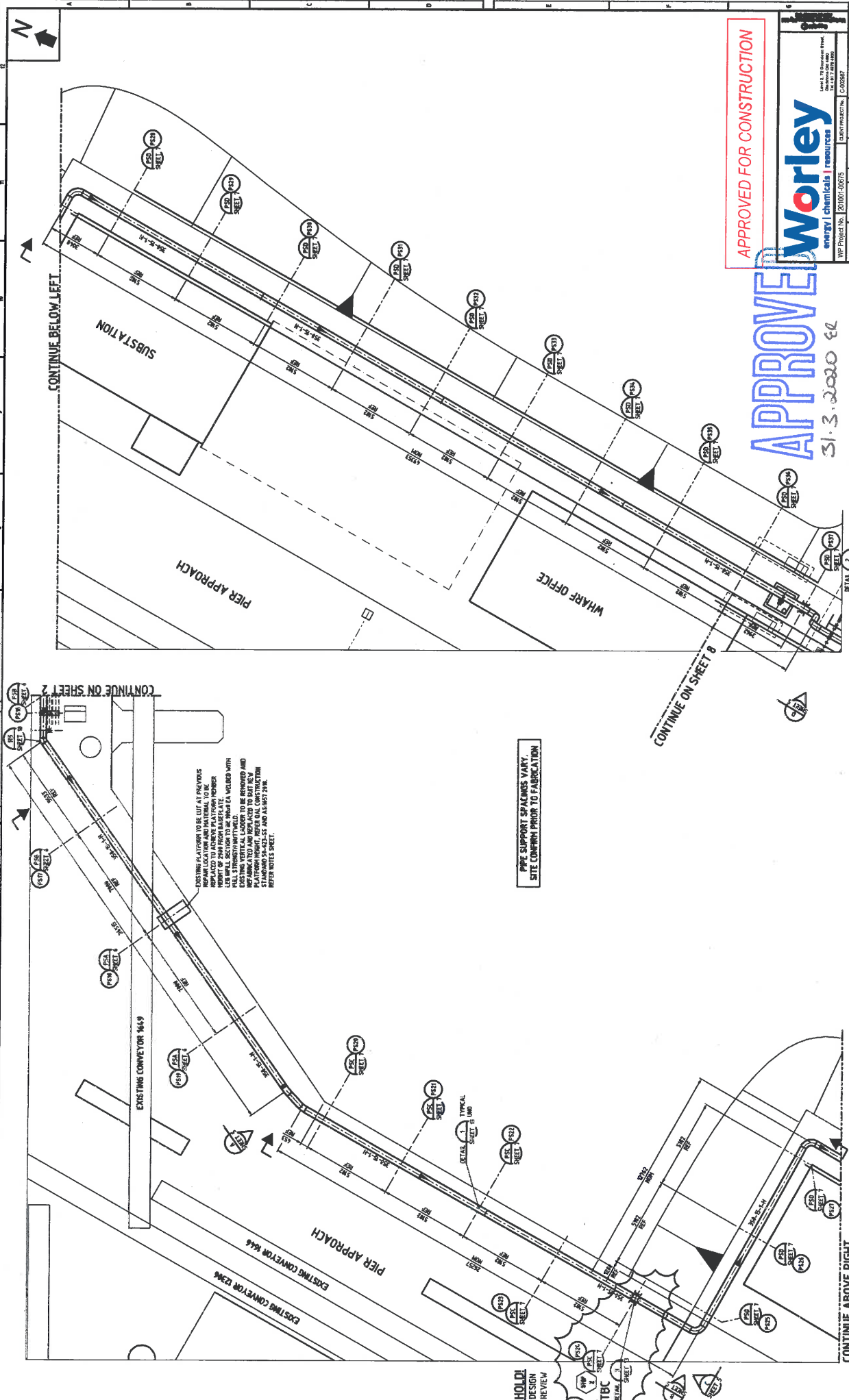
APPROVED

31.3.2020 EL



Worley chemicals resources	Level 70, Devonport Place, 100 Devonport Place, Sydney NSW 2050
Worley Project No: 20101-0075	Client Project Ref: C000097
Drawn By: E.O./CLM	Drawn Date: 01/03/2020
Checked By: D. WILLIAMS	Checked Date: 01/03/2020
Approved By: M. CRAM	Approved Date: 01/03/2020
Worley License No: 12953	Worley License No: 12953

QUEENSLAND ALUMINA LIMITED	ALM 09 15 94
CAUSTIC STORAGE	
WHARF TO TANK FARM CAUSTIC SUPPLY PIPE	
HIGH RISK PIPELINE REPLACEMENT	
PLAN VIEW - PER AND PIER APPROACH	
Drawn By: M. CRAM	Drawn Date: 01/03/2020
Checked By: A. FERRELL	Checked Date: 01/03/2020
Approved By: D. WILLIAMS	Approved Date: 01/03/2020
Scale: AS 1500	
Sheet No: 5 P	Sheet Total: 8
Revision: 1	Revision Total: 1
Gen: 001	Rev: 001
Gen: 001	Rev: 001



EXISTING PIPING TO BE LEFT IN PLACE UNLESS OTHERWISE NOTED. ALL PIPING TO BE REPLACED TO ACHIEVE PLATYPUS NUMBER 1.5. ALL PIPING TO BE REPLACED WITH FULL STRENGTH UNFITTED. ALL PIPING TO BE REPLACED WITH PLATYPUS NUMBER 1.5. ALL PIPING TO BE REPLACED WITH PLATYPUS NUMBER 1.5. ALL PIPING TO BE REPLACED WITH PLATYPUS NUMBER 1.5. ALL PIPING TO BE REPLACED WITH PLATYPUS NUMBER 1.5.

PIPE SUPPORT SPACINGS VARY. SITE CONFIRM PRIOR TO FABRICATION

HOLD!
DESIGN REVIEW

NO	DATE	REVISION	BY	CHKD	APP'D	REVISION
1		ISSUANCE FOR CONSTRUCTION				

NO	DATE	REVISION	BY	CHKD	APP'D	REVISION
1		ISSUANCE FOR CONSTRUCTION				

NO	DATE	REVISION	BY	CHKD	APP'D	REVISION
1		ISSUANCE FOR CONSTRUCTION				

LEGEND:

- (P1) - UNIQUE PIPE SUPPORT LOCATION NUMBER
- (P2) - PIPE SUPPORT DETAIL TYPE
- (P3) - PIPE SUPPORT DETAIL NUMBER

FOR GENERAL NOTES REFER TO SHEET 1.

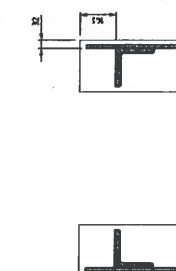
PIPE SUPPORTS C & D

PS No.	FULL SANDBLAST & PAINT TOUCH UPS	LOCALISED SANDBLAST & PAINT TOUCH UPS	SANDBLAST & PAINT EQUAL ANGLE BASE PLATE	REPAIR NEW SUPPORT	LOCALISED CORROSION INSPECTION & REPAIR
PS21	X		X		X
PS22	X		X		X
PS23	X		X		X
PS24	X		X		X
PS25	X		X		X
PS26		X			
PS27	X		X		X
PS28	X		X		X
PS29	X		X		X
PS30	X		X		X
PS31	X		X		X
PS32	X		X		X
PS33	X		X		X
PS34	X		X		X
PS35	X		X		X
PS36	X		X		X
PS37	X		X		X
PS38	X		X		X

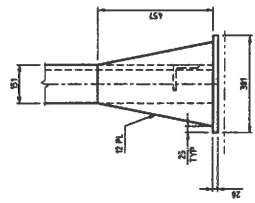
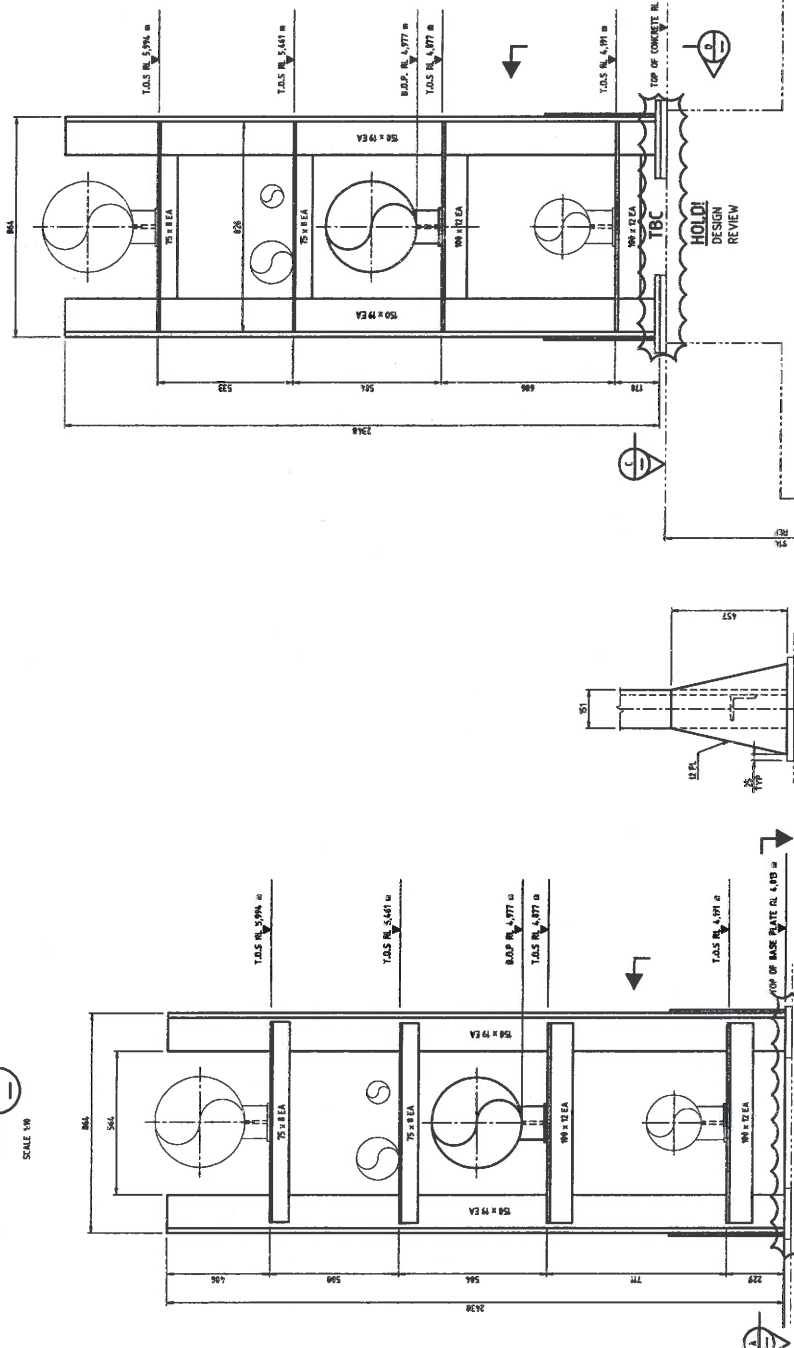
FOR PIPE SUPPORTS C & D
REFER TO STRUCTURAL CONDITION ASSESSMENT
"20191-06975-ST-REP-0091_0_ATC_MS"
FOR DETAILS OF MODIFICATIONS REQUIRED



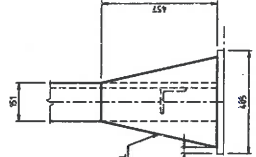
SECTION C
SCALE 1/8



SECTION A
SCALE 1/8



VIEW D
SCALE 1/8



VIEW B
SCALE 1/8

APPROVE
31.3.2020

APPROVED FOR CONSTRUCTION

Worley
energy | chemicals | resources

Worley Project No: 271001-00875
 W. ORY
 W. ORY
 W. ORY

QUEENSLAND ALUMINA LIMITED
 CAUSTIC STORAGE
 WHARF TO TANK FARM CAUSTIC SUPPLY PIPE

DATE	BY	FOR	DESCRIPTION
07/12/2019	J. LANE	A. PROSSER	PER APPROACH PIPE SUPPORTS

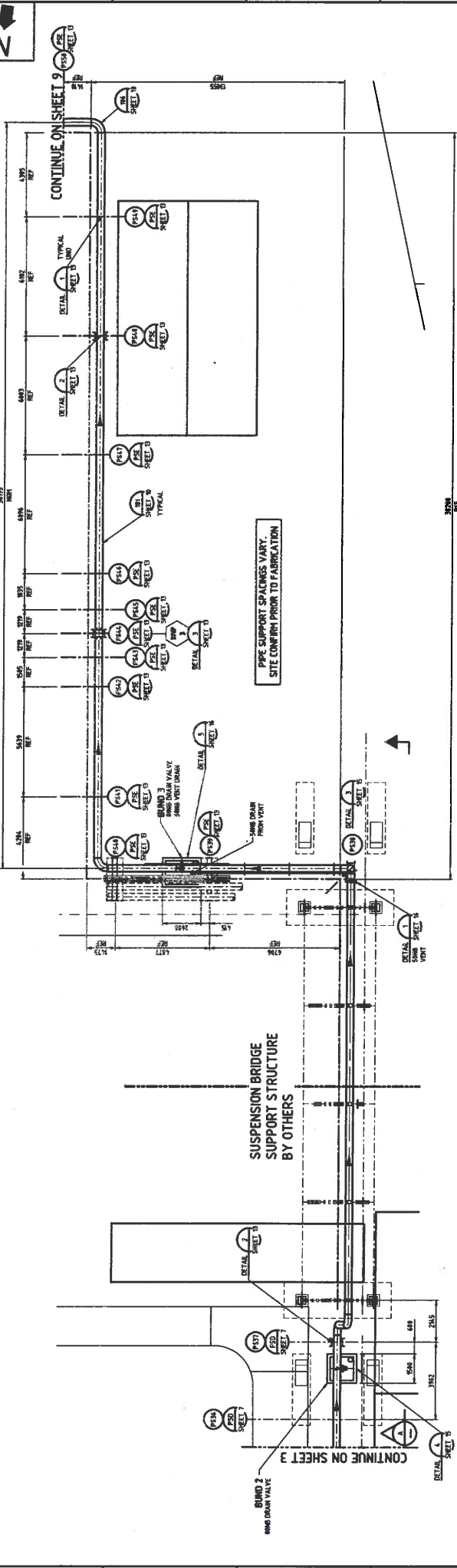
DATE	BY	FOR	DESCRIPTION
07/12/2019	J. LANE	A. PROSSER	PER APPROACH PIPE SUPPORTS

DATE	BY	FOR	DESCRIPTION
07/12/2019	J. LANE	A. PROSSER	PER APPROACH PIPE SUPPORTS

DATE	BY	FOR	DESCRIPTION
07/12/2019	J. LANE	A. PROSSER	PER APPROACH PIPE SUPPORTS

NO.	REVISION	DATE	BY	DESCRIPTION
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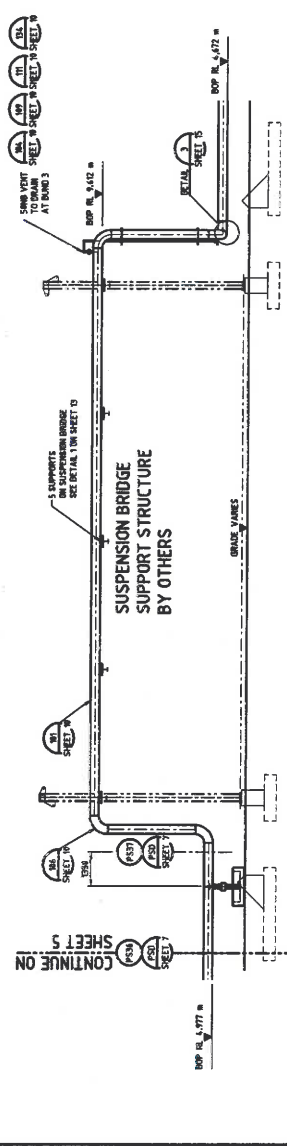
NO.	REVISION	DATE	BY	DESCRIPTION
1	ISSUED FOR CONSTRUCTION	07/12/2019	J. LANE	ISSUED FOR CONSTRUCTION



PLAN

50% CAUSTIC LINE REPLACEMENT

SOME EXISTING STEELWORK, EQUIPMENT AND PIPING NOT SHOWN FOR CLARITY
EXISTING FUEL OIL AND DIESEL OIL LOCATED ON SAME SUPPORT NOT SHOWN



SECTION A

APPROVED

APPROVED FOR CONSTRUCTION 5.3.2020

Worley
energy | chemicals | resources

Worley is a subsidiary of Wood Group PLC
100 DUMFRIES STREET, LEITH, EDINBURGH, SCOTLAND, UK
TEL: +44 (0)131 464 1400

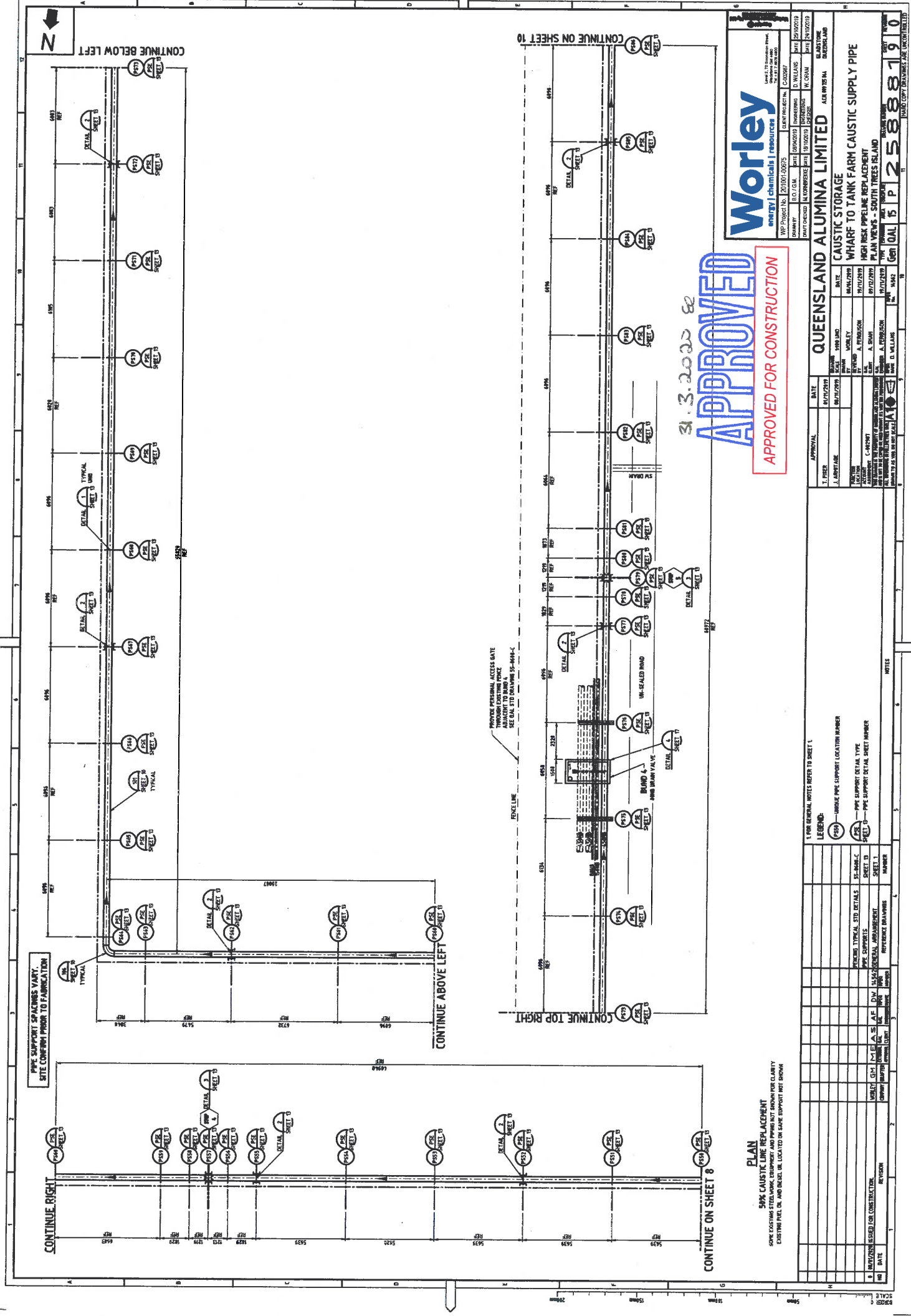
WP Project No.	201001 00075	CLIENT PROJECT NO.	C-000987
DRAWN BY	E.C. / G.M.	DATE	16/04/2019
DESIGNED BY	K. WILKINS	DATE	26/10/2018
CHECKED BY	M. KORNHEIMER	DATE	15/02/2019
DATE	15/02/2019	DATE	20/10/2019

REVISION			NO.	DATE	BY	CHECKED BY	DESCRIPTION
8	IMP/2019	ISSUED FOR CONSTRUCTION					
7	IMP/19	ISSUED FOR CONSTRUCTION					
6	IMP/19	ISSUED FOR CONSTRUCTION					
5	IMP/19	ISSUED FOR CONSTRUCTION					
4	IMP/19	ISSUED FOR CONSTRUCTION					
3	IMP/19	ISSUED FOR CONSTRUCTION					
2	IMP/19	ISSUED FOR CONSTRUCTION					
1	IMP/19	ISSUED FOR CONSTRUCTION					

PIPE SUPPORT DETAILS SHEET 1 TO 10	PIPE SUPPORT DETAILS SHEETS 11 TO 20	PIPE SUPPORT DETAILS SHEETS 21 TO 30
GENERAL ARRANGEMENT SHEET 1	GENERAL ARRANGEMENT SHEET 2	GENERAL ARRANGEMENT SHEET 3
REFERENCE DRAWINGS		

1 FOR GENERAL NOTES REFER TO SHEET 1
LEGEND:
SP13 - LIQUID PIPE SUPPORT LOCATION NUMBER
SP27 - PIPE SUPPORT TYPE
SP28 - PIPE SUPPORT DETAIL NUMBER
SP29 - PIPE SUPPORT DETAIL NUMBER

QUEENSLAND ALUMINA LIMITED	CAUSTIC STORAGE
ALUMINA UNIT 14	QUEENSLAND
PROJECT NO. 000000000	DATE: 16/04/2019
CLIENT: WOOD GROUP	DESIGNED BY: W. ORAM
PROJECT: SOUTH TRECIS ISLAND	DATE: 26/10/2018
CONTRACT: C-000987	DESIGNED BY: K. WILKINS
LOCATION: SOUTH TRECIS ISLAND	DATE: 15/02/2019
PROJECT: HIGH RISK PIPELINE REPLACEMENT	DATE: 20/10/2019
PROJECT: HIGH RISK PIPELINE REPLACEMENT	DATE: 20/10/2019
PROJECT: HIGH RISK PIPELINE REPLACEMENT	DATE: 20/10/2019
PROJECT: HIGH RISK PIPELINE REPLACEMENT	DATE: 20/10/2019
PROJECT: HIGH RISK PIPELINE REPLACEMENT	DATE: 20/10/2019



Worley | chemicals | resources
Level 17, Scarborough Place
100 Stirling Street
Sydney NSW 2000

APP Project No: 20101-0075
DRAWN BY: E.C.G.M.
DATE: 01/03/2008
CHECKED BY: J.L. WILKINS
DATE: 24/03/2008
DESIGNED BY: D. WILKINS
DATE: 24/03/2008
PROJECT: CAUSTIC STORAGE
WHARF TO TANK FARM CAUSTIC SUPPLY PIPE
HIGH RISK PIPELINE REPLACEMENT
PLAN VIEWS - SOUTH TRES ISLAND

31.3.2008 82
APPROVED
APPROVED FOR CONSTRUCTION

APPROVAL	DATE	FOR
J. REED	24/03/2008	DESIGN
J. WILKINS	24/03/2008	CHECK
A. WILKINS	24/03/2008	DESIGN
A. WILKINS	24/03/2008	CHECK
A. WILKINS	24/03/2008	DESIGN
A. WILKINS	24/03/2008	CHECK
A. WILKINS	24/03/2008	DESIGN
A. WILKINS	24/03/2008	CHECK

DATE	BY	FOR
24/03/2008	J. WILKINS	DESIGN
24/03/2008	A. WILKINS	CHECK
24/03/2008	A. WILKINS	DESIGN
24/03/2008	A. WILKINS	CHECK

REVISION	DATE	DESCRIPTION
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2	24/03/2008	ISSUED FOR CONSTRUCTION

NO	DATE	REVISION	DESCRIPTION
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2	24/03/2008		ISSUED FOR CONSTRUCTION
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4	24/03/2008		ISSUED FOR CONSTRUCTION
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9	24/03/2008		ISSUED FOR CONSTRUCTION
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16	24/03/2008		ISSUED FOR CONSTRUCTION
17	24/03/2008		ISSUED FOR CONSTRUCTION
18	24/03/2008		ISSUED FOR CONSTRUCTION
19	24/03/2008		ISSUED FOR CONSTRUCTION
20	24/03/2008		ISSUED FOR CONSTRUCTION

PLAN
50K CAUSTIC LINE REPLACEMENT
SOME LOCALS STAY SAME BUT ALL NEW PIPE CLARITY
EXISTING FENCE ON AND BRIDGE UNLOCATED IN SAME SUPPORT HOLE SPACING

BILL OF MATERIALS

ID	QTY	NB	LONG DESCRIPTION	COMMENT	ITEM CODE
GASKET					
126	12	350	GASKET 350NB CL150 SPIRAL WOUND		922080047
127	3	100	GASKET 100NB CL150 SPIRAL WOUND		922080055
128	25	80	GASKET 80NB CL150 SPIRAL WOUND		922080054
129	7	50	GASKET 50NB CL150 SPIRAL WOUND		922080053
VALVES					
130	2	350	VALVE 350NB V308	RE-USE EXISTING	N/A
131	2	350	VALVE 350NB V106		964010042
132	1	100	VALVE 100NB V188	DRAIN	904010037
133	9	80	VALVE 80NB V108	DRAINS	964010036
134	6	50	VALVE 50NB V105	VENTS	964010020
135	3	50	VALVE 50NB V403	VENT DRAIN	500010048
MISCELLANEOUS					
136	1	350	FLOW METER	FT 150-042	

BILL OF MATERIALS

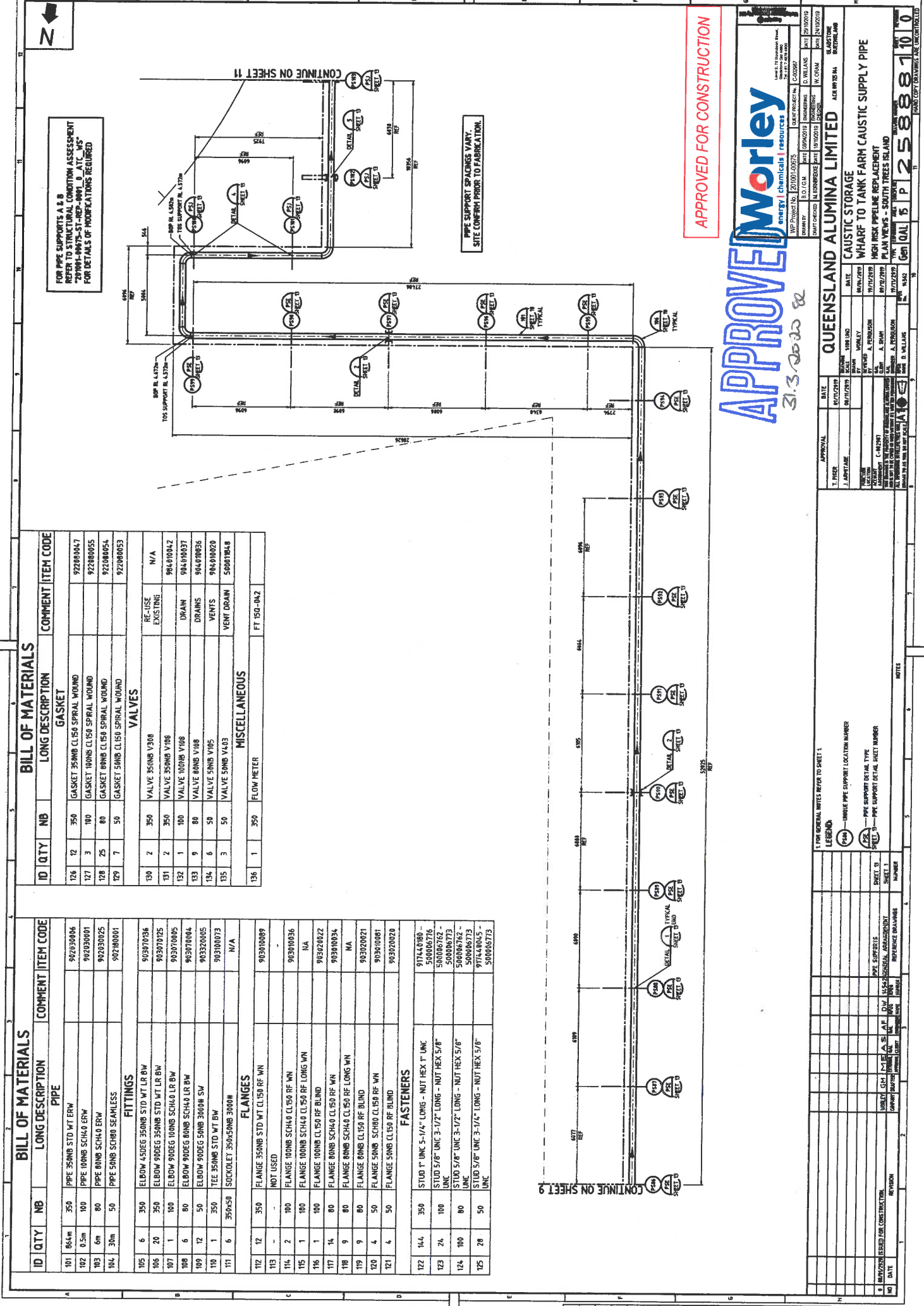
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PIPE					
101	664m	350	PIPE 350NB STD WT ERW		902030046
102	0.5m	100	PIPE 100NB SCH40 ERW		902030001
103	6m	80	PIPE 80NB SCH40 ERW		902030025
104	30m	50	PIPE 50NB SCH80 SEAMLESS		902080001
FITTINGS					
105	6	350	ELBOW 45DEG 350NB STD WT LR BW		903070136
106	20	350	ELBOW 90DEG 350NB STD WT LR BW		903070125
107	1	100	ELBOW 90DEG 100NB SCH40 LR BW		903070005
108	6	80	ELBOW 90DEG 80NB SCH40 LR BW		903070004
109	12	50	ELBOW 90DEG 50NB 3000# SW		903320005
110	1	350	TEE 350NB STD WT BW		903080073
111	6	350	SOCKET 350NB 3000#	N/A	
FLANGES					
112	12	350	FLANGE 350NB STD WT CL150 RF WN		903010089
113	-	-	NOT USED		
114	2	100	FLANGE 100NB SCH40 CL150 RF WN		903010036
115	1	100	FLANGE 100NB SCH40 CL150 RF LONG WN	NA	
116	1	100	FLANGE 100NB CL150 RF BLIND		903020022
117	16	80	FLANGE 80NB SCH40 CL150 RF WN		903010034
118	9	80	FLANGE 80NB SCH40 CL150 RF LONG WN	NA	
119	9	80	FLANGE 80NB CL150 RF BLIND		903020021
120	4	50	FLANGE 50NB SCH40 CL150 RF WN		903010081
121	4	50	FLANGE 50NB CL150 RF BLIND		903020020
FASTENERS					
122	144	350	STUD 1" UNC 5-1/4" LONG - NUT HEX 1" UNC		917440180
123	24	100	STUD 5/8" UNC 3-1/2" LONG - NUT HEX 5/8" UNC		500006716
124	100	80	STUD 5/8" UNC 3-1/2" LONG - NUT HEX 5/8" UNC		500006712
125	28	50	STUD 5/8" UNC 3-1/4" LONG - NUT HEX 5/8" UNC		500006713

BILL OF MATERIALS

ID	QTY	NB	LONG DESCRIPTION	COMMENT	ITEM CODE
GASKET					
126	12	350	GASKET 350NB CL150 SPIRAL WOUND		922080047
127	3	100	GASKET 100NB CL150 SPIRAL WOUND		922080055
128	25	80	GASKET 80NB CL150 SPIRAL WOUND		922080054
129	7	50	GASKET 50NB CL150 SPIRAL WOUND		922080053
VALVES					
130	2	350	VALVE 350NB V308	RE-USE EXISTING	N/A
131	2	350	VALVE 350NB V106		964010042
132	1	100	VALVE 100NB V188	DRAIN	904010037
133	9	80	VALVE 80NB V108	DRAINS	964010036
134	6	50	VALVE 50NB V105	VENTS	964010020
135	3	50	VALVE 50NB V403	VENT DRAIN	500010048
MISCELLANEOUS					
136	1	350	FLOW METER	FT 150-042	

BILL OF MATERIALS

ID	QTY	NB	LONG DESCRIPTION	COMMENT	ITEM CODE
PIPE					
101	664m	350	PIPE 350NB STD WT ERW		902030046
102	0.5m	100	PIPE 100NB SCH40 ERW		902030001
103	6m	80	PIPE 80NB SCH40 ERW		902030025
104	30m	50	PIPE 50NB SCH80 SEAMLESS		902080001
FITTINGS					
105	6	350	ELBOW 45DEG 350NB STD WT LR BW		903070136
106	20	350	ELBOW 90DEG 350NB STD WT LR BW		903070125
107	1	100	ELBOW 90DEG 100NB SCH40 LR BW		903070005
108	6	80	ELBOW 90DEG 80NB SCH40 LR BW		903070004
109	12	50	ELBOW 90DEG 50NB 3000# SW		903320005
110	1	350	TEE 350NB STD WT BW		903080073
111	6	350	SOCKET 350NB 3000#	N/A	
FLANGES					
112	12	350	FLANGE 350NB STD WT CL150 RF WN		903010089
113	-	-	NOT USED		
114	2	100	FLANGE 100NB SCH40 CL150 RF WN		903010036
115	1	100	FLANGE 100NB SCH40 CL150 RF LONG WN	NA	
116	1	100	FLANGE 100NB CL150 RF BLIND		903020022
117	16	80	FLANGE 80NB SCH40 CL150 RF WN		903010034
118	9	80	FLANGE 80NB SCH40 CL150 RF LONG WN	NA	
119	9	80	FLANGE 80NB CL150 RF BLIND		903020021
120	4	50	FLANGE 50NB SCH40 CL150 RF WN		903010081
121	4	50	FLANGE 50NB CL150 RF BLIND		903020020
FASTENERS					
122	144	350	STUD 1" UNC 5-1/4" LONG - NUT HEX 1" UNC		917440180
123	24	100	STUD 5/8" UNC 3-1/2" LONG - NUT HEX 5/8" UNC		500006716
124	100	80	STUD 5/8" UNC 3-1/2" LONG - NUT HEX 5/8" UNC		500006712
125	28	50	STUD 5/8" UNC 3-1/4" LONG - NUT HEX 5/8" UNC		500006713



APPROVED FOR CONSTRUCTION

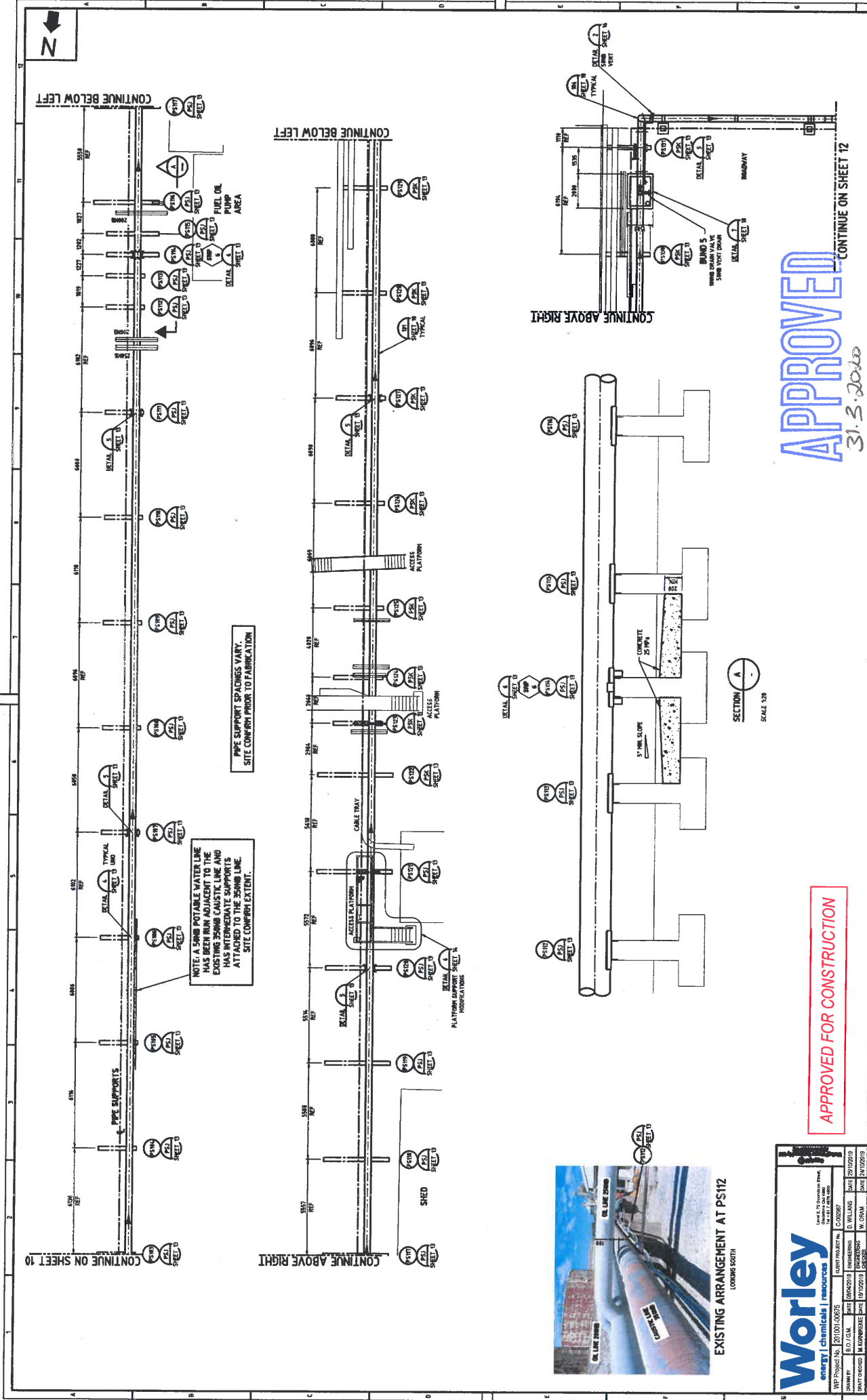
APPROVED

Morley

energy | chemicals | resources

31.3.2020

W.P. Project No. 201001-00575 DRAWN BY B.O.J.C.M. DATE 09/04/2019 CHECKED BY M. WILKINS DATE 19/02/2020 PROJECT NO. 201001-00575 PROJECT NAME CAUSTIC STORAGE PROJECT LOCATION WHARF TO TANK FARM CAUSTIC SUPPLY PIPE PROJECT TYPE HIGH RISK PIPELINE REPLACEMENT PROJECT AREA PLAN VIEWS - SOUTH TRESS ISLAND PROJECT NO. 201001-00575 PROJECT NAME CAUSTIC STORAGE PROJECT LOCATION WHARF TO TANK FARM CAUSTIC SUPPLY PIPE PROJECT TYPE HIGH RISK PIPELINE REPLACEMENT PROJECT AREA PLAN VIEWS - SOUTH TRESS ISLAND		CLIENT PROJECT NO. CAD0087 CLIENT NAME D. WILKINS PROJECT NO. 201001-00575 PROJECT NAME CAUSTIC STORAGE PROJECT LOCATION WHARF TO TANK FARM CAUSTIC SUPPLY PIPE PROJECT TYPE HIGH RISK PIPELINE REPLACEMENT PROJECT AREA PLAN VIEWS - SOUTH TRESS ISLAND
APPROVAL T. PIERRE 04/12/2019 J. ANNETT 04/12/2019 M. WILKINS 19/02/2020 A. FORDY 07/12/2019 A. SHAW 07/12/2019 A. FORDY 07/12/2019 D. WILKINS 19/02/2020		QUEENSLAND ALUMINA LIMITED ALIA 8975 84 CAUSTIC STORAGE WHARF TO TANK FARM CAUSTIC SUPPLY PIPE HIGH RISK PIPELINE REPLACEMENT PLAN VIEWS - SOUTH TRESS ISLAND Gen 041 5 P 2588810.0
LEGEND: (P) - UNIQUE PIPE SUPPORT LOCATION NUMBER (V) - PIPE SUPPORT DETAIL TYPE (F) - PIPE SUPPORT DETAIL SHEET NUMBER (D) - DRAINAGE POINT NUMBER (S) - SOCKET NUMBER (T) - TEE NUMBER (E) - ELBOW NUMBER (FL) - FLANGE NUMBER (F) - FASTENER NUMBER (G) - GASKET NUMBER (M) - MISCELLANEOUS NUMBER (R) - REFERENCE DRAWING NUMBER		NOTES: 1. FOR GENERAL NOTES REFER TO SHEET 1. 2. REFER TO SHEET 9 FOR PIPE SUPPORT DETAIL TYPE. 3. REFER TO SHEET 11 FOR PIPE SUPPORT DETAIL SHEET NUMBER. 4. REFER TO SHEET 11 FOR DRAINAGE POINT NUMBER. 5. REFER TO SHEET 11 FOR SOCKET NUMBER. 6. REFER TO SHEET 11 FOR TEE NUMBER. 7. REFER TO SHEET 11 FOR ELBOW NUMBER. 8. REFER TO SHEET 11 FOR FLANGE NUMBER. 9. REFER TO SHEET 11 FOR FASTENER NUMBER. 10. REFER TO SHEET 11 FOR GASKET NUMBER. 11. REFER TO SHEET 11 FOR MISCELLANEOUS NUMBER. 12. REFER TO SHEET 11 FOR REFERENCE DRAWING NUMBER.



