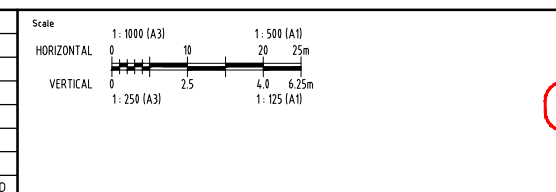


- NOTES**
- REFER 60662058-C-03 AND C-04 FOR PIPELINE NOTES
 - REFER 60662058-C-05 FOR PIPELINE LEGENDS

LAST MODIFIED: 20/07/2021 06:15 AM
CAD: RFP-6662058-03-CAD_GIS-910_CAD-03_SHEETS-60662058-C-40.DWG

This drawing is confidential and shall only be used for the purposes of this project.

No.	BY	DATE	DESCRIPTION	APPD
D	PSA	19.11.21	ISSUED FOR TENDER	
C	PSA	20.10.21	90% DESIGN	
B	PSA	17.09.21	PIPELINE SUPPLY TENDER	
A	PSA	24.08.21	50% SUBMISSION	



THE SIGNING OF THIS TITLE BLOCK CONFIRMS THE DESIGN AND DRAFTING OF THIS PROJECT HAVE BEEN PREPARED AND CHECKED IN ACCORDANCE WITH THE AECOM QUALITY ASSURANCE SYSTEM TO ISO 9001-2000

DESIGNED: _____ CHECKED: _____

APPROVED: _____ DATE: _____

NOT FOR CONSTRUCTION

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ROSS RIVER DAM TO DOUGLAS WTP PIPELINE

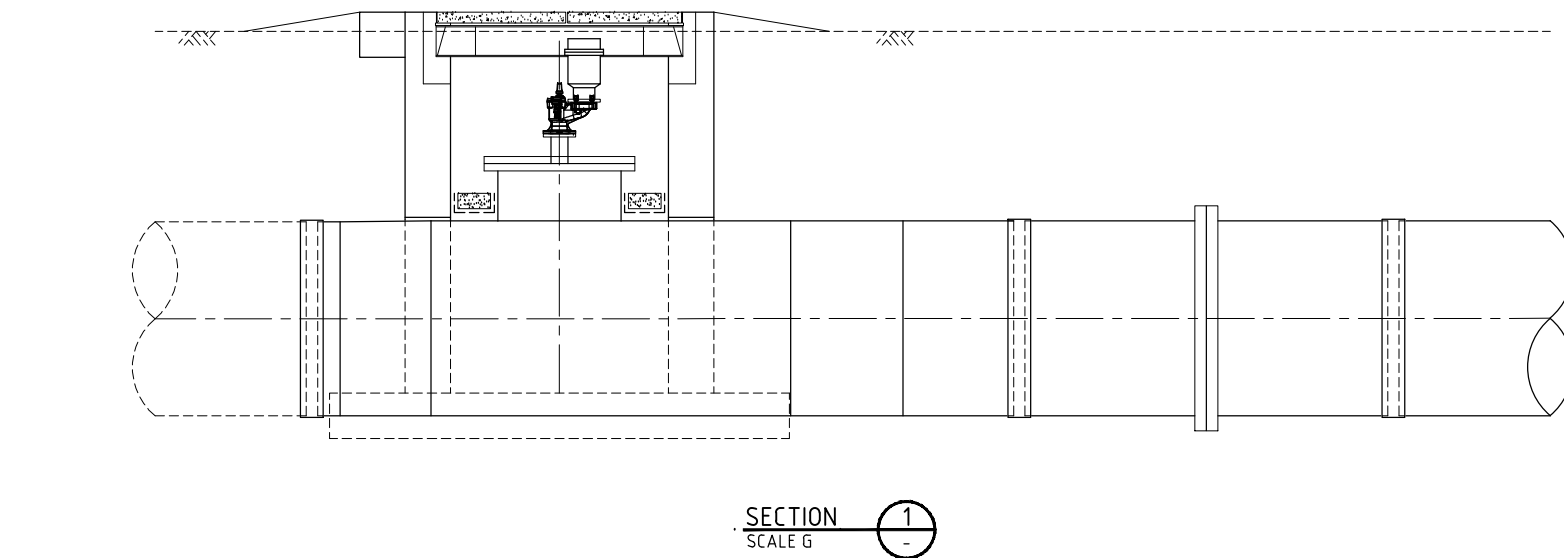
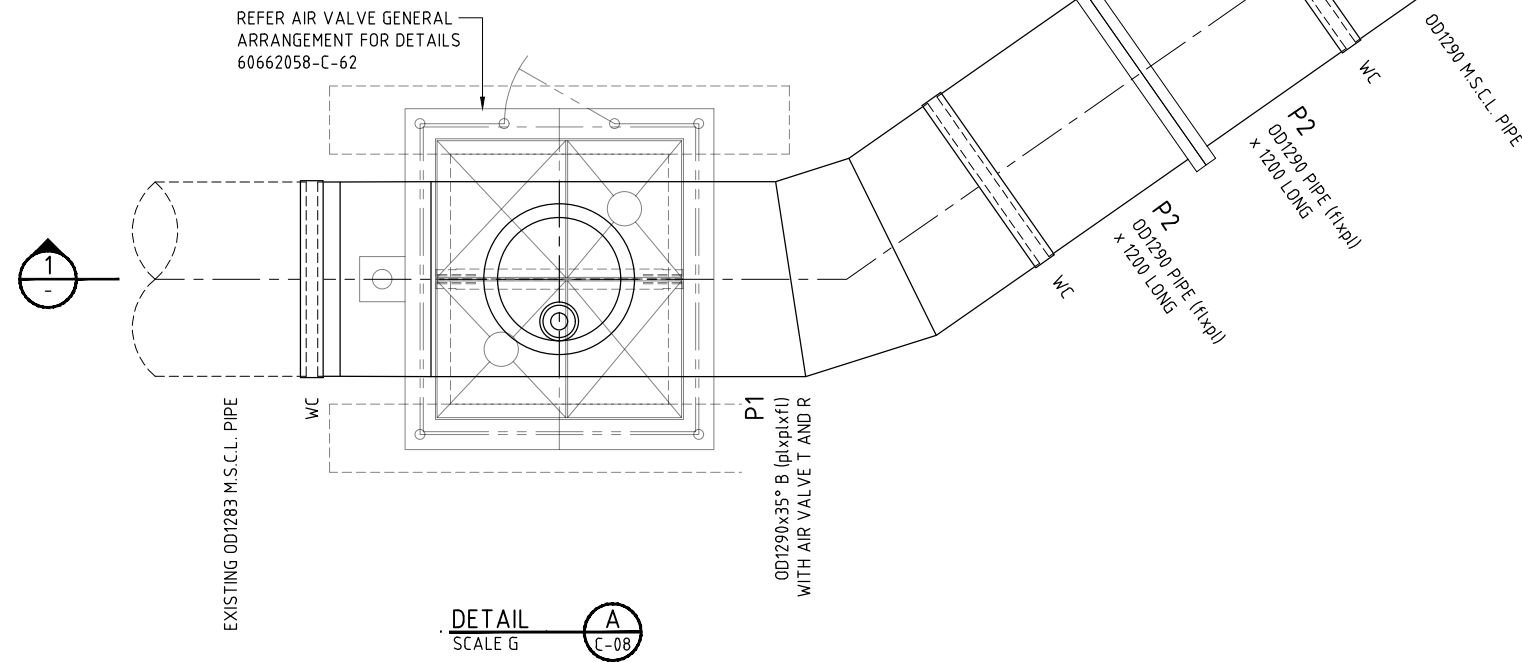
HIGH FLOW SCOUR
PLAN AND LONGITUDINAL SECTION

Status: TENDER

Proj No: 60662058-C-40

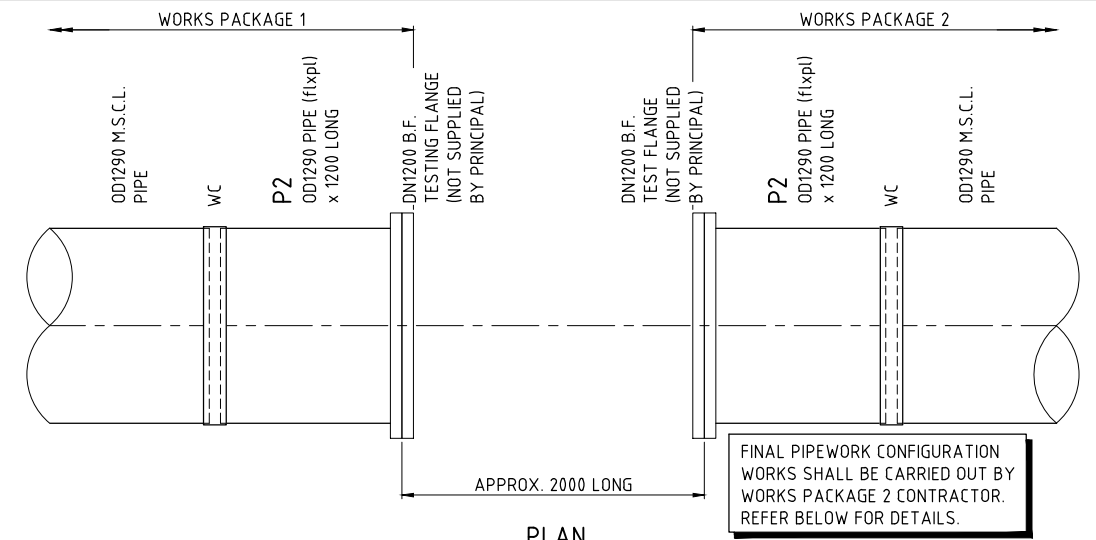
Rev: D

EXISTING M.S.C.L. PIPE CONNECTION (LOCATION AND ARRANGEMENT) SHALL BE CONFIRMED BY CONTRACTOR. CONTRACTOR SHALL CARRY OUT HIGH RESOLUTION 3D SCAN SURVEY ONCE CONNECTION LOCATIONS HAVE BEEN EXPOSED TO CONFIRM DIMENSIONS, ROUNDNESS AND SUITABILITY FOR PROPOSED CONNECTION

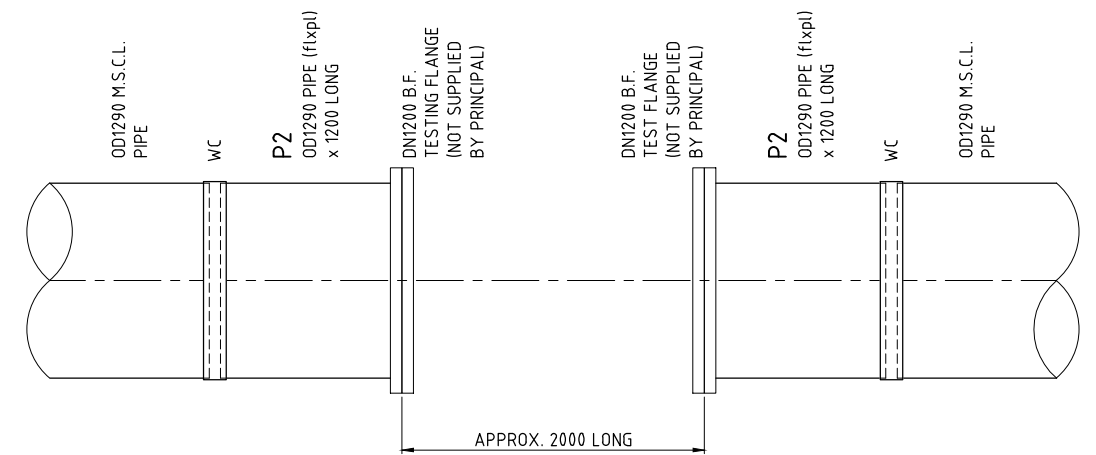


NOTES

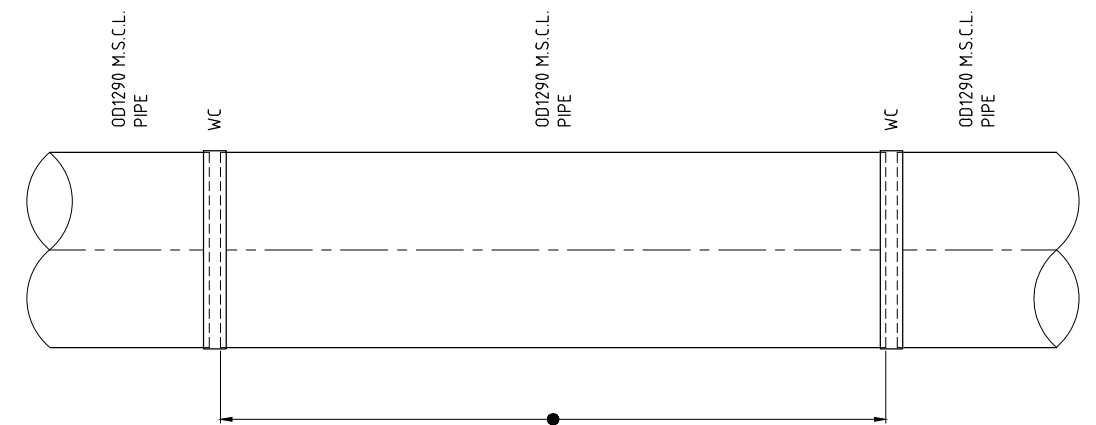
1. REFER 60662058-C-03 AND C-04 FOR PIPELINE NOTES
2. REFER 60662058-C-05 FOR PIPELINE LEGENDS
3. REFER 60662058-C-63 TO C-65 FOR PIPE SPECIALS



PLAN WORKS PACKAGES INTERFACE TESTING PIPEWORK CONFIGURATION
SCALE G



PLAN HYDROSTATIC TEST LOCATION TESTING PIPEWORK CONFIGURATION
SCALE G

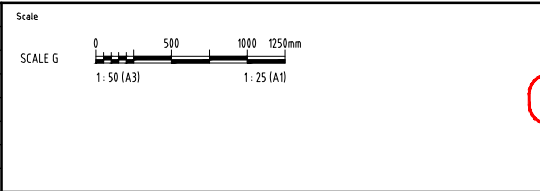


PIPE SPECIAL P2's AND BLANK FLANGES SHALL BE REMOVED ALONG WITH WELD COLLARS AND NEW LENGTH OF PIPE AND WELD COLLARS SHALL BE INSTALLED ON COMPLETION ON HYDROSTATIC TESTING. REINSTATE CEMENT MORTAR INTERNALLY. ACCESS VIA ADJACENT AIR VALVE / MAINTENANCE ACCESS.

PLAN HYDROSTATIC TEST LOCATION FINAL PIPEWORK CONFIGURATION
SCALE G
SHALL BE INSTALLED AT ENDS OF TESTING SECTIONS. REFER SPECIFICATIONS

LAST MODIFIED: 20/02/2021 2:05 PM

No.	BY	DATE	DESCRIPTION	APPD
D	PSA	19.11.21	ISSUED FOR TENDER	
C	PSA	20.10.21	90% DESIGN	
B	PSA	17.09.21	PIPELINE SUPPLY TENDER	
A	PSA	24.08.21	50% SUBMISSION	



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DESIGNED	CHECKED
APPROVED	DATE

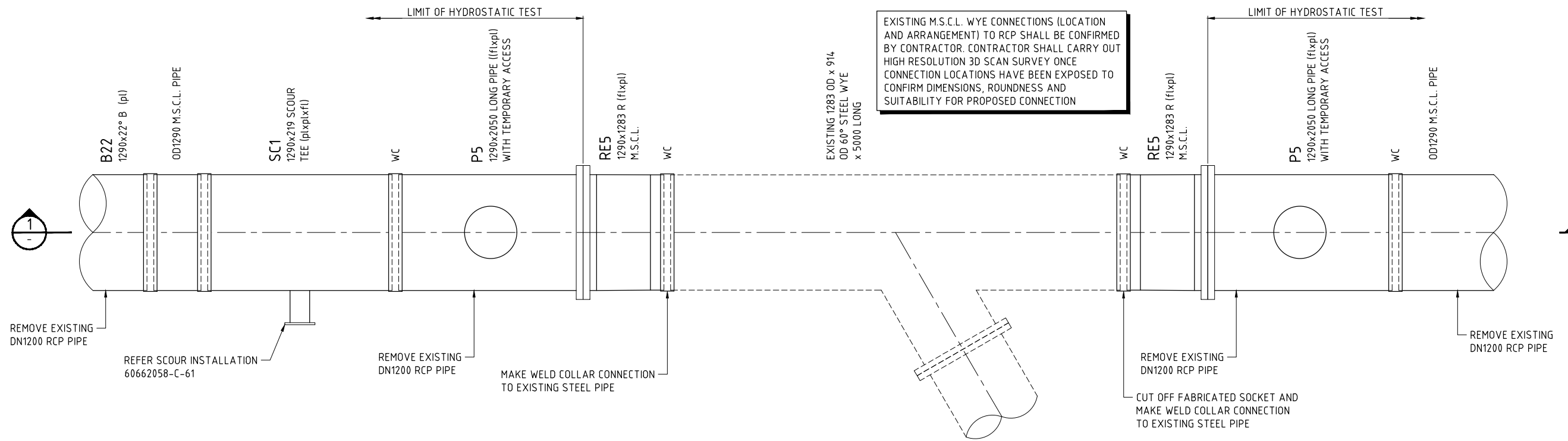
NOT FOR CONSTRUCTION



AECOM Australia Pty Ltd A.B.N. 20 093 846 925

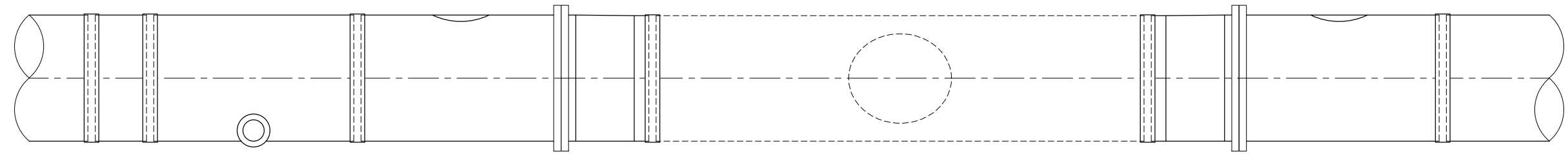


ROSS RIVER DAM TO DOUGLAS WTP PIPELINE	
CONNECTION DETAILS SHEET 1	
Status	TENDER
Dwg No.	60662058-C-41
Rev.	D



EXISTING M.S.C.L. WYE CONNECTIONS (LOCATION AND ARRANGEMENT) TO RCP SHALL BE CONFIRMED BY CONTRACTOR. CONTRACTOR SHALL CARRY OUT HIGH RESOLUTION 3D SCAN SURVEY ONCE CONNECTION LOCATIONS HAVE BEEN EXPOSED TO CONFIRM DIMENSIONS, ROUNDNESS AND SUITABILITY FOR PROPOSED CONNECTION

DETAIL SCALE G B
C-09



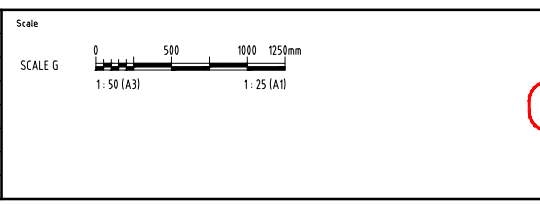
SECTION SCALE G 1

- NOTES**
- REFER 60662058-C-03 AND C-04 FOR PIPELINE NOTES
 - REFER 60662058-C-05 FOR PIPELINE LEGENDS
 - REFER 60662058-C-63 TO C-65 FOR PIPE SPECIALS

LAST MODIFIED: 17/12/2021 2:58 PM CAD: RCP-6662058-999_CAD_GIS-910_CAD-02_SHEETS-6662058-C-42.DWG

This drawing is confidential and shall only be used for the purposes of this project.

No.	BY	DATE	DESCRIPTION	APPD
D	PSA	19.11.21	ISSUED FOR TENDER	
C	PSA	20.10.21	90% DESIGN	
B	PSA	17.09.21	PIPELINE SUPPLY TENDER	
A	PSA	24.08.21	50% SUBMISSION	



THE SIGNING OF THIS TITLE BLOCK CONFIRMS THE DESIGN AND DRAFTING OF THIS PROJECT HAVE BEEN PREPARED AND CHECKED IN ACCORDANCE WITH THE AECOM QUALITY ASSURANCE SYSTEM TO ISO 9001-2000

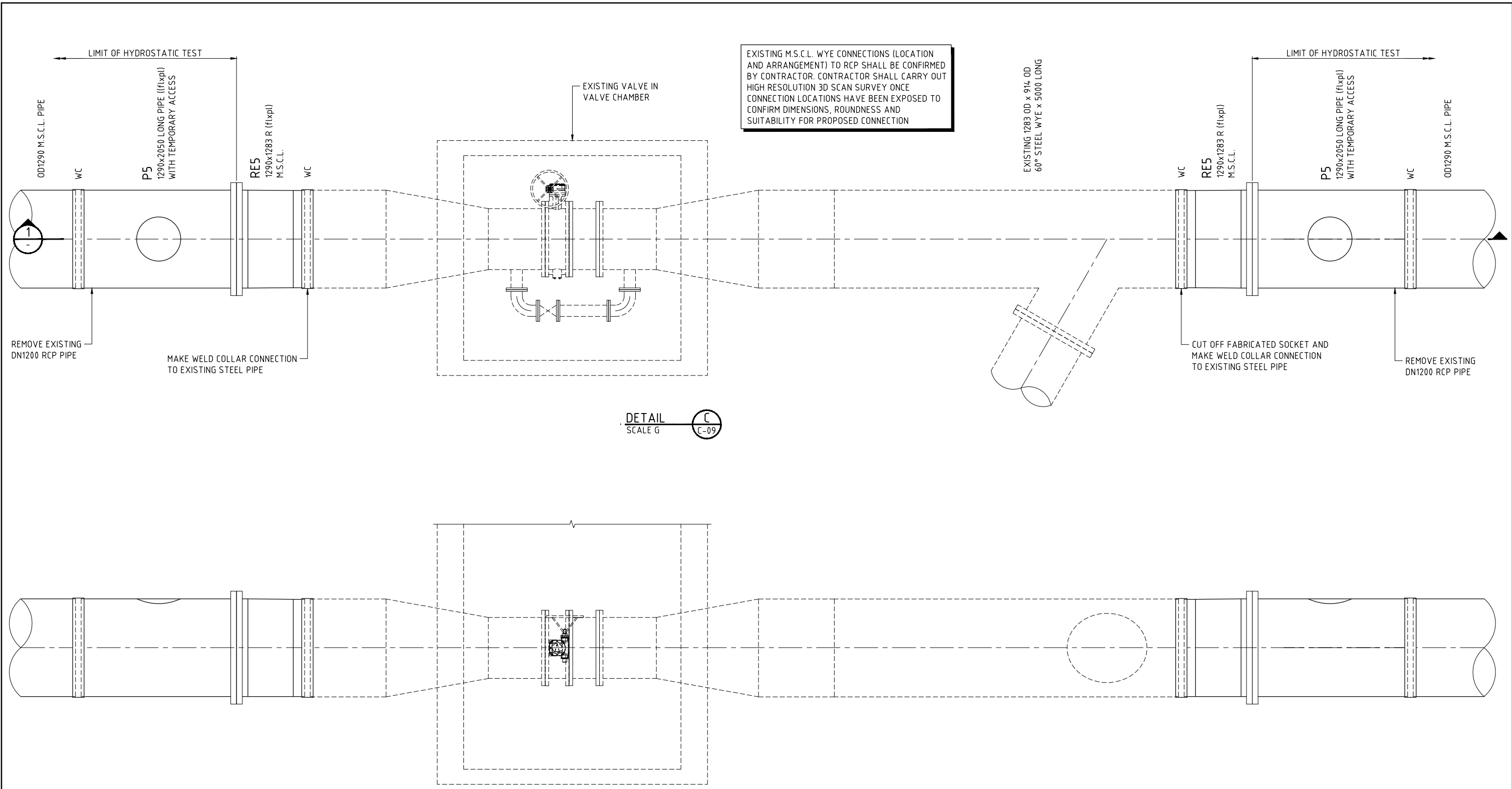
DESIGNED	CHECKED
APPROVED	DATE

AECOM

AECOM Australia Pty Ltd A.B.N. 20 093 846 925

ROSS RIVER DAM TO DOUGLAS WTP PIPELINE	
CONNECTION DETAILS	
SHEET 2	
Status	TENDER
Dwg No.	60662058-C-42
Rev.	D

NOT FOR CONSTRUCTION

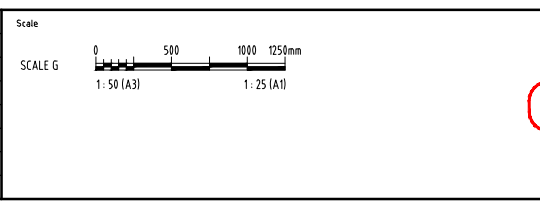


- NOTES**
1. REFER 60662058-C-03 AND C-04 FOR PIPELINE NOTES
 2. REFER 60662058-C-05 FOR PIPELINE LEGENDS
 3. REFER 60662058-C-63 TO C-65 FOR PIPE SPECIALS