NOTE: A 35MM POTABLE WATER LINE HAS BEEN RUN ADJACENT TO THE EXISTING 35MM CAUSTIC LINE AND HAS INTERMEDIATE SUPPORTS ATTACHED TO THE 35MM LINE. SITE CONFIRM EXTENT.

PIPE SUPPORT SPACINGS VARY. SITE CONFIRM PRIOR TO FABRICATION.



EXISTING ARRANGEMENT AT PS112
LOOKING SOUTH



SECTION A-A
SCALE 1/30

APPROVED
31.3.2018

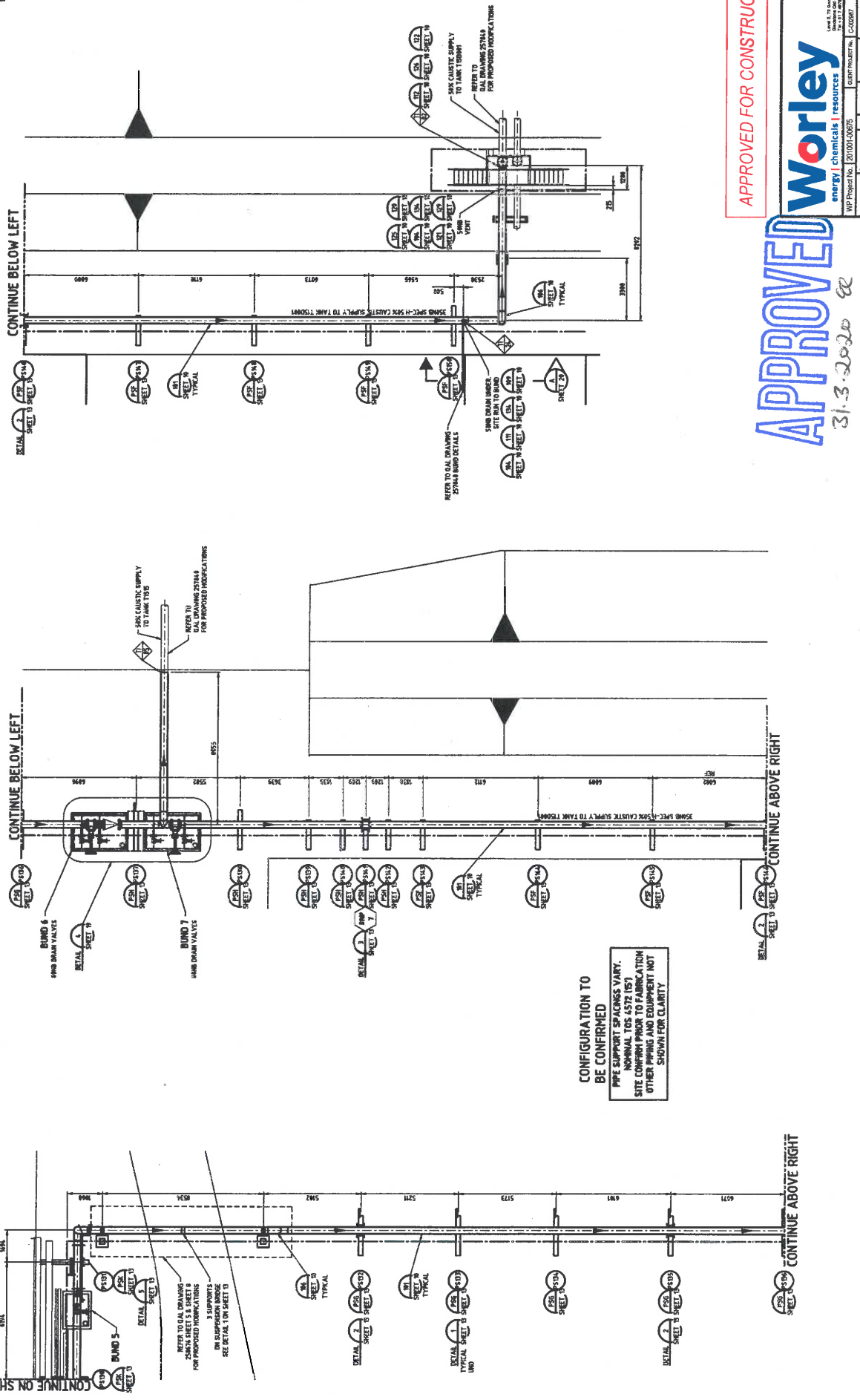
APPROVED FOR CONSTRUCTION

REVISION	NO.	DATE	BY	CHKD.	DESCRIPTION
1					

NO.	DATE	DESCRIPTION	BY	CHKD.
1	24/10/2018	ISSUED FOR CONSTRUCTION	W. ODAM	D. WELLS
2	24/10/2018	ISSUED FOR CONSTRUCTION	W. ODAM	D. WELLS

QUEENSLAND ALUMINA LIMITED
ALUMINA 1000000
CAUSTIC STORAGE WHARF TO TANK FARM CAUSTIC SUPPLY PIPE
HIGH RISK PIPELINE REPLACEMENT
PLAN VIEWS - SOUTH TRENDS ISLAND

APPROVAL	DATE	BY	CHKD.
J. FREN	01/11/2018	W. ODAM	D. WELLS
J. ARMITAGE	01/11/2018	W. ODAM	D. WELLS



APPROVED FOR CONSTRUCTION

APPROVED
31.3.2020

Worley
energy | chemicals | resources

Worley Project No: 201001-0025
 Client: Queensland Alumina Limited
 Project: CAUSTIC STORAGE
 Location: WHARF TO TANK FARM CAUSTIC SUPPLY PIPE
 Drawing: HIGH RISK PIPELINE REPLACEMENT
 Title: PLAN VIEWS - SOUTH TRENDS ISLAND
 Date: 26/09/2019
 Author: J. WILLIAMS
 Checked: M. COOPER
 Approved: J. WILLIAMS

APPROVAL	DATE	SCALE	BY	DATE	SCALE	BY
T. REED	07/11/2019	AS SHOWN	J. WILLIAMS	07/11/2019	AS SHOWN	J. WILLIAMS
J. WILLIAMS	07/11/2019	AS SHOWN	J. WILLIAMS	07/11/2019	AS SHOWN	J. WILLIAMS

REVISION	DATE	DESCRIPTION
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2	07/11/2019	ISSUED FOR CONSTRUCTION
3	07/11/2019	ISSUED FOR CONSTRUCTION
4	07/11/2019	ISSUED FOR CONSTRUCTION
5	07/11/2019	ISSUED FOR CONSTRUCTION
6	07/11/2019	ISSUED FOR CONSTRUCTION
7	07/11/2019	ISSUED FOR CONSTRUCTION
8	07/11/2019	ISSUED FOR CONSTRUCTION
9	07/11/2019	ISSUED FOR CONSTRUCTION
10	07/11/2019	ISSUED FOR CONSTRUCTION
11	07/11/2019	ISSUED FOR CONSTRUCTION
12	07/11/2019	ISSUED FOR CONSTRUCTION

NO	DATE	DESCRIPTION
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11	07/11/2019	ISSUED FOR CONSTRUCTION
12	07/11/2019	ISSUED FOR CONSTRUCTION

NO	DATE	DESCRIPTION
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2	07/11/2019	ISSUED FOR CONSTRUCTION
3	07/11/2019	ISSUED FOR CONSTRUCTION
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11	07/11/2019	ISSUED FOR CONSTRUCTION
12	07/11/2019	ISSUED FOR CONSTRUCTION

NO	DATE	DESCRIPTION
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4	07/11/2019	ISSUED FOR CONSTRUCTION
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12	07/11/2019	ISSUED FOR CONSTRUCTION

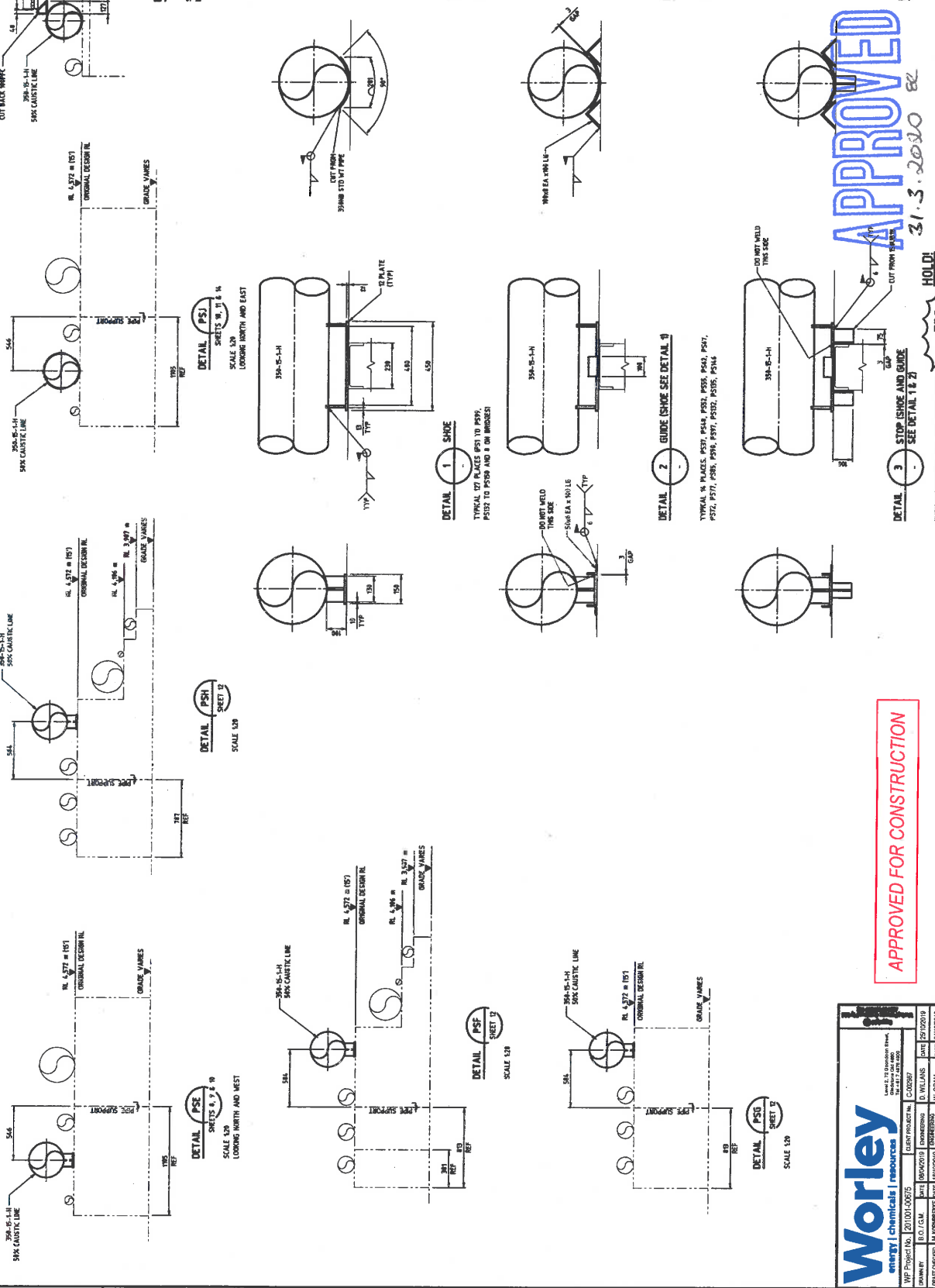
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11	07/11/2019	ISSUED FOR CONSTRUCTION
12	07/11/2019	ISSUED FOR CONSTRUCTION

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN METERS.
 UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE UNCONTROLLED.

W.P. PROJECT No.	20100100875	DATE	18/07/2019	ISSUED TO	D. WILLIAMS	DATE	20/08/2019	REVISION	
DRWING No.	20100100875	DATE	18/07/2019	ISSUED TO	D. WILLIAMS	DATE	20/08/2019	REVISION	
DATE	18/07/2019	ISSUED TO	D. WILLIAMS	DATE	20/08/2019	REVISION			

NO	DATE	BY	DESCRIPTION
1	18/07/2019	D. WILLIAMS	ISSUED FOR CONSTRUCTION

FOR GENERAL NOTES REFER TO SHEET L	
LEGEND	
	SINGLE PIPE SUPPORT LOCATION NUMBER
	PIPE SUPPORT DETAIL TYPE
	GENERAL NOTE



APPROVED FOR CONSTRUCTION

DETAIL PSK
SHEETS 8, 9 & 9
SCALE 1/20
LOOKING NORTH AND WEST

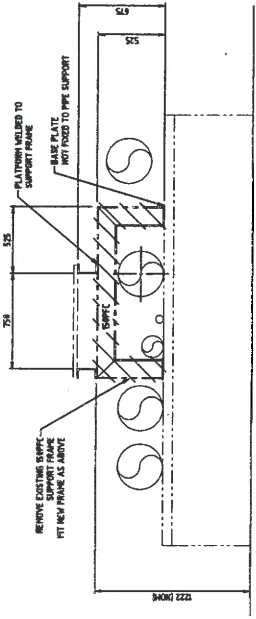
DETAIL PSK
SHEETS 8, 9 & 9
SCALE 1/20
LOOKING NORTH

DETAIL PSK
SHEET 12
SCALE 1/20

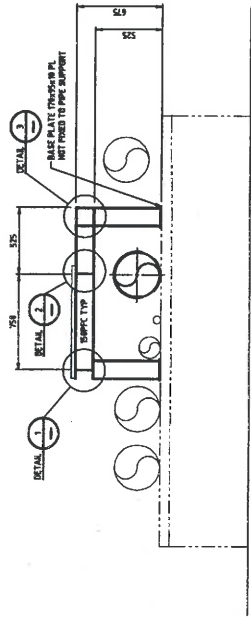
DETAIL PSK
SHEET 13
SCALE 1/20

DETAIL PSK
SHEET 14
SCALE 1/20

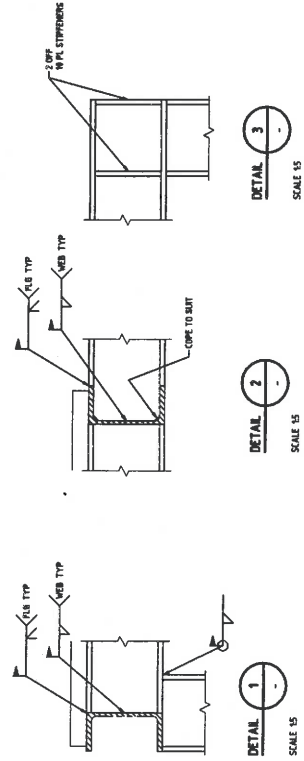
DETAIL PSK
SHEET 15
SCALE 1/20



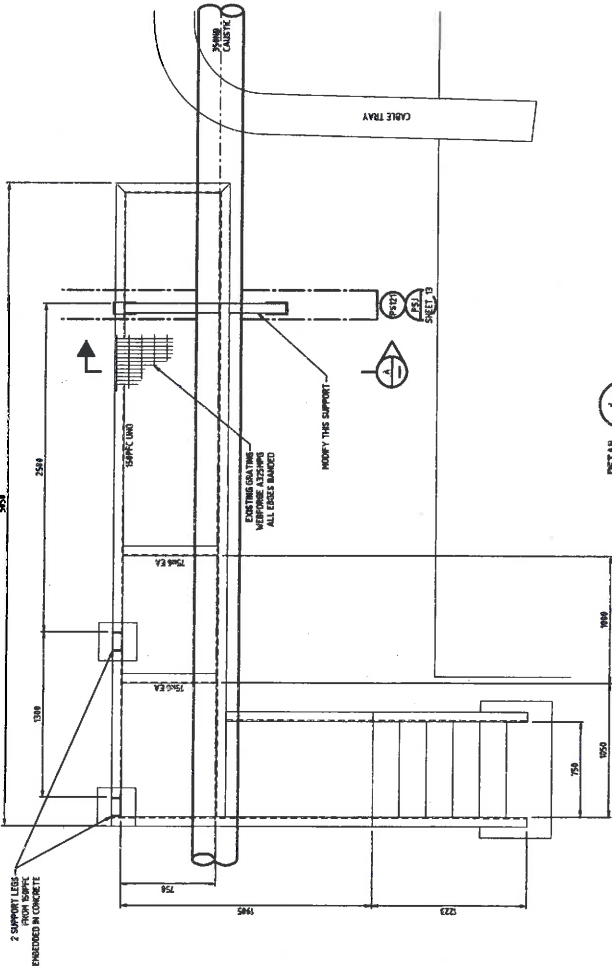
SECTION A
PLATFORM SUPPORT
EXISTING ARRANGEMENT



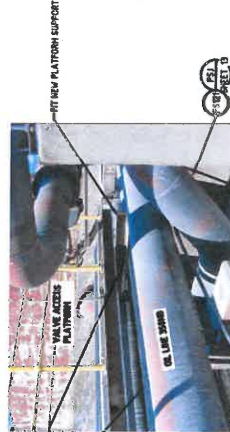
SECTION A
PLATFORM SUPPORT
MODIFICATION



APPROVED



ACCESS PLATFORM SUPPORT MODIFICATION - PLAN

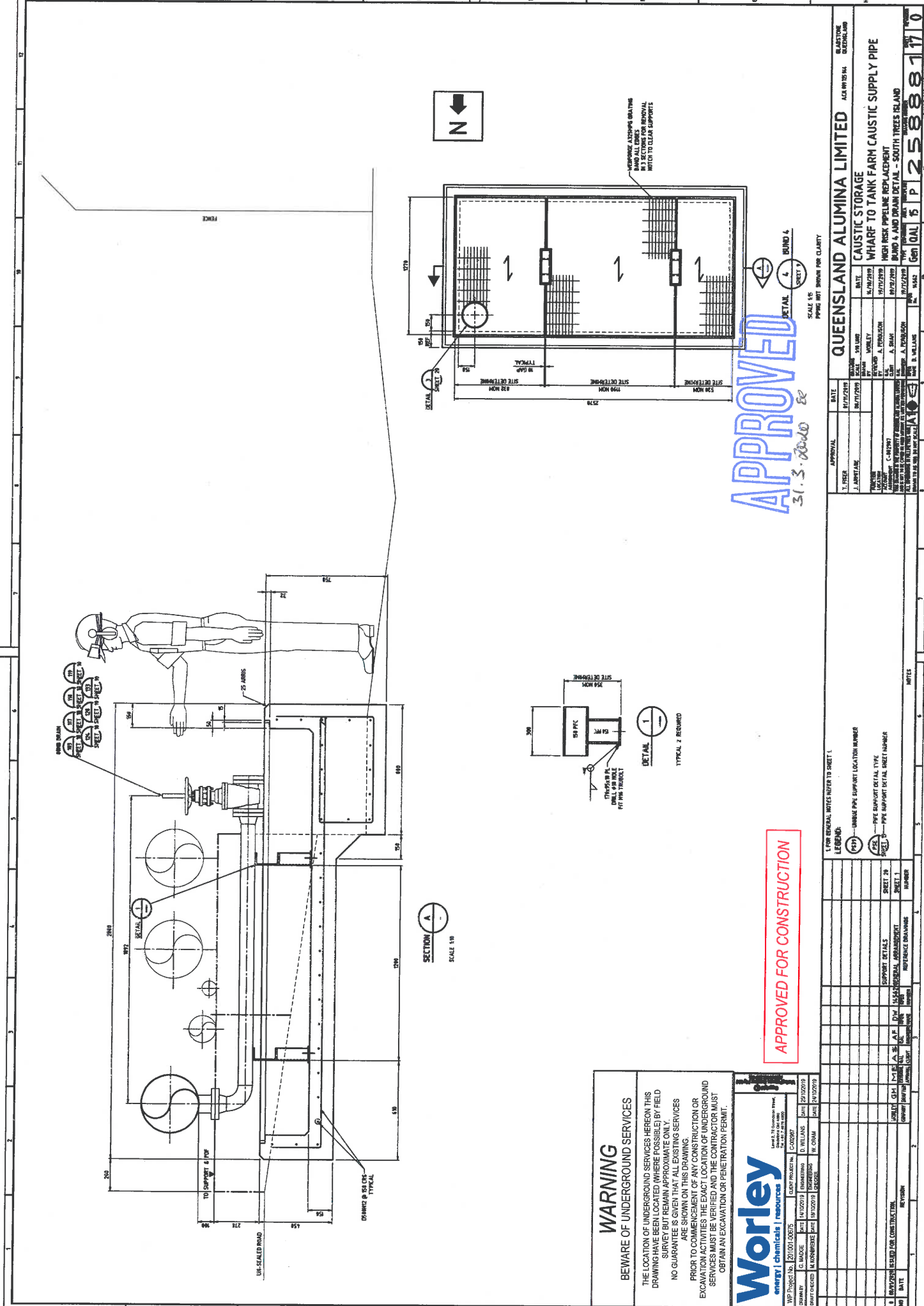


EXISTING ARRANGEMENT AT PS121

QUEENSLAND ALUMINA LIMITED		BLADSTONE SUBURBAN	
<p style="text-align: center; font-weight: bold; font-size: 24pt;">CAUSTIC STORAGE</p> <p style="text-align: center; font-weight: bold; font-size: 24pt;">WHARF TO TANK FARM CAUSTIC SUPPLY PIPE</p> <p style="text-align: center; font-weight: bold; font-size: 24pt;">HIGH RISK PIPELINE REPLACEMENT</p> <p style="text-align: center; font-weight: bold; font-size: 24pt;">PLATFORM MODIFICATIONS</p>			
DATE	18/02/2019	DATE	18/02/2019
PROJECT	ALP-1521	PROJECT	ALP-1521
DRIVER	A. FERNSON	DRIVER	A. FERNSON
CHECKED	A. FERNSON	CHECKED	A. FERNSON
DESIGNED	A. FERNSON	DESIGNED	A. FERNSON
SCALE	1:5	SCALE	1:5
DRAWN	D. WILKINS	DRAWN	D. WILKINS
ISSUED	D. WILKINS	ISSUED	D. WILKINS
SHEET NO.	5	TOTAL SHEETS	14
<p style="font-size: 24pt; font-weight: bold; color: red; text-align: center;">APPROVED FOR CONSTRUCTION</p>		<p style="font-size: 24pt; font-weight: bold; color: red; text-align: center;">APPROVED FOR CONSTRUCTION</p>	

Worley		energy chemicals resources	
Worley Project No.	201001-00575	CLIENT PROJECT No.	C-02087
DRAWN BY	C. MADGE	DATE	14/02/2019
ENGINEERING	D. WILKINS	DATE	25/02/2019
DESIGNER	M. KORNBERG	DATE	24/02/2019
W. ORAM			
NO.	DATE	REVISION	REVISION
1		AS SHOWN	AS SHOWN
2		GENERAL ARRANGEMENT	GENERAL ARRANGEMENT
3		REFERENCE IN APPENDIX	REFERENCE IN APPENDIX
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			

FOR GENERAL NOTES REFER TO SHEET 1. ALL DIMENSIONS UNLESS OTHERWISE SPECIFIED ARE IN MILLIMETERS. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE UNCONTROLLED.



WARNING
BEWARE OF UNDERGROUND SERVICES

THE LOCATION OF UNDERGROUND SERVICES HEREON THIS DRAWING HAS BEEN LOCATED (WHERE POSSIBLE) BY FIELD SURVEY. THE LOCATION IS APPROXIMATE ONLY. NO GUARANTEE IS GIVEN FOR EXISTING SERVICES ARE SHOWN ON THIS DRAWING. PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION OR EXCAVATION ACTIVITIES THE EXACT LOCATION OF UNDERGROUND SERVICES MUST BE VERIFIED AND THE CONTRACTOR MUST OBTAIN AN EXCAVATION OR PENETRATION PERMIT.



Worley
 energy | chemicals | resources

Worley 2, 75 Cambridge Street, Sydney NSW 2000
 WMP Project No: 210101-00675
 CLIENT PROJECT No: C02087

DRAWN BY: G. MADGE DATE: 14/02/2019
 CHECKED BY: D. WILLIAMS DATE: 25/02/2019
 DATE PREPARED: 14/02/2019
 DATE REVISION: 19/02/2019
 REVISION: W. ORAM DATE: 24/02/2019

NO	DATE	REVISION	LOCALITY	GM	M/E	A/E	D/W	ISSUED FOR	DATE
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2									

NO	DATE	REVISION	LOCALITY	GM	M/E	A/E	D/W	ISSUED FOR	DATE
1									
2									

NO	DATE	REVISION	LOCALITY	GM	M/E	A/E	D/W	ISSUED FOR	DATE
1									
2									

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2									

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1									
2									

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1									
2									

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1									
2									

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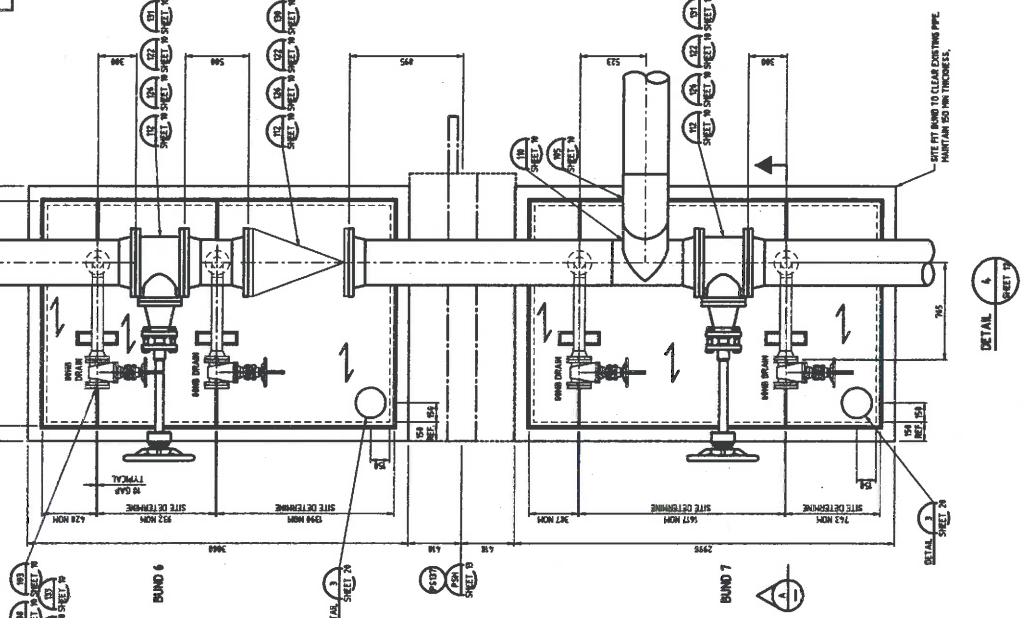
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2									

QUEENSLAND ALUMINA LIMITED
 CAUSTIC STORAGE
 WHARF TO TANK FARM CAUSTIC SUPPLY PIPE
 HIGH RISK PIPELINE REPLACEMENT
 BUND 4 AND DRAIN DETAIL - SOUTH TREES ISLAND

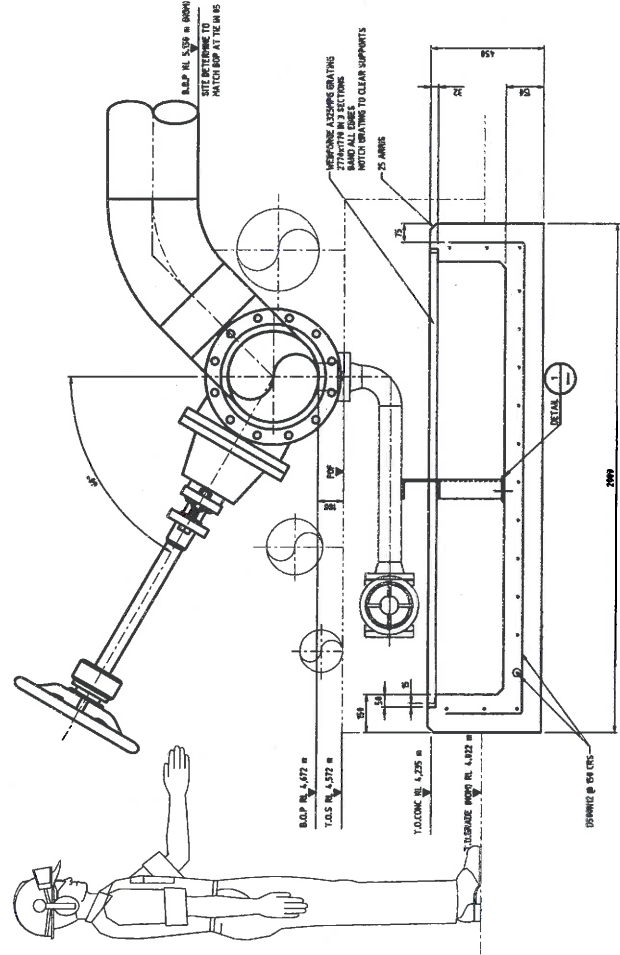
SCALE: 1:5
 PIPES NOT SHOWN FOR CLARITY

APPROVED
 31.3.2020

GEN 0101 5 P 258881710

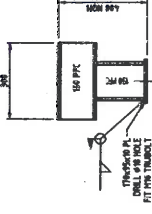


112 SHEET
113 SHEET
114 SHEET
115 SHEET
116 SHEET
117 SHEET
118 SHEET
119 SHEET
120 SHEET
121 SHEET



1.010M RL 4.225 m
1.010M RL 4.302 m
1.010M RL 4.377 m
1.010M RL 4.572 m

RESPONSE TO UNDERGROUND SERVICES
VERIFY ALL SERVICES
BEFORE CONSTRUCTION
MARK ALL SERVICES
MATCH DRAWING TO CLEAR SUPPORTS



WARNING
BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES HEREON THIS DRAWING HAVE BEEN LOCATED (WHERE POSSIBLE) BY FIELD SURVEY BUT REMAIN APPROXIMATE ONLY. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES PROTO TO COMMENCEMENT OF CONSTRUCTION OR EXCAVATION ACTIVITIES THE EXACT LOCATION OF UNDERGROUND SERVICES MUST BE VERIFIED AND THE CONTRACTOR MUST OBTAIN AN EXCAVATION OR PENETRATION PERMIT.

APPROVED
31.3.2020 EC

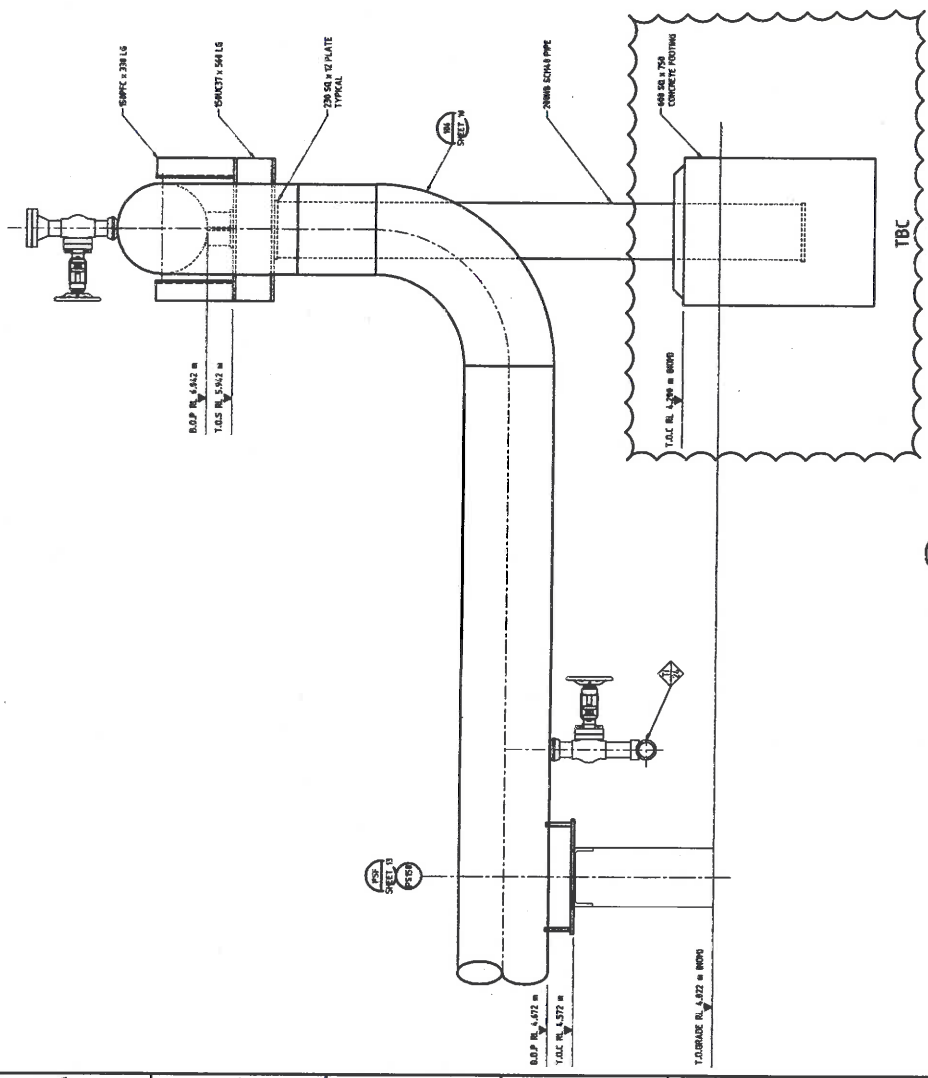
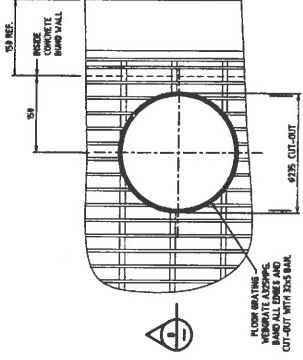
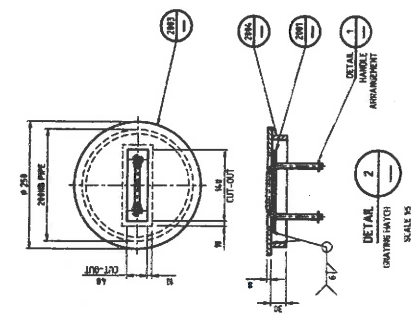
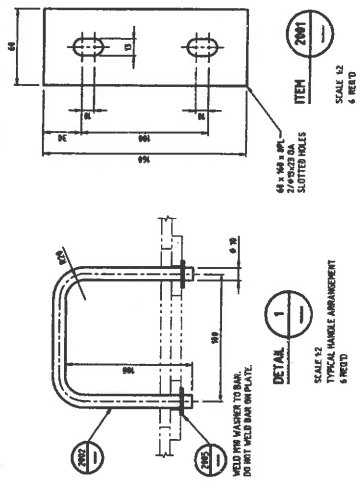
Worley
energy | chemical | resources

<p>WP Project No. 20100108675 CLIENT PROJECT No. C200287</p> <p>DRAWN BY: G. MAUSE DATE: 14/03/2019 ENGINEERING: D. WILLIAMS DATE: 20/03/2019</p> <p>CHAUFERD BY: M. CORNBERG DATE: 19/03/2019 CHECKED: W. O'CALL DATE: 24/03/2019</p> <p>PROJECT: RICHMOND HOLLOWAY PIPELINE REPLACEMENT</p> <p>SHEET: 15 OF 15</p>			
<p>APPROVAL: J. JONES DATE: 16/03/2019 T. FIKER DATE: 16/03/2019 J. AMPTON DATE: 16/03/2019</p> <p>CLIENT: QUEENSLAND ALUMINA LIMITED PROJECT: CAUSTIC STORAGE WHARF TO TANK FARM CAUSTIC SUPPLY PIPE SUBJECT: HIGH RISK PIPELINE REPLACEMENT BUND 6 AND 7 AND DRAIN DETAILS - SOUTH TREES ISLAND SCALE: AS SHOWN</p>			

<p>1 FOR GENERAL NOTES REFER TO SHEET 1</p> <p>LEGEND:</p> <p>(S) - UNDERPIPE PIPES SUPPORT LOCATION NUMBER</p> <p>(C) - PIPE SUPPORT DETAIL TYPE</p> <p>(P) - PIPE SUPPORT DETAIL TYPE</p>			
---	--	--	--

DATE	DESCRIPTION
16/03/2019	ISSUED FOR PERMIT
16/03/2019	ISSUED FOR PERMIT

QUEENSLAND ALUMINA LIMITED
ALC 00181914 CLARENCE QUEENSLAND
CAUSTIC STORAGE
WHARF TO TANK FARM CAUSTIC SUPPLY PIPE
HIGH RISK PIPELINE REPLACEMENT
BUND 6 AND 7 AND DRAIN DETAILS - SOUTH TREES ISLAND
GEN/VAL/B/P
258881910



Worley energy | chemicals | resources

Worley Project No: 201001-002675
 Client Product No: C002687
 DRAWN BY: G. MADGE DATE: 11/01/2018
 CHECKED BY: M. KATONOSKE DATE: 10/01/2018

NO	DATE	BY	DESCRIPTION	REFERENCE OR LINKS	NUMBER
1	11/01/2018	G.MADGE	ISSUED FOR CONSTRUCTION		

WARNING
BEWARE OF UNDERGROUND SERVICES

THE LOCATION OF UNDERGROUND SERVICES HEREON THIS DRAWING HAVE BEEN LOCATED (WHERE POSSIBLE) BY FIELD SURVEY BUT REMAIN APPROXIMATE ONLY. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN ON THIS DRAWING. PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION OR EXCAVATION, THE EXACT LOCATION OF UNDERGROUND SERVICES MUST BE CHECKED BY THE CONTRACTOR. MUST OBTAIN AN EXCAVATION OR PENETRATION PERMIT.

APPROVED
31.3.2010

APPROVED FOR CONSTRUCTION

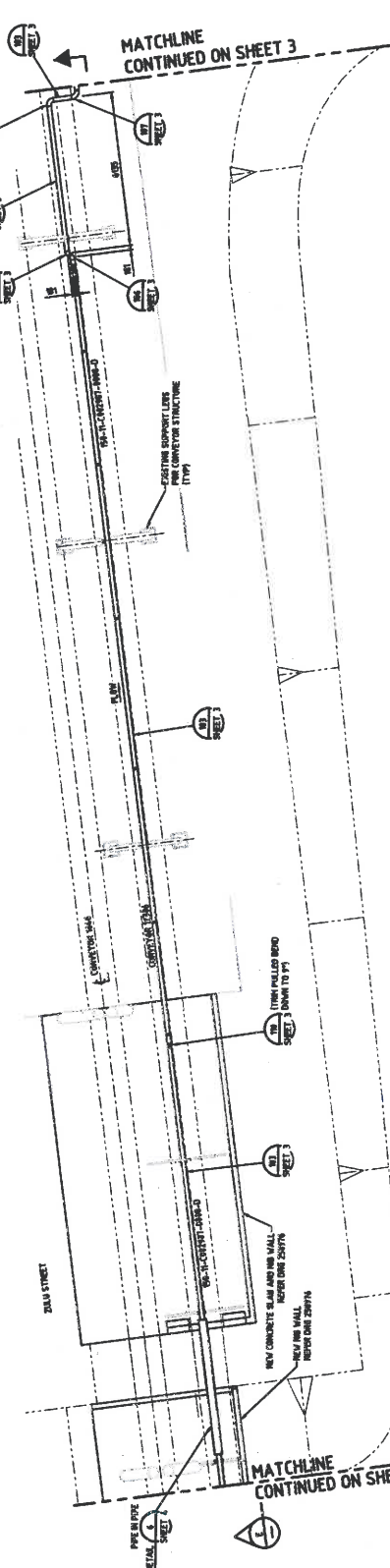
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2	07/12/2010	A. CORRIAN	ISSUED FOR CONSTRUCTION		
3	07/12/2010	A. CORRIAN	ISSUED FOR CONSTRUCTION		
4	07/12/2010	A. CORRIAN	ISSUED FOR CONSTRUCTION		
5	07/12/2010	A. CORRIAN	ISSUED FOR CONSTRUCTION		
6	07/12/2010	A. CORRIAN	ISSUED FOR CONSTRUCTION		

QUEENSLAND ALUMINA LIMITED
 CAUSTIC STORAGE
 WHARF TO TANK FARM CAUSTIC SUPPLY PIPE

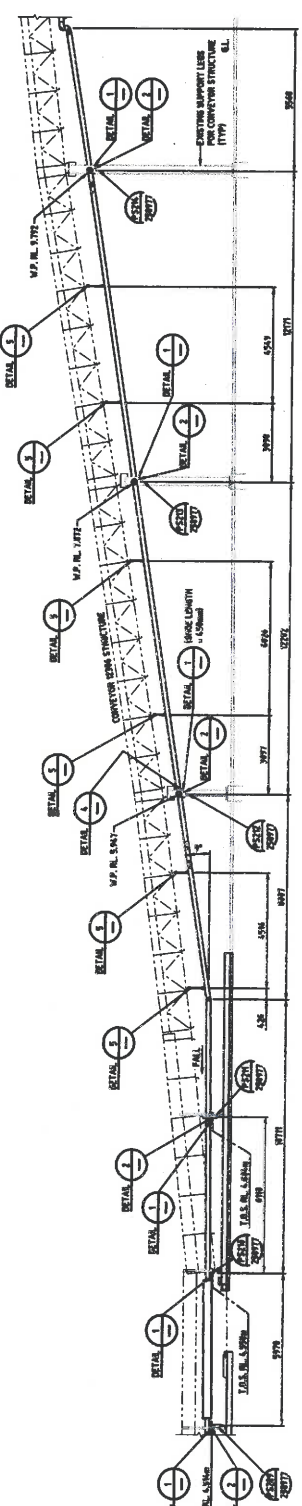
DATE: 11/01/2018
 DRAWN BY: G. MADGE
 CHECKED BY: M. KATONOSKE

NO	DATE	BY	DESCRIPTION	REFERENCE OR LINKS	NUMBER
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2	07/12/2010	A. CORRIAN	ISSUED FOR CONSTRUCTION		
3	07/12/2010	A. CORRIAN	ISSUED FOR CONSTRUCTION		
4	07/12/2010	A. CORRIAN	ISSUED FOR CONSTRUCTION		
5	07/12/2010	A. CORRIAN	ISSUED FOR CONSTRUCTION		
6	07/12/2010	A. CORRIAN	ISSUED FOR CONSTRUCTION		

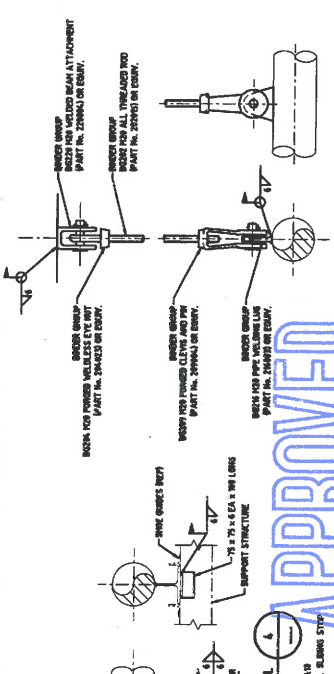
GEN QAL 5 P 25888 1010
 SHEET 22
 10/01/2018



PLAN VIEW



SECTION E



DETAIL 5

DETAIL 4

DETAIL 3

DETAIL 2

DETAIL 1

APPROVED
31.3.2020

APPROVED FOR CONSTRUCTION

Project No	20100-00575	Client Product No	C000887
Issued By	HABERIDGE	Date	19/12/2019
Checked By	S.CASSEE	Date	19/12/2019
Approved By	W. O'BRIEN	Date	19/12/2019
Drawn By	W. O'BRIEN	Date	19/12/2019
Checked By	D. WILLIAMS	Date	19/12/2019
Approved By	W. O'BRIEN	Date	19/12/2019

NOTES CONTAINED ON PIER BRIDGE SHEET 1.

1. PIER AND PIER APPROACH SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT CONDITIONS.

2. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED.

3. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED.

4. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED.

5. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED.

6. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED.

7. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED.

8. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED.

9. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED.

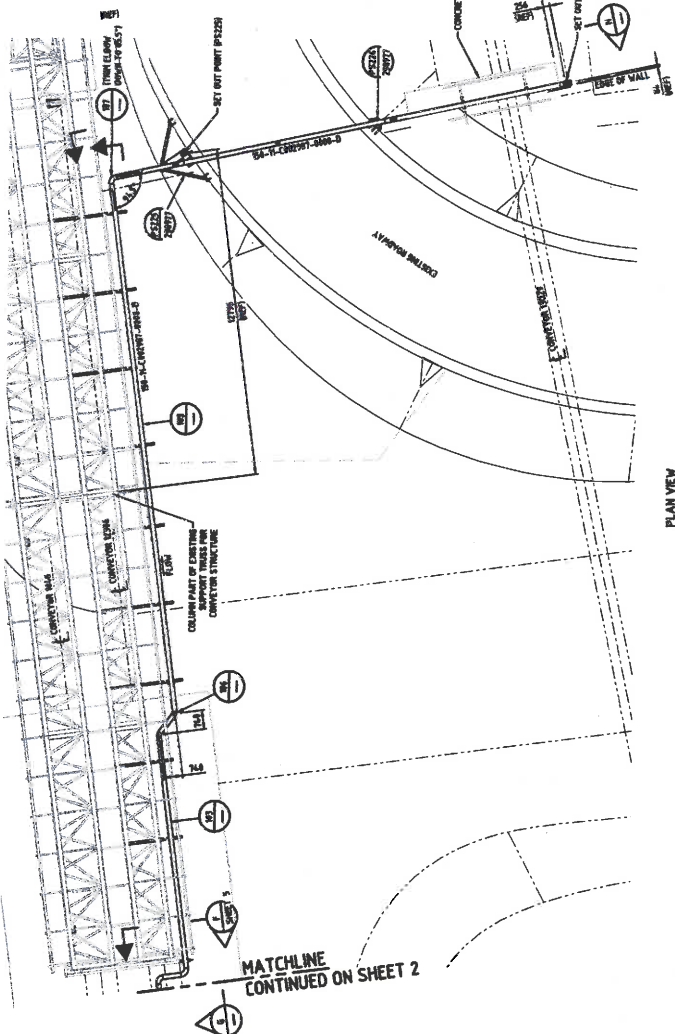
10. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED.

NO	DATE	REVISION	BY	CHECKED BY	APPROVED BY
1	19/12/2019	ISSUED FOR CONSTRUCTION	W. O'BRIEN	D. WILLIAMS	W. O'BRIEN
2	19/12/2019	REVISED PER COMMENTS	W. O'BRIEN	D. WILLIAMS	W. O'BRIEN
3	19/12/2019	REVISED PER COMMENTS	W. O'BRIEN	D. WILLIAMS	W. O'BRIEN
4	19/12/2019	REVISED PER COMMENTS	W. O'BRIEN	D. WILLIAMS	W. O'BRIEN
5	19/12/2019	REVISED PER COMMENTS	W. O'BRIEN	D. WILLIAMS	W. O'BRIEN

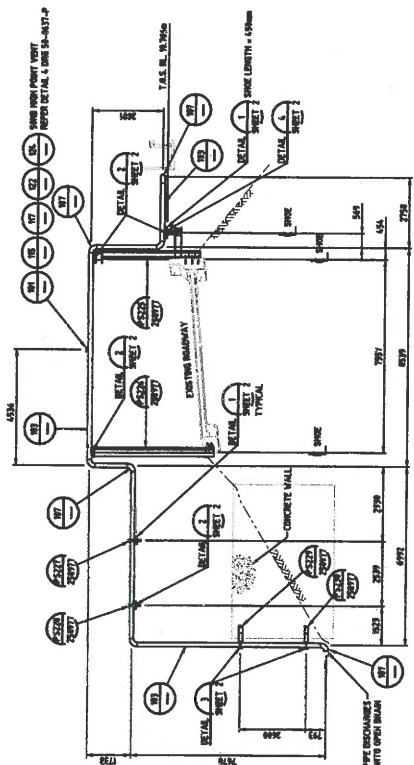
APPROVAL	DATE	BY	FOR
J. HERRIS	17/12/2019	W. O'BRIEN	FOR PIER AND PIER APPROACH
J. HERRIS	17/12/2019	W. O'BRIEN	FOR INTACTURE OF HIGH RISK PIPELINES
J. HERRIS	17/12/2019	W. O'BRIEN	FOR BAUKITE SLURRY LINE
J. HERRIS	17/12/2019	W. O'BRIEN	FOR SOUTH TREE ISLAND - PLAN VIEW AND SECTIONS

PROJECT NO	20100-00575	CLIENT PRODUCT NO	C000887
ISSUED BY	HABERIDGE	DATE	19/12/2019
CHECKED BY	S.CASSEE	DATE	19/12/2019
APPROVED BY	W. O'BRIEN	DATE	19/12/2019
DRAWN BY	W. O'BRIEN	DATE	19/12/2019
CHECKED BY	D. WILLIAMS	DATE	19/12/2019
APPROVED BY	W. O'BRIEN	DATE	19/12/2019

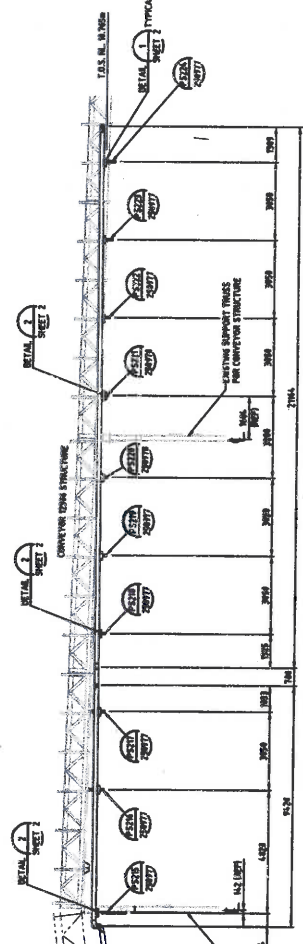
QUEENSLAND ALUMINA LIMITED
 PIER AND PIER APPROACH
 INTACTURE OF HIGH RISK PIPELINES
 BAUKITE SLURRY LINE
 SOUTH TREE ISLAND - PLAN VIEW AND SECTIONS
 258882710



PLAN VIEW
SCALE 1/8" = 1'-0"



SECTION H-H
SCALE 1/8" = 1'-0"



SECTION G-G
SCALE 1/8" = 1'-0"

APPROVED
31.3.2020

APPROVED FOR CONSTRUCTION

ITEM NO	DESCRIPTION	REMARKS	ITEM CODE
1	PIPE NUMBER		
2	FLARING STOP		
3	100mm x 100mm LIME GARD NET TO CAP OVER RIB		
4	SANDBLE CLAMP		
5	PIPE GUIDE		
6	PIPE SHOE		
7	200mm x 200mm STEEL CHANNEL		
8	200mm x 200mm STEEL CHANNEL		
9	200mm x 200mm STEEL CHANNEL		
10	200mm x 200mm STEEL CHANNEL		
11	200mm x 200mm STEEL CHANNEL		
12	200mm x 200mm STEEL CHANNEL		
13	200mm x 200mm STEEL CHANNEL		
14	200mm x 200mm STEEL CHANNEL		
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100	200mm x 200mm STEEL CHANNEL		

DATE	APPROVAL	REVISION	DESCRIPTION
17/02/2019	J. HERRIDGE	1	ISSUED FOR PERMIT
17/02/2019	J. HERRIDGE	2	ISSUED FOR CONSTRUCTION

CLIENT	QUEENSLAND ALUMINA LIMITED
PROJECT	PIER AND PIER APPROACH
DRAWING NO	10000000000000000000
DATE	17/02/2019
SCALE	AS SHOWN
DRAWN BY	A. HERRIDGE
CHECKED BY	A. HERRIDGE
APPROVED BY	A. HERRIDGE
DATE	17/02/2019
SCALE	AS SHOWN

DATE	17/02/2019
SCALE	AS SHOWN
DRAWN BY	A. HERRIDGE
CHECKED BY	A. HERRIDGE
APPROVED BY	A. HERRIDGE
DATE	17/02/2019
SCALE	AS SHOWN

DATE	17/02/2019
SCALE	AS SHOWN
DRAWN BY	A. HERRIDGE
CHECKED BY	A. HERRIDGE
APPROVED BY	A. HERRIDGE
DATE	17/02/2019
SCALE	AS SHOWN

DATE	17/02/2019
SCALE	AS SHOWN
DRAWN BY	A. HERRIDGE
CHECKED BY	A. HERRIDGE
APPROVED BY	A. HERRIDGE
DATE	17/02/2019
SCALE	AS SHOWN

DATE	17/02/2019
SCALE	AS SHOWN
DRAWN BY	A. HERRIDGE
CHECKED BY	A. HERRIDGE
APPROVED BY	A. HERRIDGE
DATE	17/02/2019
SCALE	AS SHOWN

DATE	17/02/2019
SCALE	AS SHOWN
DRAWN BY	A. HERRIDGE
CHECKED BY	A. HERRIDGE
APPROVED BY	A. HERRIDGE
DATE	17/02/2019
SCALE	AS SHOWN

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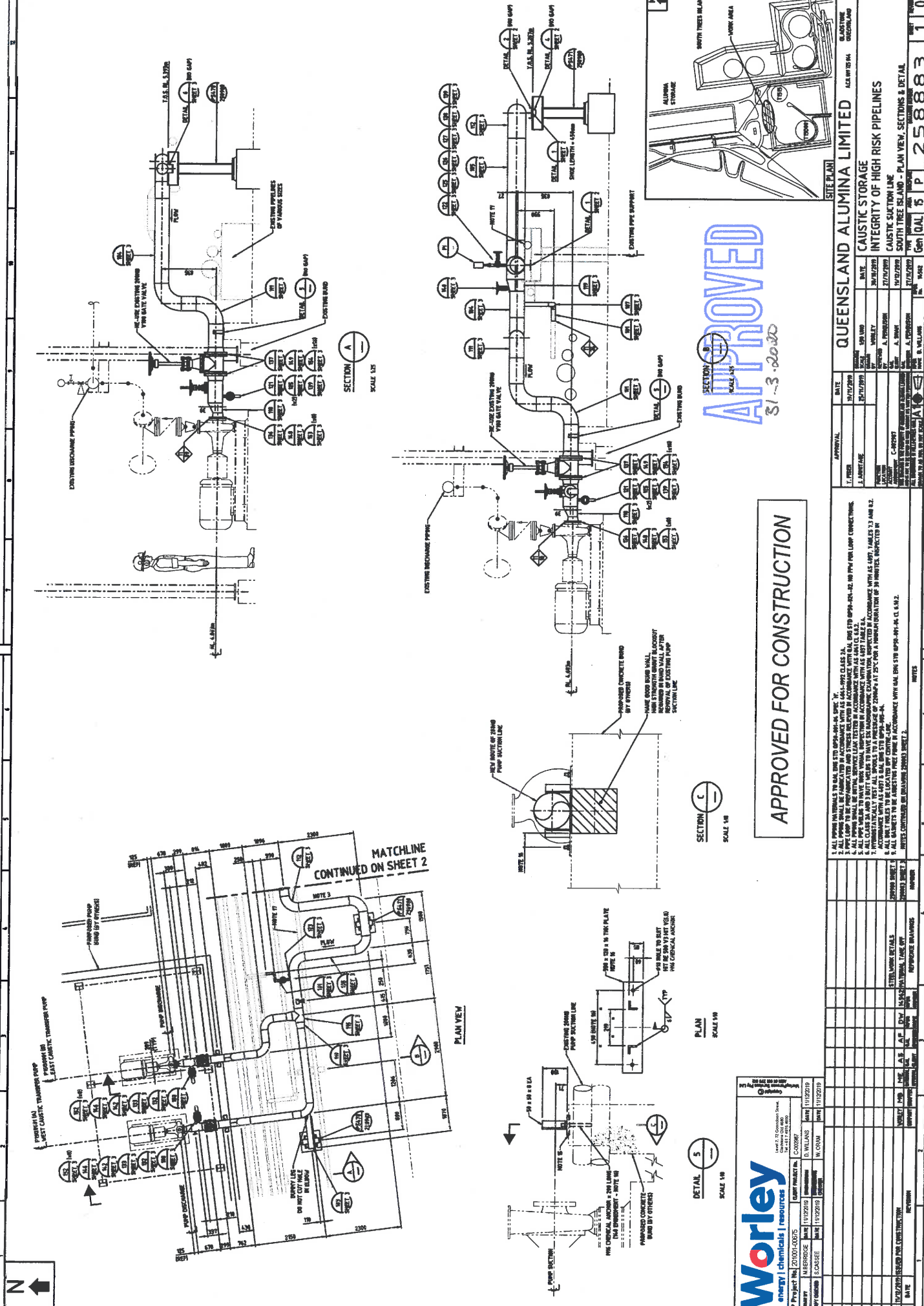
Worley Limited
Level 2, 25 Corporation Street
Sydney NSW 1512 Australia
Tel: +61 2 9550 6000

PROJECT NO: 201001-000576
CLIENT PROJECT NO: C000087
ISSUED BY: A. HERRIDGE
ISSUED DATE: 17/02/2019
CHECKED BY: H. ORAM
CHECKED DATE: 17/02/2019

PROJECT: PIER AND PIER APPROACH
DRAWING NO: 10000000000000000000
DRAWING TITLE: PIER AND PIER APPROACH
DRAWING SCALE: AS SHOWN

DATE: 17/02/2019
SCALE: AS SHOWN

Gen 0AL 11 P 258882310



APPROVED

SI-3-2020

APPROVED FOR CONSTRUCTION



1. ALL PIPING MATERIALS TO OAL DMS STD 0094-04-04, SPEC. 7.
2. PIPING TO BE PRE-FABRICATED AND 5 TIMES EXAMINED IN ACCORDANCE WITH DMS STD 0094-04-04, SPEC. 8.1.
3. PIPING TO BE PRE-FABRICATED AND 5 TIMES EXAMINED IN ACCORDANCE WITH DMS STD 0094-04-04, SPEC. 8.2.
4. ALL PIPING TO BE PRE-FABRICATED AND 5 TIMES EXAMINED IN ACCORDANCE WITH DMS STD 0094-04-04, SPEC. 8.3.
5. ALL PIPING TO BE PRE-FABRICATED AND 5 TIMES EXAMINED IN ACCORDANCE WITH DMS STD 0094-04-04, SPEC. 8.4.
6. ALL CLASS 2A AND 2B PIPING TO HAVE 50% RADIOGRAPHIC EXAMINATION INSPECTED IN ACCORDANCE WITH AS 497, TABLES 7.3 AND 8.2.
7. ALL CLASS 2A AND 2B PIPING TO HAVE 50% RADIOGRAPHIC EXAMINATION INSPECTED IN ACCORDANCE WITH AS 497, TABLES 7.3 AND 8.2.
8. ALL DRIFT HOLES TO BE LOCATED BY CENTRE-LINE.
9. ALL DRIFT HOLES TO BE JAMMED FOR FREE FLOW IN ACCORDANCE WITH DMS STD 0094-04-04, CL 6.4.2.
10. CHECK CONNECTIONS TO EXISTING EXCESS FLOW VALVES.

APPROVAL		DATE	REVISION
DESIGNED	11/17/2019	1	1
CHECKED	12/17/2019	2	1
APPROVED	12/17/2019	3	1
DESIGNED	12/17/2019	4	1
CHECKED	12/17/2019	5	1
APPROVED	12/17/2019	6	1

PROJECT NO.	210101-00075
CLIENT PROJECT NO.	C00287
LOCATION	MARRBOROUGH
CLIENT	SCASSEE
DATE	11/20/2019
AUTHOR	W. ORAN
DATE	11/20/2019

PROJECT NO.	210101-00075
CLIENT PROJECT NO.	C00287
LOCATION	MARRBOROUGH
CLIENT	SCASSEE
DATE	11/20/2019
AUTHOR	W. ORAN
DATE	11/20/2019

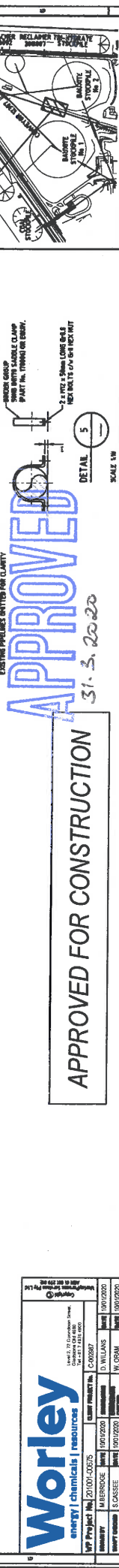
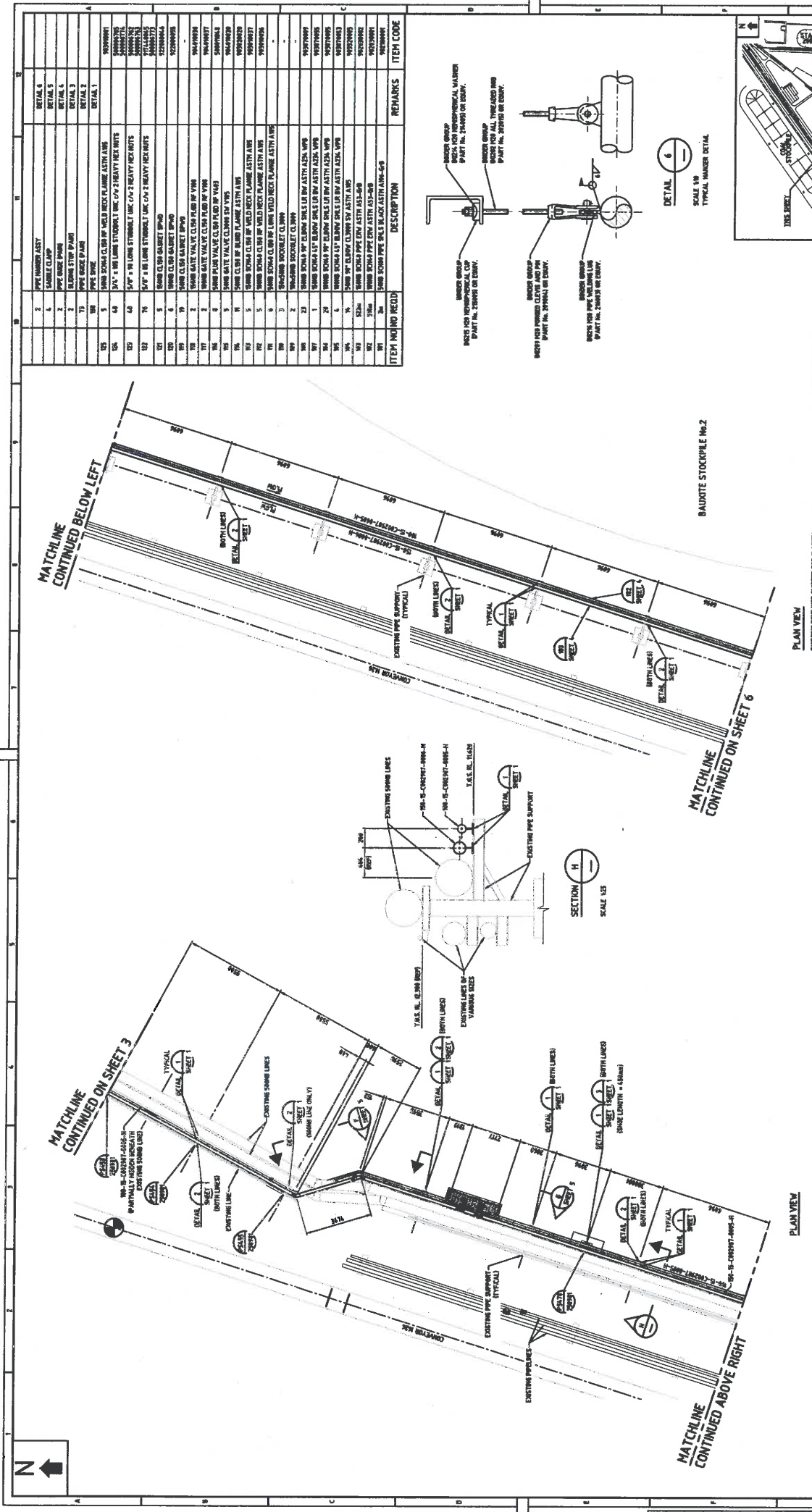
PROJECT NO.	210101-00075
CLIENT PROJECT NO.	C00287
LOCATION	MARRBOROUGH
CLIENT	SCASSEE
DATE	11/20/2019
AUTHOR	W. ORAN
DATE	11/20/2019

QUEENSLAND ALUMINA LIMITED

CAUSTIC STORAGE
INTEGRITY OF HIGH RISK PIPELINES

CAUSTIC SUCTON LINE
SOUTH TREE ISLAND - PLAN VIEW, SECTIONS & DETAIL

Gen CAL 5 P 258883 110



ITEM NO	QUANTITY	DESCRIPTION	REMARKS	ITEM CODE
2		PIPE HANGER ASST		
4		SADDLE CLAMP		
2		PIPE BRIDE W/BRG		
2		BLINDS STOP PLATE		
75		PIPE BRIDE PLATE		
1		PIPE BRIDE		
185		3/4\"/>		

APPROVAL			
DATE	BY	FOR	ROLE
07/12/2020	J. PETER	DESIGN	DESIGNER
07/12/2020	J. PETER	DESIGN	DESIGNER
07/12/2020	J. PETER	DESIGN	DESIGNER
07/12/2020	J. PETER	DESIGN	DESIGNER

QUEENSLAND ALUMINA LIMITED	
CAUSTIC STORAGE	CAUSTIC STORAGE
INTEGRITY OF HIGH RISK PIPELINES	INTEGRITY OF HIGH RISK PIPELINES
CAUSTIC & GROUND WATER LINES - HIGH LEVEL PIPE SUPPORTS	CAUSTIC & GROUND WATER LINES - HIGH LEVEL PIPE SUPPORTS
MANLAND - PLAN VIEWS	MANLAND - PLAN VIEWS
Gen 04/ 5 P 258982	4.0

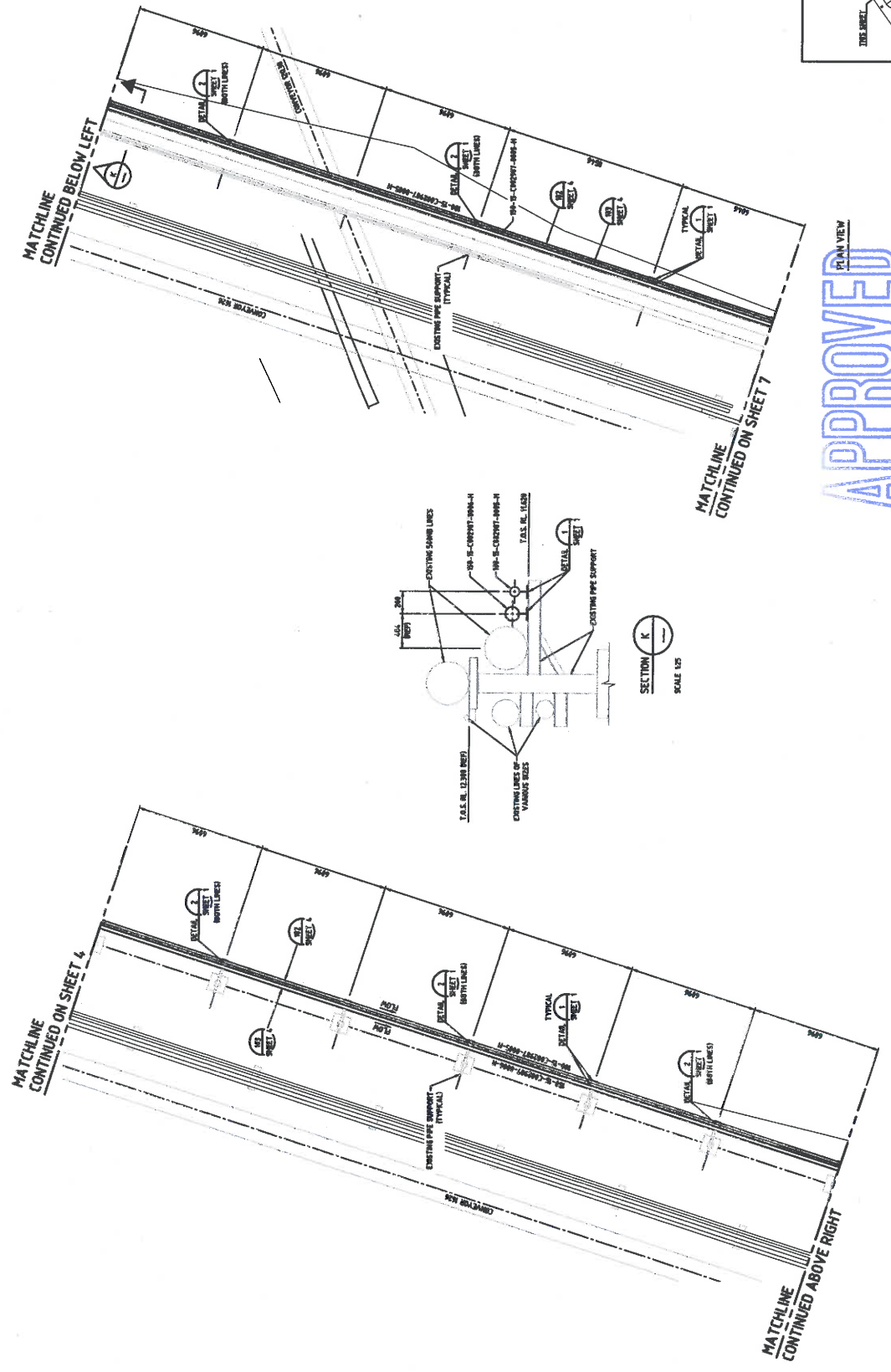
Worley
energy | chemicals | resources

Worley Project No: 201001-00075
 Project Name: 0. MANUFACTURED AND CONSTRUCTION NETWORK
 Project No: 10010000
 Project Name: 0. MANUFACTURED AND CONSTRUCTION NETWORK

DATE: 07/12/2020
 DRAWN BY: W. ORAN
 CHECKED BY: W. ORAN
 DATE: 07/12/2020

APPROVED FOR CONSTRUCTION
 31. 3. 2020

APPROVED



APPROVED

21.5.2020

PLAN VIEW
EXISTING PIPELINES SHOWN FOR CLARITY

Worley

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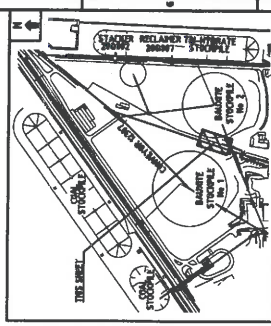
Level 5, 25 Dandenong Street, Dandenong VIC 3175, Australia
 Tel: +61 3 9411 8000

Worley Project No: 201001-00575 Order Number No: C002867

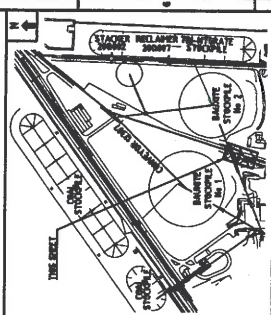
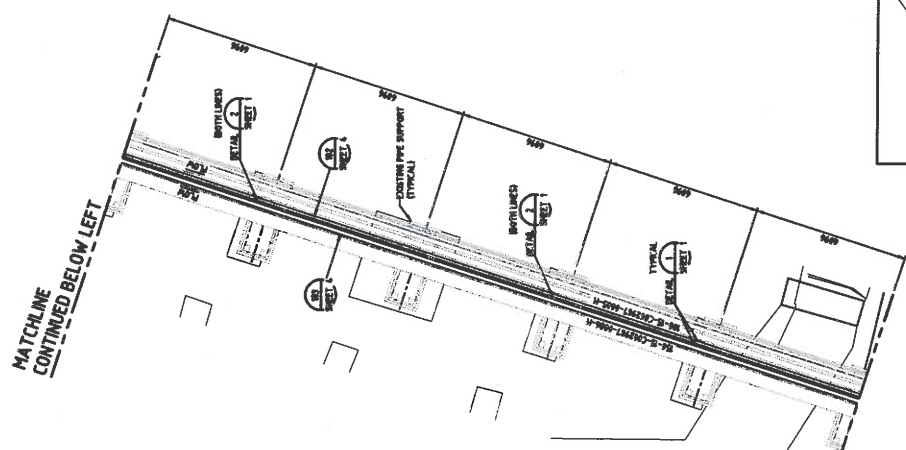
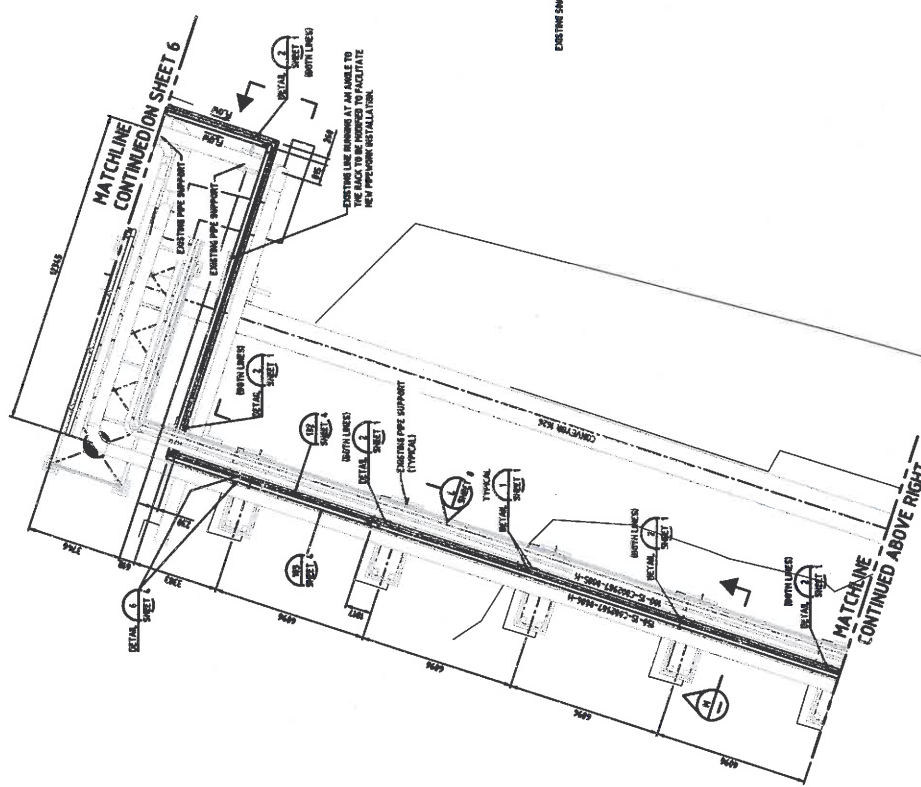
DESIGNED BY	DATE	DRAWN BY	DATE
W. MERRIDGE	19/12/2019	D. WILLIAMS	19/12/2019
CHECKED BY	DATE	REVISION	DATE
S. CASSEE	19/12/2019		

APPROVED FOR CONSTRUCTION

QUEENSLAND ALUMINA LIMITED		CAUSTIC STORAGE INTEGRITY OF HIGH RISK PIPELINES
DRAWN	DATE	SCALE
S. CASSEE	19/12/2019	1:1
PROJECT NO: 201001-00575 ORDER NO: C002867 SHEET NO: 5 OF 6		
TITLE: CAUSTIC STORAGE INTEGRITY OF HIGH RISK PIPELINES - HIGH LEVEL PIPE SUPPORTS MANLAND - PLAN VIEWS		
APPROVAL BY: W. MERRIDGE DATE: 19/12/2019 PROJECT: CAUSTIC STORAGE INTEGRITY OF HIGH RISK PIPELINES - HIGH LEVEL PIPE SUPPORTS MANLAND - PLAN VIEWS		APPROVAL BY: D. WILLIAMS DATE: 19/12/2019 PROJECT: CAUSTIC STORAGE INTEGRITY OF HIGH RISK PIPELINES - HIGH LEVEL PIPE SUPPORTS MANLAND - PLAN VIEWS
PROJECT MANAGER: S. CASSEE PROJECT ENGINEER: W. ORAM PROJECT ARCHITECT: M. BRYAN		PROJECT MANAGER: S. CASSEE PROJECT ENGINEER: W. ORAM PROJECT ARCHITECT: M. BRYAN
JOB NO.	DRAWING NO.	REV
201001-00575	C002867	5
REVISION		DATE
1. INITIAL LAYOUT OF HIGH LEVEL PIPE SUPPORTS AND MANLAND - PLAN VIEWS 2. REVISED FOR CONSTRUCTION	19/12/2019 19/12/2019	W. MERRIDGE S. CASSEE
<p style="font-size: 8px; text-align: right;">SCALE</p>		258982
<p style="font-size: 8px; text-align: right;">SCALE</p>		60