CAD: RFP-666X16662058-100_CAD_GIS-100_CAD-100_SHEETS-6662058-C-43.DWG
 LAST MODIFIED: 20/02/2021 2:05 PM

This drawing is confidential and shall only be used for the purposes of this project.

No.	BY	DATE	DESCRIPTION	APPD
D	PSA	19.11.21	ISSUED FOR TENDER	
C	PSA	20.10.21	90% DESIGN	
B	PSA	17.09.21	PIPELINE SUPPLY TENDER	
A	PSA	24.08.21	50% SUBMISSION	



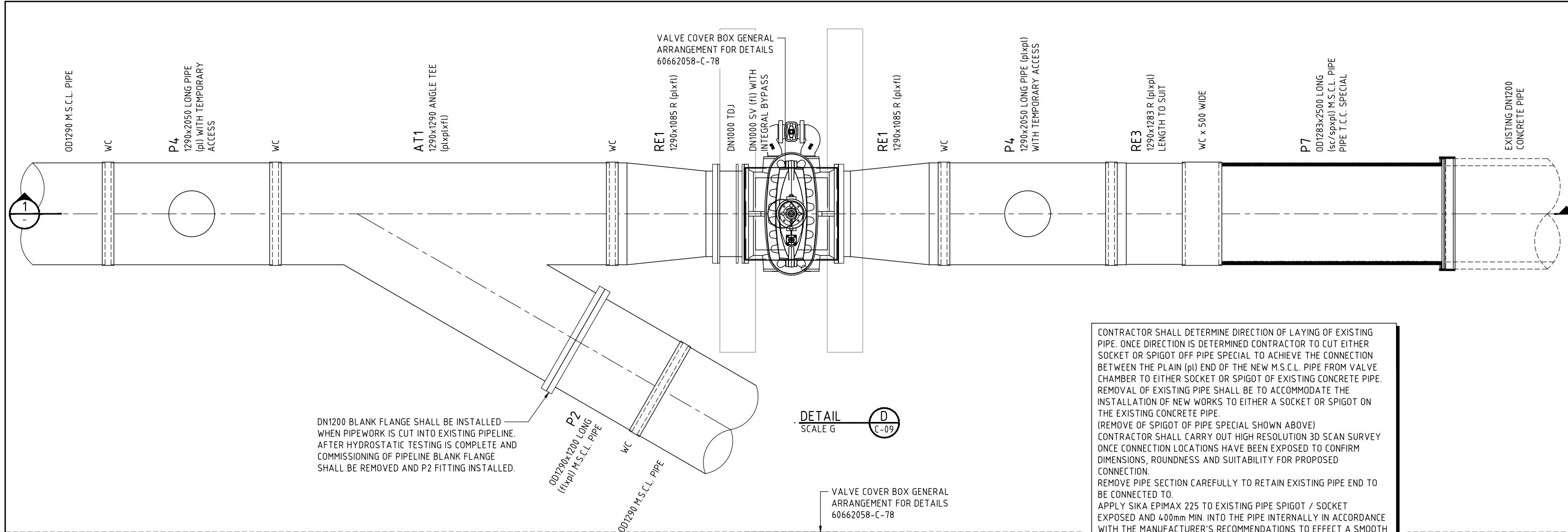
THE SIGNING OF THIS TITLE BLOCK CONFIRMS THE DESIGN AND DRAFTING OF THIS PROJECT HAVE BEEN PREPARED AND CHECKED IN ACCORDANCE WITH THE AECOM QUALITY ASSURANCE SYSTEM TO ISO 9001-2000

DESIGNED	CHECKED
APPROVED	DATE

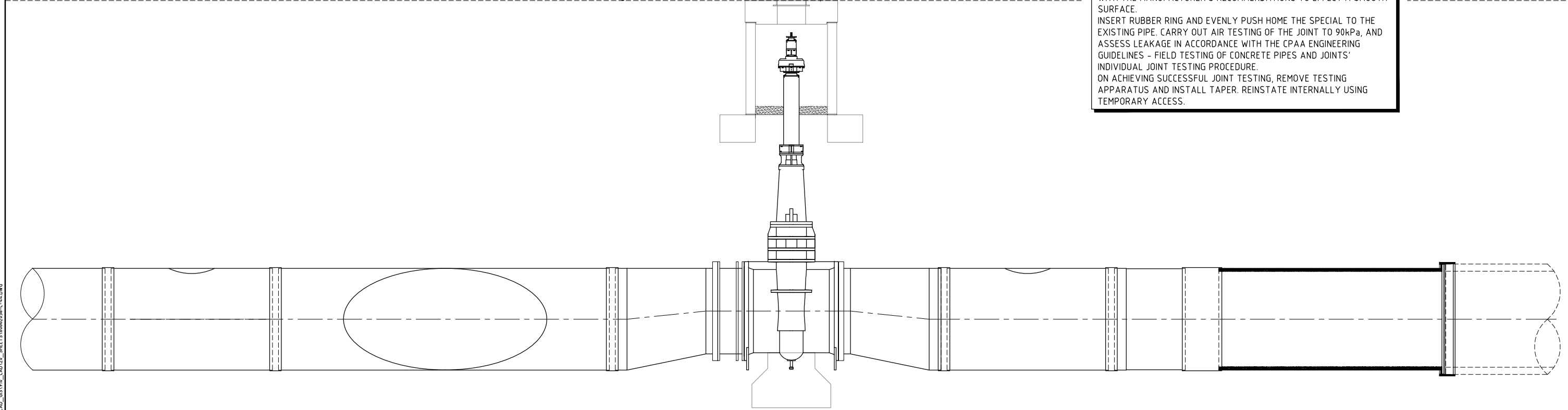
NOT FOR CONSTRUCTION



ROSS RIVER DAM TO DOUGLAS WTP PIPELINE	
CONNECTION DETAILS SHEET 3	
Status	TENDER
Dwg No.	60662058-C-43
Rev	D



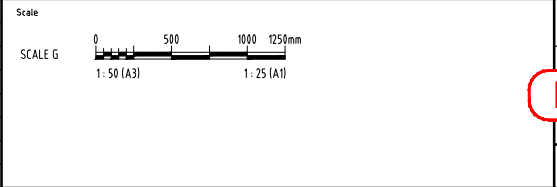
CONTRACTOR SHALL DETERMINE DIRECTION OF LAYING OF EXISTING PIPE. ONCE DIRECTION IS DETERMINED CONTRACTOR TO CUT EITHER SOCKET OR SPIGOT OFF PIPE SPECIAL TO ACHIEVE THE CONNECTION BETWEEN THE PLAIN (pi) END OF THE NEW M.S.C.L. PIPE FROM VALVE CHAMBER TO EITHER SOCKET OR SPIGOT OF EXISTING CONCRETE PIPE. REMOVAL OF EXISTING PIPE SHALL BE TO ACCOMMODATE THE INSTALLATION OF NEW WORKS TO EITHER A SOCKET OR SPIGOT ON THE EXISTING CONCRETE PIPE.
 (REMOVE OF SPIGOT OF PIPE SPECIAL SHOWN ABOVE)
 CONTRACTOR SHALL CARRY OUT HIGH RESOLUTION 3D SCAN SURVEY ONCE CONNECTION LOCATIONS HAVE BEEN EXPOSED TO CONFIRM DIMENSIONS, ROUNDNESS AND SUITABILITY FOR PROPOSED CONNECTION.
 REMOVE PIPE SECTION CAREFULLY TO RETAIN EXISTING PIPE END TO BE CONNECTED TO.
 APPLY SIKA EPIMAX 225 TO EXISTING PIPE SPIGOT / SOCKET EXPOSED AND 400mm MIN. INTO THE PIPE INTERNALLY IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS TO EFFECT A SMOOTH SURFACE.
 INSERT RUBBER RING AND EVENLY PUSH HOME THE SPECIAL TO THE EXISTING PIPE. CARRY OUT AIR TESTING OF THE JOINT TO 90kPa, AND ASSESS LEAKAGE IN ACCORDANCE WITH THE CPAA ENGINEERING GUIDELINES - FIELD TESTING OF CONCRETE PIPES AND JOINTS' INDIVIDUAL JOINT TESTING PROCEDURE.
 ON ACHIEVING SUCCESSFUL JOINT TESTING, REMOVE TESTING APPARATUS AND INSTALL TAPER. REINSTATE INTERNALLY USING TEMPORARY ACCESS.



- NOTES**
1. REFER 60662058-C-03 AND C-04 FOR PIPELINE NOTES
 2. REFER 60662058-C-05 FOR PIPELINE LEGENDS
 3. REFER 60662058-C-63 TO C-65 FOR PIPE SPECIALS

This drawing is confidential and shall only be used for the purposes of this project.