PLAN VIEW
 EXISTING PIPELINES SHOWN FOR CLARITY



APPROVED
31.3.2020 EC

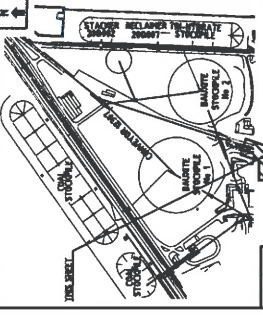
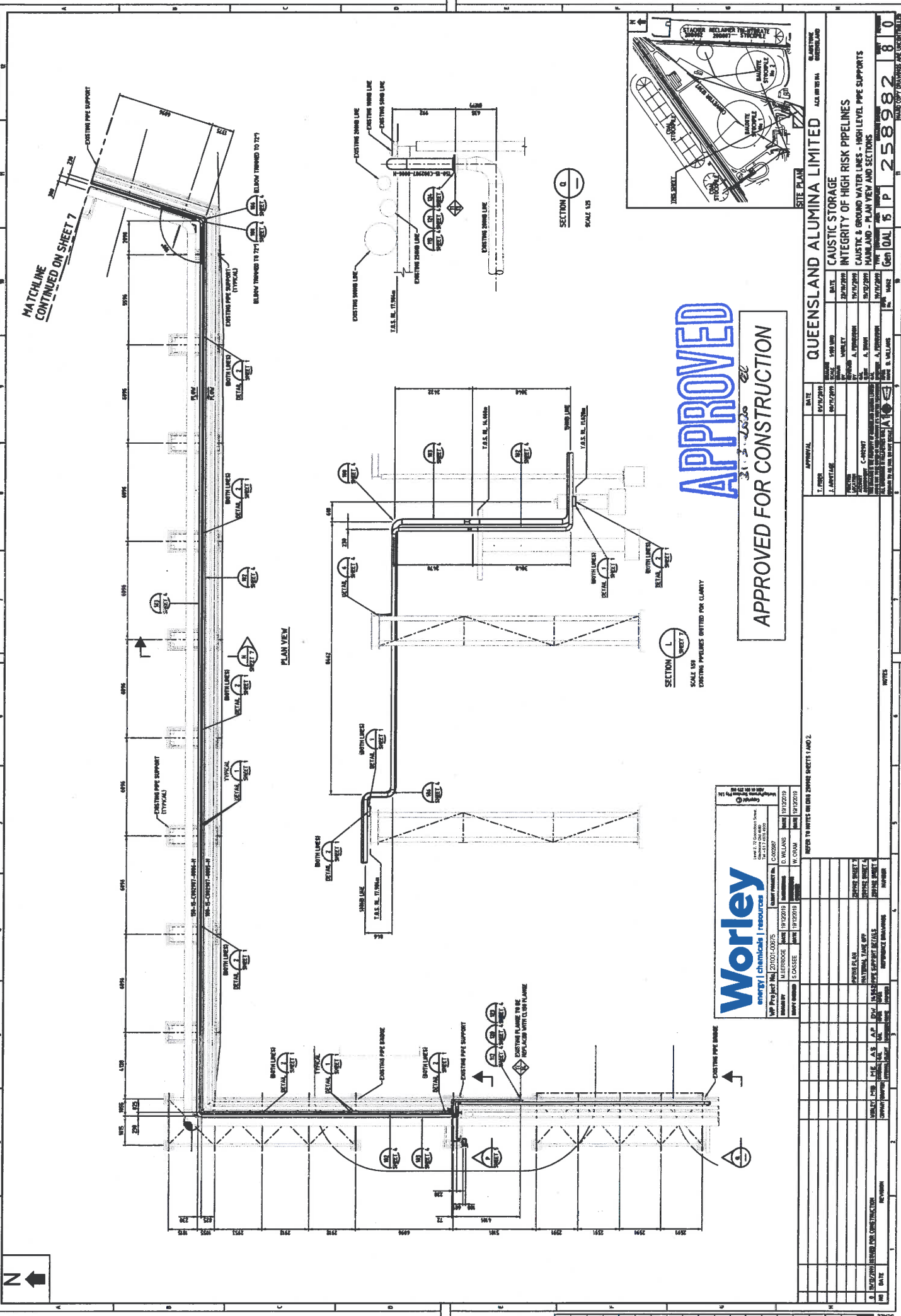
APPROVED FOR CONSTRUCTION



Project No.	201001-00575	Client	Queensland Alumina Limited
Industry	MINING	Project Name	CAUSTIC STORAGE INTEGRITY OF HIGH RISK PIPELINES
Author	M. BRIDGE	Issue No.	1
Check	S. CASSESE	Issue Date	19/02/2019
Design	W. CRAN	Issue Date	19/02/2019
Drawn		Issue Date	
Checked		Issue Date	
Reviewed		Issue Date	
Approved		Issue Date	

QUEENSLAND ALUMINA LIMITED CAUSTIC STORAGE INTEGRITY OF HIGH RISK PIPELINES CAUSTIC & GROUND WATER LINES - HIGH LEVEL PIPE SUPPORTS MARILAND - PLAN VIEW & SECTIONS		SHEET NO. 15 OF 15 DATE 19/02/2019 SCALE 1:50
APPROVAL J. BRIDGE PROJECT MANAGER 19/02/2019	DATE 19/02/2019	DRAWN W. CRAN 19/02/2019
CHECKED S. CASSESE 19/02/2019	DATE 19/02/2019	PROJECT NO. 201001-00575
DESIGNER W. CRAN 19/02/2019	DATE 19/02/2019	CLIENT QUEENSLAND ALUMINA LIMITED
REVIEWER M. BRIDGE 19/02/2019	DATE 19/02/2019	PROJECT NAME CAUSTIC STORAGE INTEGRITY OF HIGH RISK PIPELINES
APPROVED M. BRIDGE 19/02/2019	DATE 19/02/2019	SHEET NO. 15 OF 15

31.3.2020 EC



APPROVED
3.1.3.2020
APPROVED FOR CONSTRUCTION

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14th Fl, 72 Gordon Street
Melbourne VIC 3000
Australia
Phone: +61 3 9471 2000
Fax: +61 3 9471 2001
Email: enquiries@worley.com

Project No.	Issue No.	Issue Date	Issue Description
20101-00075	02	19/02/2019	Issue for Construction

Name	Role	Date
M. HERRODGE	Author	19/02/2019
S. CASSE	Checker	19/02/2019
M. OSMAN	Engineer	19/02/2019
D. WILLIAMS	Lead Engineer	19/02/2019

REFER TO OTHER SHEETS: SHEETS 1 AND 2

SECTION 1
SCALE 1:50
EXISTING PIPELINES OMITTED FOR CLARITY

SECTION 0
SCALE 1:50

APPROVAL		DATE	
J. PETER	J. ARMITAGE	19/02/2019	19/02/2019

REV	DATE	DESCRIPTION
1	19/02/2019	ISSUED FOR CONSTRUCTION
2	19/02/2019	REVISION
3	19/02/2019	REVISION
4	19/02/2019	REVISION
5	19/02/2019	REVISION
6	19/02/2019	REVISION
7	19/02/2019	REVISION
8	19/02/2019	REVISION
9	19/02/2019	REVISION
10	19/02/2019	REVISION

NO.	DATE	BY	CHKD.	APP'D.
1	19/02/2019	M. HERRODGE	J. CASSE	M. OSMAN

NO.	DATE	BY	CHKD.	APP'D.
1	19/02/2019	M. HERRODGE	J. CASSE	M. OSMAN

NO.	DATE	BY	CHKD.	APP'D.
1	19/02/2019	M. HERRODGE	J. CASSE	M. OSMAN

NO.	DATE	BY	CHKD.	APP'D.
1	19/02/2019	M. HERRODGE	J. CASSE	M. OSMAN

NO.	DATE	BY	CHKD.	APP'D.
1	19/02/2019	M. HERRODGE	J. CASSE	M. OSMAN

NO.	DATE	BY	CHKD.	APP'D.
1	19/02/2019	M. HERRODGE	J. CASSE	M. OSMAN

NO.	DATE	BY	CHKD.	APP'D.
1	19/02/2019	M. HERRODGE	J. CASSE	M. OSMAN

NO.	DATE	BY	CHKD.	APP'D.
1	19/02/2019	M. HERRODGE	J. CASSE	M. OSMAN

QUEENSLAND ALUMINA LIMITED
CAUSTIC STORAGE
INTEGRITY OF HIGH RISK PIPELINES
CAUSTIC & GROUND WATER LINES - HIGH LEVEL PIPE SUPPORTS
MAINLAND - PLAN VIEW AND SECTIONS

258982
80

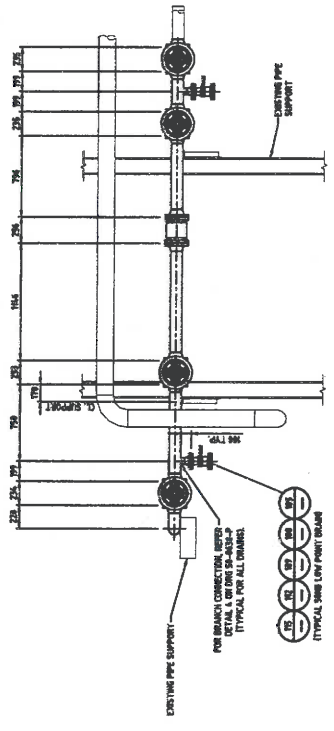
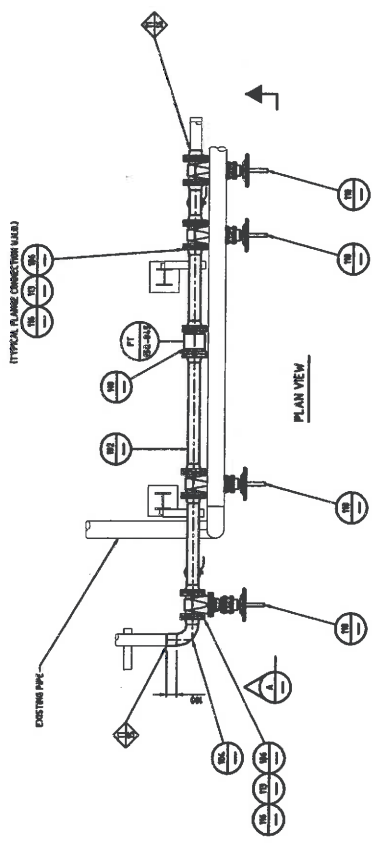
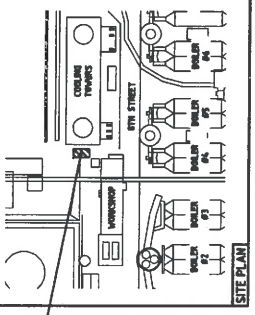


PHOTO VIEW (LOOKING EAST)
SCALE 1/8" = 1'-0"



Worley
energy | chemicals | resource

Worley Project No: 201001-00075
 Issued: 11/12/2010
 Designer: W. ORAM
 Date: 11/12/2010

Client: MERRIDGE
 Date: 11/12/2010
 Designer: D. WILLIAMS
 Date: 11/12/2010

Project: 01042010 ISSUED FOR CONSTRUCTION
 Scale: 1/8" = 1'-0"

APPROVED FOR CONSTRUCTION

31.3.2020
ec

1. ALL DIMENSIONS SHALL BE TO FACE UNLESS OTHERWISE SPECIFIED.
 2. ALL DIMENSIONS SHALL BE TO FACE UNLESS OTHERWISE SPECIFIED.
 3. ALL DIMENSIONS SHALL BE TO FACE UNLESS OTHERWISE SPECIFIED.
 4. ALL DIMENSIONS SHALL BE TO FACE UNLESS OTHERWISE SPECIFIED.
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 9. ALL DIMENSIONS SHALL BE TO FACE UNLESS OTHERWISE SPECIFIED.
 10. ALL DIMENSIONS SHALL BE TO FACE UNLESS OTHERWISE SPECIFIED.

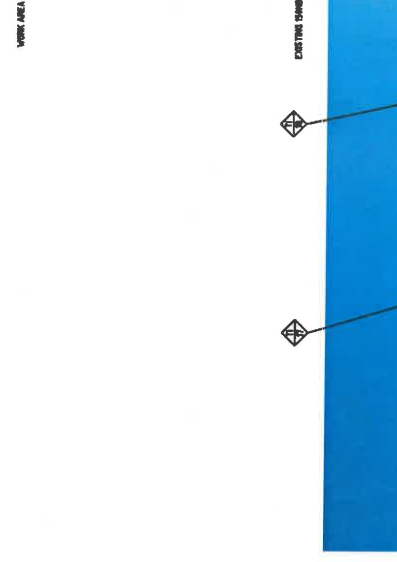
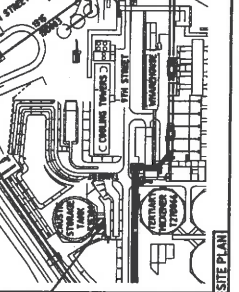
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QUEENSLAND ALUMINA LIMITED

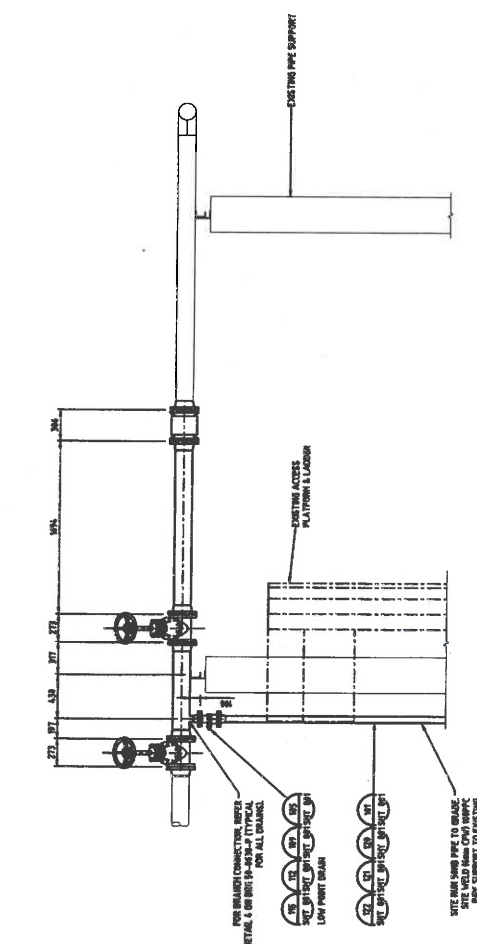
CAUSTIC STORAGE
 INTEGRITY OF HIGH RISK PIPELINES
 CAUSTIC & GROUND WATER LINES - IN PLANT FLOW METERS
 MAINLAND - DETAILS

DATE: 31/3/2020
 DRAWN BY: ec
 CHECKED BY: ec
 APPROVED BY: ec

ITEM NO: 25898310



PLAN VIEW
EXISTING LINES NOT SHOWN



SECTION B-B



PHOTO VIEW (LOOKING WEST)
SCALE: 1:1

APPROVED
31.3.2030

APPROVED FOR CONSTRUCTION



Worley Project No.	210101-0675	Client Reference No.	C00287
Author	M. BERRIDGE	Drawn	D. WILLIAMS
Checked	S. CASSE	Issue	11/22/2019
Date	11/22/2019	Scale	1:1

NOTES CONTAINED ON FRONT SHEETS APPLY TO THIS DRAWING UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AUTHORITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AUTHORITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AUTHORITIES.

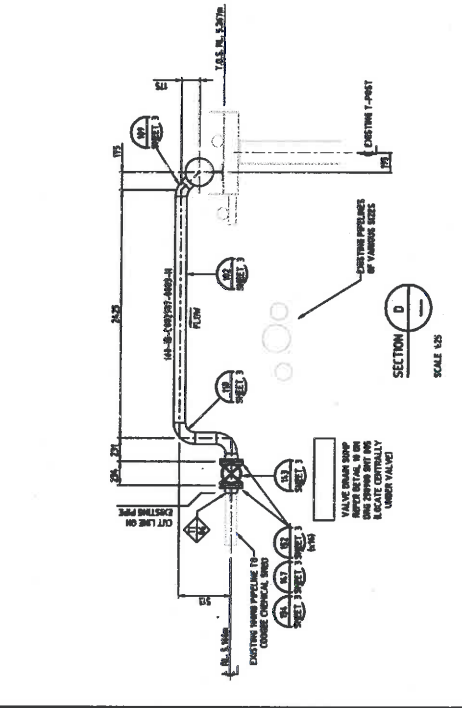
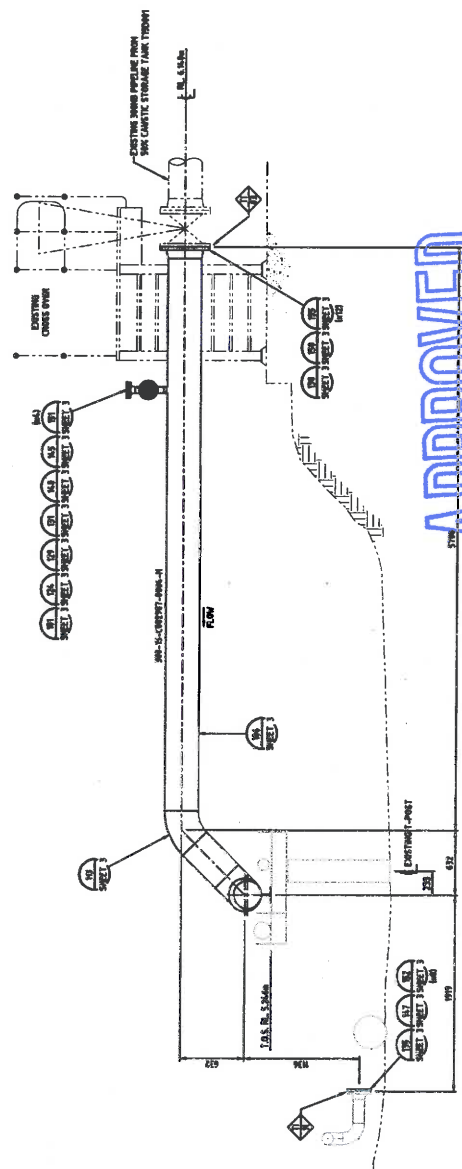
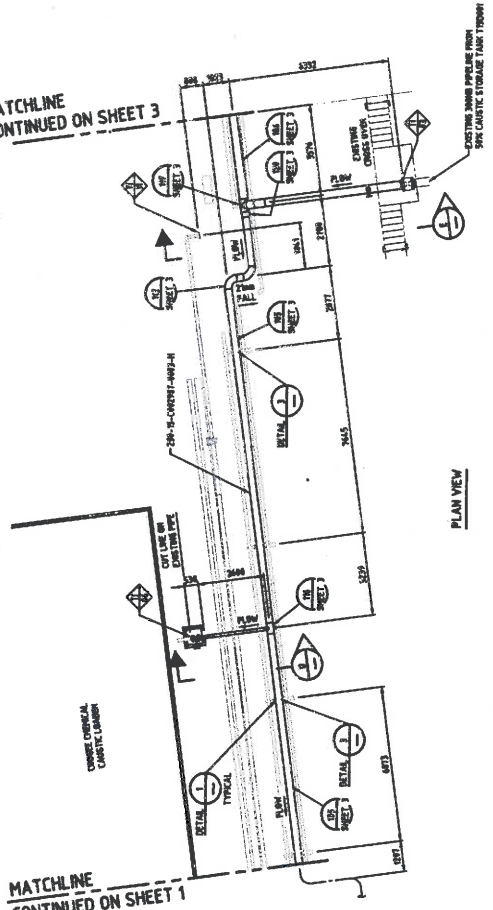
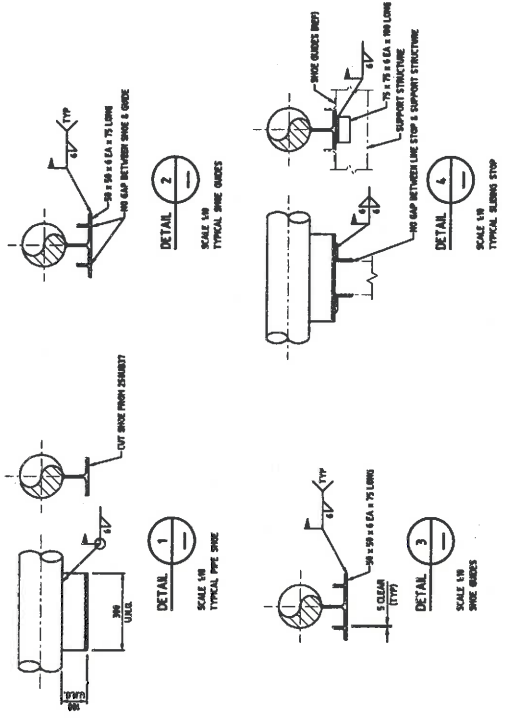
APPROVAL	DATE	REVISION	DESCRIPTION
J. BERRIDGE	22/02/2020	1	ISSUE FOR CONSTRUCTION
C. BERRIDGE	19/12/2019	2	ISSUE FOR CONSTRUCTION
A. BERRIDGE	19/12/2019	3	ISSUE FOR CONSTRUCTION
A. BERRIDGE	19/12/2019	4	ISSUE FOR CONSTRUCTION
A. BERRIDGE	19/12/2019	5	ISSUE FOR CONSTRUCTION

QUEENSLAND ALUMINA LIMITED
 CAUSTIC STORAGE
 INTEGRITY OF HIGH RISK PIPELINES
 CAUSTIC & GROUND WATER LINES - IN PLANT FLOW METERS
 NAME AND - DETAILS
 Gen QAL 5 P 25898370
 SCALE: 1:1



MATCHLINE CONTINUED ON SHEET 3

MATCHLINE CONTINUED ON SHEET 1



APPROVED

APPROVED FOR CONSTRUCTION

Worley
energy | chemicals | resources

Level 2, 70 Gordon Street, North Sydney, NSW 1585
Tel: 61 2 9550 6000
www.worley.com.au

Worley Project No: 220101-00075
Worley No: 11722010
Worley No: 11722010
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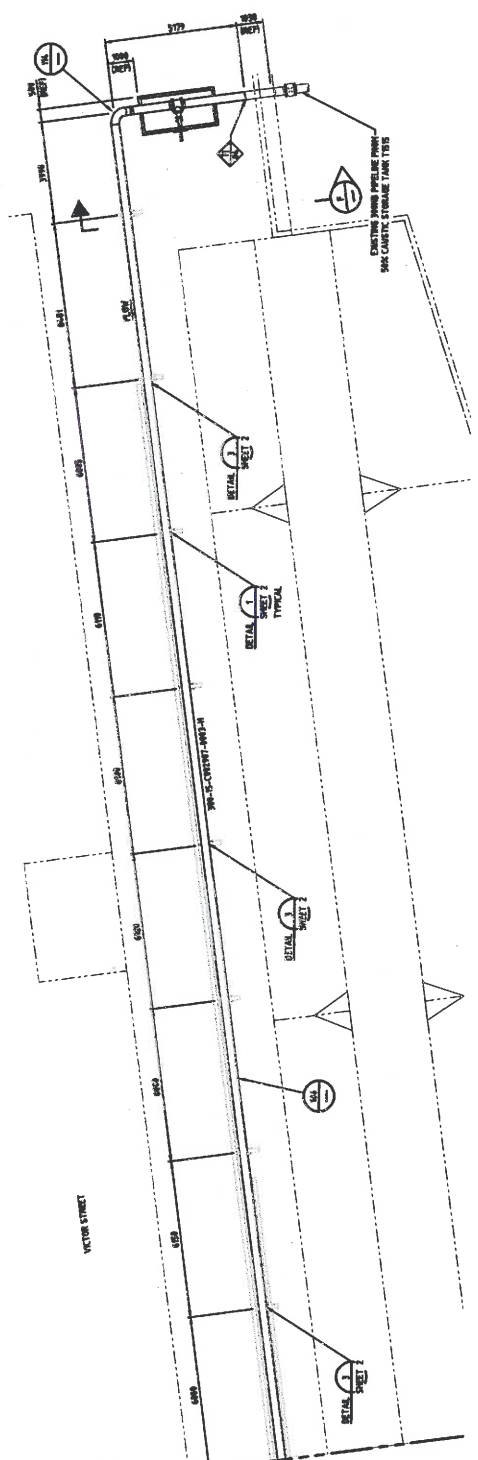
REVISED SHEET 1
DATE: 15/07/2010
BY: A. WILKINS
CHECKED BY: M. ORAM
APPROVED BY: D. WILKINS

REVISED SHEET 2
DATE: 15/07/2010
BY: A. WILKINS
CHECKED BY: M. ORAM
APPROVED BY: D. WILKINS

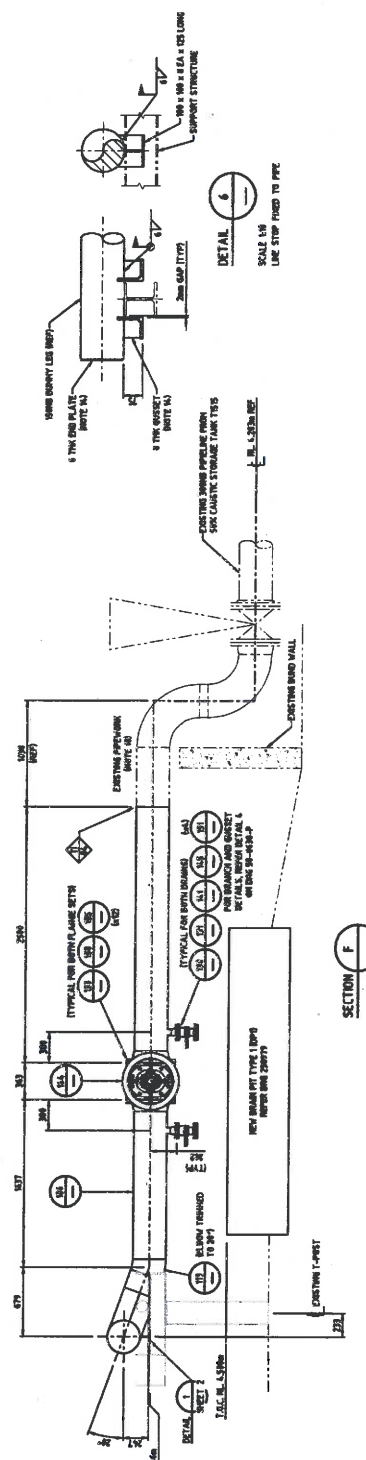
REVISED SHEET 3
DATE: 15/07/2010
BY: A. WILKINS
CHECKED BY: M. ORAM
APPROVED BY: D. WILKINS

APPROVAL	DATE	BY	FOR
J. WILKINS	15/07/2010	A. WILKINS	FOR CONSTRUCTION
<p>QUEENSLAND ALUMINA LIMITED CAUSTIC STORAGE INTEGRITY OF HIGH RISK PIPELINES CAUSTIC STORAGE LINE SOUTH TREE ISLAND - PLAN VIEW, SECTIONS & DETAIL</p>			
REVISED SHEET 1	DATE	BY	FOR
REVISED SHEET 2	DATE	BY	FOR
REVISED SHEET 3	DATE	BY	FOR
REVISED SHEET 4	DATE	BY	FOR
REVISED SHEET 5	DATE	BY	FOR
REVISED SHEET 6	DATE	BY	FOR
REVISED SHEET 7	DATE	BY	FOR
REVISED SHEET 8	DATE	BY	FOR
REVISED SHEET 9	DATE	BY	FOR
REVISED SHEET 10	DATE	BY	FOR
REVISED SHEET 11	DATE	BY	FOR
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REVISED SHEET 98	DATE	BY	FOR
REVISED SHEET 99	DATE	BY	FOR
REVISED SHEET 100	DATE	BY	FOR

Gen 04L 5 P 258883



PLAN VIEW



SECTION F SCALE 1/8"

APPROVED
31-3-2000 ec

APPROVED FOR CONSTRUCTION

ITEM NO	DESCRIPTION	REMARKS	ITEM CODE
1	LINE STOP FIXED TO PIPE		92010001
2	2\"/>		

NOTES CONTAINED ON FRONT DRAWING SHEET 2.
 IN EXISTING WORK, THE LOCATION OF ANY OBSTACLES OR UTILITIES SHALL BE DETERMINED PRIOR TO CONSTRUCTION OF ANY CONSTRUCTION OR EXCAVATION ACTIVITIES. THE EXACT LOCATION OF UNDERGROUND SERVICES MUST BE LOCATED AND THE CONTRACTOR MUST OBTAIN AN EXCAVATION OR PENETRATION PERMIT.

Worley
 energy | chemicals | resources
 WPP Project No: 201001-0076
 SHEET: 11/22/00
 DRAWN BY: ALBERROSE
 CHECKED BY: GLOASSEE
 DATE: 11/22/00

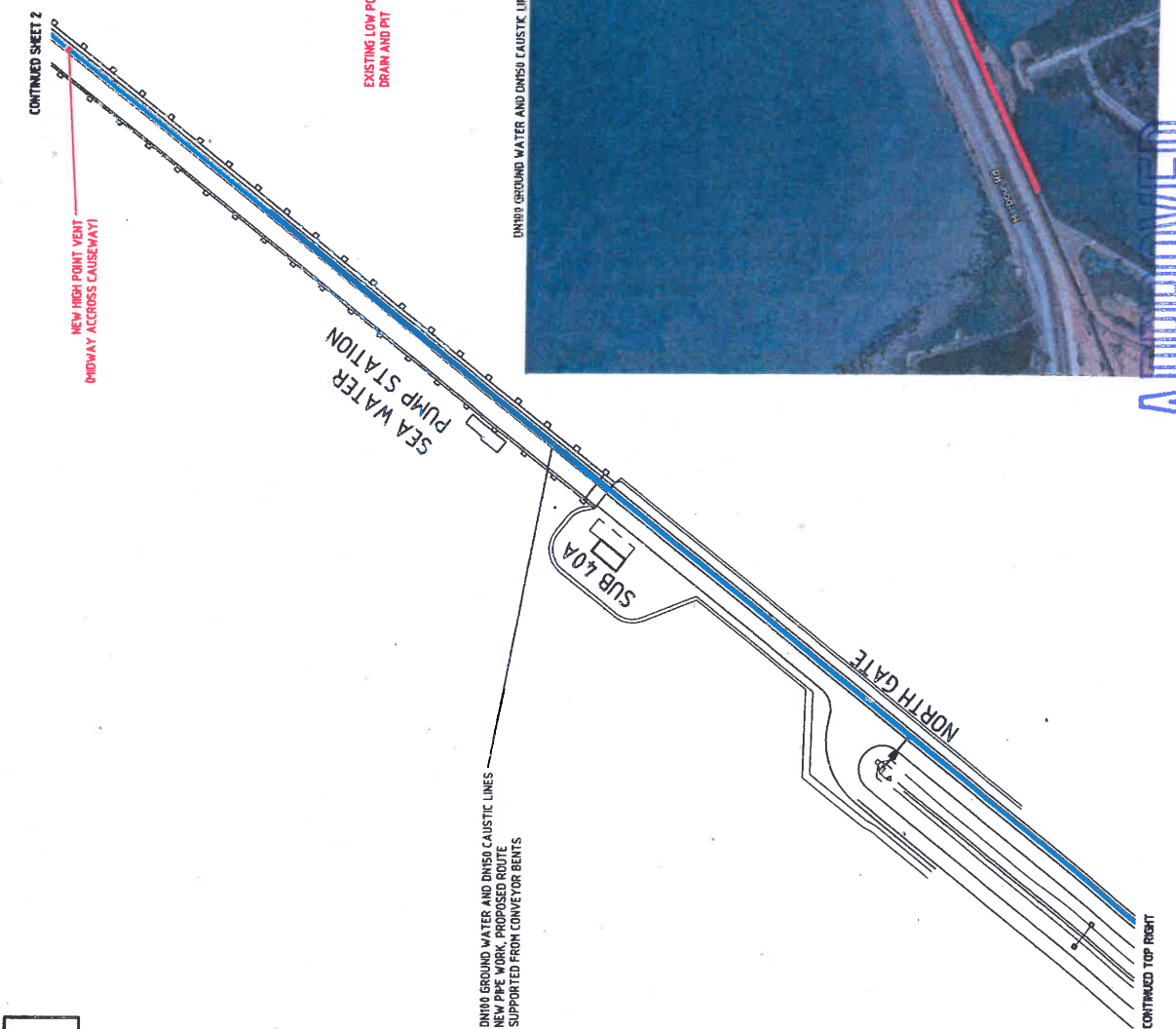
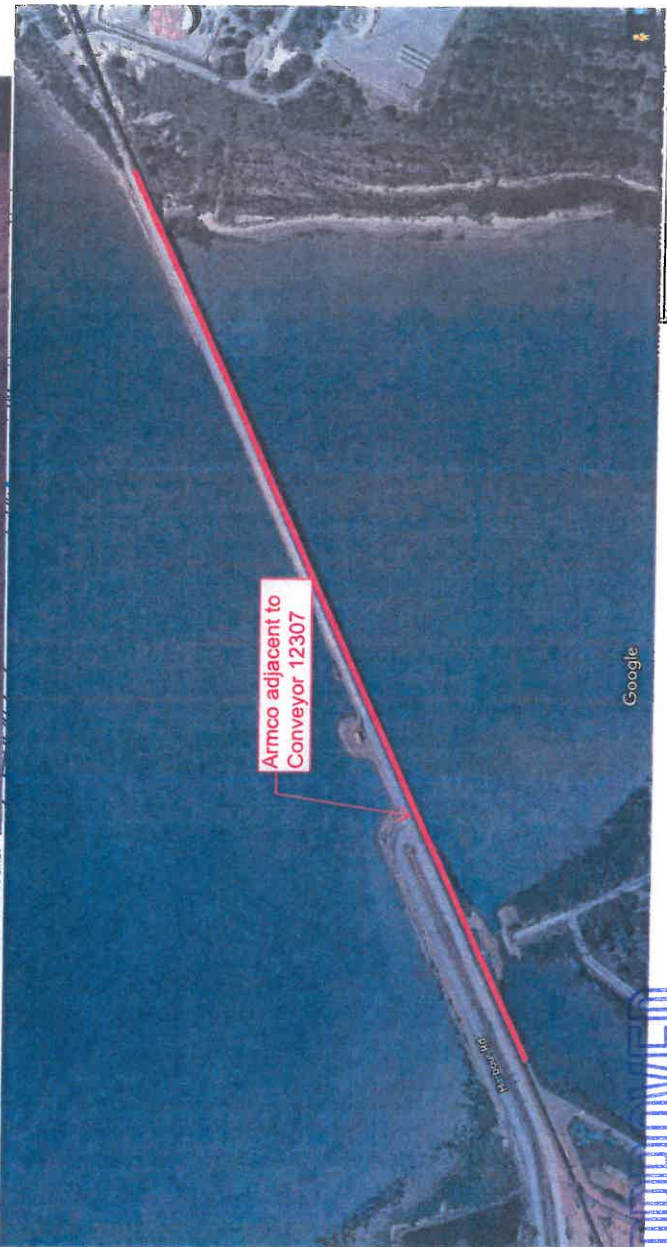
NO	DATE	BY	REVISION

QUEENSLAND ALUMINA LIMITED

CAUSTIC STORAGE
INTEGRITY OF HIGH RISK PIPELINES
CAUSTIC SECTION LINE
SOUTH TREE ISLAND - PLAN VIEW, SECTIONS & DETAIL

DATE: 26/02/2000
 DRAWN BY: A. WILSON
 CHECKED BY: M. COOMAS
 APPROVED BY: R. WILSON

Gen 04/ 5 P 25883



APPROVED
31-3-2010

APPROVAL		DATE	DATE	BY	FOR
<p>QUEENSLAND ALUMINA LIMITED</p> <p>CAUSTIC STORAGE</p> <p>INTEGRITY OF HIGH RISK PIPELINES</p> <p>CAUSTIC AND GROUND WATER LINES</p> <p>CAUSEWAY AND HAMLAND - PLAR</p>					
PROJECT NUMBER		PROJECT TITLE		DRAWING NUMBER	
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ACCOUNT ASSOCIATION		DRAWN BY			

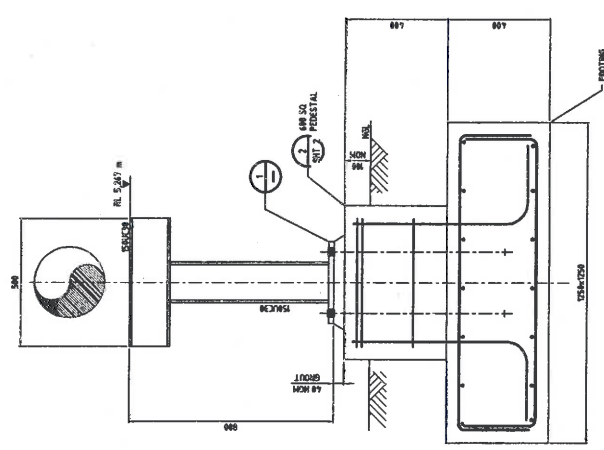
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DRAWING TITLE		DATE		SCALE	
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DRAWING TITLE		DATE		SCALE	

PRINT / COPY DRAWING IN COLOUR FOR CONSTRUCTION AND FABRICATION

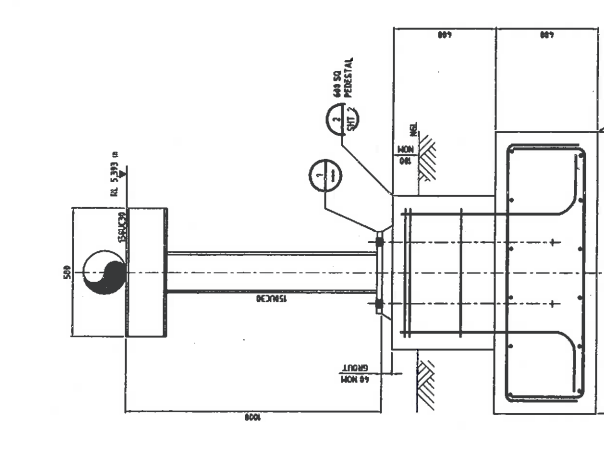
RPEQ CERTIFIED DRAWINGS

Gladstone Ports Corporation Limited

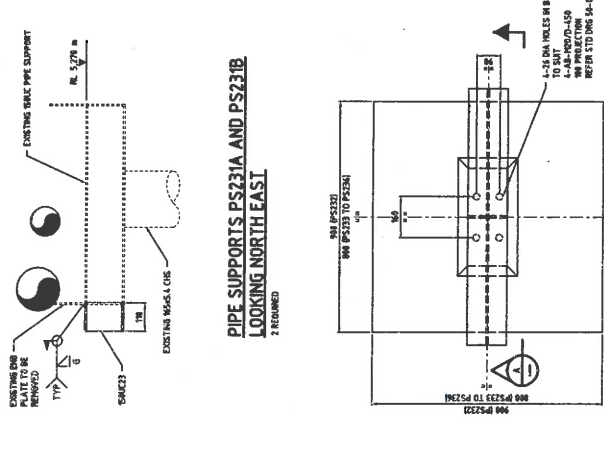
T: +61 7 4976 1333 • Fax: +61 7 4972 3045 • 40 Goondoon St/PO Box 259, Gladstone QLD, 4680, AUSTRALIA • www.gpcl.com.au
ACN 131 965 896 ABN 96 263 788 242



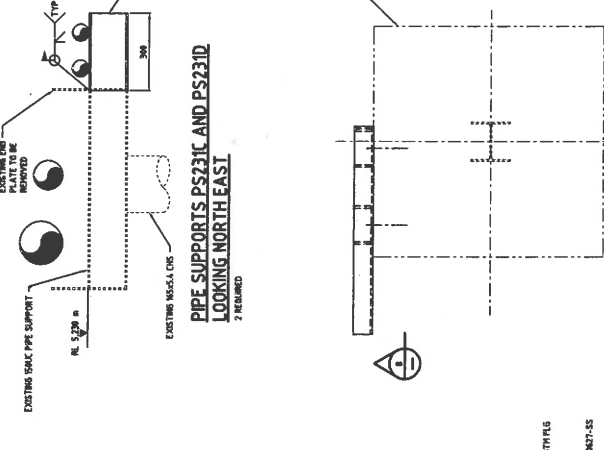
PIPE SUPPORT PS471
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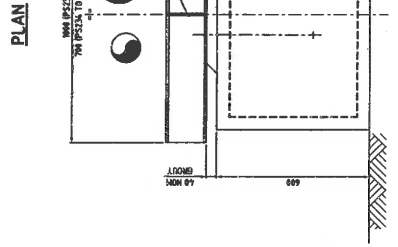
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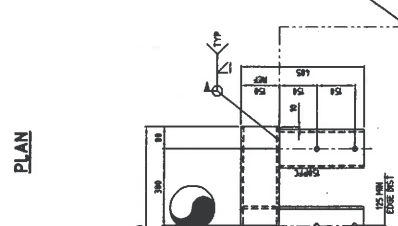
PIPE SUPPORTS PS231A AND PS231B
LOOKING NORTH EAST
2 REQUIRED



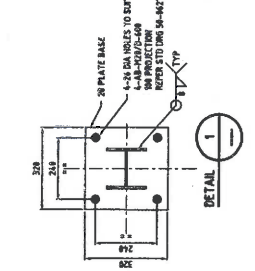
PIPE SUPPORTS PS231C AND PS231D
LOOKING NORTH EAST
2 REQUIRED



PLAN



PLAN



DETAIL 1

GENERAL NOTES
1. ALL DIMENSIONS AND ELEVATIONS SHALL BE CHECKED BY SITE RESURVE PRIOR TO FABRICATION.
STRUCTURAL WELD NOTES
1. ALL WELDS SHALL BE TO CONFORM WITH AS 4573 CATEGORY 'B' OR EQUIVALENT.
2. ALL FLANGE WELDS TO BE COMPLETE PENETRATION BUTT JOINTS.
3. CONTINUOUS METAL TO BE WELDED USING B-EXX109/A99 ELECTRODES IN ACCORDANCE WITH AS 4573 AND AS 1554.1.
4. ALL STRUCTURAL WELDS SHALL BE TO AS 4573-1 (PRELAPTED OR END LAP JOINTS). COMPLETE PENETRATION BUTT JOINTS.
5. STRUCTURAL WELD QUALITY SHALL BE VISUALLY INSPECTED BY A QUALIFIED WELDING INSPECTOR.
6. ALL STRUCTURAL WELDS SHALL BE FREE FROM DEFECTS SUCH AS CRACKS, EXCESSIVE UNDERCUTS & BRASS POROSITY.
STRUCTURAL NOTES
1. FOR CONCRETE NOTES REFER STANDARD DRAWING SA-4065-SC.
2. WELDED STEEL PLATE TO AS 4573-1 (PRELAPTED OR END LAP JOINTS).
3. ROLLED STEEL SECTIONS TO AS/NZS 3678.1-3-98.
PAINTING NOTES
1. PAINTING FOR STRUCTURAL STEEL SHALL CONFORM WITH QAL 015 STD QAS8-022-02 SYSTEM 'F' COLOUR COFFEE (R50).
CONCRETE NOTES
1. FOR CONCRETE NOTES REFER STANDARD DRAWING SA-4065-SC.
2. WELDED STEEL PLATE TO AS 4573-1 (PRELAPTED OR END LAP JOINTS).
BAR BENDING NOTES
1. ALL BARS TO BE BENT UNDER 750° FORTING TYPICAL.
BAR TIES NOTES
1. ALL BARS, NUTS AND WASHERS SHALL BE NOT DIPPED.
2. GALVANIZED IN ACCORDANCE WITH AS/NZS 1554.1.