No.	BY	DATE	DESCRIPTION	APPD
D	PSA	19.11.21	ISSUED FOR TENDER	
C	PSA	20.10.21	90% DESIGN	
B	PSA	17.09.21	PIPELINE SUPPLY TENDER	
A	PSA	24.08.21	50% SUBMISSION	



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DESIGNED	CHECKED
APPROVED	DATE

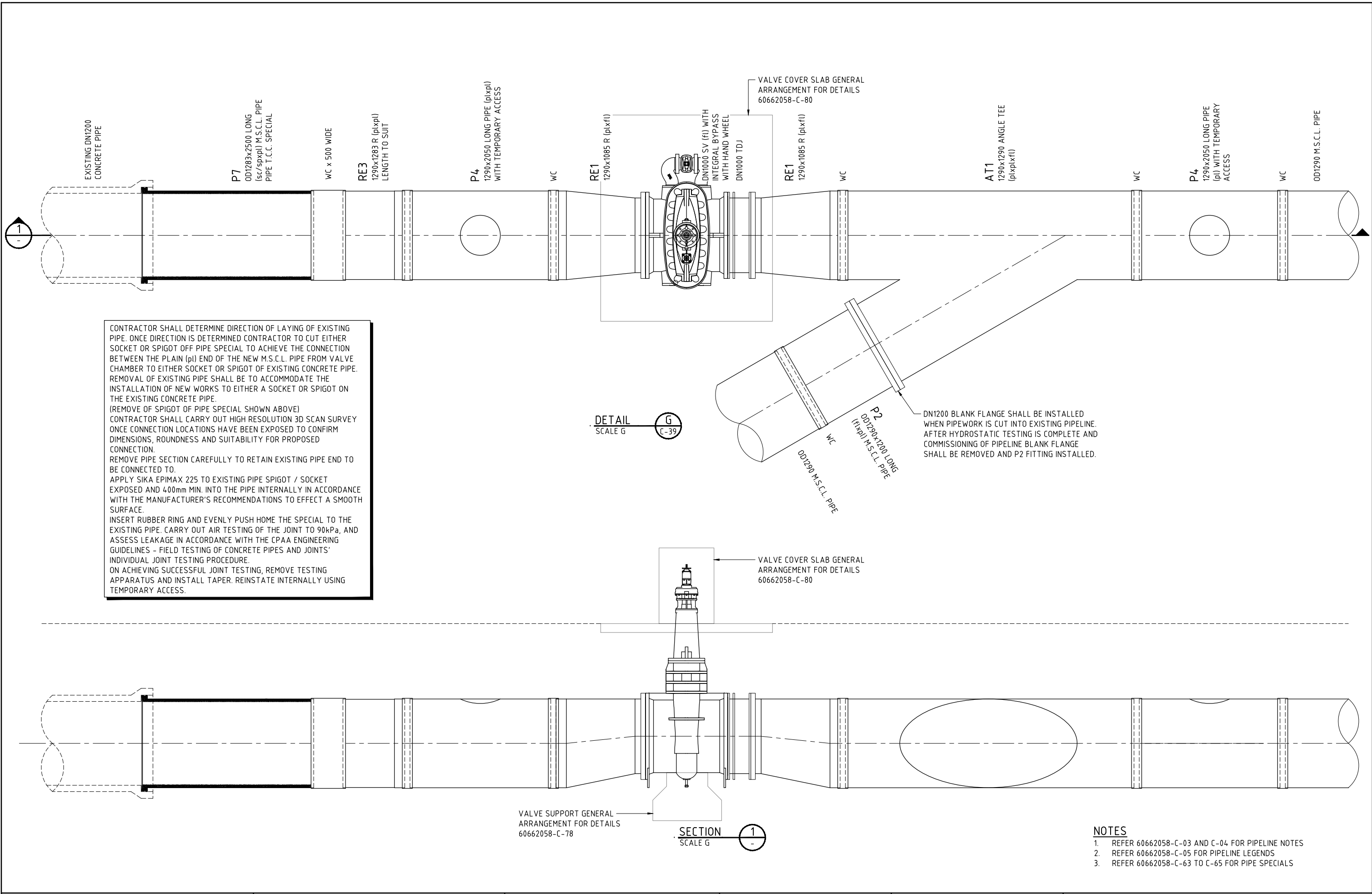
NOT FOR CONSTRUCTION



ROSS RIVER DAM TO DOUGLAS WTP PIPELINE
 CONNECTION DETAILS
 SHEET 4

Status TENDER Dwg No. 60662058-C-44 Rev. D

LAST MODIFIED: 19/11/2021 09:14:41 AM CAD: RFP1440X16662058_V08_CAD_GIS_V08_CAD_V08_SHEETS16662058-C-44.DWG



CONTRACTOR SHALL DETERMINE DIRECTION OF LAYING OF EXISTING PIPE. ONCE DIRECTION IS DETERMINED CONTRACTOR TO CUT EITHER SOCKET OR SPIGOT OFF PIPE SPECIAL TO ACHIEVE THE CONNECTION BETWEEN THE PLAIN (PI) END OF THE NEW M.S.C.L. PIPE FROM VALVE CHAMBER TO EITHER SOCKET OR SPIGOT OF EXISTING CONCRETE PIPE. REMOVAL OF EXISTING PIPE SHALL BE TO ACCOMMODATE THE INSTALLATION OF NEW WORKS TO EITHER A SOCKET OR SPIGOT ON THE EXISTING CONCRETE PIPE.
 (REMOVE OF SPIGOT OF PIPE SPECIAL SHOWN ABOVE)
 CONTRACTOR SHALL CARRY OUT HIGH RESOLUTION 3D SCAN SURVEY ONCE CONNECTION LOCATIONS HAVE BEEN EXPOSED TO CONFIRM DIMENSIONS, ROUNDNESS AND SUITABILITY FOR PROPOSED CONNECTION.
 REMOVE PIPE SECTION CAREFULLY TO RETAIN EXISTING PIPE END TO BE CONNECTED TO.
 APPLY SIKA EPIMAX 225 TO EXISTING PIPE SPIGOT / SOCKET EXPOSED AND 400mm MIN. INTO THE PIPE INTERNALLY IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS TO EFFECT A SMOOTH SURFACE.
 INSERT RUBBER RING AND EVENLY PUSH HOME THE SPECIAL TO THE EXISTING PIPE. CARRY OUT AIR TESTING OF THE JOINT TO 90kPa, AND ASSESS LEAKAGE IN ACCORDANCE WITH THE CPEA ENGINEERING GUIDELINES - FIELD TESTING OF CONCRETE PIPES AND JOINTS' INDIVIDUAL JOINT TESTING PROCEDURE.
 ON ACHIEVING SUCCESSFUL JOINT TESTING, REMOVE TESTING APPARATUS AND INSTALL TAPER. REINSTATE INTERNALLY USING TEMPORARY ACCESS.

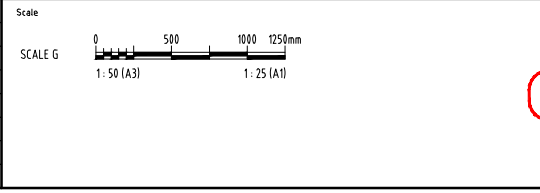
DETAIL SCALE G
 G C-39

SECTION SCALE G
 1

- NOTES**
1. REFER 60662058-C-03 AND C-04 FOR PIPELINE NOTES
 2. REFER 60662058-C-05 FOR PIPELINE LEGENDS
 3. REFER 60662058-C-63 TO C-65 FOR PIPE SPECIALS

This drawing is confidential and shall only be used for the purposes of this project.

No.	BY	DATE	DESCRIPTION	APPD
D	PSA	19.11.21	ISSUED FOR TENDER	
C	PSA	20.10.21	90% DESIGN	
B	PSA	17.09.21	PIPELINE SUPPLY TENDER	
A	PSA	24.08.21	50% SUBMISSION	



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DESIGNED	CHECKED
APPROVED	DATE

NOT FOR CONSTRUCTION

AECOM

AECOM Australia Pty Ltd A.B.N. 20 093 846 925



ROSS RIVER DAM TO DOUGLAS WTP PIPELINE

CONNECTION DETAILS

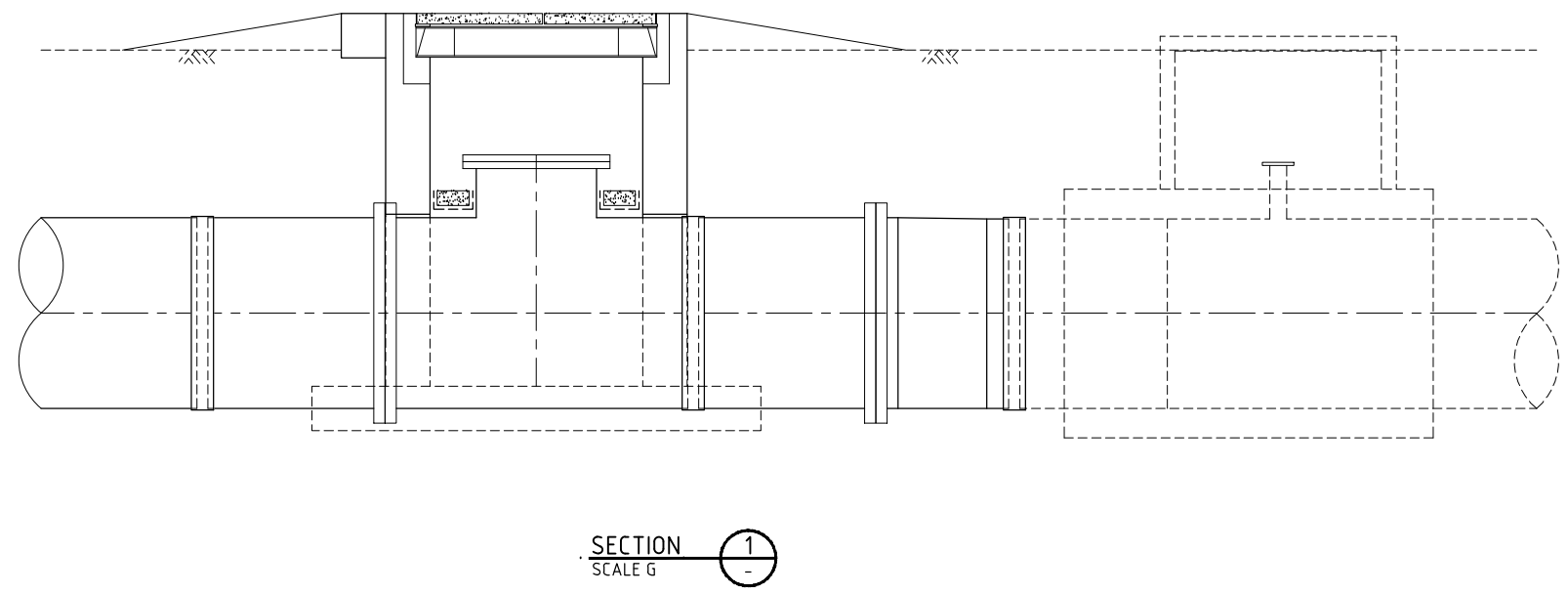
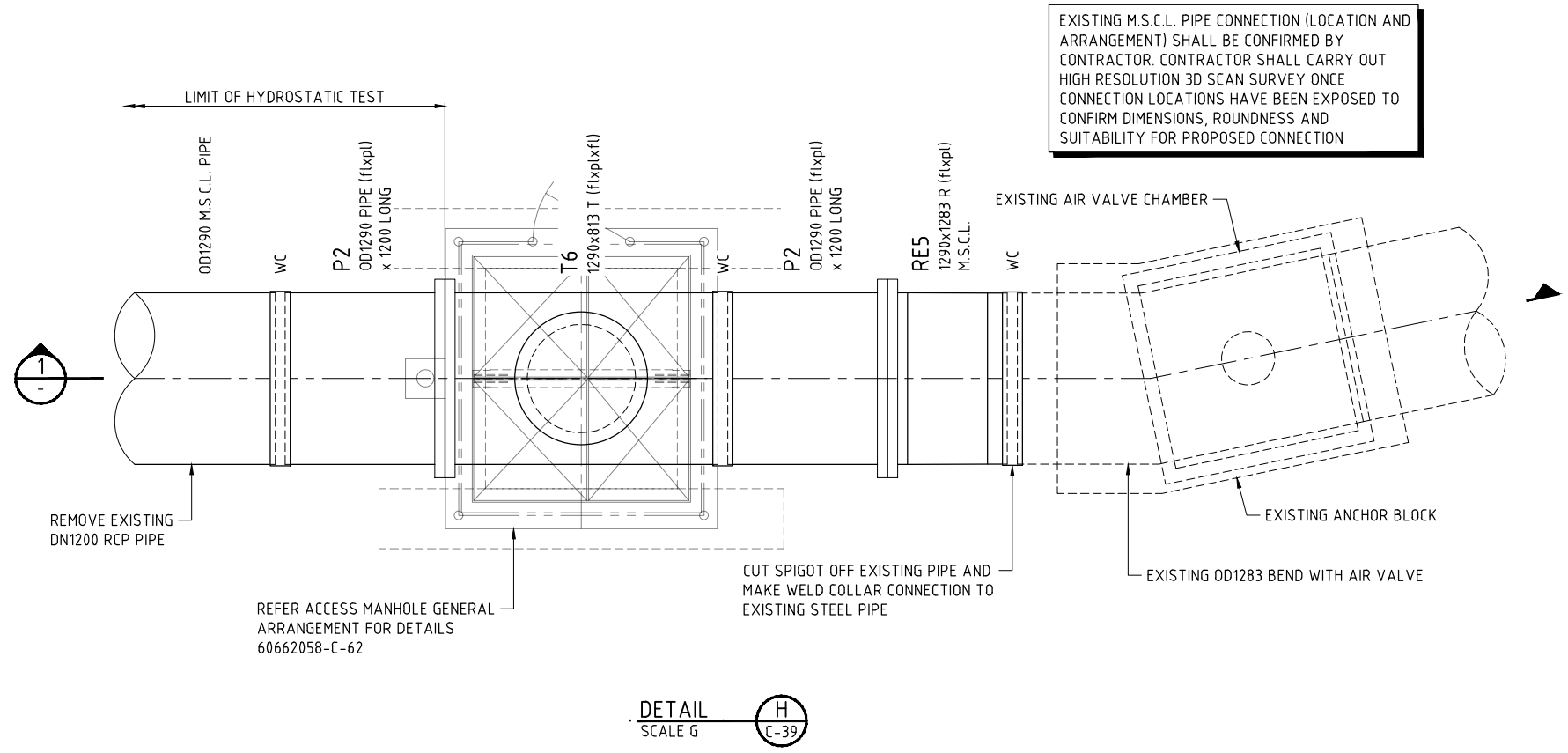
SHEET 5

Status: TENDER

Drwg No: 60662058-C-47

Rev: D

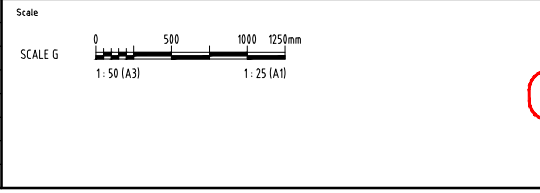
LAST MODIFIED: 19/11/21 03:35 AM
 CAD: REP: 60662058-000_CAD_GIS: 910_CAD: 02_ SHEETS: 60662058-C-47.DWG



- NOTES**
1. REFER 60662058-C-03 AND C-04 FOR PIPELINE NOTES
 2. REFER 60662058-C-05 FOR PIPELINE LEGENDS
 3. REFER 60662058-C-63 TO C-65 FOR PIPE SPECIALS

LAST MODIFIED: 20/02/2021 2:04 PM
CAD: RFP-6662058-V08_CAD_GIS-V08_CAD-V08_SHEETS-60662058-C-48.DWG

No.	BY	DATE	DESCRIPTION	APPD
D	PSA	19.11.21	ISSUED FOR TENDER	
C	PSA	20.10.21	90% DESIGN	
B	PSA	17.09.21	PIPELINE SUPPLY TENDER	
A	PSA	24.08.21	50% SUBMISSION	



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DESIGNED	CHECKED
APPROVED	DATE

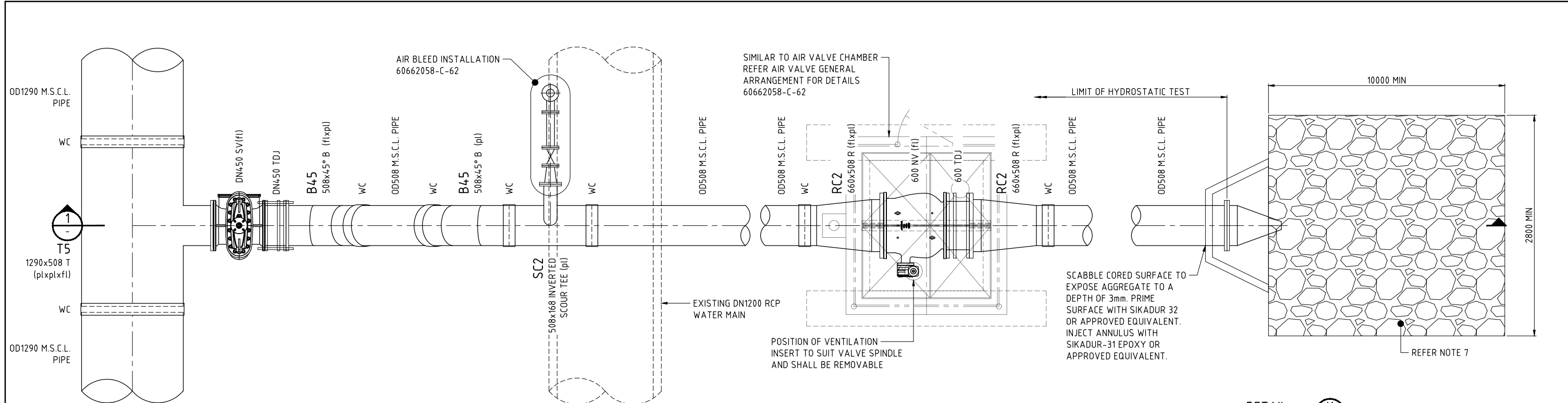
NOT FOR CONSTRUCTION



AECOM Australia Pty Ltd A.B.N. 20 093 846 925

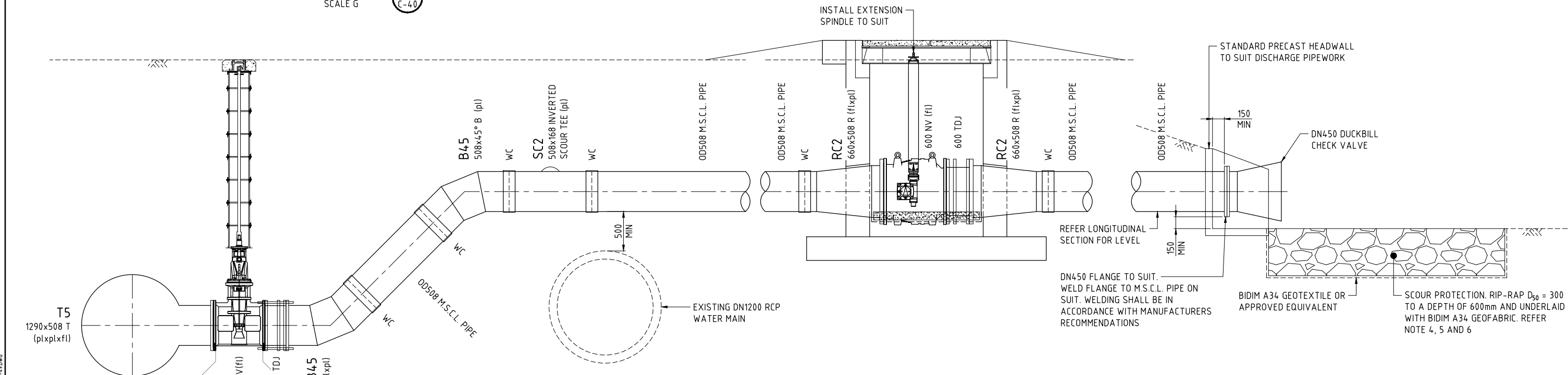


ROSS RIVER DAM TO DOUGLAS WTP PIPELINE	
CONNECTION DETAILS	
SHEET 6	
Status	TENDER
Dwg No.	60662058-C-48
Rev.	D



DETAIL J
SCALE G
C-40

DETAIL K
SCALE G
C-40



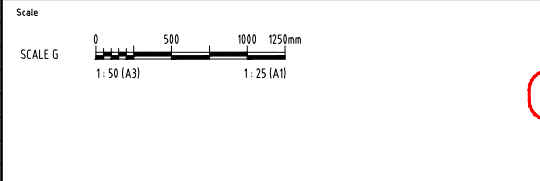
SECTION 1
SCALE G

- NOTES**
- REFER 60662058-C-03 AND C-04 FOR PIPELINE NOTES
 - REFER 60662058-C-05 FOR PIPELINE LEGENDS
 - REFER 60662058-C-63 TO C-65 FOR PIPE SPECIALS
 - SPACES BETWEEN ROCKS SHALL BE FILLED WITH SMALLER CRUSHED ROCKS AND LOCKED IN WITH CROWBAR.
 - ALL ROCK FOR RIP-RAP SHALL BE HARD SANDSTONE OF MINIMUM DENSITY 2100kg/M³
 - KEY ROCKS TOGETHER TO MINIMISE MOVEMENT.
 - THE SIZE OF THE PACKED ROCK SCOUR PROTECTION SHOWN IN THE DRAWING IS THE ABSOLUTE MINIMUM AND SHALL BE DETERMINED ON SITE.

LAST MODIFIED: 17/12/2015 10:51 AM
CAD: RFP-6662058-98_CAD_GIS-98_CAD-25_SHEETS-6662058-C-49.DWG

This drawing is confidential and shall only be used for the purposes of this project.

No.	BY	DATE	DESCRIPTION	APPD
D	PSA	19.11.21	ISSUED FOR TENDER	
C	PSA	20.10.21	90% DESIGN	
B	PSA	17.09.21	PIPELINE SUPPLY TENDER	
A	PSA	24.08.21	50% SUBMISSION	



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DESIGNED	CHECKED
APPROVED	DATE