Worley
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Worley Project No. 201001-00075
Worley Project No. 201001-00075
Worley Project No. 201001-00075
Worley Project No. 201001-00075

APPROVED FOR CONSTRUCTION

APPROVED
31.3.2010
PIPE SUPPORTS PS231 TO PS236
LOOKING SOUTH WEST
5 REQUIRED

APPROVED
31.3.2010
PIPE SUPPORTS PS238 A & B
TO PS247 A & B
LOOKING SOUTH WEST
24 REQUIRED

NO	DATE	DESCRIPTION	BY	CHECKED	APPROVED
1	01/12/2009	ISSUED FOR CONSTRUCTION	J. DAVEN	J. DAVEN	J. DAVEN
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3	01/12/2009				
4	01/12/2009				
5	01/12/2009				
6	01/12/2009				

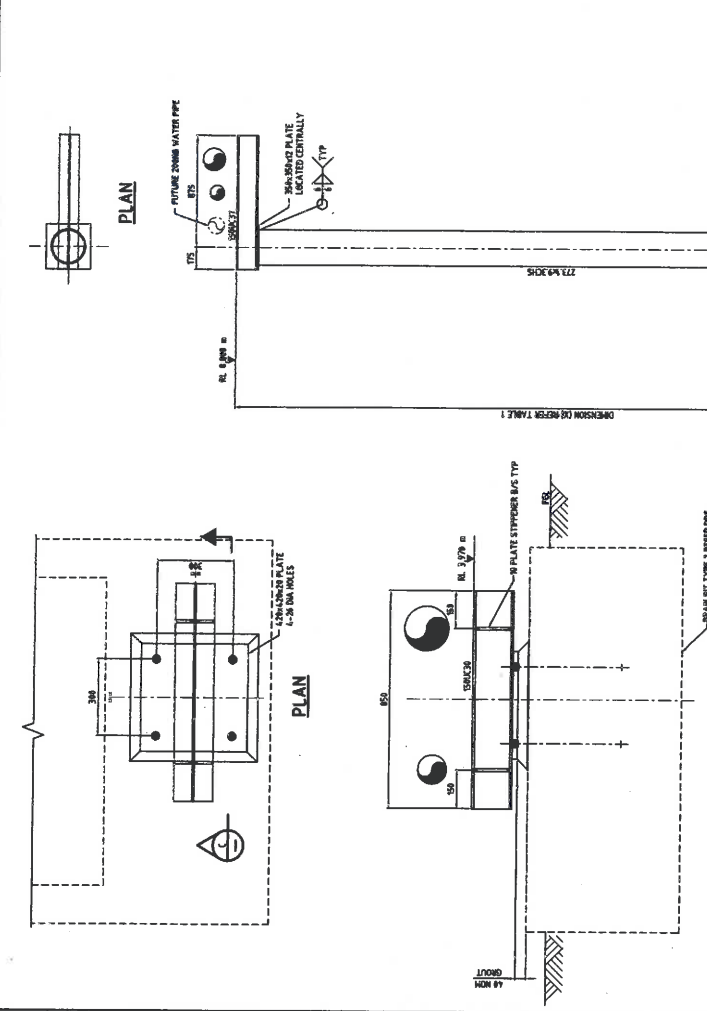
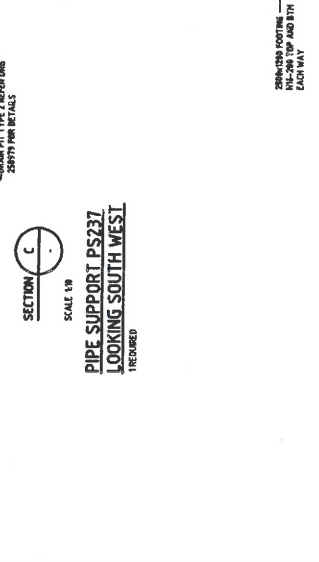
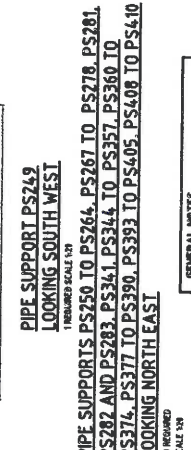
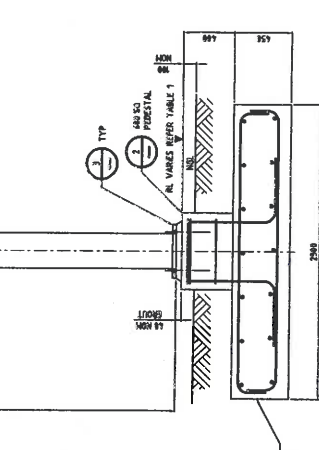
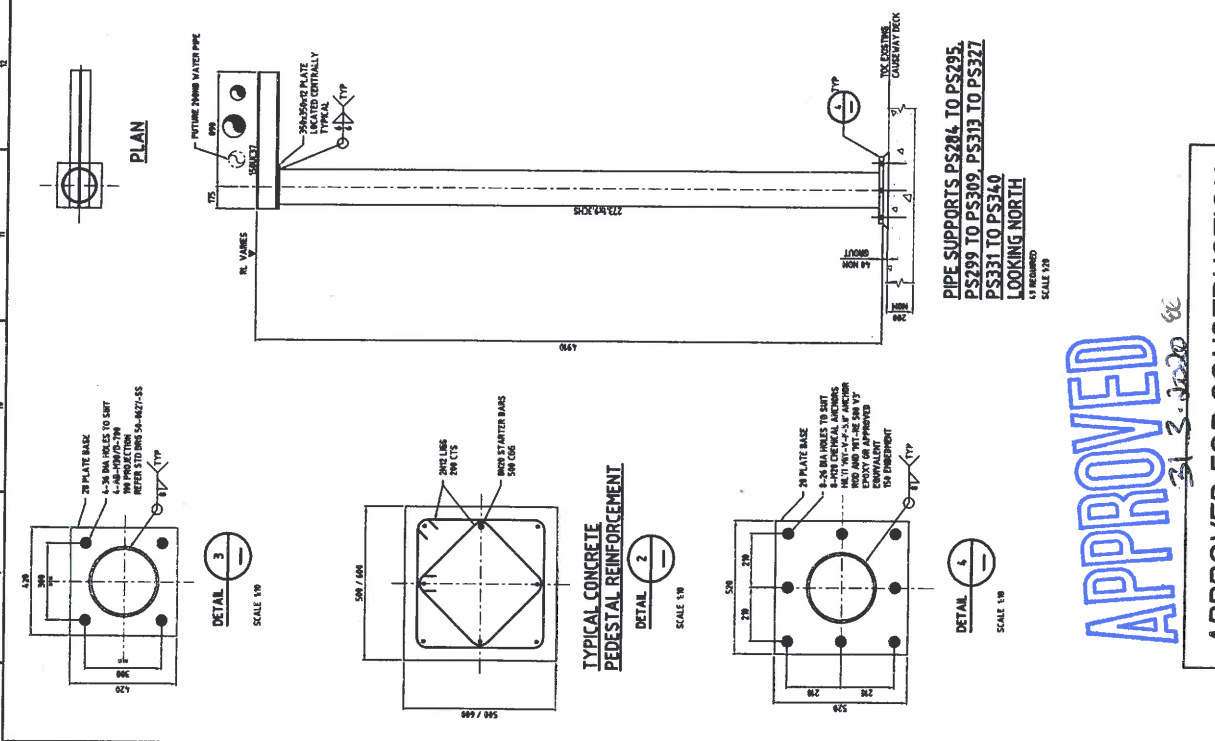
QUEENSLAND ALUMINA LIMITED
LEA 9970 HA
PIER AND PIER APPROACH
INTEGRITY OF HIGH RISK PIPELINES
CAUSTIC AND GROUND WATER LINES
STEELWORK DETAILS

REVISION	DATE	BY	CHKD	APPD	DESCRIPTION
1	01/12/2009	J. DAVEN	J. DAVEN	J. DAVEN	ISSUED FOR CONSTRUCTION
2	01/12/2009				
3	01/12/2009				
4	01/12/2009				
5	01/12/2009				
6	01/12/2009				

Gen 041 11 SC 258980110

TABLE 1

PIPE SUPPORT No.	TOC	DIMENSION D1
PS287	5965	3,095
PS288	6175	4,095
PS289	4375	4,095
PS290	4485	4,105
PS291	4485	3,945
PS292	4375	3,095
PS293	4375	4,095
PS294	4485	4,095
PS295	4485	4,095
PS296	4485	3,945
PS297	4485	4,095
PS298	4485	4,095
PS299	4485	3,945
PS300	4485	4,095
PS301	4485	3,945
PS302	4485	4,095
PS303	4485	3,945
PS304	4485	3,945
PS305	4485	3,945
PS306	4485	3,945
PS307	4485	4,095
PS308	4485	4,095
PS309	4485	4,095
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PS311	4485	4,095
PS312	4485	4,095
PS313	4485	4,095
PS314	4485	4,095
PS315	4485	3,945
PS316	4485	4,095
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PS343	4485	4,095
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PS345	4485	4,095
PS346	4485	4,095
PS347	4485	4,095
PS348	4485	4,095
PS349	4485	4,095



APPROVED

31 3 2020

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PIPE SUPPORTS PS288, TO PS295,
PS299 TO PS309, PS313 TO PS327,
PS331 TO PS340
LOOKING NORTH
SCALE 1/8"

Worley | Chemicals | Resources

Worley (CA) Pty Ltd
111 St Albans Road
St Albans, VIC 3020
Tel: +61 8 9477 5000

Project No.	2010100075	Client	ALCOA
Project Name	2010100075	Contract	2010100075
Date	20/03/2020	Issue	1
Author	J. GUNDEL	Check	J. GUNDEL
Approved	J. GUNDEL	Date	20/03/2020

Worley (CA) Pty Ltd
111 St Albans Road
St Albans, VIC 3020
Tel: +61 8 9477 5000

QUEENSLAND ALUMINA LIMITED
ALUMINA PROCESSING UNIT

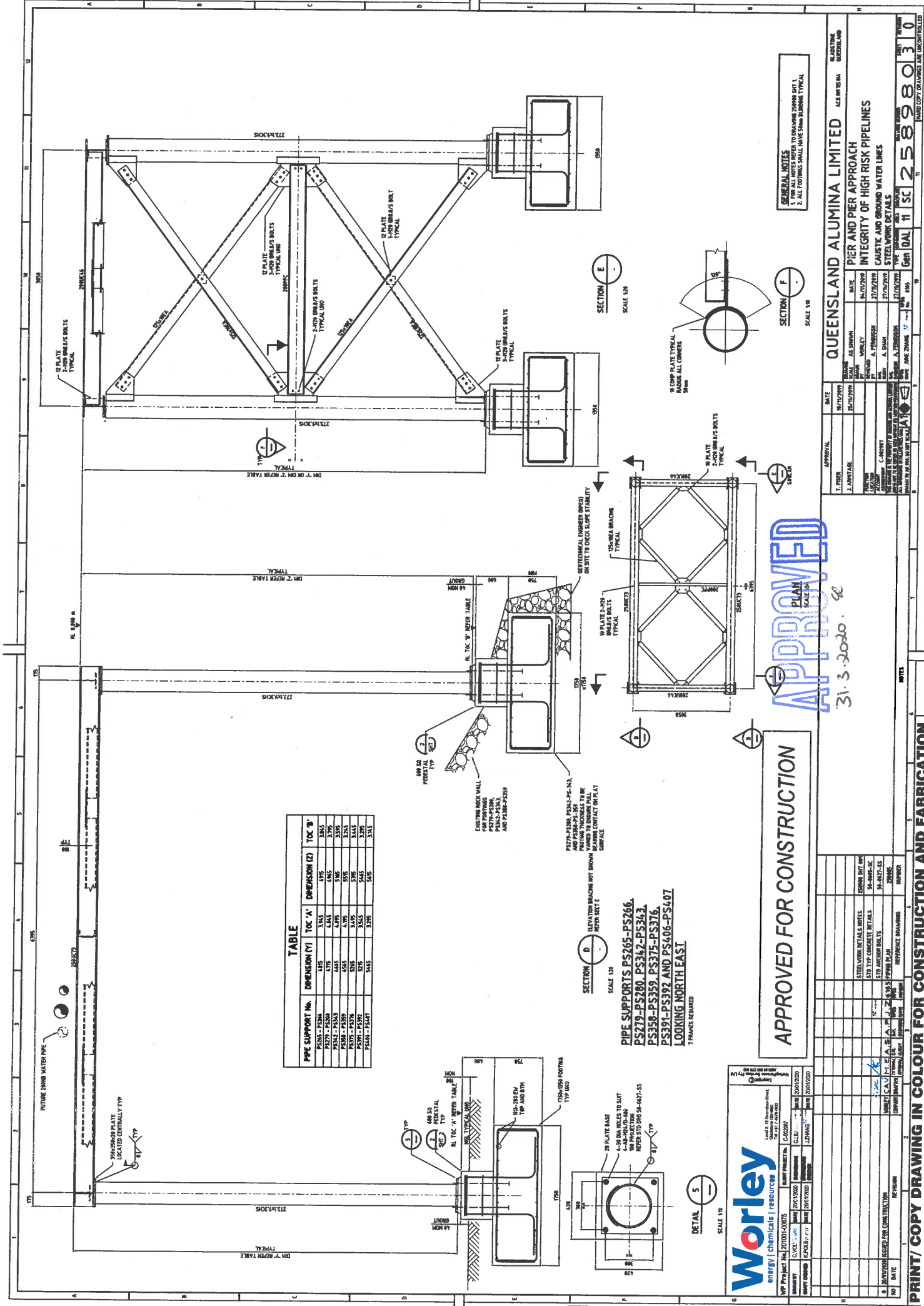
PIER AND PIER APPROACH
INTEGRITY OF HIGH RISK PIPELINES
CAUSTIC AND GROUND WATER LINES
STEELWORK DETAILS

DATE: 20/03/2020
BY: J. GUNDEL
CHECKED: J. GUNDEL
APPROVED: J. GUNDEL
SCALE: 1/8"

GENERAL NOTES

1. PER ALL WELDS REFER TO DRAWING 25000 SHIT 1.

NO	DATE	REVISION	BY	CHECKED	APPROVED
0	20/03/2020	ISSUED FOR CONSTRUCTION	J. GUNDEL	J. GUNDEL	J. GUNDEL



TABLE

PIPE SUPPORT No.	DIMENSION (Y)	TOC 'A'	DIMENSION (Z)	TOC 'B'
PS265 - PS266	4875	3245	4975	3245
PS279 - PS280	4775	4245	4875	3245
PS282 - PS283	4415	4895	5385	3245
PS285 - PS286	5215	3795	5315	3245
PS291 - PS292	5275	3245	5445	3245
PS406 - PS407	5445	3245	5475	3245

PIPE SUPPORTS PS265-PS266,
 PS279-PS280, PS342-PS343,
 PS358-PS359, PS375-PS376,
 PS391-PS392 AND PS406-PS407
 LOOKING NORTH EAST
 * FRAMES REQUIRED

APPROVED FOR CONSTRUCTION

APPROVED

GENERAL NOTES
 1. FOR ALL WELDS REFER TO DRAWING CODED SHEET 1.
 2. ALL FOOTINGS SHALL HAVE 50mm MINIMUM TYPICAL.

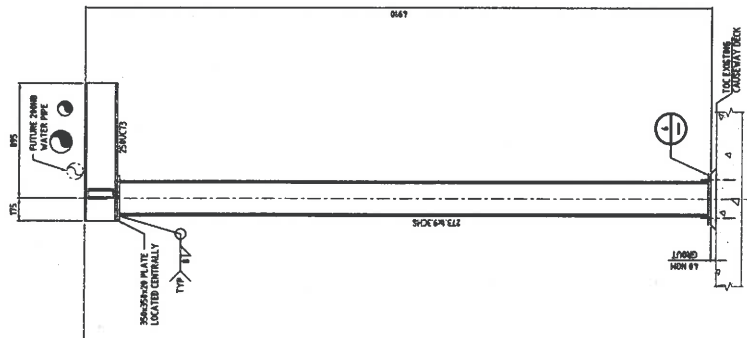
QUEENSLAND ALUMINA LIMITED

PIER AND PIER APPROACH
INTEGRITY OF HIGH RISK PIPELINES
CAUSTIC AND SURROUNDING WATER LINES

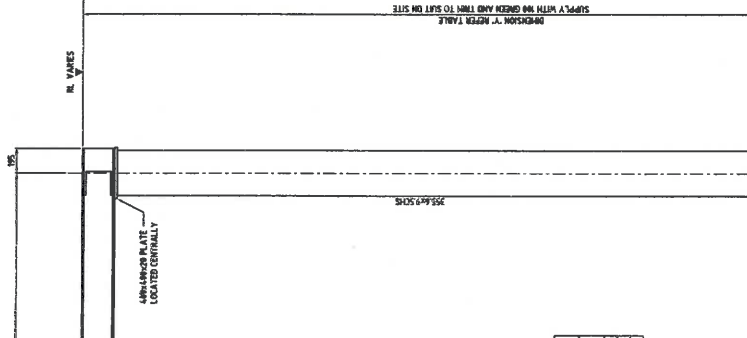
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 DRAWN BY: A. FERRELLI
 CHECKED BY: A. FERRELLI
 APPROVED BY: A. FERRELLI
 PROJECT NO: 200100075
 SHEET NO: 11 OF 11
 SCALE: 1:50

Gen QAL 11 SC 2588030

PRINT / COPY DRAWING IN COLOUR FOR CONSTRUCTION AND FABRICATION

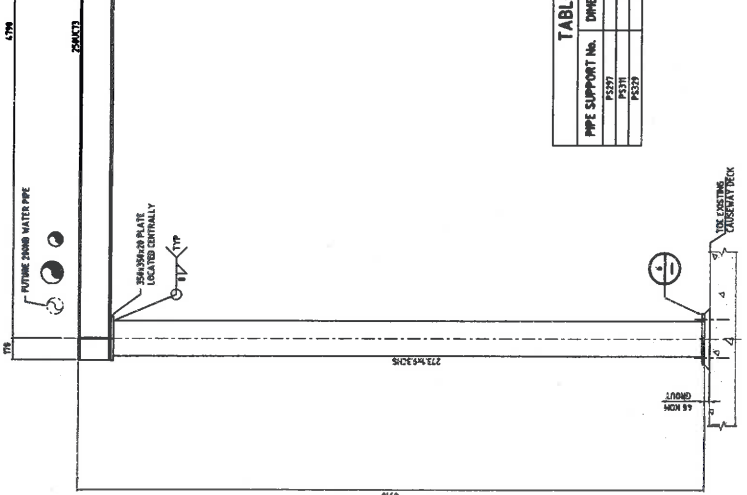


PIPE SUPPORTS PS296, PS298, PS310, PS317, PS328 AND PS330
LOOKING NORTH EAST
6 REQUIRED

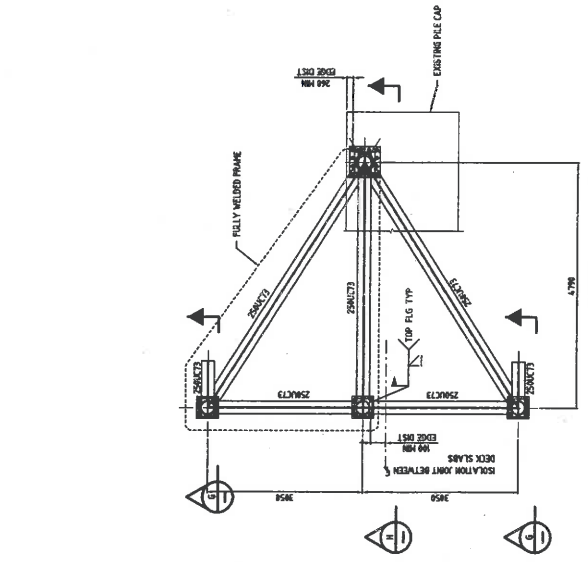


PIPE SUPPORTS PS297, PS311 AND PS329
LOOKING NORTH EAST
3 FRAMES REQUIRED

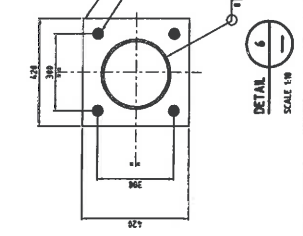
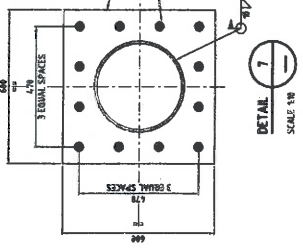
PIPE SUPPORT No.	DIMENSION (M) TO C 'A'
PS297	6.95
PS311	6.95
PS329	6.95



PIPE SUPPORTS PS299, PS301 AND PS327
LOOKING NORTH EAST
3 FRAMES REQUIRED



NOTE: SUPPORT MAY BE OFFSET TO ACHIEVE FINISH BOLT COSE DISTANCES INDICATED



APPROVED
31.3.2020

APPROVED FOR CONSTRUCTION

Worley
energy | chemical | resources

Level 5, 75 Queensland Street, Brisbane QLD 4000 Australia
Tel: +61 7 4399 2000 Fax: +61 7 4399 2001

Worley Project No: 201001-00075
Client: UGL
Issue: 2010/2020
Issue Date: 20/10/2020
Issue Description: 0. DRAWING ISSUED FOR CONSTRUCTION

Project No: 201001-00075
Client: UGL
Issue: 2010/2020
Issue Date: 20/10/2020
Issue Description: 0. DRAWING ISSUED FOR CONSTRUCTION

QUEENSLAND ALUMINA LIMITED
A/CN 80 75 84

PIER AND PIER APPROACH
INTEGRITY OF HIGH RISK PIPELINES
CAUSTIC AND GROUND WATER LINES
STEELWORK DETAILS

DATE: 20/10/2020
DRAWN: A. PERROW
CHECKED: A. PERROW
APPROVED: J. AMMARE
DATE: 20/10/2020

GENERAL NOTES
1. FOR ALL NOTES REFER TO DRAWING 250000 DWT 1

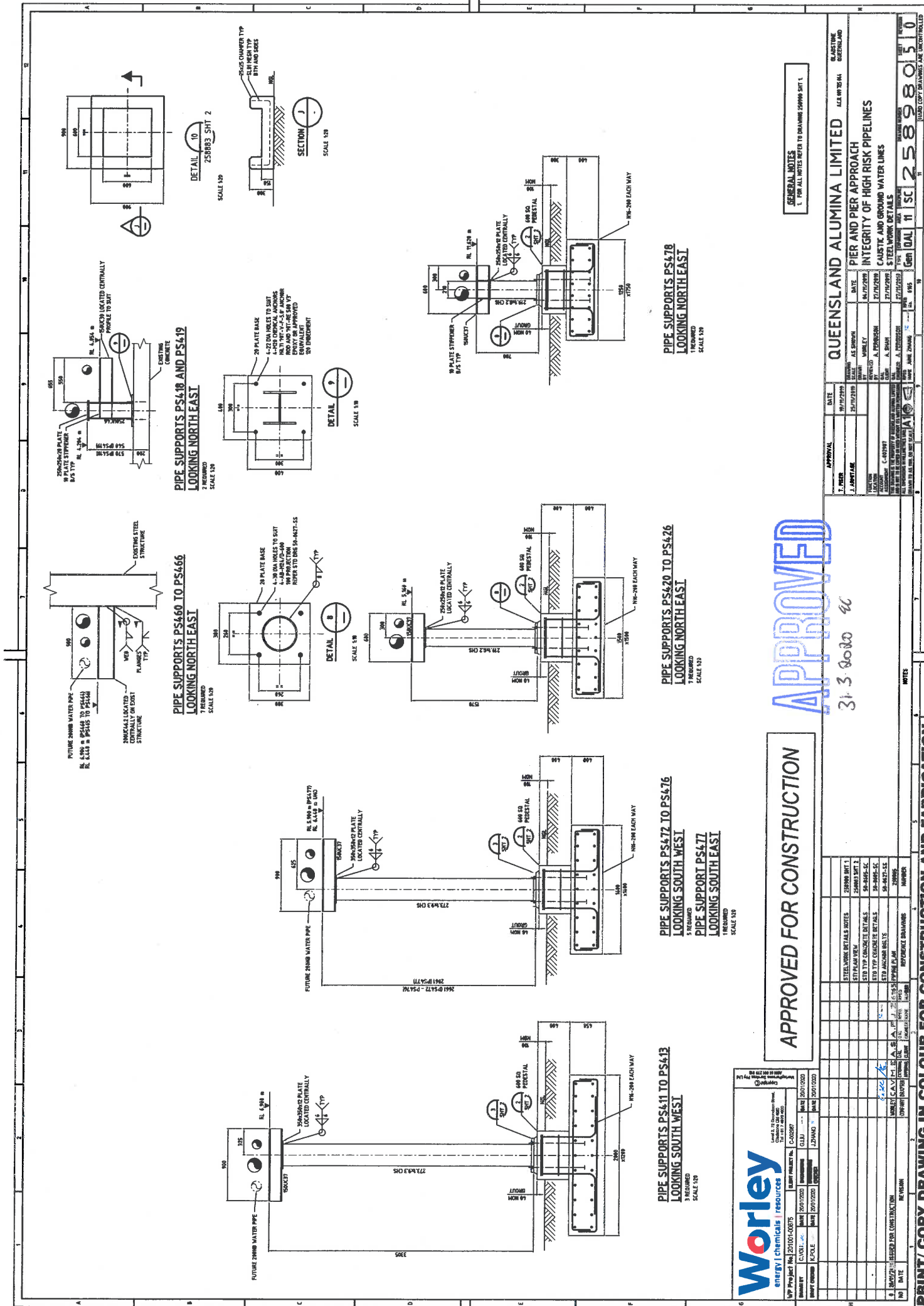
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NO. DATE REVISION

Gen IDAL 11 SC 25898040

ISSUED FOR CONSTRUCTION

PRINT/ COPY DRAWING IN COLOUR FOR CONSTRUCTION AND FABRICATION



GENERAL NOTES
 1. FOR ALL NOTES REFER TO DRAWING 258980 SHIT 1.

**PIPE SUPPORTS PS478
 LOOKING NORTH EAST**
 3 REQUIRED
 SCALE 1:20

**PIPE SUPPORTS PS426 TO PS426
 LOOKING NORTH EAST**
 1 REQUIRED
 SCALE 1:20

**PIPE SUPPORTS PS476 TO PS476
 LOOKING SOUTH WEST**
 5 REQUIRED
 SCALE 1:20

**PIPE SUPPORTS PS411 TO PS411
 LOOKING SOUTH WEST**
 3 REQUIRED
 SCALE 1:20

**PIPE SUPPORTS PS418 AND PS419
 LOOKING NORTH EAST**
 2 REQUIRED
 SCALE 1:20

**PIPE SUPPORTS PS466
 LOOKING NORTH EAST**
 1 REQUIRED
 SCALE 1:20

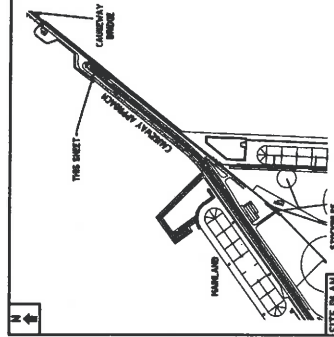
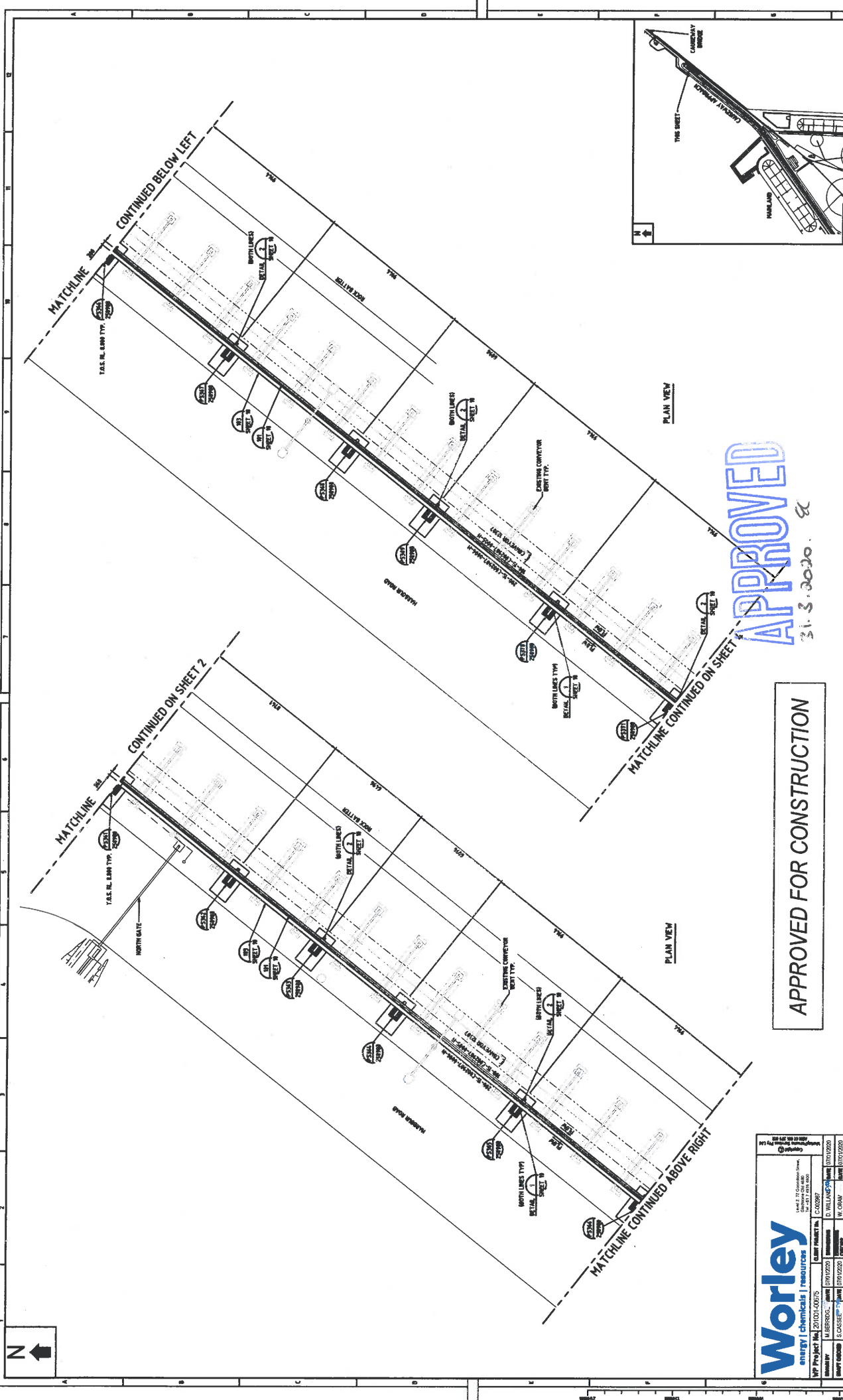
Worley		energi chemical resources	
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Sheet No: 201001-00875-001	Sheet Title: 201001-00875-001	Scale: 1:20	Date: 2007/02/02
Author: J. JARVIE	Checked: J. JARVIE	Drawn: J. JARVIE	Scale: 1:20
Approved: J. JARVIE	Scale: 1:20	Date: 2007/02/02	

APPROVED FOR CONSTRUCTION

APPROVED

31 3 8030 40

QUEENSLAND ALUMINA LIMITED			
PROJECT	DATE	SCALE	REV
PIER AND PIER APPROACH	18/01/2007	1:20	1
INTEGRITY OF HIGH RISK PIPELINES	27/02/2007	1:20	2
CAUSTIC AND GROUND WATER LINES	27/02/2007	1:20	3
STEELWORK DETAILS	27/02/2007	1:20	4
DATE	SCALE	REV	BY
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27/02/2007	1:20	100	J. JARVIE



APPROVED

31.3.2020. JC

APPROVED FOR CONSTRUCTION

QUEENSLAND ALUMINA LIMITED CAUSTIC STORAGE INTEGRITY OF HIGH RISK PIPELINES CAUSTIC & GROUND WATER LINES HAZARD AND CAUSEWAY APPROACH - PLAN VIEWS		SHEET NO: 258884 OF: 5 DATE: 15/04/2019
PROJECT NO: 201001-00575 CLIENT: ALUMINA PROJECT NAME: CAUSTIC STORAGE INTEGRITY OF HIGH RISK PIPELINES	DESIGNER: WORLEY DATE: 22/07/2019 CHECKED BY: A. PERROTT DATE: 22/07/2019 APPROVED BY: A. PERROTT DATE: 15/04/2019	DRAWN BY: W. ORAY DATE: 07/01/2020 SCALE: AS SHOWN
PROJECT LOCATION: ALUMINA HAZARDOUS WASTE TREATMENT PLANT PROJECT DESCRIPTION: CAUSTIC STORAGE INTEGRITY OF HIGH RISK PIPELINES PROJECT STATUS: CONSTRUCTION	PROJECT MANAGER: D. WILKINS PROJECT ENGINEER: D. WILKINS PROJECT SUPERVISOR: W. ORAY	PROJECT NO: 201001-00575 PROJECT NAME: CAUSTIC STORAGE INTEGRITY OF HIGH RISK PIPELINES PROJECT STATUS: CONSTRUCTION
PROJECT NO: 201001-00575 PROJECT NAME: CAUSTIC STORAGE INTEGRITY OF HIGH RISK PIPELINES PROJECT STATUS: CONSTRUCTION	PROJECT NO: 201001-00575 PROJECT NAME: CAUSTIC STORAGE INTEGRITY OF HIGH RISK PIPELINES PROJECT STATUS: CONSTRUCTION	PROJECT NO: 201001-00575 PROJECT NAME: CAUSTIC STORAGE INTEGRITY OF HIGH RISK PIPELINES PROJECT STATUS: CONSTRUCTION

Worley

energy | chemicals | resources

Level 2, 75 Concession Street,
 1st Floor, 100 Stirling Street,
 Perth, WA 6000

PROJECT NO: 201001-00575
 PROJECT NAME: CAUSTIC STORAGE INTEGRITY OF HIGH RISK PIPELINES
 PROJECT STATUS: CONSTRUCTION
 PROJECT MANAGER: D. WILKINS
 PROJECT ENGINEER: D. WILKINS
 PROJECT SUPERVISOR: W. ORAY

REFER NOTES ON SHEETS 1 AND 2.