NOT FOR CONSTRUCTION

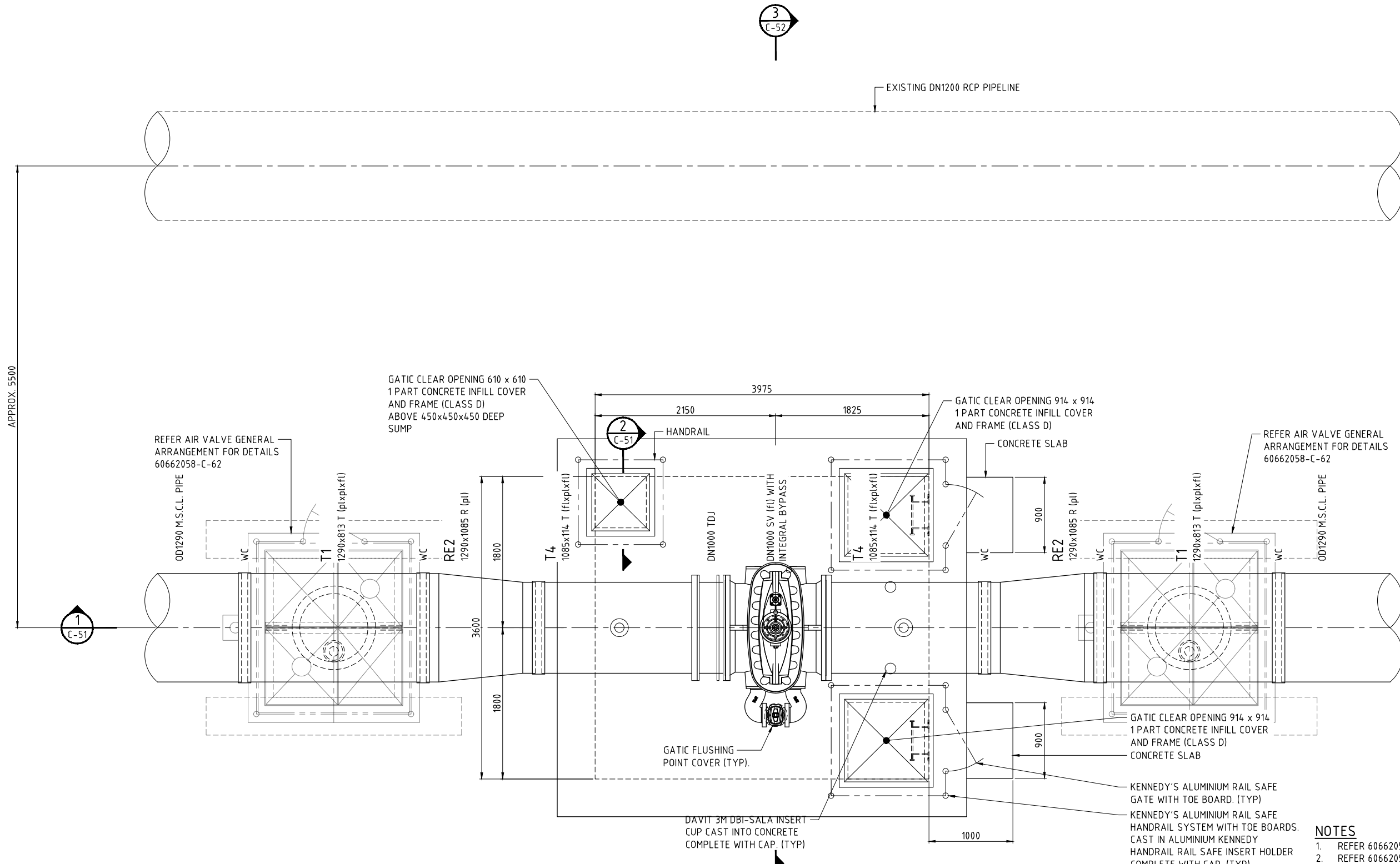
AECOM

AECOM Australia Pty Ltd A.B.N. 20 093 846 925



ROSS RIVER DAM TO DOUGLAS WTP PIPELINE
CONNECTION DETAILS
SHEET 7

Status: TENDER
Rev: D
Drw No: 60662058-C-49

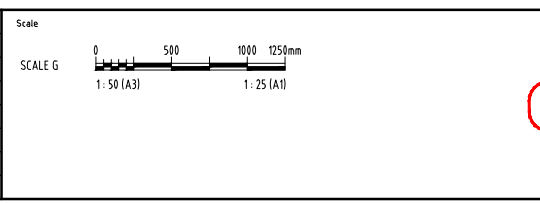


PLAN
CH594 - VALVE CHAMBERS INSTALLATION ARRANGEMENT
 SCALE G
 60662058-C-09

- NOTES**
- REFER 60662058-C-03 AND C-04 FOR PIPELINE NOTES
 - REFER 60662058-C-05 FOR PIPELINE LEGENDS
 - REFER 60662058-C-63 TO C-65 FOR PIPE SPECIALS
 - LADDER TOP RUNG IS NOT LEVEL WITH TOP LANDING AND DOES NOT COMPLY WITH AS 1657-2013.
 - VERTICAL LADDER FOR VALVE CHAMBER. 750 mm CLEARANCE IS NOT PROVIDED BETWEEN LADDER AND EDGE OF LID AND DOES NOT COMPLY WITH AS 1657-2013.

CAD: RFP-646X16462058-09_CAD_GIS910_CAD123_SHEETS/6462058-C-50.DWG
 LAST MODIFIED: 21/12/21 10:11 AM
 REVISIONS

This drawing is confidential and shall only be used for the purposes of this project.				
No.	BY	DATE	DESCRIPTION	APPD
D	PSA	19.11.21	ISSUED FOR TENDER	
C	PSA	20.10.21	90% DESIGN	
B	PSA	17.09.21	PIPELINE SUPPLY TENDER	
A	PSA	24.08.21	50% SUBMISSION	



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DESIGNED	CHECKED
APPROVED	DATE

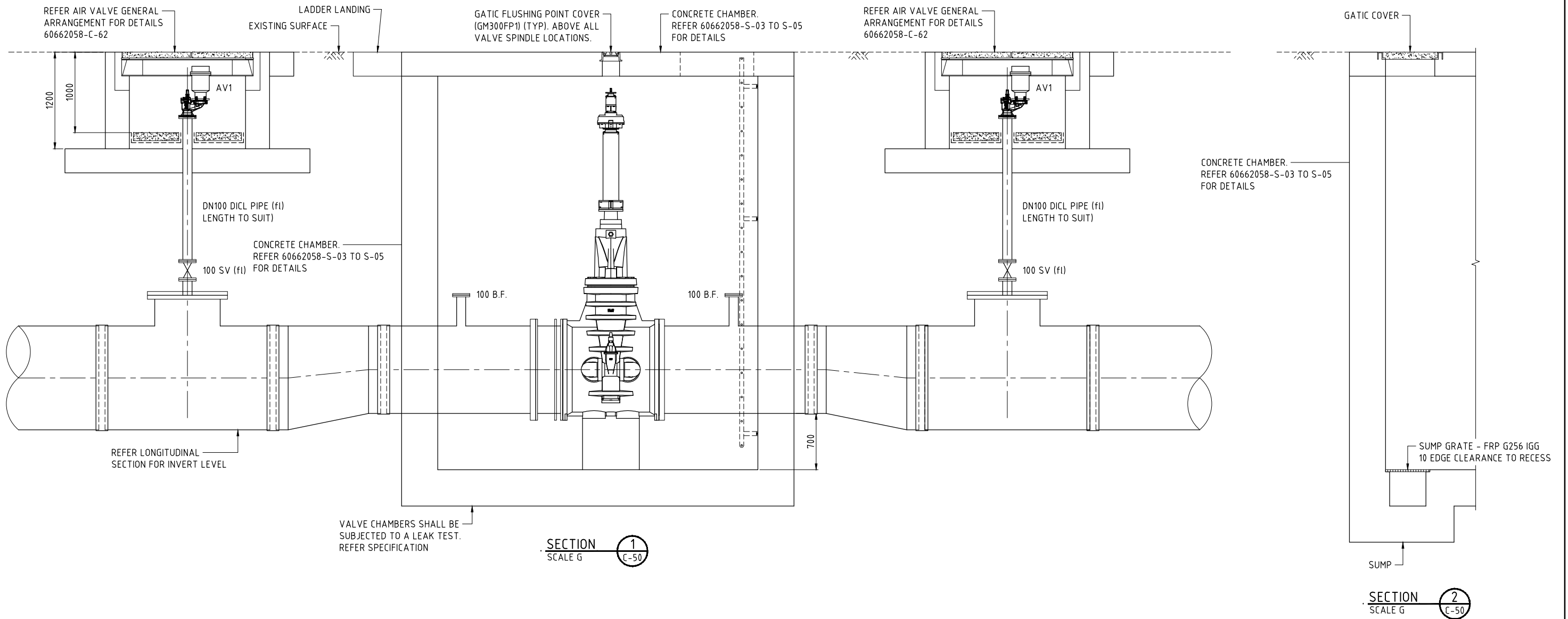
NOT FOR CONSTRUCTION



AECOM Australia Pty Ltd A.B.N. 20 093 846 925



ROSS RIVER DAM TO DOUGLAS WTP PIPELINE		
VALVE CHAMBER 1 - GENERAL ARRANGEMENT PLAN		
Status	TENDER	Rev. D
Draw No.	60662058-C-50	

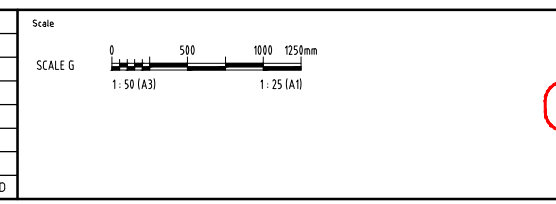


- NOTES**
1. REFER 60662058-C-03 AND C-04 FOR PIPELINE NOTES
 2. REFER 60662058-C-05 FOR PIPELINE LEGENDS
 3. REFER 60662058-C-63 TO C-65 FOR PIPE SPECIALS

LAST MODIFIED: 20/02/2021 2:04 PM
CAD: RFP-6662058-001_CAD_GIS-010_CAD-010_SHEETS-6662058-C-51DWG

This drawing is confidential and shall only be used for the purposes of this project.

No.	BY	DATE	DESCRIPTION	APPD
D	PSA	19.11.21	ISSUED FOR TENDER	
C	PSA	20.10.21	90% DESIGN	
B	PSA	17.09.21	PIPELINE SUPPLY TENDER	
A	PSA	24.08.21	50% SUBMISSION	



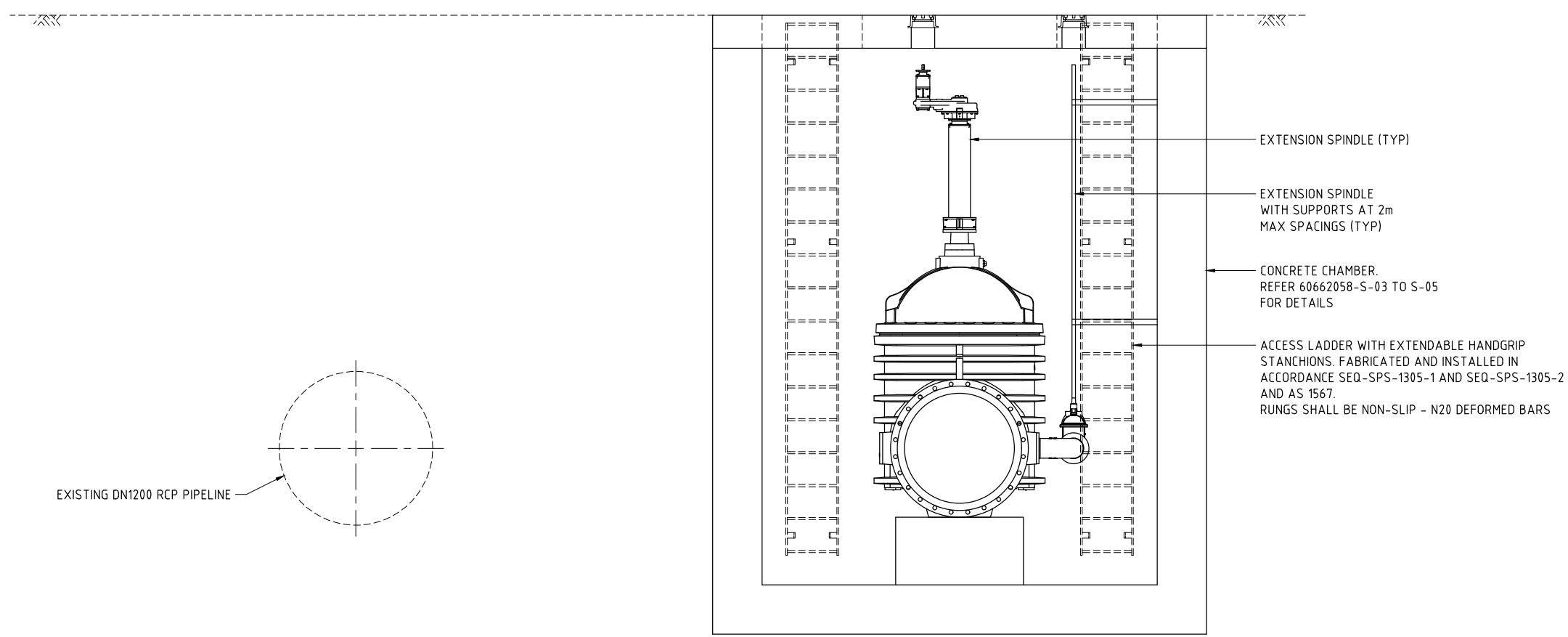
THE SIGNING OF THIS TITLE BLOCK CONFIRMS THE DESIGN AND DRAFTING OF THIS PROJECT HAVE BEEN PREPARED AND CHECKED IN ACCORDANCE WITH THE AECOM QUALITY ASSURANCE SYSTEM TO ISO 9001-2000

DESIGNED	CHECKED
APPROVED	DATE

NOT FOR CONSTRUCTION



ROSS RIVER DAM TO DOUGLAS WTP PIPELINE	
VALVE CHAMBER 1 - GENERAL ARRANGEMENT SECTIONS - SHEET 1	
Status	TENDER
Drwg No.	60662058-C-51
Rev.	D



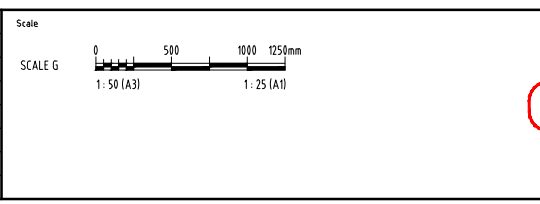
SECTION 3
SCALE G C-50

- NOTES**
1. REFER 60662058-C-03 AND C-04 FOR PIPELINE NOTES
 2. REFER 60662058-C-05 FOR PIPELINE LEGENDS
 3. REFER 60662058-C-63 TO C-65 FOR PIPE SPECIALS
 4. LADDER TOP RUNG IS NOT LEVEL WITH TOP LANDING AND DOES NOT COMPLY WITH AS 1657-2013.
 5. VERTICAL LADDER FOR VALVE CHAMBER. 750 mm CLEARANCE IS NOT PROVIDED BETWEEN LADDER AND EDGE OF LID AND DOES NOT COMPLY WITH AS 1657-2013.