THIS SHEET
 NEXT SHEET

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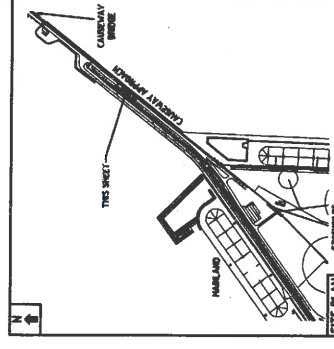
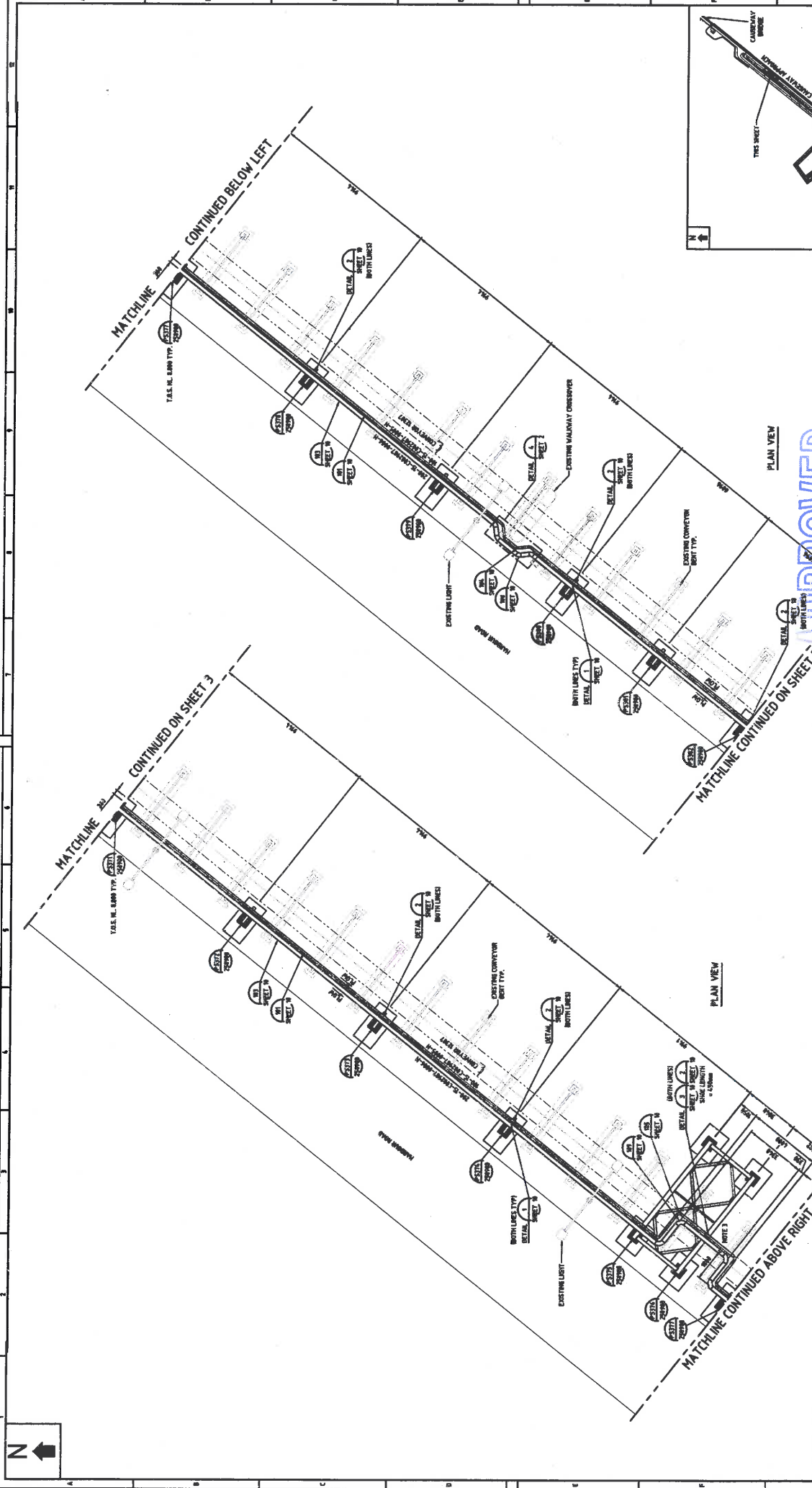
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APPROVED

31.3.2020 RC

APPROVED FOR CONSTRUCTION

Worley
energy | chemicals | resources

Level 6, 25 Gordon Street
Melbourne, VIC 3000

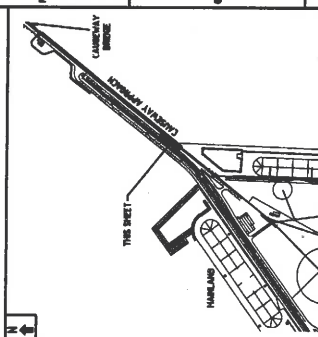
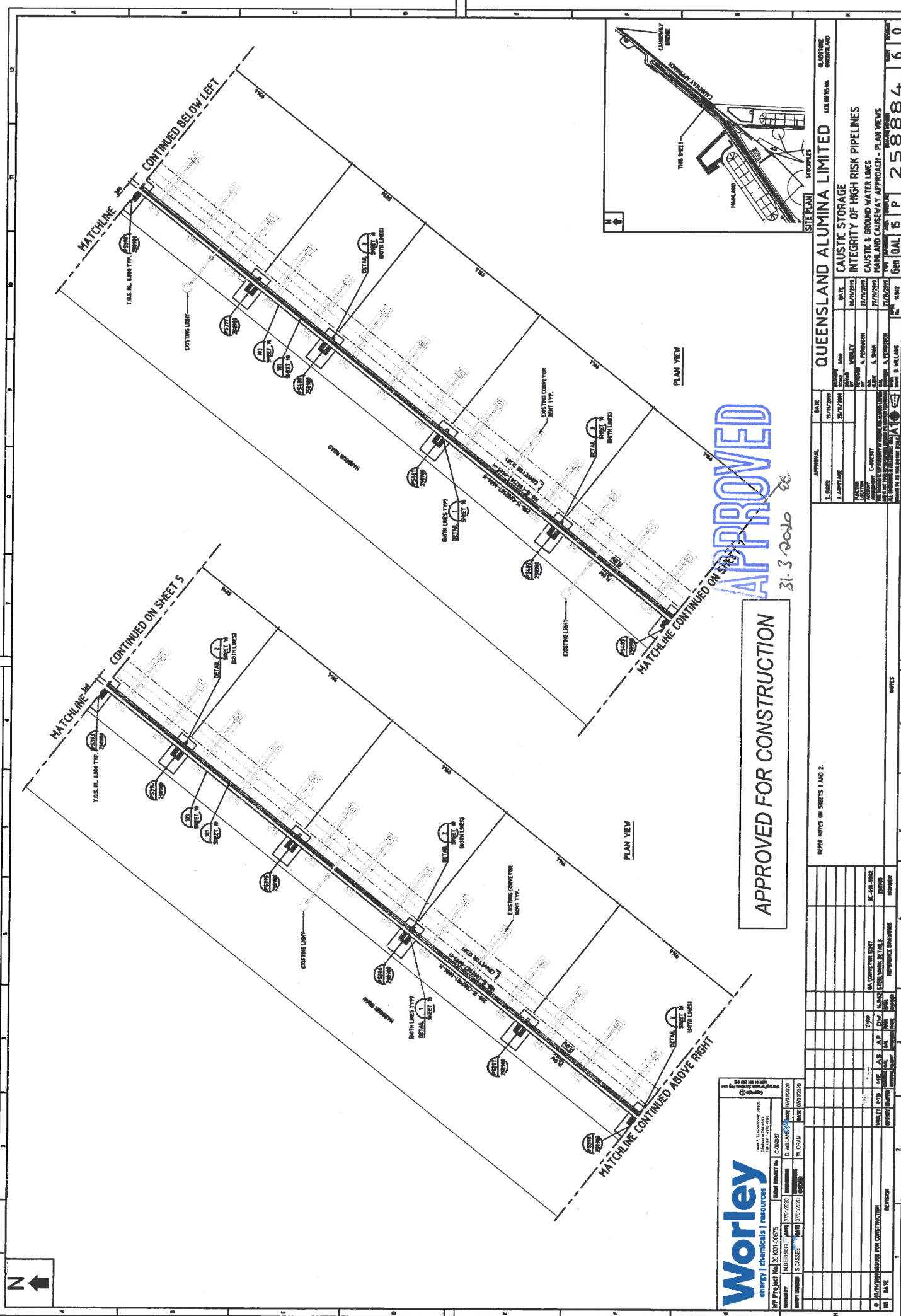
Worley Project No. 231001-00075
Client Project No. C-002987
Company: ABERDEEN (07970202) | MELBOURNE (07970202) | PERSEUS
Energy Division: E-CASSES (07970202) | PERSEUS
W. ODWY (07970202)

Project No. 231001-00075
Phase: L.A.S
Activity: P.W
Description: L.P.W ASAS STEELWORK DETAILS
Drawn: J.P.H
Checked: J.P.H
Reviewed: J.P.H

Date: 30/11/2019

QUEENSLAND ALUMINA LIMITED					CAUSTIC STORAGE		INTEGRITY OF HIGH RISK PIPELINES		HARLAND CAUSEWAY APPROACH - PLAN VIEWS								
APPROVAL	DATE	BY	DATE	BY	DATE	BY	DATE	BY	DATE	BY							
T. PETER	20/12/2019	J. HARTMAN	26/12/2019	G. MCNEIL	27/12/2019	A. BURTON	27/12/2019	J. WILKINS	27/12/2019	B. WILLIAMS	27/12/2019						
PROJECT NO.		231001-00075	DRAWING NO.		231001-00075-0001		DRAWING TITLE		HARLAND CAUSEWAY APPROACH - PLAN VIEWS		GEN	QUAL	P	5	258884	4	0
REVISIONS										DATE		BY		DESCRIPTION			
REVISIONS										DATE		BY		DESCRIPTION			
REVISIONS										DATE		BY		DESCRIPTION			
REVISIONS										DATE		BY		DESCRIPTION			
REVISIONS										DATE		BY		DESCRIPTION			
REVISIONS										DATE		BY		DESCRIPTION			
REVISIONS										DATE		BY		DESCRIPTION			

REFER TO SHEETS: 231001-00075-0001, 231001-00075-0002, 231001-00075-0003, 231001-00075-0004, 231001-00075-0005, 231001-00075-0006, 231001-00075-0007, 231001-00075-0008, 231001-00075-0009, 231001-00075-0010, 231001-00075-0011, 231001-00075-0012, 231001-00075-0013, 231001-00075-0014, 231001-00075-0015, 231001-00075-0016, 231001-00075-0017, 231001-00075-0018, 231001-00075-0019, 231001-00075-0020, 231001-00075-0021, 231001-00075-0022, 231001-00075-0023, 231001-00075-0024, 231001-00075-0025, 231001-00075-0026, 231001-00075-0027, 231001-00075-0028, 231001-00075-0029, 231001-00075-0030, 231001-00075-0031, 231001-00075-0032, 231001-00075-0033, 231001-00075-0034, 231001-00075-0035, 231001-00075-0036, 231001-00075-0037, 231001-00075-0038, 231001-00075-0039, 231001-00075-0040, 231001-00075-0041, 231001-00075-0042, 231001-00075-0043, 231001-00075-0044, 231001-00075-0045, 231001-00075-0046, 231001-00075-0047, 231001-00075-0048, 231001-00075-0049, 231001-00075-0050, 231001-00075-0051, 231001-00075-0052, 231001-00075-0053, 231001-00075-0054, 231001-00075-0055, 231001-00075-0056, 231001-00075-0057, 231001-00075-0058, 231001-00075-0059, 231001-00075-0060, 231001-00075-0061, 231001-00075-0062, 231001-00075-0063, 231001-00075-0064, 231001-00075-0065, 231001-00075-0066, 231001-00075-0067, 231001-00075-0068, 231001-00075-0069, 231001-00075-0070, 231001-00075-0071, 231001-00075-0072, 231001-00075-0073, 231001-00075-0074, 231001-00075-0075, 231001-00075-0076, 231001-00075-0077, 231001-00075-0078, 231001-00075-0079, 231001-00075-0080, 231001-00075-0081, 231001-00075-0082, 231001-00075-0083, 231001-00075-0084, 231001-00075-0085, 231001-00075-0086, 231001-00075-0087, 231001-00075-0088, 231001-00075-0089, 231001-00075-0090, 231001-00075-0091, 231001-00075-0092, 231001-00075-0093, 231001-00075-0094, 231001-00075-0095, 231001-00075-0096, 231001-00075-0097, 231001-00075-0098, 231001-00075-0099, 231001-00075-0100



APPROVED FOR CONSTRUCTION

APPROVED
31-3-2020

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Level 5, 22 Gordon Street,
PO Box 100, Perth, Western Australia
Tel: +61 8 9413 9000
www.worley.com.au

Worley Project No.	231001-00075	Client Project No.	C-06297
Manager	M. BERRICK	Author	D. WILKINS
Design Engineer	S. CASSE	Checker	W. O'NEIL
Issue No.	07/10/2020	Issue Date	07/10/2020
Issue Description	FOR PROPOSED FOR CONSTRUCTION		
Rev	DATE	DESCRIPTION	BY

APPROVAL	DATE	BY	FOR
J. FISHER	27/07/2020	J. FISHER	DESIGN
L. HARTLINE	27/07/2020	L. HARTLINE	CHECK
M. BERRICK	27/07/2020	M. BERRICK	APPROVE
C. CASSE	27/07/2020	C. CASSE	APPROVE
D. WILKINS	27/07/2020	D. WILKINS	APPROVE
W. O'NEIL	27/07/2020	W. O'NEIL	APPROVE
B. WILKINS	27/07/2020	B. WILKINS	APPROVE

QUEENSLAND ALUMINA LIMITED	
PROJECT	CAUSTIC STORAGE INTEGRITY OF HIGH RISK PIPELINES
DATE	27/07/2020
LOCATION	CAUSTIC & GROUND WATERLINES
DRAWN BY	A. FISHER
CHECKED BY	A. FISHER
DATE	27/07/2020
SCALE	AS SHOWN
PROJECT NO.	19-042
DRWG NO.	5 P
REV	258884
ISSUE	FOR CONSTRUCTION

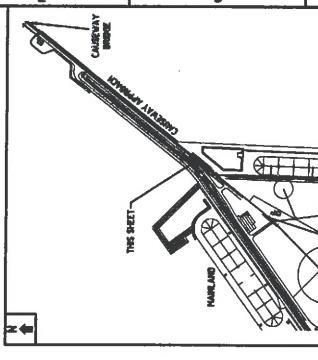
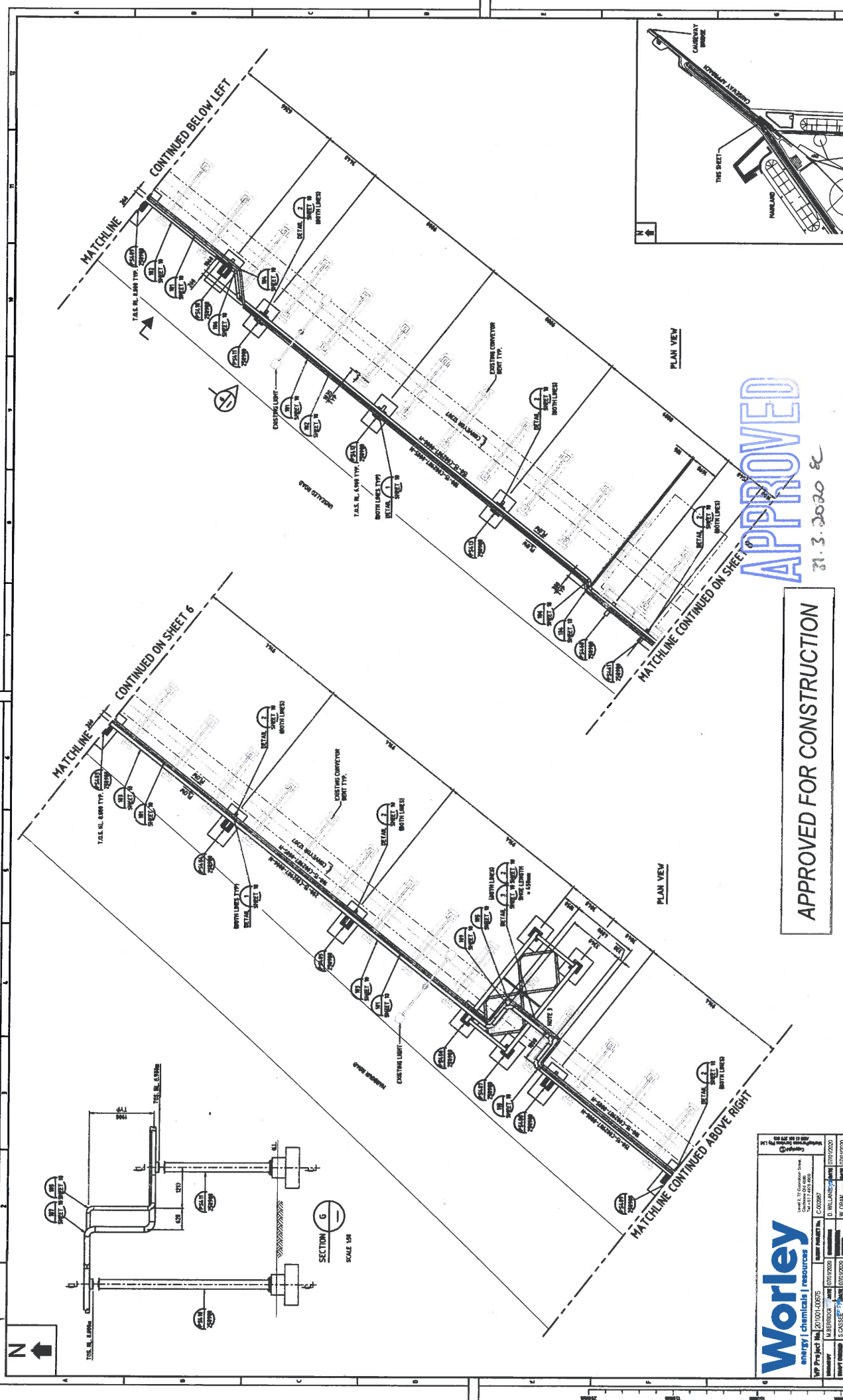
REFER NOTES ON SHEETS 1 AND 2.	
NO.	DESCRIPTION
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2	SEE SHEET 2 FOR GENERAL NOTES
3	SEE SHEET 3 FOR GENERAL NOTES
4	SEE SHEET 4 FOR GENERAL NOTES
5	SEE SHEET 5 FOR GENERAL NOTES
6	SEE SHEET 6 FOR GENERAL NOTES
7	SEE SHEET 7 FOR GENERAL NOTES
8	SEE SHEET 8 FOR GENERAL NOTES
9	SEE SHEET 9 FOR GENERAL NOTES
10	SEE SHEET 10 FOR GENERAL NOTES
11	SEE SHEET 11 FOR GENERAL NOTES
12	SEE SHEET 12 FOR GENERAL NOTES
13	SEE SHEET 13 FOR GENERAL NOTES
14	SEE SHEET 14 FOR GENERAL NOTES
15	SEE SHEET 15 FOR GENERAL NOTES
16	SEE SHEET 16 FOR GENERAL NOTES
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18	SEE SHEET 18 FOR GENERAL NOTES
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23	SEE SHEET 23 FOR GENERAL NOTES
24	SEE SHEET 24 FOR GENERAL NOTES
25	SEE SHEET 25 FOR GENERAL NOTES
26	SEE SHEET 26 FOR GENERAL NOTES
27	SEE SHEET 27 FOR GENERAL NOTES
28	SEE SHEET 28 FOR GENERAL NOTES
29	SEE SHEET 29 FOR GENERAL NOTES
30	SEE SHEET 30 FOR GENERAL NOTES

31-3-2020
258884

FOR CONSTRUCTION

31-3-2020

FOR CONSTRUCTION



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31.3.2020 &

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Level 2, 75 Concession Street
Melbourne VIC 3000, Australia
Tel: +61 3 9489 7000
Fax: +61 3 9489 7001
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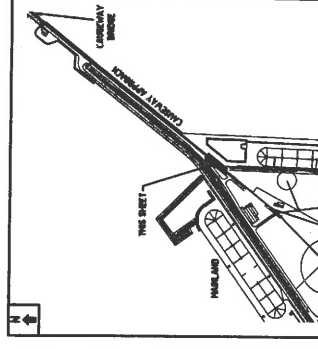
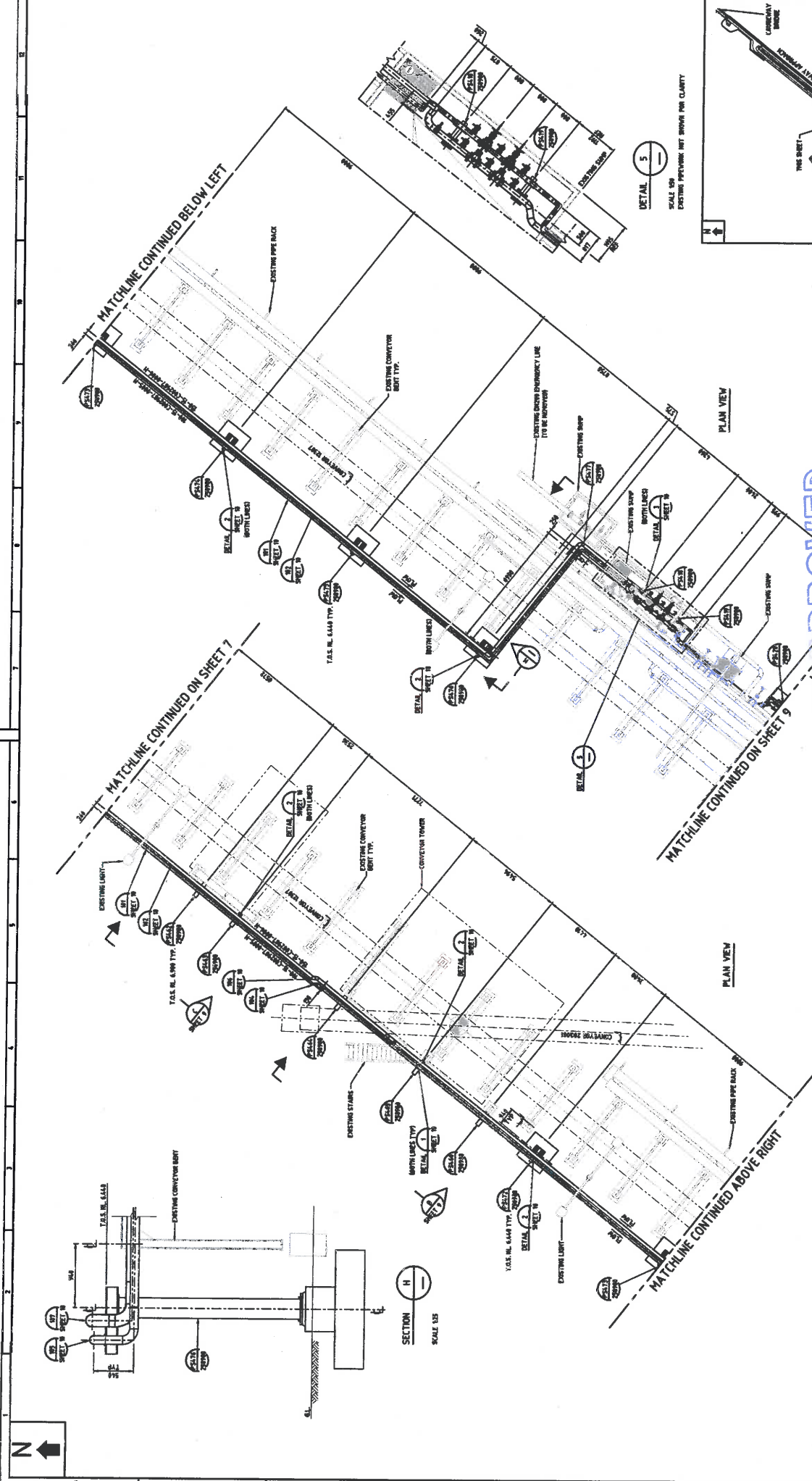
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Worley Contract No: C-002807

Worley Contract No: 00710000
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Worley Contract No: 00710000

Worley Contract No: 00710000
Worley Contract No: 00710000

Worley Contract No: 00710000
Worley Contract No: 00710000

QUEENSLAND ALUMINA LIMITED CAUSTIC STORAGE INTEGRITY OF HIGH RISK PIPELINES CAUSTIC & GROUND WATER LINES MAINLAND CAUSEWAY APPROACH - PLAN VIEWS & SECTION		SHEET NO: 258884 OF 70 DATE: 27/03/2020 DRAWN BY: M. WILLIAMS CHECKED BY: M. WILLIAMS APPROVED BY: M. WILLIAMS
APPROVAL T. FRIEDL I. LAWRENCE	DATE 27/03/2020 27/03/2020 27/03/2020	PROJECT NO 20101-00875 CONTRACT NO C-002807 SHEET NO 258884 OF 70
REVISIONS NO. DATE DESCRIPTION 1 27/03/2020 ISSUED FOR CONSTRUCTION 2 27/03/2020 ISSUED FOR CONSTRUCTION 3 27/03/2020 ISSUED FOR CONSTRUCTION		
NOTES REFER NOTES ON SHEETS 1 AND 2.		



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31-3-2020

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Level 2, 75 Concorde Drive,
Apt 4, Parkside, Perth, Western Australia 6150

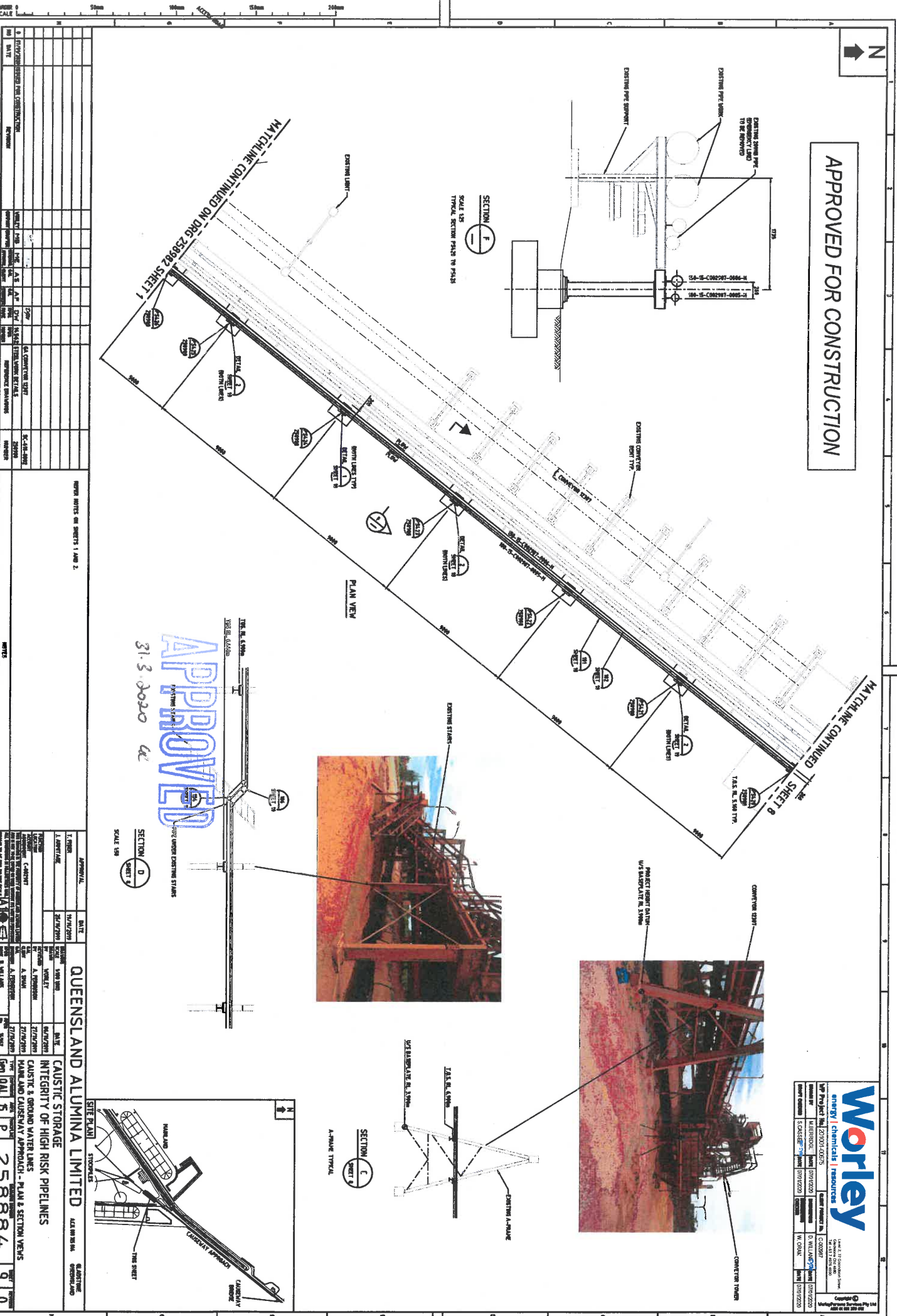
Project No. 210101-00075
Client Product No. C00287
Worley Ref. 07012020
Worley Ref. 07012020

Author: S. CASSELL
Checked: W. ORAM
Date: 07/01/2020

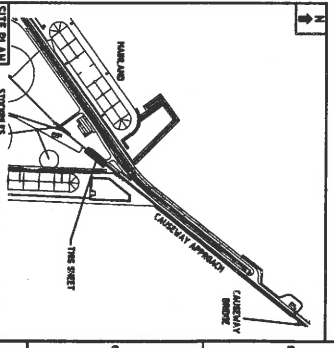
APPROVAL		DATE		REVISION	
I. ENGINEER	J. CHECKED	27/07/2019	27/07/2019	1	ISSUED FOR PERMIT
<p>PROJECT: CAUSTIC STORAGE CLIENT: QUEENSLAND ALUMINA LIMITED LOCATION: 1000 MILES WEST OF PERTH PROJECT NO: 210101-00075 CLIENT PRODUCT NO: C00287 WORLEY REF: 07012020 W. ORAM</p>					
<p>REVISION NOTES ON SHEETS 1 AND 2:</p>					
NO.	DATE	DESCRIPTION	BY	CHECKED	APPROVED
1	27/07/2019	ISSUED FOR PERMIT	W. ORAM	S. CASSELL	D. WILKINS
2	07/01/2020	ISSUED FOR CONSTRUCTION	W. ORAM	S. CASSELL	D. WILKINS

QUEENSLAND ALUMINA LIMITED		SCALE: AS SHOWN	DATE: 27/07/2019
CAUSTIC STORAGE		SCALE: 1:50	DATE: 27/07/2019
INTEGRITY OF HIGH RISK PIPELINES		SCALE: 1:50	DATE: 27/07/2019
CAUSTIC & GROUND WATER LINES		SCALE: 1:50	DATE: 27/07/2019
MAIN ROAD CAUSEWAY APPROACH - PLAN VIEWS & SECTION		SCALE: 1:50	DATE: 27/07/2019
Gen	041	5	P
258884	8	0	

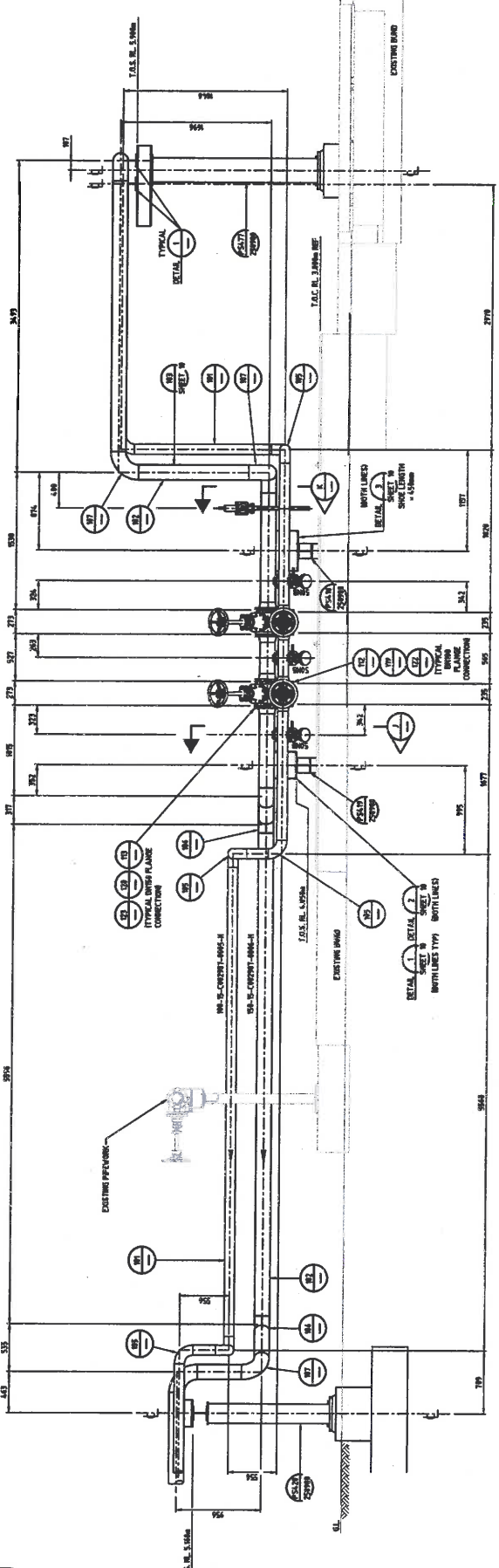
APPROVED FOR CONSTRUCTION



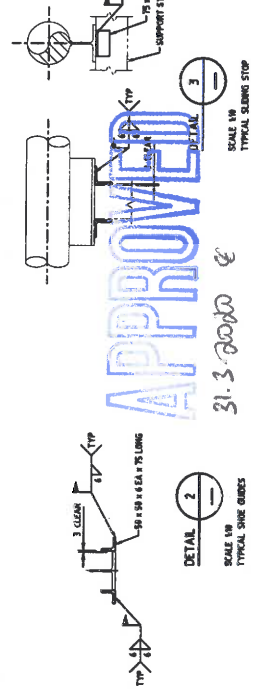
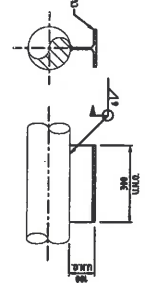
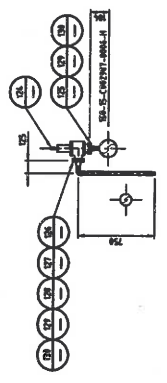
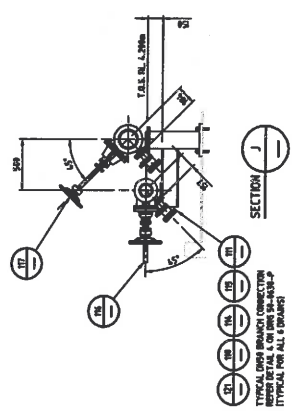
31.3.2020
APPROVED
 SECTION D
 SCALE 1:50



QUEENSLAND ALUMINA LIMITED 4/250 BURNETT RD BRISBANE QLD 4000		Worley 1000/1001 BRISBANE ST BRISBANE QLD 4000	
PROJECT: 25884 SHEET: 9/10		DATE: 31/03/2020 SCALE: 1:50	
DRAWN BY: [Name] CHECKED BY: [Name]		APPROVED BY: [Name]	
PROJECT TITLE: CAUSTIC STORAGE INTEGRITY OF HIGH RISK PIPELINES HAZARD AND CAUSEWAY APPROACH - PLAN & SECTION VIEWS		SHEET NO: 9/10	



SECTION E
SHEET 1



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Unit 2, 25 Colquhoun Street
Melbourne VIC 3000
Tel: +61 3 9585 6000
Fax: +61 3 9585 6001
www.worley.com.au

Worley Project No: 201001-00675
Client Ref: 2010020
Worley Ref: 07010200
Worley Date: 07/01/2020
Worley By: M. ORSM
Worley For: 07/01/2020

Worley Project No: 201001-00675
Client Ref: 2010020
Worley Ref: 07010200
Worley Date: 07/01/2020
Worley By: M. ORSM
Worley For: 07/01/2020

NO	DATE	BY	CHKD	APPV	DESCRIPTION
0	10/01/2020	M. ORSM	A. S. S.	A. S. S.	ISSUED FOR CONSTRUCTION
1	07/01/2020	M. ORSM	A. S. S.	A. S. S.	ISSUED FOR CONSTRUCTION
2	07/01/2020	M. ORSM	A. S. S.	A. S. S.	ISSUED FOR CONSTRUCTION
3	07/01/2020	M. ORSM	A. S. S.	A. S. S.	ISSUED FOR CONSTRUCTION
4	07/01/2020	M. ORSM	A. S. S.	A. S. S.	ISSUED FOR CONSTRUCTION
5	07/01/2020	M. ORSM	A. S. S.	A. S. S.	ISSUED FOR CONSTRUCTION

REFER NOTES ON SHEETS 1 AND 2.

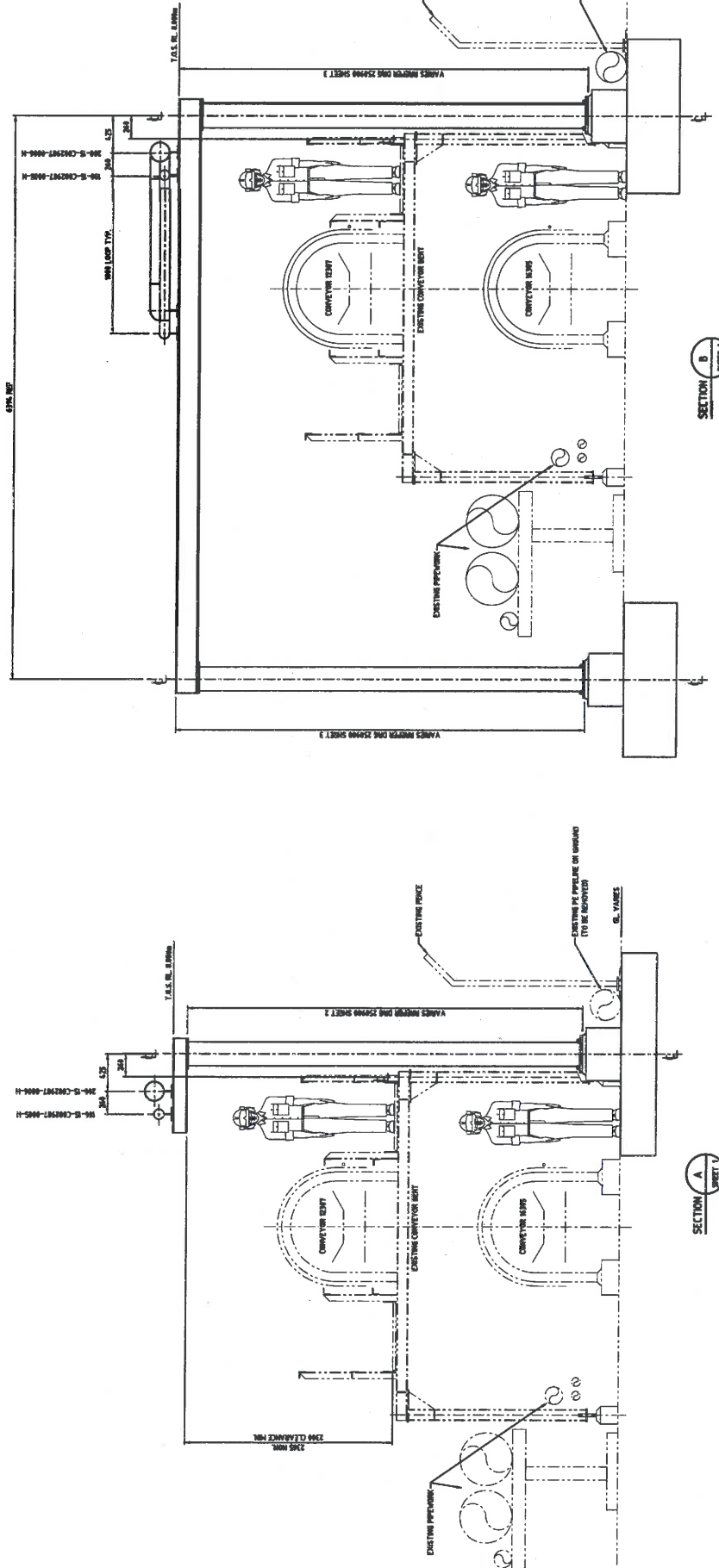
APPROVAL	DATE	BY	CHKD	APPV	DESCRIPTION
J. FISHER	08/12/2019	M. ORSM	A. S. S.	A. S. S.	ISSUED FOR CONSTRUCTION
J. LAWRENCE	20/12/2019	M. ORSM	A. S. S.	A. S. S.	ISSUED FOR CONSTRUCTION
C. HENRY	27/12/2019	M. ORSM	A. S. S.	A. S. S.	ISSUED FOR CONSTRUCTION
A. WILSON	27/12/2019	M. ORSM	A. S. S.	A. S. S.	ISSUED FOR CONSTRUCTION
A. WILSON	27/12/2019	M. ORSM	A. S. S.	A. S. S.	ISSUED FOR CONSTRUCTION
A. WILSON	27/12/2019	M. ORSM	A. S. S.	A. S. S.	ISSUED FOR CONSTRUCTION
A. WILSON	27/12/2019	M. ORSM	A. S. S.	A. S. S.	ISSUED FOR CONSTRUCTION

ITEM NO	REVISION	DESCRIPTION	ITEM CODE	REMARKS
0		BLINDING STOP	99230000	
1		1.5\"/>		

QUEENSLAND ALUMINA LIMITED
CAUSTIC STORAGE
INTEGRITY OF HIGH RISK PIPELINES
CAUSTIC & GROUND WATER LINES
MAINLAND CAUSEWAY APPROACH - SECTIONS AND DETAILS

Gen 04L 15 P 258884

10 0



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APPROVED FOR CONSTRUCTION

31.3.2020

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Worley Pty Ltd
15/29
VIC, A.S. 1418
AUSTRALIA

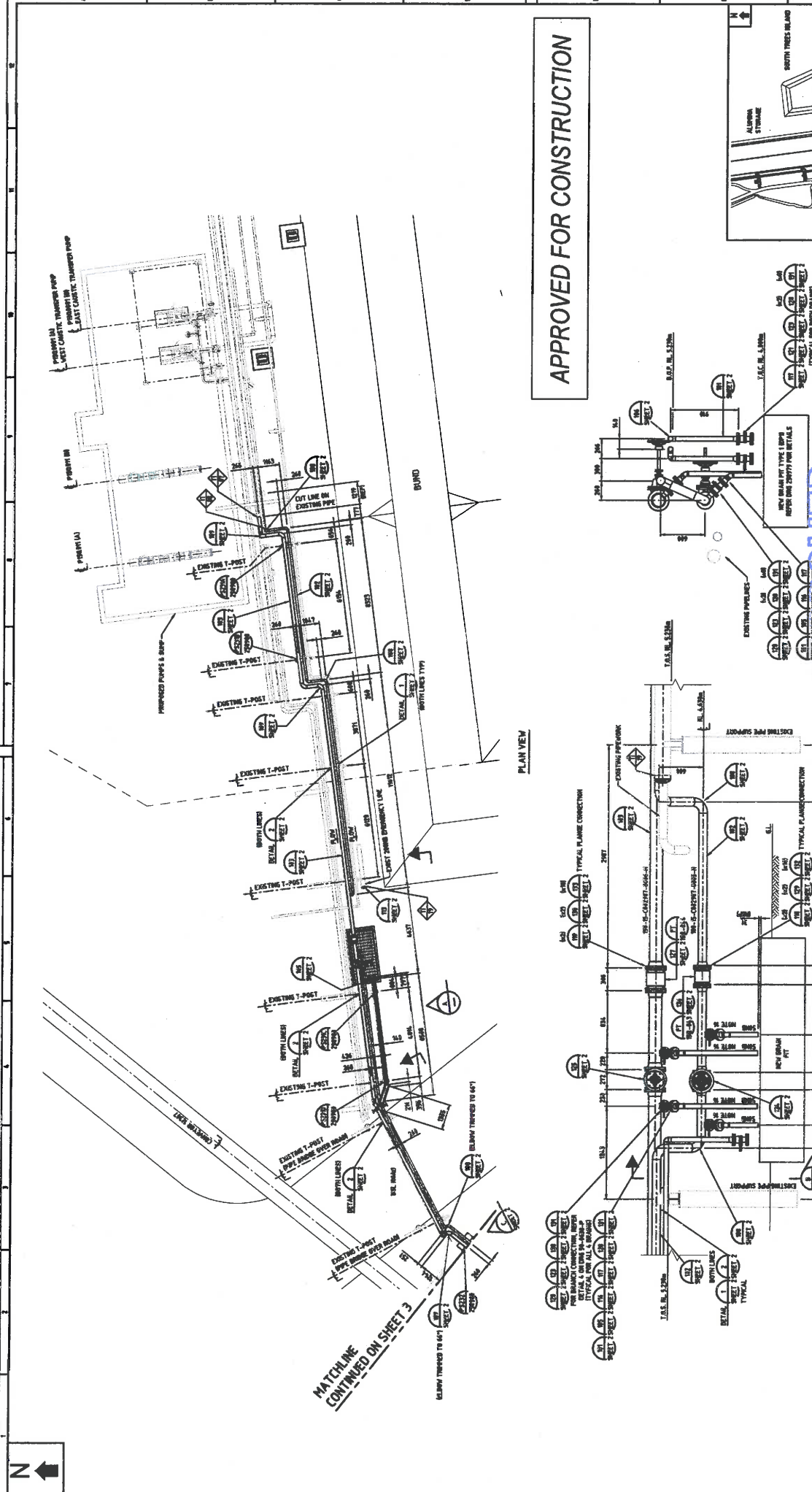
Worley (Australia) Pty Ltd
Level 7, Exhibition Drive
15/29
VIC 3048
AUSTRALIA

Worley Project No.	201001-00575	Client Project No.	C-00087
Issued By	M. BERRIDGE	Issued Date	07/01/2020
Issued For	S. CASSESE	Issued By	W. ORAL

Worley (Australia) Pty Ltd
15/29
VIC, A.S. 1418
AUSTRALIA

Worley (Australia) Pty Ltd
Level 7, Exhibition Drive
15/29
VIC 3048
AUSTRALIA

QUEENSLAND ALUMINA LIMITED CAUSTIC STORAGE INTEGRITY OF HIGH RISK PIPELINES CAUSTIC & GROUND WATER LINES MAINLAND CAUSEWAY APPROACH - SECTIONS		DATE: 31/03/20 DATE: 31/03/20 DATE: 31/03/20 DATE: 31/03/20 DATE: 31/03/20	PROJECT NO.: 201001-00575 SHEET NO.: 15/29 SHEET TOTAL: 15/29 SHEET TYPE: P SHEET NO.: 258884 SHEET TOTAL: 110
APPROVAL J. PETER J. AMPTHURSE W. ORAL C. BERRY	DATE 18/07/2019 26/07/2019 16/08/2019 27/07/2020	NAME WOLLEY A. BERRIDGE A. BERRIDGE A. BERRIDGE A. BERRIDGE A. BERRIDGE W. ORAL W. ORAL	DRAWING NO. 258884 SHEET NO. 15/29 SHEET TOTAL 110
REVISIONS ON SHEETS 1 AND 2.			