LAST MODIFIED: 17/12/2021 2:20 AM
CAD: RFP-6662058-VAL_CAD_GIS-110_CAD-12_SHEETS-6662058-C-52.DWG

This drawing is confidential and shall only be used for the purposes of this project.

No.	BY	DATE	DESCRIPTION	APPD
D	PSA	19.11.21	ISSUED FOR TENDER	
C	PSA	20.10.21	90% DESIGN	
B	PSA	17.09.21	PIPELINE SUPPLY TENDER	
A	PSA	24.08.21	50% SUBMISSION	



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DESIGNED	CHECKED
APPROVED	DATE

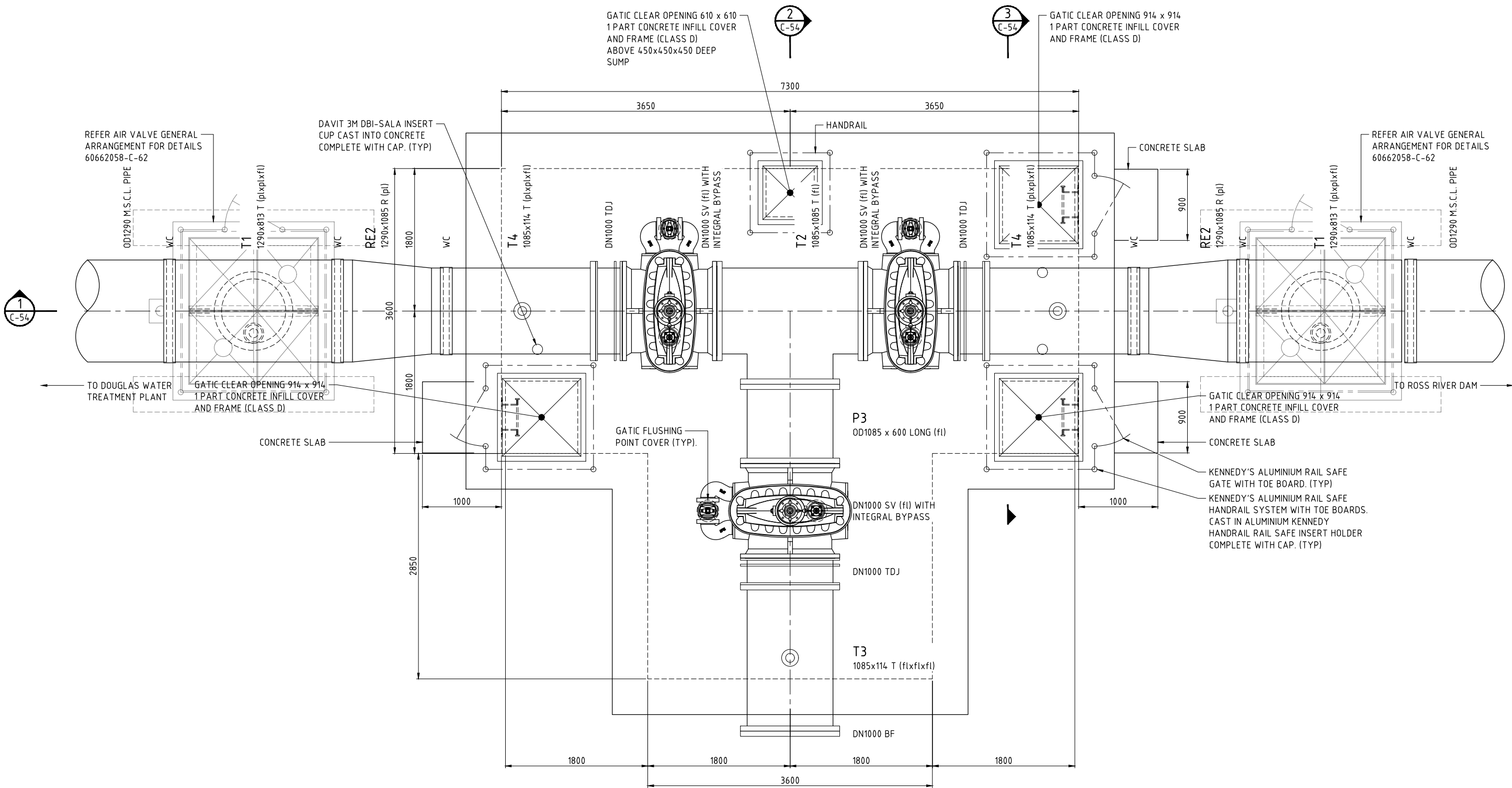
NOT FOR CONSTRUCTION



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ROSS RIVER DAM TO DOUGLAS WTP PIPELINE	
VALVE CHAMBER 1 - GENERAL ARRANGEMENT SECTIONS - SHEET 2	
Status	TENDER
Dwg No.	60662058-C-52
Rev.	D

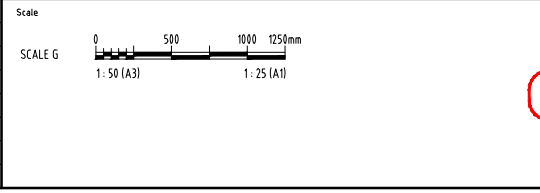


PLAN
CH5731 - VALVE CHAMBER INSTALLATION ARRANGEMENT
 SCALE G
 60662058-C-27

- NOTES**
- REFER 60662058-C-03 AND C-04 FOR PIPELINE NOTES
 - REFER 60662058-C-05 FOR PIPELINE LEGENDS
 - REFER 60662058-C-63 TO C-65 FOR PIPE SPECIALS
 - LADDER TOP RUNG IS NOT LEVEL WITH TOP LANDING AND DOES NOT COMPLY WITH AS 1657-2013.
 - VERTICAL LADDER FOR VALVE CHAMBER. 750 mm CLEARANCE IS NOT PROVIDED BETWEEN LADDER AND EDGE OF LID AND DOES NOT COMPLY WITH AS 1657-2013.

LAST MODIFIED: 20/12/2021 02:27 AM
 CAD: RFP-60662058-VALV_CAD_GIS910_CAD125_SHEETS/60662058-C-53.DWG

This drawing is confidential and shall only be used for the purposes of this project.				
REVISIONS	No.	BY	DATE	DESCRIPTION
	D	PSA	19.11.21	ISSUED FOR TENDER
	C	PSA	20.10.21	90% DESIGN
	B	PSA	17.09.21	PIPELINE SUPPLY TENDER
	A	PSA	24.08.21	50% SUBMISSION
	No.	BY	DATE	DESCRIPTION
				APPD



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DESIGNED	CHECKED
APPROVED	DATE

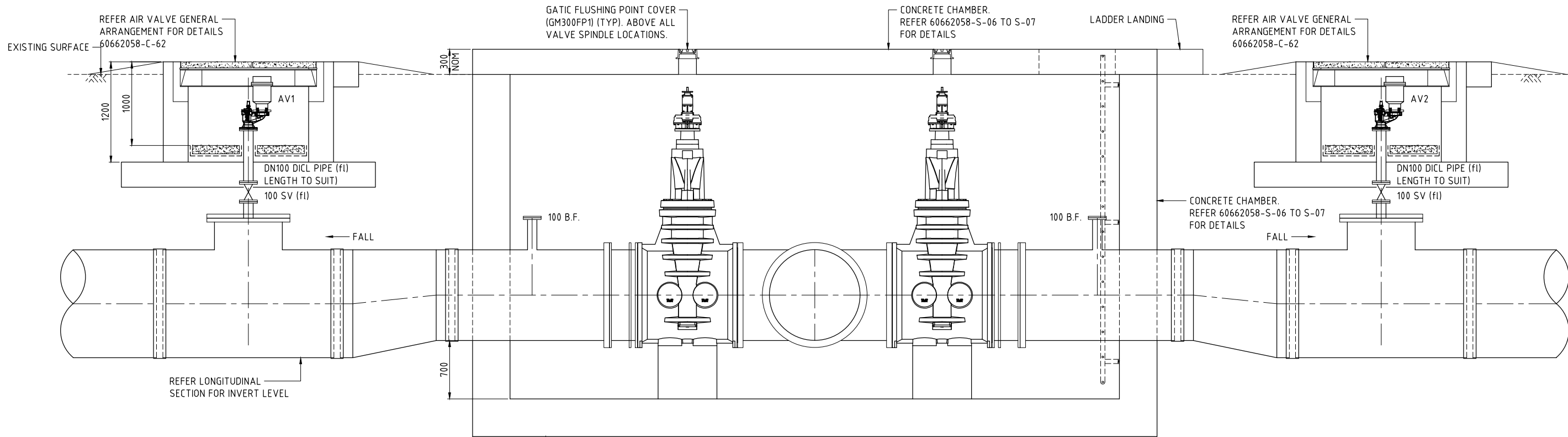
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AECOM