APPROVED FOR CONSTRUCTION

APPROVED
SECTION B
SCALE 1:5

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MP Project No.	21001-08975
Issue No.	19/02/2019
Issue Date	19/02/2019
Issue By	M. FERREDO
Issue For	A. J. WILSON
Issue To	A. J. WILSON
Issue Date	19/02/2019

Client: Queensland Alumina Limited

Project: CAUSTIC STORAGE INTEGRITY OF HIGH RISK PIPELINES SOUTH TRENCH ISLAND - SECTION & DETAILS

DATE	19/02/2019
ISSUED FOR	CONSTRUCTION
ISSUED BY	M. FERREDO
ISSUED FOR	A. J. WILSON
ISSUED TO	A. J. WILSON
ISSUE DATE	19/02/2019

QUEENSLAND ALUMINA LIMITED

CAUSTIC STORAGE INTEGRITY OF HIGH RISK PIPELINES SOUTH TRENCH ISLAND - SECTION & DETAILS

Scale: 1:5

Job No: 258885

Page: 5 of 10



MATCHLINE CONTINUED ON SHEET 3

PLAN VIEW

SECTION A
SCALE 1:5

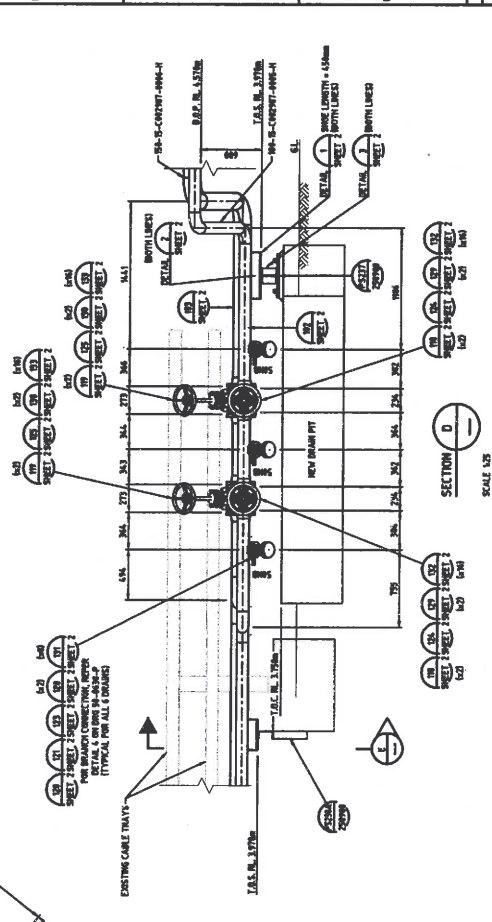
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- 2. ALL PIPING SHALL BE IN ACCORDANCE WITH THE STS 0094-04-01, 02 & 03.
- 3. ALL PIPING SHALL BE IN ACCORDANCE WITH THE STS 0094-04-01, 02 & 03.
- 4. ALL PIPING SHALL BE IN ACCORDANCE WITH THE STS 0094-04-01, 02 & 03.
- 5. ALL PIPING SHALL BE IN ACCORDANCE WITH THE STS 0094-04-01, 02 & 03.

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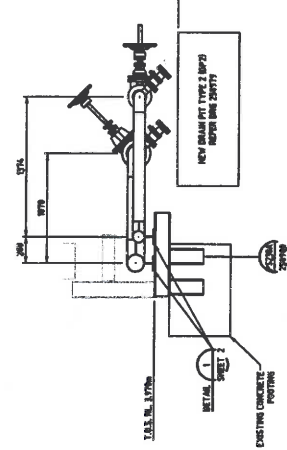
100 St. James Street
Melbourne VIC 3000
Australia
Phone: +61 3 9597 7100
Fax: +61 3 9597 7101
www.worley.com.au

Project No. 20104-0075
Client: QUEENSLAND ALUMINA LIMITED
Contract No. 14/002-001
Issue No. 14/002-001-001

Project Name: CAUSTIC STORAGE AND GROUND WATER LINES
Location: SOUTH TREES ISLAND
Contract Start: 14/01/2010
Contract End: 14/01/2010
Contract No: 14/002-001-001



SECTION D
SCALE 1:25



SECTION E
SCALE 1:25

APPROVED
31.3.2010

APPROVED FOR CONSTRUCTION

MATCHLINE CONTINUED ON SHEET 4

MATCHLINE CONTINUED ON SHEET 1

PLAN VIEW

<p>QUEENSLAND ALUMINA LIMITED</p> <p>CAUSTIC STORAGE INTEGRITY & GROUND WATER LINES SOUTH TREES ISLAND - PLAN VIEW & SECTIONS</p> <p>Scale: 1:25</p>		<p>DATE: 27/10/2010</p> <p>BY: A. WILSON</p> <p>CHECKED: A. WILSON</p> <p>APPROVED: A. WILSON</p> <p>31.3.2010</p>
<p>APPROVAL:</p> <p>T. FRISER</p> <p>A. WILSON</p>	<p>DATE:</p> <p>27/10/2010</p> <p>27/10/2010</p> <p>27/10/2010</p>	<p>REV:</p> <p>1</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p> <p>6</p> <p>7</p> <p>8</p> <p>9</p> <p>10</p> <p>11</p> <p>12</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p> <p>26</p> <p>27</p> <p>28</p> <p>29</p> <p>30</p> <p>31</p> <p>32</p> <p>33</p> <p>34</p> <p>35</p> <p>36</p> <p>37</p> <p>38</p> <p>39</p> <p>40</p> <p>41</p> <p>42</p> <p>43</p> <p>44</p> <p>45</p> <p>46</p> <p>47</p> <p>48</p> <p>49</p> <p>50</p> <p>51</p> <p>52</p> <p>53</p> <p>54</p> <p>55</p> <p>56</p> <p>57</p> <p>58</p> <p>59</p> <p>60</p> <p>61</p> <p>62</p> <p>63</p> <p>64</p> <p>65</p> <p>66</p> <p>67</p> <p>68</p> <p>69</p> <p>70</p> <p>71</p> <p>72</p> <p>73</p> <p>74</p> <p>75</p> <p>76</p> <p>77</p> <p>78</p> <p>79</p> <p>80</p> <p>81</p> <p>82</p> <p>83</p> <p>84</p> <p>85</p> <p>86</p> <p>87</p> <p>88</p> <p>89</p> <p>90</p> <p>91</p> <p>92</p> <p>93</p> <p>94</p> <p>95</p> <p>96</p> <p>97</p> <p>98</p> <p>99</p> <p>100</p>

NOTES:

- UNDESIGNED SERVICES HAVE BEEN LOCATED WHERE POSSIBLE AND ARE BASED ON DRAWING 22593. FOR FURTHER INFORMATION REFER TO THE SERVICES DRAWINGS AND THE CAUSTIC STORAGE AND GROUND WATER LINES DRAWINGS.
- THE EXACT LOCATION OF UNDESIGNED SERVICES MUST BE DETERMINED AND THE CONTRACTOR MUST OBTAIN AN EXCAVATION PERMIT PRIOR TO EXCAVATION.

DATE: 27/10/2010

BY: A. WILSON

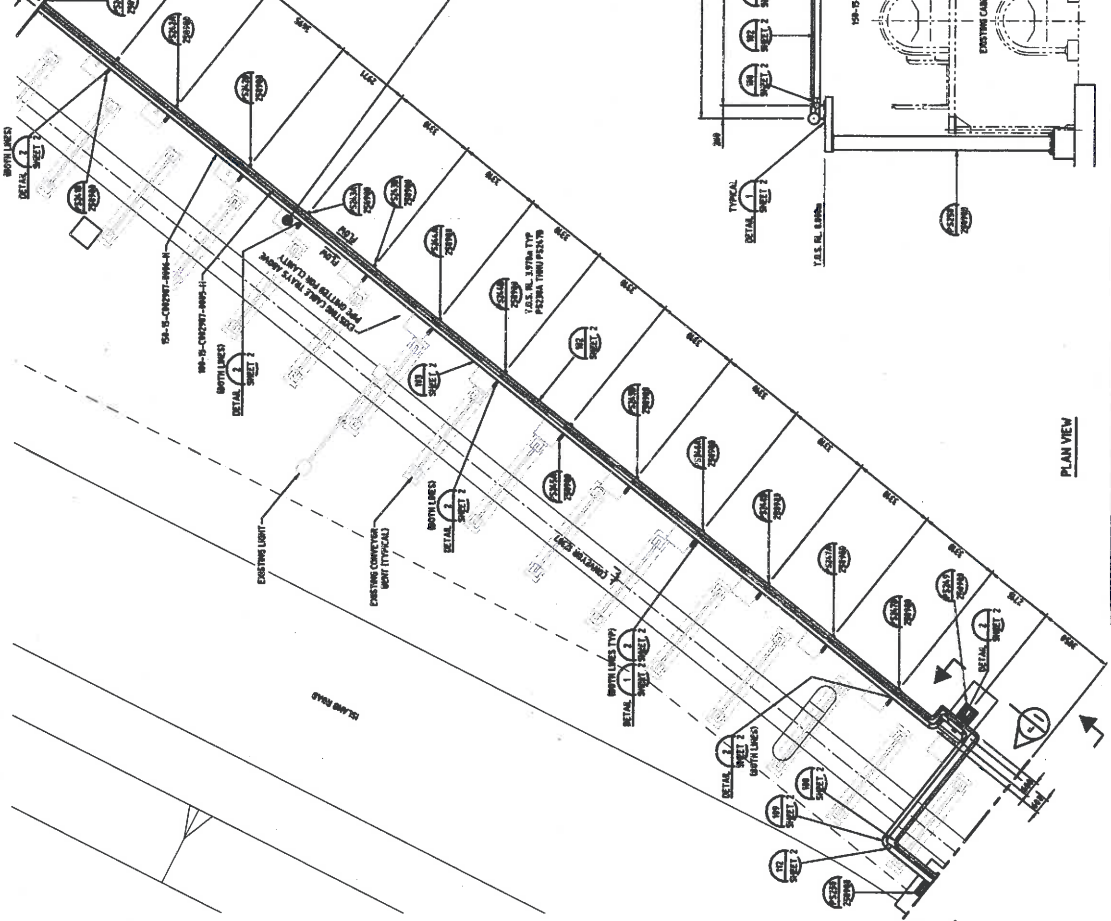
CHECKED: A. WILSON

APPROVED: A. WILSON

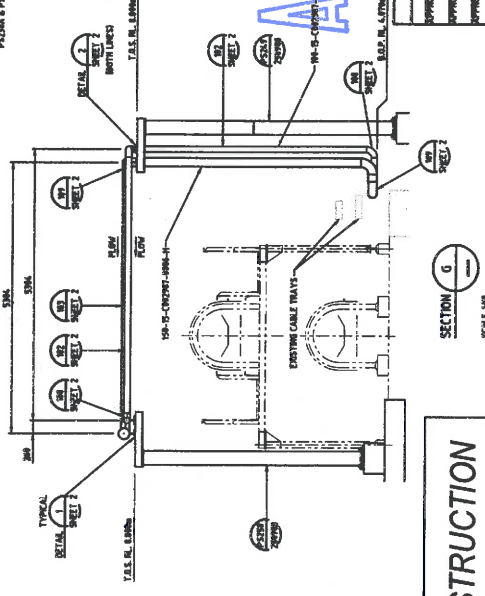
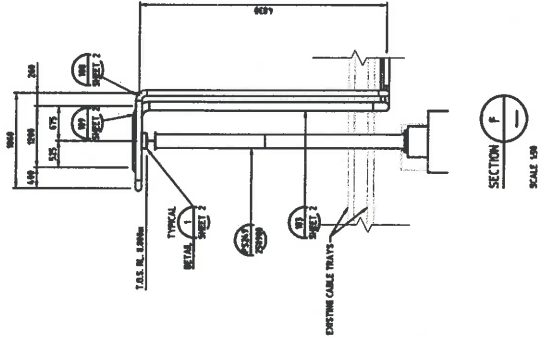
31.3.2010



MATCHLINE CONTINUED ON SHEET 3



MATCHLINE CONTINUED ON SHEET 5



APPROVED

31-3-2009

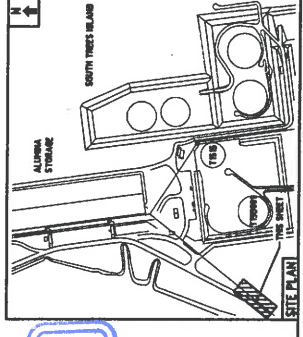
OPERATIONS REVIEW	DATE

Worley
ENERGY | CHEMICALS | RESOURCES

Land 2.72 (Domestic) (Area)
Site 0.17 (Total) (Area)

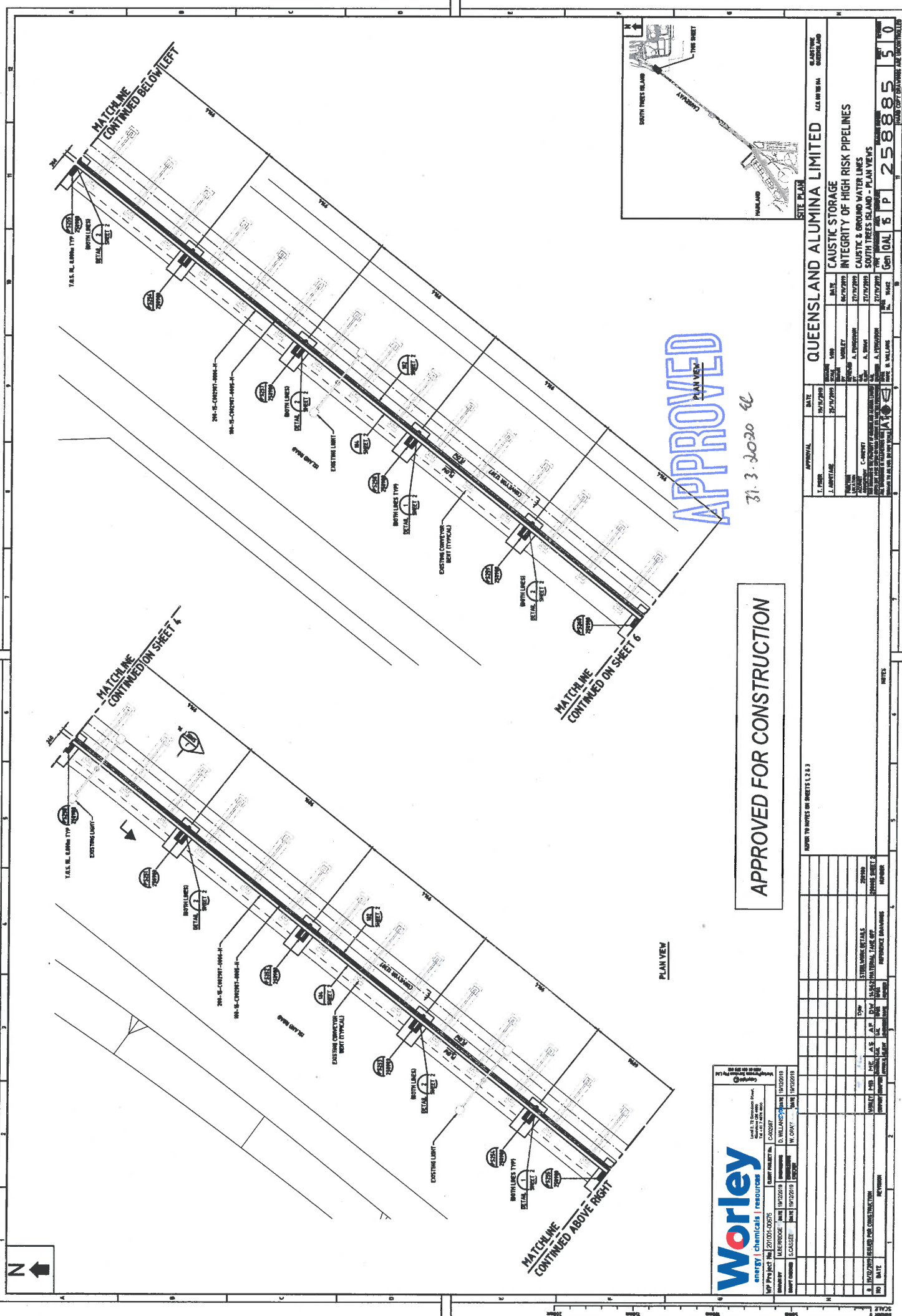
VPP Project No: 20100-00075
CLIENT PROJECT No: 0-00007

DESIGNED BY: M. WILKINS
DRAWN BY: M. WILKINS
CHECKED BY: M. WILKINS
DATE: 18/12/2019
SCALE: 1:50



APPROVED FOR CONSTRUCTION

QUEENSLAND ALUMINA LIMITED		ACE 001 0018	ACE 001 0018	ACE 001 0018	
PROJECT NO:	20100-00075	CLIENT PROJECT NO:	0-00007	DATE:	18/12/2019
PROJECT NAME:	CAUSTIC STORAGE	CLIENT PROJECT NAME:	INTEGRITY OF HIGH RISK PIPELINES	SCALE:	1:50
PROJECT LOCATION:	CAUSTIC & GROUND WATER LINES	CLIENT PROJECT LOCATION:	INTEGRITY OF HIGH RISK PIPELINES	SCALE:	1:50
PROJECT DESCRIPTION:	SOUTH TREES ISLAND - PLAN VIEW & SECTIONS	CLIENT PROJECT DESCRIPTION:	INTEGRITY OF HIGH RISK PIPELINES	SCALE:	1:50
PROJECT MANAGER:	M. WILKINS	CLIENT PROJECT MANAGER:	M. WILKINS	SCALE:	1:50
PROJECT ENGINEER:	M. WILKINS	CLIENT PROJECT ENGINEER:	M. WILKINS	SCALE:	1:50
PROJECT CHECKER:	M. WILKINS	CLIENT PROJECT CHECKER:	M. WILKINS	SCALE:	1:50
PROJECT APPROVER:	M. WILKINS	CLIENT PROJECT APPROVER:	M. WILKINS	SCALE:	1:50
PROJECT DATE:	18/12/2019	CLIENT PROJECT DATE:	18/12/2019	SCALE:	1:50
PROJECT SCALE:	1:50	CLIENT PROJECT SCALE:	1:50	SCALE:	1:50
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PROJECT SHEET NO. 3:	3	CLIENT PROJECT SHEET NO. 3:	3	SCALE:	1:50
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PROJECT SHEET NO. 5:	5	CLIENT PROJECT SHEET NO. 5:	5	SCALE:	1:50



APPROVED

PLAN VIEW

31.3.2020

APPROVED FOR CONSTRUCTION

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energy | chemicals | resources

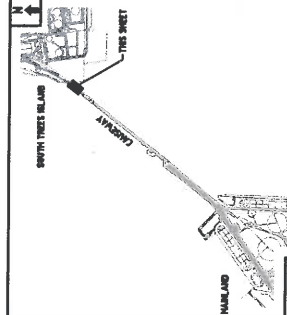
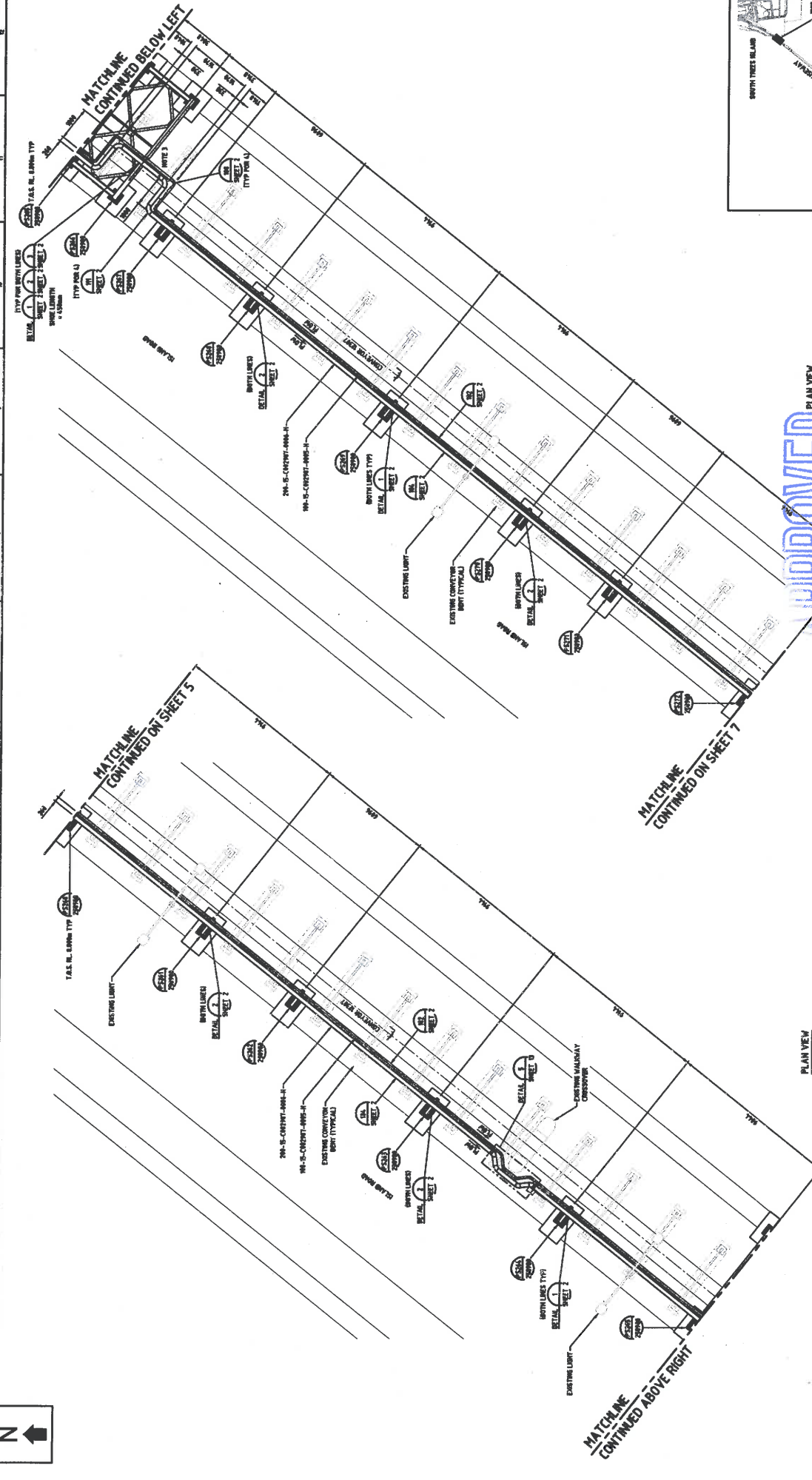
Level 2, 25 Dandenong Road, Dandenong VIC 3175
Tel: 03 9499 2000
www.worley.com.au

Worley Project No: 201001-08275
Client Project No: C400587
Worley Reference: WAVE 19/22019
Worley Reference: WAVE 19/22019
Worley Reference: WAVE 19/22019
Worley Reference: WAVE 19/22019

Worley Reference: WAVE 19/22019
Worley Reference: WAVE 19/22019
Worley Reference: WAVE 19/22019
Worley Reference: WAVE 19/22019

<p>QUEENSLAND ALUMINA LIMITED CAUSTIC STORAGE INTEGRITY OF HIGH RISK PIPELINES CAUSTIC & GROUND WATER LINES SOUTH TREES ISLAND - PLAN VIEWS</p>		<p>DATE: 27/02/2020 DRAWN: J. HARRISON CHECKED: A. HARRISON APPROVED: A. HARRISON PROJECT NO: 201001-08275 CLIENT PROJECT NO: C400587 WAVE 19/22019 WAVE 19/22019 WAVE 19/22019 WAVE 19/22019</p>	<p>DATE: 27/02/2020 DRAWN: J. HARRISON CHECKED: A. HARRISON APPROVED: A. HARRISON PROJECT NO: 201001-08275 CLIENT PROJECT NO: C400587 WAVE 19/22019 WAVE 19/22019 WAVE 19/22019 WAVE 19/22019</p>	<p>DATE: 27/02/2020 DRAWN: J. HARRISON CHECKED: A. HARRISON APPROVED: A. HARRISON PROJECT NO: 201001-08275 CLIENT PROJECT NO: C400587 WAVE 19/22019 WAVE 19/22019 WAVE 19/22019 WAVE 19/22019</p>
<p>APPROVAL: J. HARRISON DATE: 27/02/2020</p>		<p>DATE: 27/02/2020 DRAWN: J. HARRISON CHECKED: A. HARRISON APPROVED: A. HARRISON PROJECT NO: 201001-08275 CLIENT PROJECT NO: C400587 WAVE 19/22019 WAVE 19/22019 WAVE 19/22019 WAVE 19/22019</p>		<p>DATE: 27/02/2020 DRAWN: J. HARRISON CHECKED: A. HARRISON APPROVED: A. HARRISON PROJECT NO: 201001-08275 CLIENT PROJECT NO: C400587 WAVE 19/22019 WAVE 19/22019 WAVE 19/22019 WAVE 19/22019</p>
<p>APPROVAL: J. HARRISON DATE: 27/02/2020</p>		<p>DATE: 27/02/2020 DRAWN: J. HARRISON CHECKED: A. HARRISON APPROVED: A. HARRISON PROJECT NO: 201001-08275 CLIENT PROJECT NO: C400587 WAVE 19/22019 WAVE 19/22019 WAVE 19/22019 WAVE 19/22019</p>		<p>DATE: 27/02/2020 DRAWN: J. HARRISON CHECKED: A. HARRISON APPROVED: A. HARRISON PROJECT NO: 201001-08275 CLIENT PROJECT NO: C400587 WAVE 19/22019 WAVE 19/22019 WAVE 19/22019 WAVE 19/22019</p>

Gen QAL 5 P 25885 50



PLAN VIEW
APPROVED
 31-3-2020

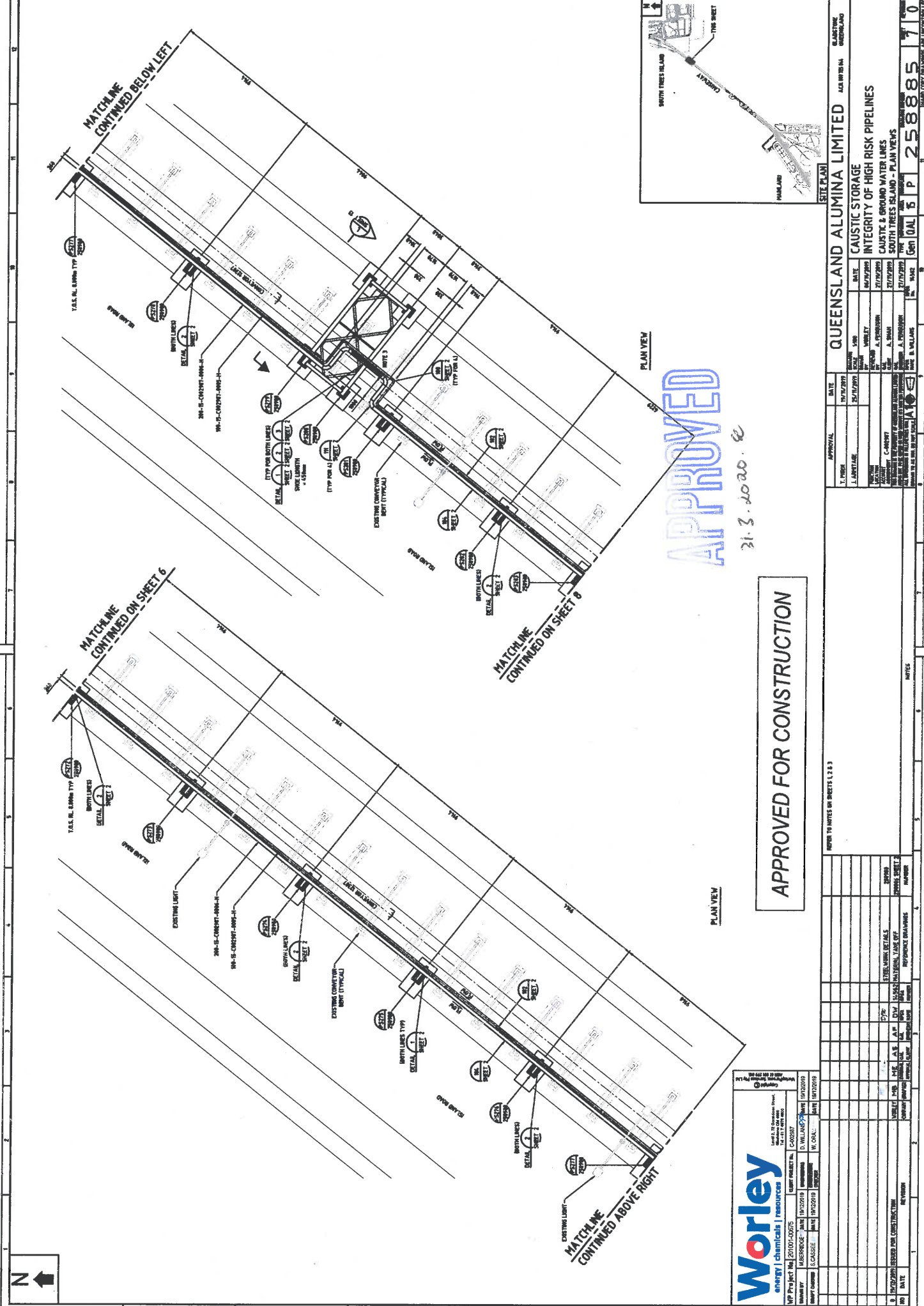
APPROVED FOR CONSTRUCTION

worley
 energy | chemicals | resources

Head Office: 27 Oxley Drive, St Leonards NSW 1570
 Tel: +61 2 9374 2000
 Fax: +61 2 9374 2001
 Email: sales@worley.com.au

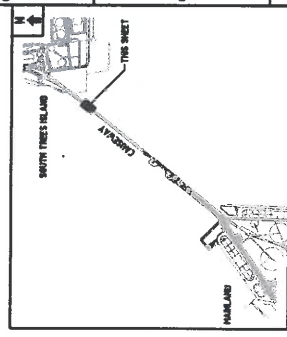
Worley Project No: 210101-00575
 Client: WILKINS
 Location: SOUTH TREE ISLAND
 Discipline: CIVIL
 Project Name: CAUSTIC STORAGE INTEGRITY OF HIGH RISK PIPELINES
 Project Number: 210101-00575
 Issue No: 1
 Issue Date: 31/03/2020
 Issue Description: AS-BUILT CONSTRUCTION

QUEENSLAND ALUMINA LIMITED			
PROJECT NAME	CAUSTIC STORAGE INTEGRITY OF HIGH RISK PIPELINES	DATE	31/03/2020
PROJECT NUMBER	210101-00575	ISSUE NO	1
ISSUE DATE	31/03/2020	ISSUE DESCRIPTION	AS-BUILT CONSTRUCTION
PROJECT LOCATION	SOUTH TREE ISLAND - PLAN VIEWS	SCALE	1:500
PROJECT OWNER	QUEENSLAND ALUMINA LIMITED	SCALE	1:500
PROJECT MANAGER	ANDREW W. WILKINS	SCALE	1:500
PROJECT ENGINEER	ANDREW W. WILKINS	SCALE	1:500
PROJECT ARCHITECT	ANDREW W. WILKINS	SCALE	1:500
PROJECT SURVEYOR	ANDREW W. WILKINS	SCALE	1:500
PROJECT CONTRACTOR	ANDREW W. WILKINS	SCALE	1:500
PROJECT CONSULTANT	ANDREW W. WILKINS	SCALE	1:500
PROJECT DRAWN BY	ANDREW W. WILKINS	SCALE	1:500
PROJECT CHECKED BY	ANDREW W. WILKINS	SCALE	1:500
PROJECT APPROVED BY	ANDREW W. WILKINS	SCALE	1:500
PROJECT DATE	31/03/2020	SCALE	1:500
PROJECT SCALE	1:500	SCALE	1:500



APPROVED

31.3.2020



APPROVED FOR CONSTRUCTION

APPROVAL			DATE		
T. FRESH	19/11/2019	DATE	19/11/2019	APPROVAL	DATE
J. LAMPTAGE	26/11/2019	DATE	26/11/2019	APPROVAL	DATE
QUEENSLAND ALUMINA LIMITED CAUSTIC STORAGE INTEGRITY OF HIGH RISK PIPELINES CAUSTIC & GROUND WATER LINES SOUTH TREES ISLAND - PLAN VIEWS					
PROJECT NO: 20100-0057 DRAWING NO: C-00387 SCALE: AS SHOWN SHEET NO: 1 OF 1			PROJECT NO: 20100-0057 DRAWING NO: C-00387 SCALE: AS SHOWN SHEET NO: 1 OF 1		
PROJECT MANAGER: J. LAMPTAGE PROJECT ENGINEER: J. LAMPTAGE PROJECT SUPERVISOR: J. LAMPTAGE PROJECT COORDINATOR: J. LAMPTAGE PROJECT ADMINISTRATOR: J. LAMPTAGE PROJECT OFFICE: J. LAMPTAGE					
PROJECT LOCATION: SOUTH TREES ISLAND PROJECT CLIENT: QUEENSLAND ALUMINA LIMITED PROJECT CONTACT: J. LAMPTAGE PROJECT PHONE: 07 5544 1000 PROJECT FAX: 07 5544 1001 PROJECT EMAIL: j.lamptage@alumina.com.au PROJECT WEBSITE: www.alumina.com.au					
REFER TO NOTES ON SHEETS 2 & 3					
NO.	DATE	DESCRIPTION	BY	CHECKED	APPROVED
1.	19/11/2019	ISSUED FOR CONSTRUCTION	J. LAMPTAGE	J. LAMPTAGE	J. LAMPTAGE
2.	26/11/2019	REVISED	J. LAMPTAGE	J. LAMPTAGE	J. LAMPTAGE
3.	31/3/2020	REVISED	J. LAMPTAGE	J. LAMPTAGE	J. LAMPTAGE

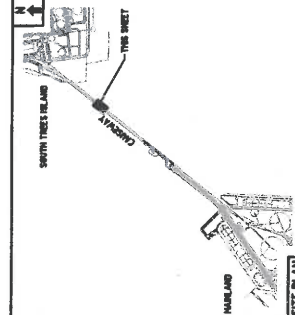
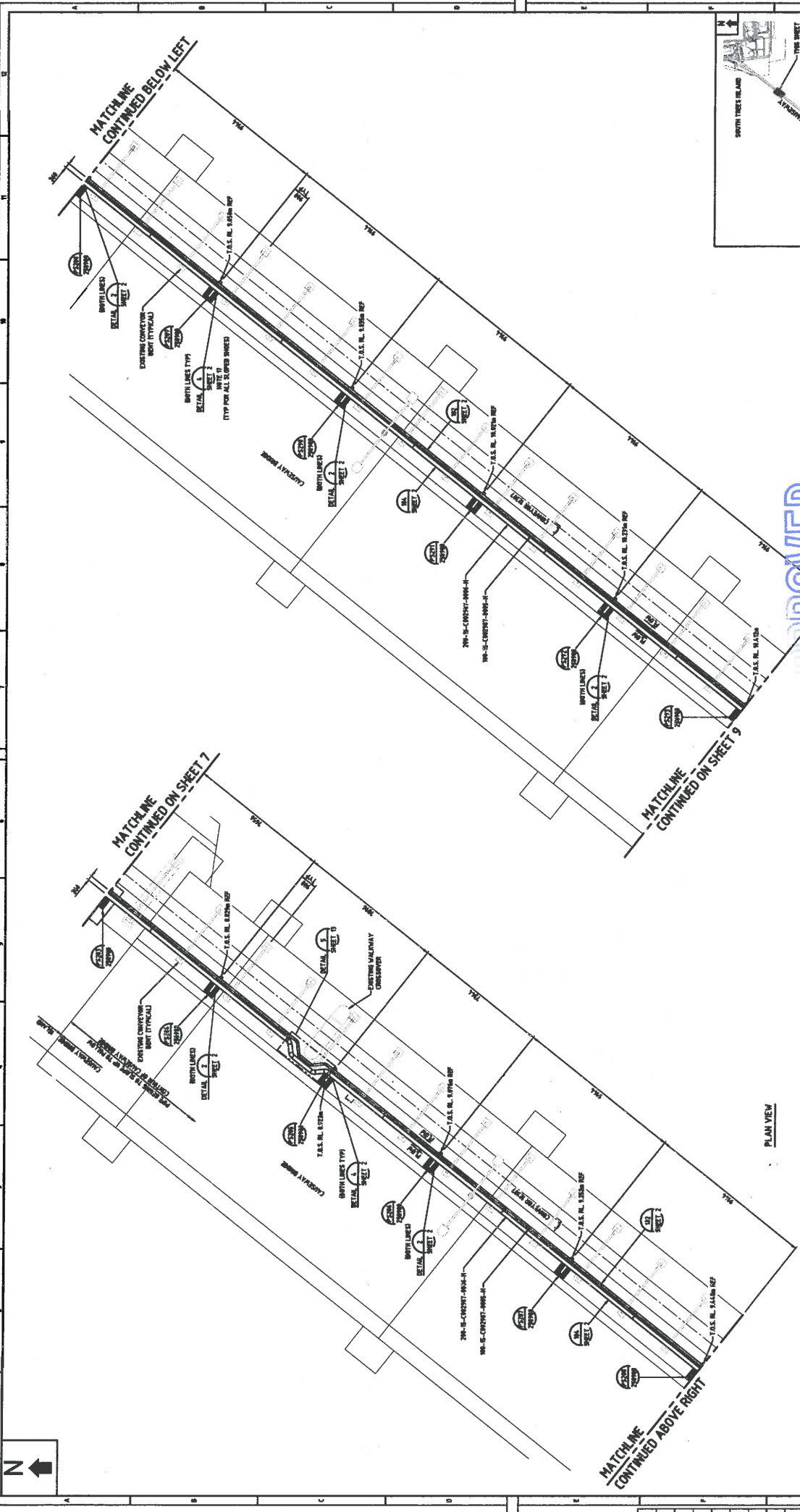
Worley

energy | chemicals | resources

Worley Project No: 20100-0057
 Issue Date: 19/11/2019
 Issue No: 1
 Scale: AS SHOWN
 Sheet No: 1 OF 1

Author: J. LAMPTAGE
 Checker: J. LAMPTAGE
 Date: 19/11/2019

Project Manager: J. LAMPTAGE
 Project Engineer: J. LAMPTAGE
 Project Supervisor: J. LAMPTAGE
 Project Coordinator: J. LAMPTAGE
 Project Administrator: J. LAMPTAGE



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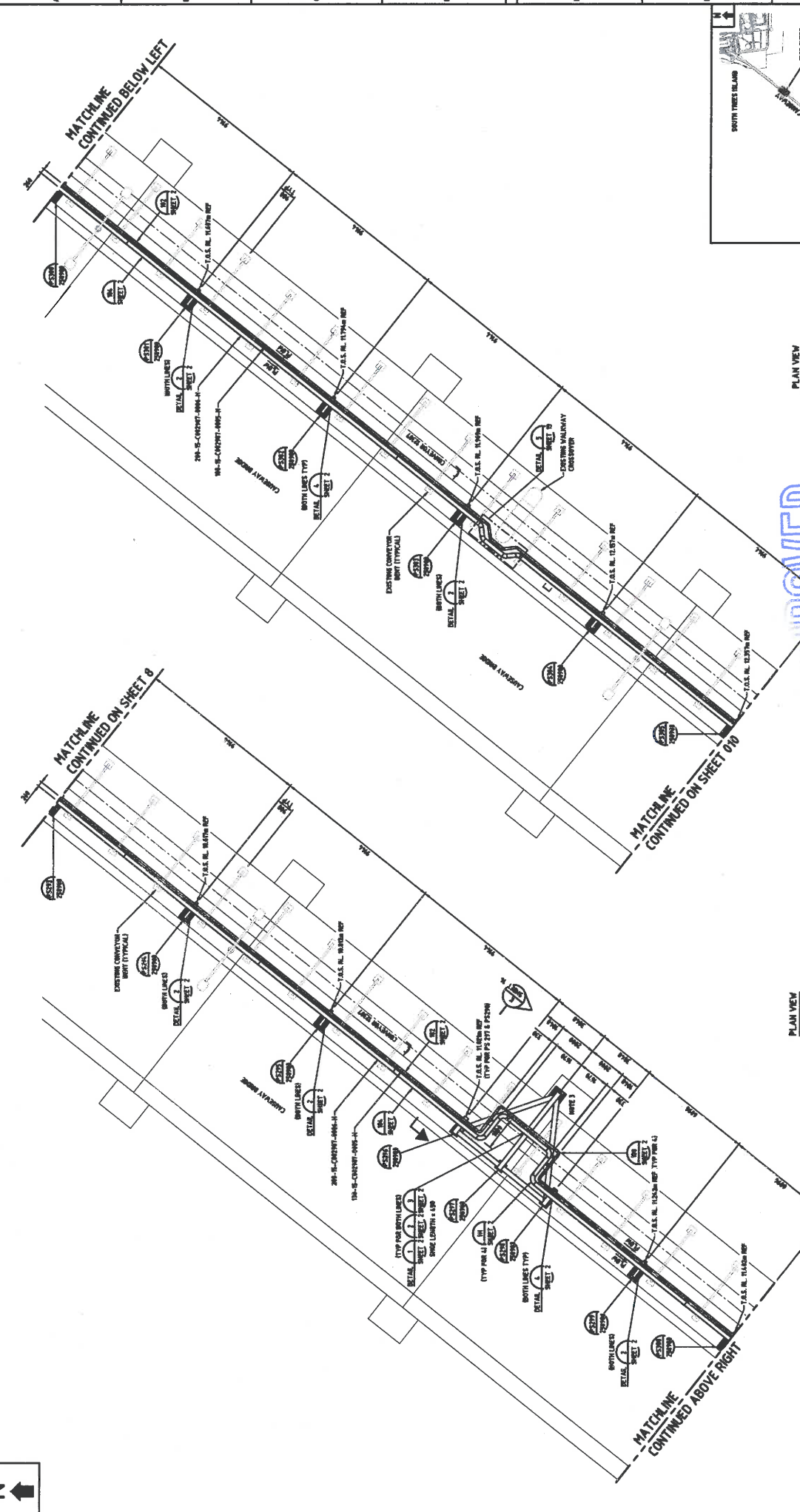
APPROVED FOR CONSTRUCTION

213-3030

QUEENSLAND ALUMINA LIMITED CAUSTIC STORAGE INTEGRITY OF HIGH RISK PIPELINES CAUSTIC & GROUND WATER LINES SOUTH TREES ISLAND - PLAN VIEWS		SHEET NO. 5 OF 5 DATE 15/12/2018	PROJECT NO. 213030
T. FISHER J. AMBETHA	DATE 15/12/2018	APPROVAL CAUSTIC STORAGE INTEGRITY OF HIGH RISK PIPELINES CAUSTIC & GROUND WATER LINES SOUTH TREES ISLAND - PLAN VIEWS	
APPROVED FOR CONSTRUCTION			

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energy | chemicals | resources

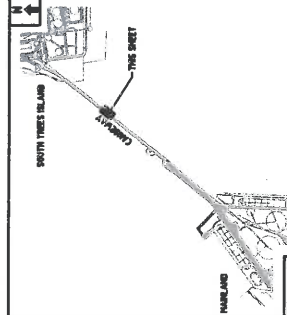
19/12/2018
 18/12/2018
 18/12/2018
 18/12/2018



APPROVED

31.3.2020

APPROVED FOR CONSTRUCTION



DATE: 20/11/2019		APPROVAL: J. ARMSTRONG	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019
DATE: 20/11/2019		APPROVAL: J. ARMSTRONG	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019
DATE: 20/11/2019		APPROVAL: J. ARMSTRONG	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019
DATE: 20/11/2019		APPROVAL: J. ARMSTRONG	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019
DATE: 20/11/2019		APPROVAL: J. ARMSTRONG	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019	DATE: 20/11/2019

REFER TO NOTES ON SHEETS 1,2 & 3

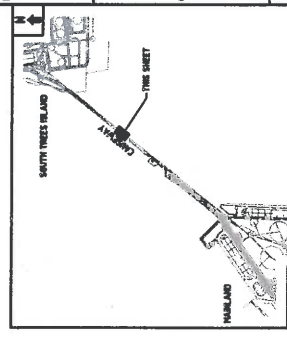
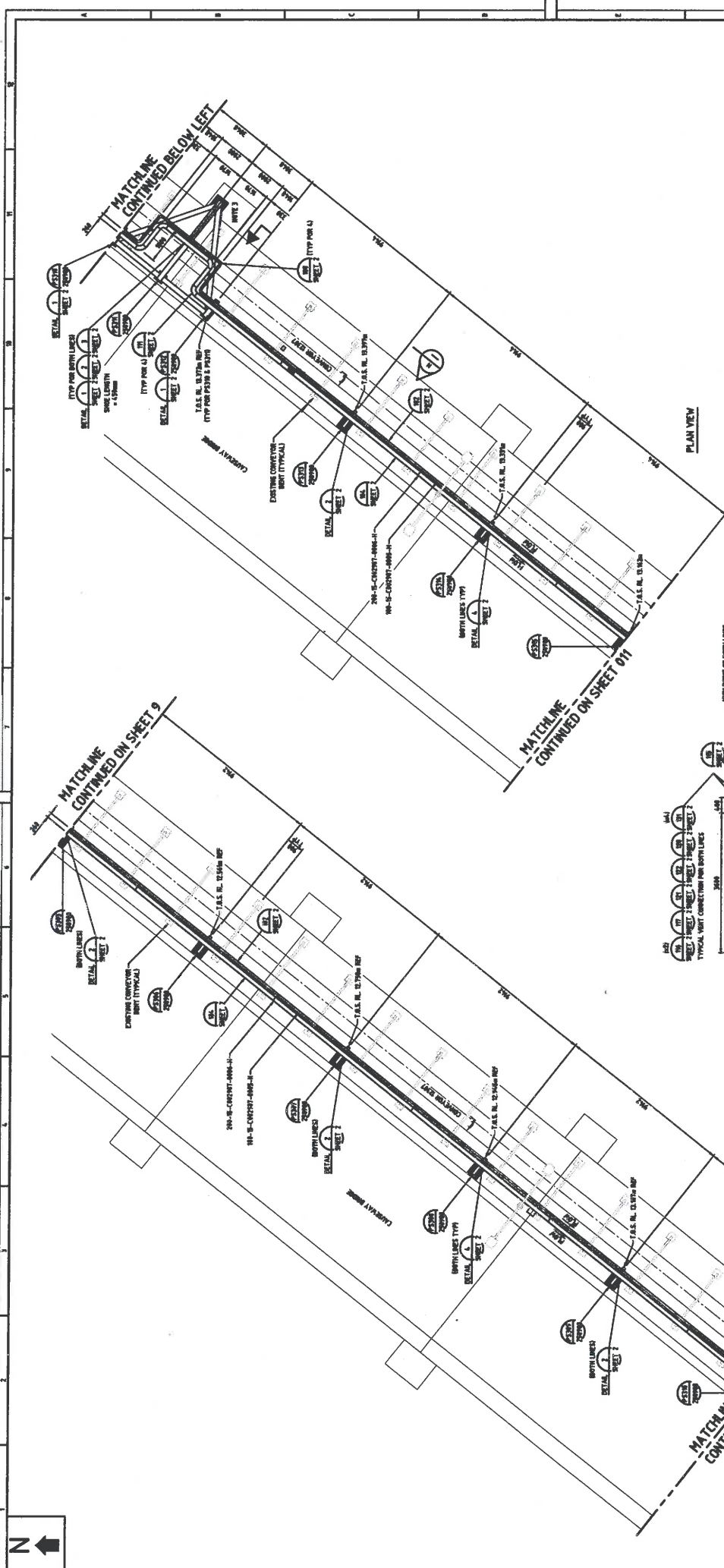
QUEENSLAND ALUMINA LIMITED
CAUSTIC STORAGE
INTEGRITY OF HIGH RISK PIPELINES
SOUTH TREES ISLAND - PLAN VIEWS

NAME: J. ARMSTRONG	DATE: 20/11/2019	SCALE: A3	DATE: 20/11/2019
DESIGNER: J. ARMSTRONG	DATE: 20/11/2019	SCALE: A3	DATE: 20/11/2019
CHECKED: J. ARMSTRONG	DATE: 20/11/2019	SCALE: A3	DATE: 20/11/2019
APPROVED: J. ARMSTRONG	DATE: 20/11/2019	SCALE: A3	DATE: 20/11/2019

258885 90

energy | chemicals | resources

Worley Project No: 201001-00575
Worley Reference No: 19122019
Worley Reference No: 19122019
Worley Reference No: 19122019
Worley Reference No: 19122019



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31.3 2020 cc

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Level 2, 75 Queensland Street,
PO Box 244, Brisbane QLD 4000
Ph: (61) 7 407 4000

MVP Project No.	210101-000275	Client Project No.	6090997
Issue No.	1	Issue Date	19/12/2019
Issue By	M. BERRICK	Issue Date	18/12/2019
Issue By	S. CASSE	Issue Date	18/12/2019

Work on 75 Queensland Street,
PO Box 244, Brisbane QLD 4000
Ph: (61) 7 407 4000

APPROVAL		DATE	ROLE	NAME
<input checked="" type="checkbox"/>	DESIGNED	20/12/2019	DESIGNER	D. WILLIAMS
<input checked="" type="checkbox"/>	CHECKED	20/12/2019	CHECKER	S. CASSE
<input checked="" type="checkbox"/>	DRAWN	18/12/2019	DRAWER	D. WILLIAMS
<input checked="" type="checkbox"/>	INTEGRITY CHECKED	20/12/2019	INTEGRITY CHECKER	S. CASSE
<input checked="" type="checkbox"/>	APPROVED	20/12/2019	APPROVER	S. CASSE
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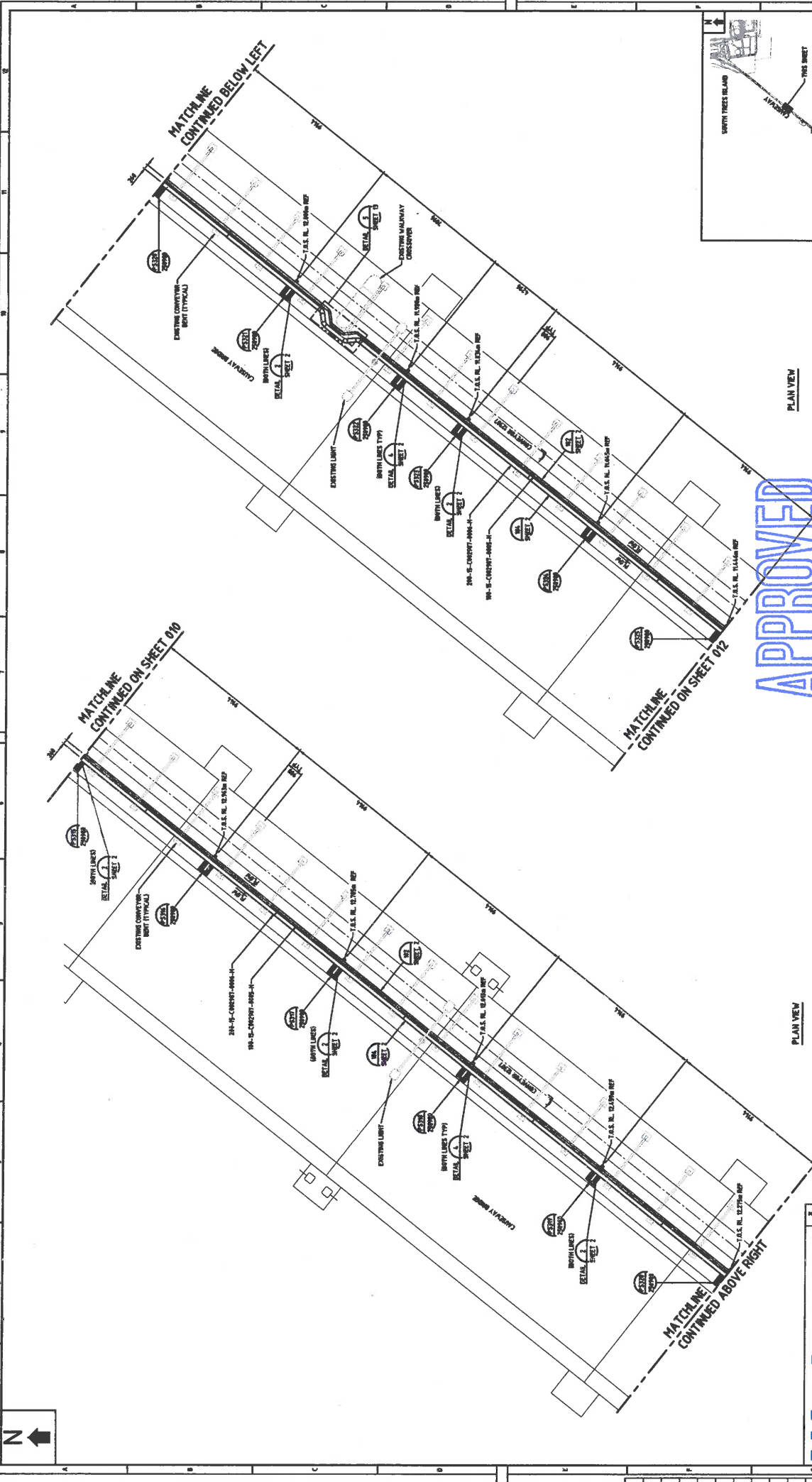
QUEENSLAND ALUMINA LIMITED

CAUSTIC STORAGE
INTEGRITY OF HIGH RISK PIPELINES
CAUSTIC & GROUND WATER LINES
SOUTH TREES ISLAND - PLANS AND SECTION

Sheet 011 of 15

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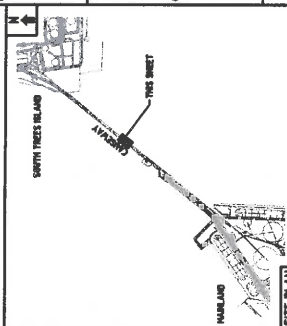
Date: 18/12/2019



APPROVED

31-3-2030

APPROVED FOR CONSTRUCTION



QUEENSLAND ALUMINA LIMITED
 CAUSTIC STORAGE
 INTEGRITY OF HIGH RISK PIPELINES
 SOUTH TREES ISLAND - PLAN VIEWS

DATE	APPROVAL	ISSUE	BY	FOR
19/12/2019	A. WILKINSON	1	A. WILKINSON	FOR CONSTRUCTION

PROJECT NO:	20101-00275
PROJECT NAME:	CAUSTIC STORAGE INTEGRITY OF HIGH RISK PIPELINES
PROJECT LOCATION:	SOUTH TREES ISLAND

ISSUED FOR:	CONSTRUCTION
ISSUED BY:	D. WILKINSON
ISSUED DATE:	19/12/2019

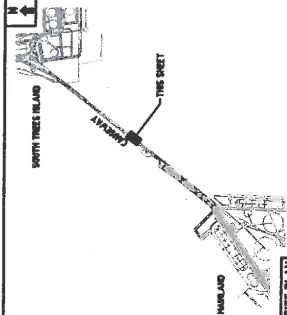
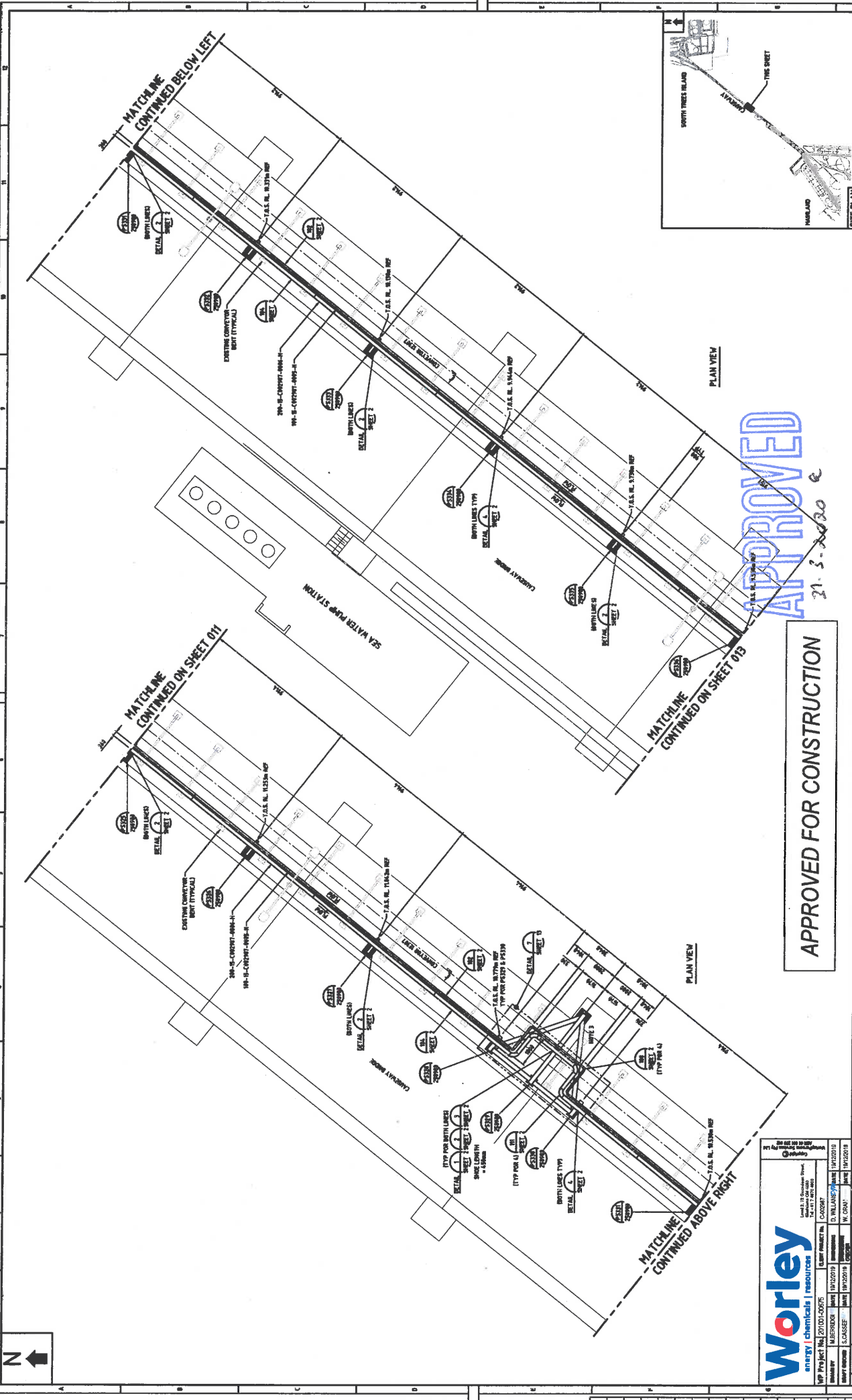
DATE	BY	FOR
19/12/2019	D. WILKINSON	FOR CONSTRUCTION

Scale: 1:500
 Drawing Code: CAUSTIC STORAGE INTEGRITY OF HIGH RISK PIPELINES
 Sheet No: 25885

worley energy | chemicals | resources

Project No: 20101-00275
 Project Name: CAUSTIC STORAGE INTEGRITY OF HIGH RISK PIPELINES
 Project Location: SOUTH TREES ISLAND

Issue Date: 19/12/2019
 Issue By: D. WILKINSON



APPROVED

21.3.2020

APPROVED FOR CONSTRUCTION

APPROVAL		DATE	REVISIONS	
I. APPROV	J. APPROV	DATE	NO.	DESCRIPTION
		20/12/2019	1	ISSUED FOR CONSTRUCTION
		20/12/2019	2	ISSUED FOR CONSTRUCTION

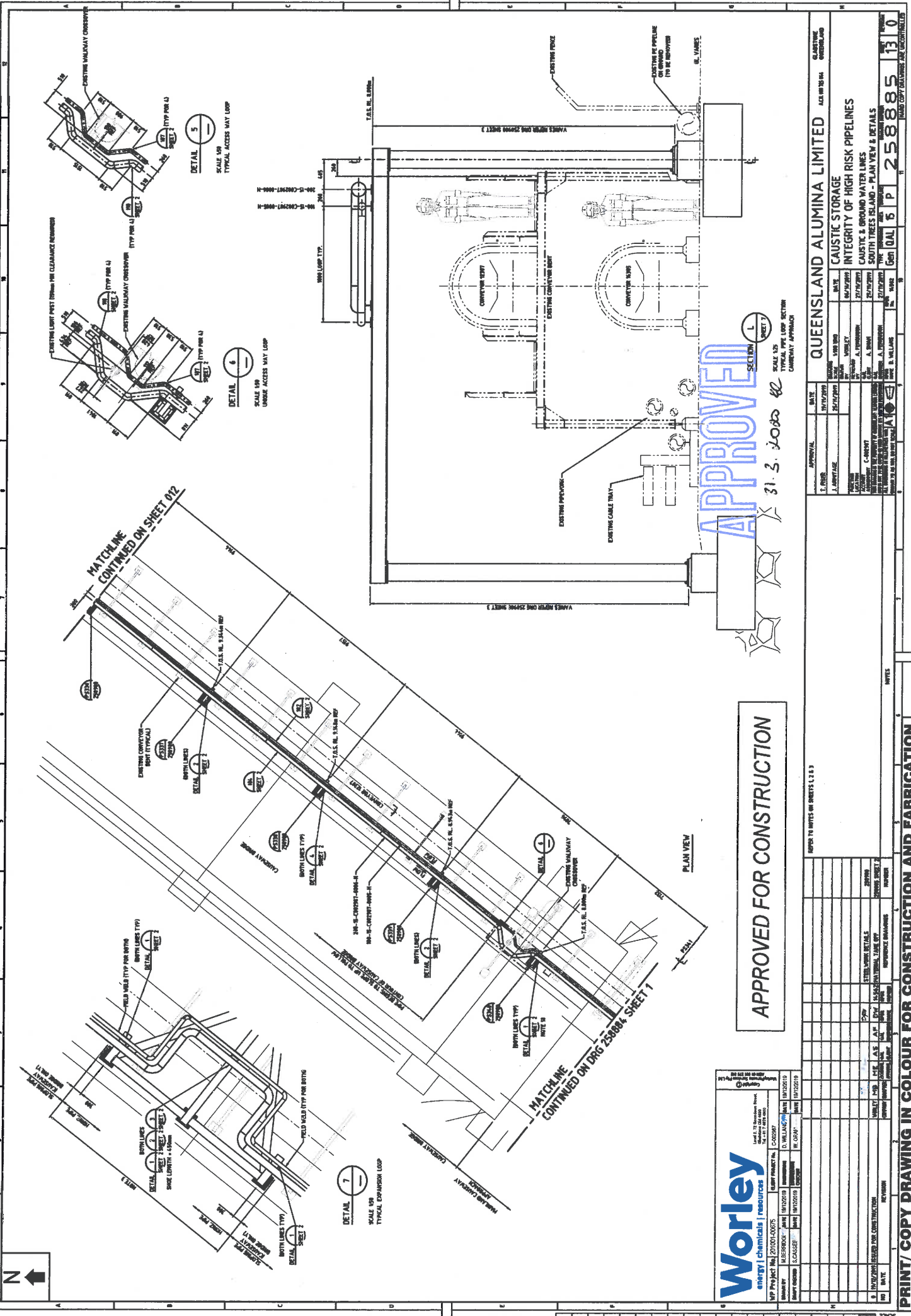
QUEENSLAND ALUMINA LIMITED CAUSTIC STORAGE INTEGRITY OF HIGH RISK PIPELINES CAUSTIC & GROUND WATER LINES SOUTH TREES ISLAND - PLAN VIEWS	
PROJECT NO: 201001-00676 PROJECT NAME: INTEGRITY OF HIGH RISK PIPELINES PROJECT LOCATION: SOUTH TREES ISLAND PROJECT START DATE: 19/12/2019 PROJECT END DATE: 31/12/2020	DRAWING NO: 201001-00676-01 DRAWING TITLE: SOUTH TREES ISLAND - PLAN VIEWS DRAWING DATE: 19/12/2019 DRAWING SCALE: AS SHOWN
PROJECT MANAGER: M. CRAN PROJECT ENGINEER: M. CRAN PROJECT SUPERVISOR: M. CRAN PROJECT ASSISTANT: M. CRAN	PROJECT MANAGER: M. CRAN PROJECT ENGINEER: M. CRAN PROJECT SUPERVISOR: M. CRAN PROJECT ASSISTANT: M. CRAN

NO.	DATE	BY	DESCRIPTION
1	19/12/2019	M. CRAN	ISSUED FOR CONSTRUCTION
2	20/12/2019	M. CRAN	ISSUED FOR CONSTRUCTION

Worley energy | chemicals | resources

Worley Project No: 201001-00676
 Project Name: INTEGRITY OF HIGH RISK PIPELINES
 Project Location: SOUTH TREES ISLAND
 Project Start Date: 19/12/2019
 Project End Date: 31/12/2020

REFER TO NOTES ON SHEETS 1 & 3



APPROVED FOR CONSTRUCTION

APPROVED
31.3 Jobs

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energy | chemicals | resources

MP Project No.	21001-00575	Client Project No.	C200087	Drawn By	M. BERROUCHE	Checked By	M. BERROUCHE	Date	19/12/2019
Drawn By	M. BERROUCHE	Checked By	M. BERROUCHE	Date	19/12/2019	Drawn By	M. BERROUCHE	Checked By	M. BERROUCHE
Scale	AS SHOWN	Project	CAUSTIC STORAGE	Sheet	1	Total	1	Date	19/12/2019

REFER TO NOTES ON SHEETS 1.2 & 3

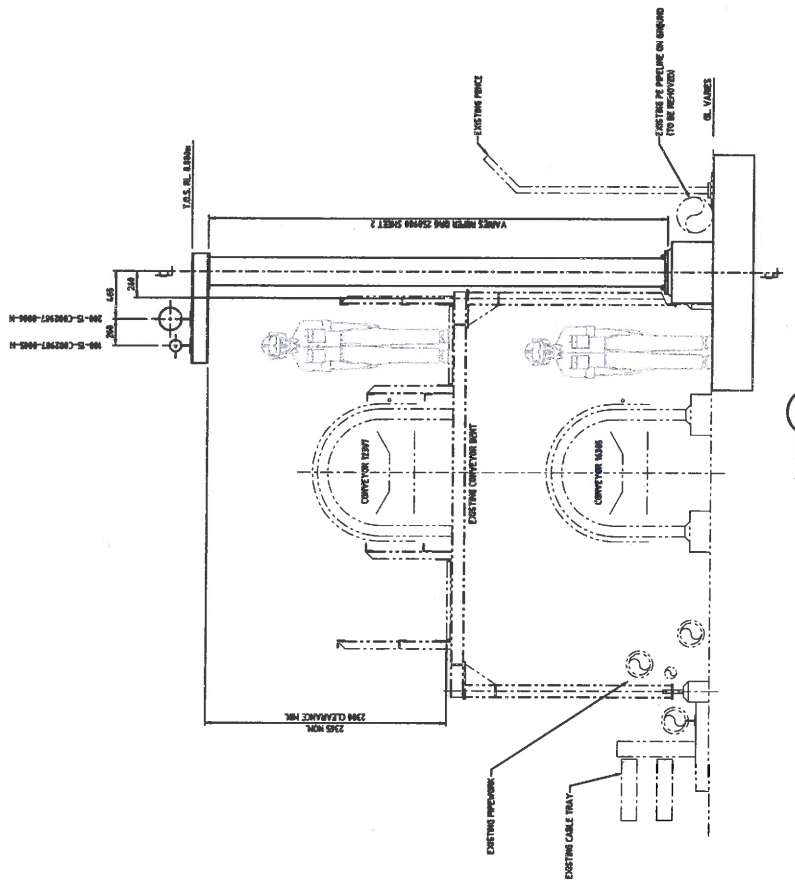
NO.	DATE	DESCRIPTION	BY	CHECKED BY
1	19/12/2019	ISSUED FOR CONSTRUCTION	M. BERROUCHE	M. BERROUCHE

APPROVAL	DATE	BY	FOR
J. LAWRENCE	19/12/2019	J. LAWRENCE	DESIGN
C. GARDY	22/12/2019	C. GARDY	CHECK
M. BERROUCHE	19/12/2019	M. BERROUCHE	ISSUE

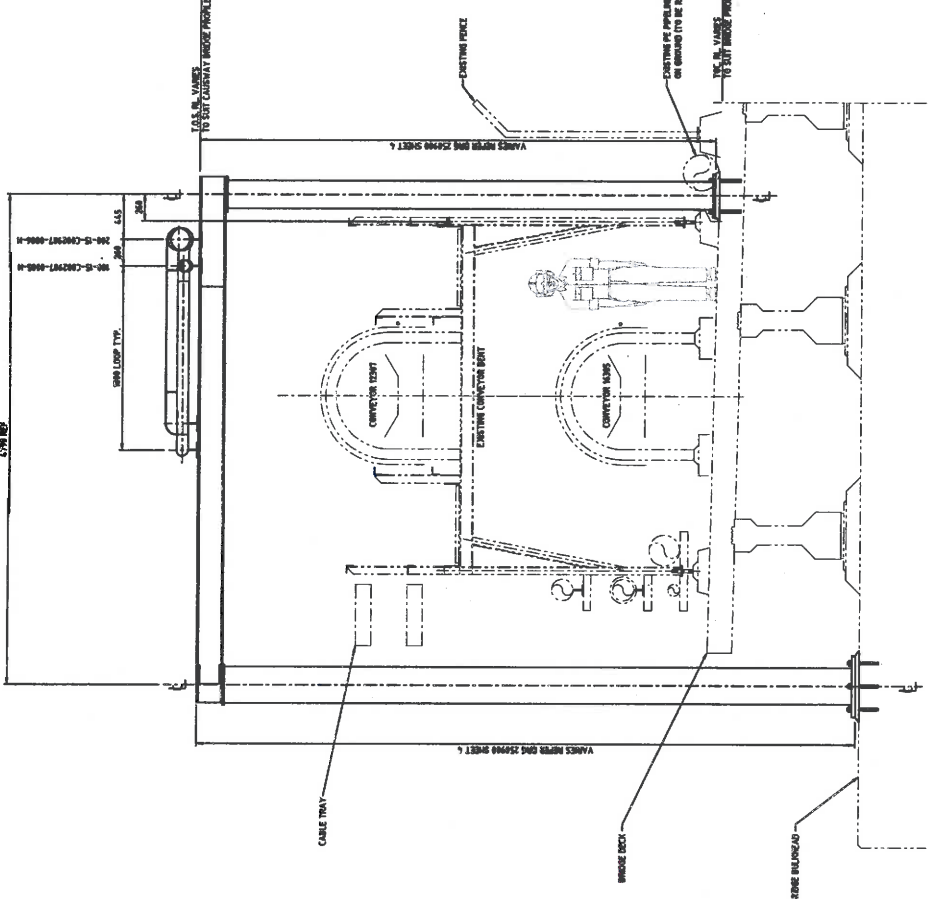
PROJECT: CAUSTIC STORAGE
SHEET: 1 OF 1
SCALE: 1:50
SECTION: L
TYPICAL PIPE LOOP SECTION
CAUSTIC APPROACH

QUEENSLAND ALUMINA LIMITED
CAUSTIC STORAGE
INTEGRITY OF HIGH RISK PIPELINES
CAUSTIC & GROUND WATER LINES
SOUTH TREES ISLAND - PLAN VIEW & DETAILS
Gen QAL 5 P 25885 13.0

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SECTION J
SHEET 5
TYPICAL PVC SUPPORT SECTION



APPROVED
SECTION K
SHEET 9
TYPICAL PIPE LAMP SECTION ON BRIDGE

APPROVED FOR CONSTRUCTION

31.3.20 no 62



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2015-2016
Project No: 21001-02675
Client Project No: C102567
Drawn By: ALBERROLD, Date: 18/12/2015, Dimensions: A1, Scale: 1:1, Date: 18/12/2015
Checked By: S.GAUSSE, Date: 18/12/2015, Dimensions: A1, Scale: 1:1, Date: 18/12/2015
W. ORA

NO	DATE	REVISION	APPROVED	APPROVED	APPROVED
6	18/12/2015	ISSUED FOR CONSTRUCTION	ALBERROLD, A.P.	ALBERROLD, A.P.	ALBERROLD, A.P.
5	18/12/2015	REVISED FOR CONSTRUCTION	ALBERROLD, A.P.	ALBERROLD, A.P.	ALBERROLD, A.P.

REFER TO NOTES ON SHEETS 1, 2, 3, 5

APPROVAL	DATE	QUEENSLAND ALUMINA LIMITED	
T. JAGER	16/12/2015	PROJECT NO:	40017R214
J. LAURITZ	26/12/2015	DRAWING NO:	50017R214
		DATE:	18/12/2015
		BY:	ALBERROLD, A.P.
		BY:	ALBERROLD, A.P.
		DATE:	27/12/2015
		BY:	ALBERROLD, A.P.
		DATE:	27/12/2015
		BY:	ALBERROLD, A.P.
		DATE:	16/12/2015
		BY:	ALBERROLD, A.P.
		DATE:	16/12/2015
		BY:	ALBERROLD, A.P.
		DATE:	16/12/2015
		BY:	ALBERROLD, A.P.

PROJECT TITLE	CAUSTIC STORAGE INTEGRITY OF HIGH RISK PIPELINES	SHEET NO	14 OF 14
PROJECT NO	40017R214	DRAWING NO	50017R214
CLIENT	QUEENSLAND ALUMINA LIMITED	SCALE	1:1
DATE	18/12/2015	BY	ALBERROLD, A.P.
PROJECT NO	40017R214	DRAWING NO	50017R214
CLIENT	QUEENSLAND ALUMINA LIMITED	SCALE	1:1
DATE	18/12/2015	BY	ALBERROLD, A.P.
PROJECT NO	40017R214	DRAWING NO	50017R214
CLIENT	QUEENSLAND ALUMINA LIMITED	SCALE	1:1
DATE	18/12/2015	BY	ALBERROLD, A.P.
PROJECT NO	40017R214	DRAWING NO	50017R214
CLIENT	QUEENSLAND ALUMINA LIMITED	SCALE	1:1
DATE	18/12/2015	BY	ALBERROLD, A.P.
PROJECT NO	40017R214	DRAWING NO	50017R214
CLIENT	QUEENSLAND ALUMINA LIMITED	SCALE	1:1
DATE	18/12/2015	BY	ALBERROLD, A.P.
PROJECT NO	40017R214	DRAWING NO	50017R214
CLIENT	QUEENSLAND ALUMINA LIMITED	SCALE	1:1
DATE	18/12/2015	BY	ALBERROLD, A.P.

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