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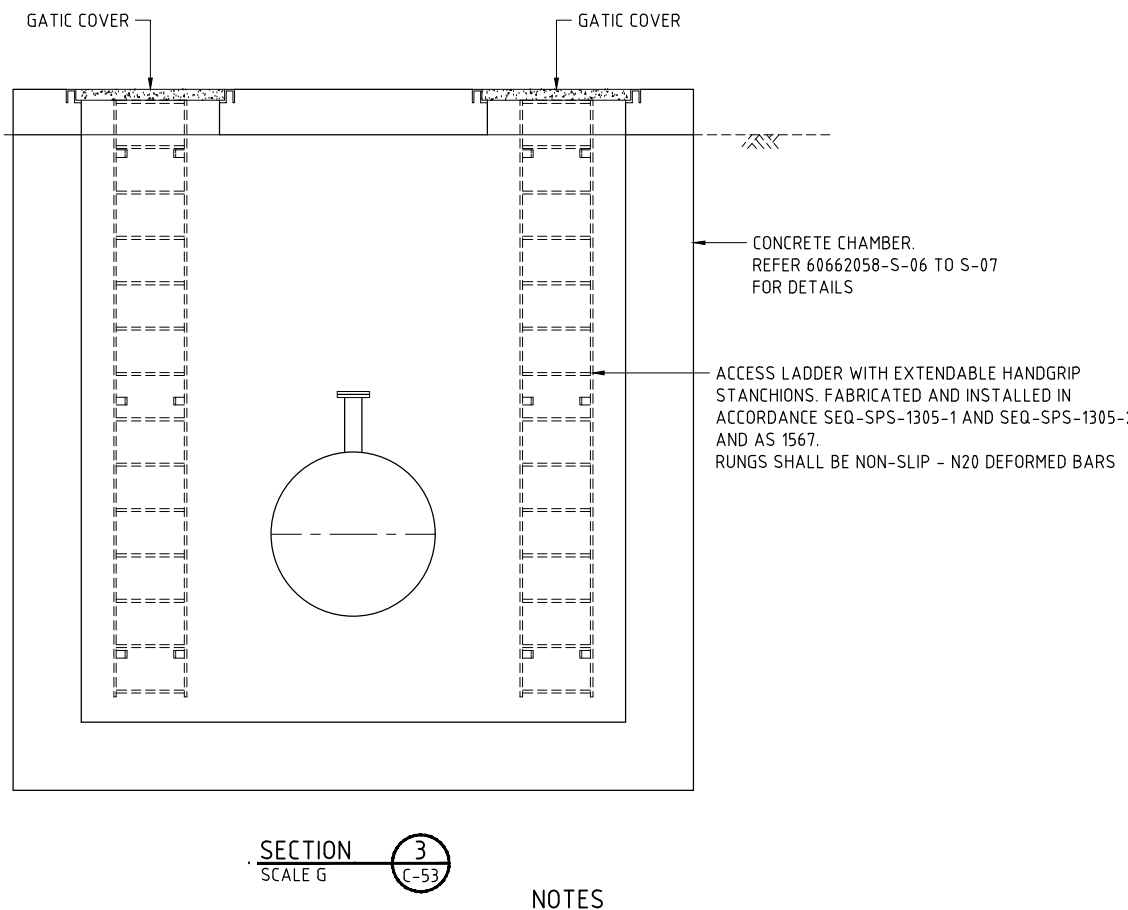
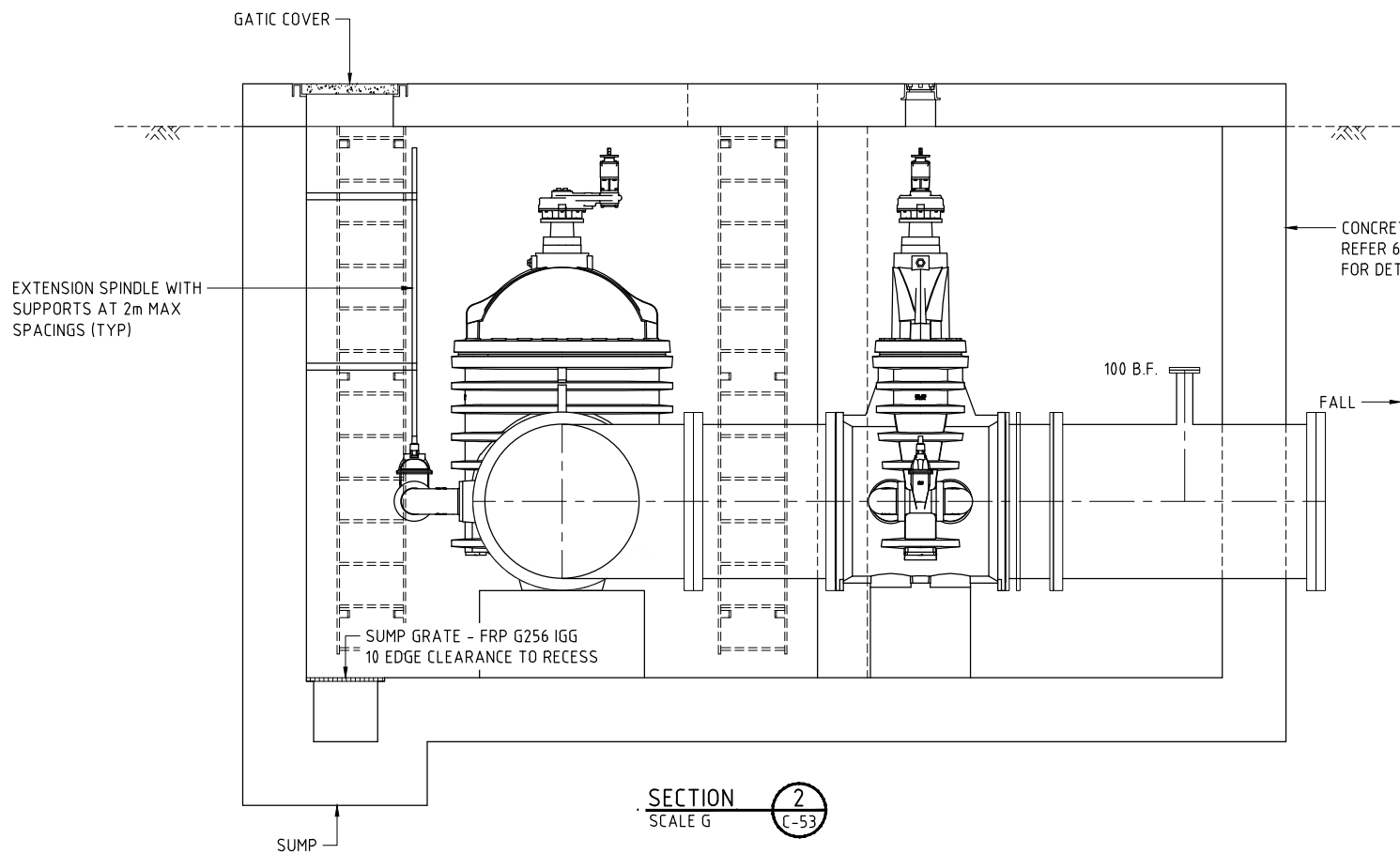


ROSS RIVER DAM TO DOUGLAS WTP PIPELINE		
VALVE CHAMBER 2 - GENERAL ARRANGEMENT PLAN		
Status	TENDER	Rev. D
Draw No.	60662058-C-53	



VALVE CHAMBER SHALL BE SUBJECTED TO A LEAK TEST. REFER SPECIFICATION

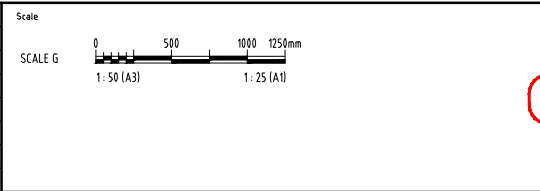
SECTION 1
SCALE G
C-53



- NOTES**
1. REFER 60662058-C-03 AND C-04 FOR PIPELINE NOTES
 2. REFER 60662058-C-05 FOR PIPELINE LEGENDS
 3. REFER 60662058-C-63 TO C-65 FOR PIPE SPECIALS

LAST MODIFIED: 20/02/2021 2:05 PM
CAD: RFP-6662058-VAL_CAD_GIS-VAL_CAD-02_SHEETS-6662058-C-54.DWG

No.	BY	DATE	DESCRIPTION	APPD
D	PSA	19.11.21	ISSUED FOR TENDER	
C	PSA	20.10.21	90% DESIGN	
B	PSA	17.09.21	PIPELINE SUPPLY TENDER	
A	PSA	24.08.21	50% SUBMISSION	



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APPROVED	DATE

NOT FOR CONSTRUCTION



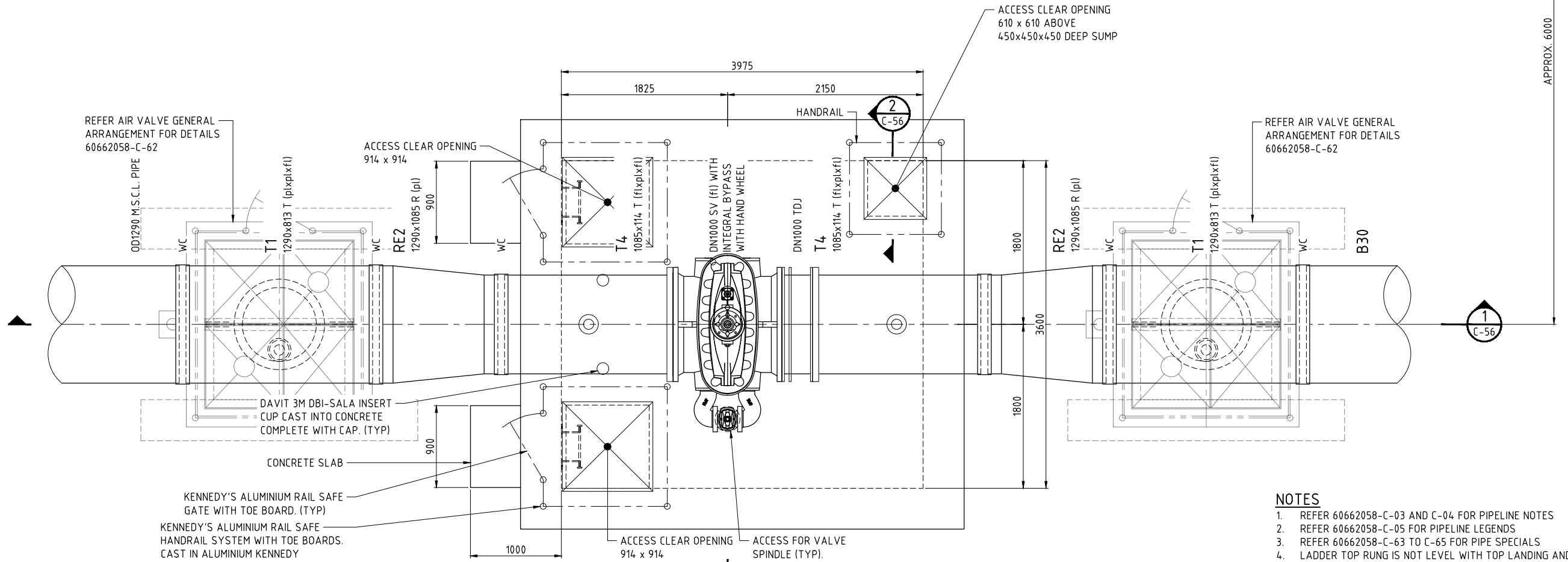
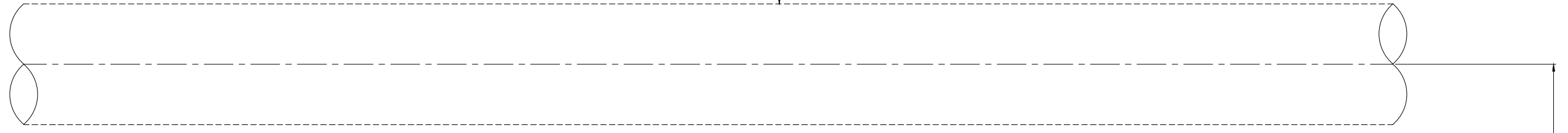
AECOM Australia Pty Ltd A.B.N. 20 093 846 925



ROSS RIVER DAM TO DOUGLAS WTP PIPELINE	
VALVE CHAMBER 2 - GENERAL ARRANGEMENT SECTIONS	
Status	TENDER
Drwg No.	60662058-C-54
Rev.	D

3
C-57

EXISTING DN1200 RCP PIPELINE



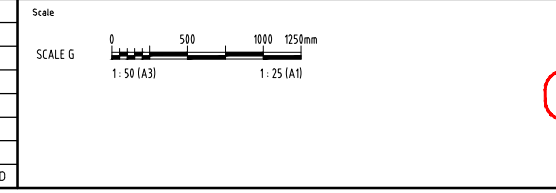
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PLAN
CH9311 - VALVE CHAMBERS INSTALLATION ARRANGEMENT
SCALE G
60662058-C-39

- NOTES**
1. REFER 60662058-C-03 AND C-04 FOR PIPELINE NOTES
 2. REFER 60662058-C-05 FOR PIPELINE LEGENDS
 3. REFER 60662058-C-63 TO C-65 FOR PIPE SPECIALS
 4. LADDER TOP RUNG IS NOT LEVEL WITH TOP LANDING AND DOES NOT COMPLY WITH AS 1657-2013.
 5. VERTICAL LADDER FOR VALVE CHAMBER. 750 mm CLEARANCE IS NOT PROVIDED BETWEEN LADDER AND EDGE OF LID AND DOES NOT COMPLY WITH AS 1657-2013.

LAST MODIFIED: 17/12/21 2:26:26 AM
CAD: RFP-60662058-VAL_CAD_GIS-VAL_CAD-VAL_SHEETS-60662058-C-39.DWG

This drawing is confidential and shall only be used for the purposes of this project.				
No.	BY	DATE	DESCRIPTION	APPD
D	PSA	19.11.21	ISSUED FOR TENDER	
C	PSA	20.10.21	90% DESIGN	
B	PSA	17.09.21	PIPELINE SUPPLY TENDER	
A	PSA	24.08.21	50% SUBMISSION	



DESIGNED	CHECKED
APPROVED	DATE

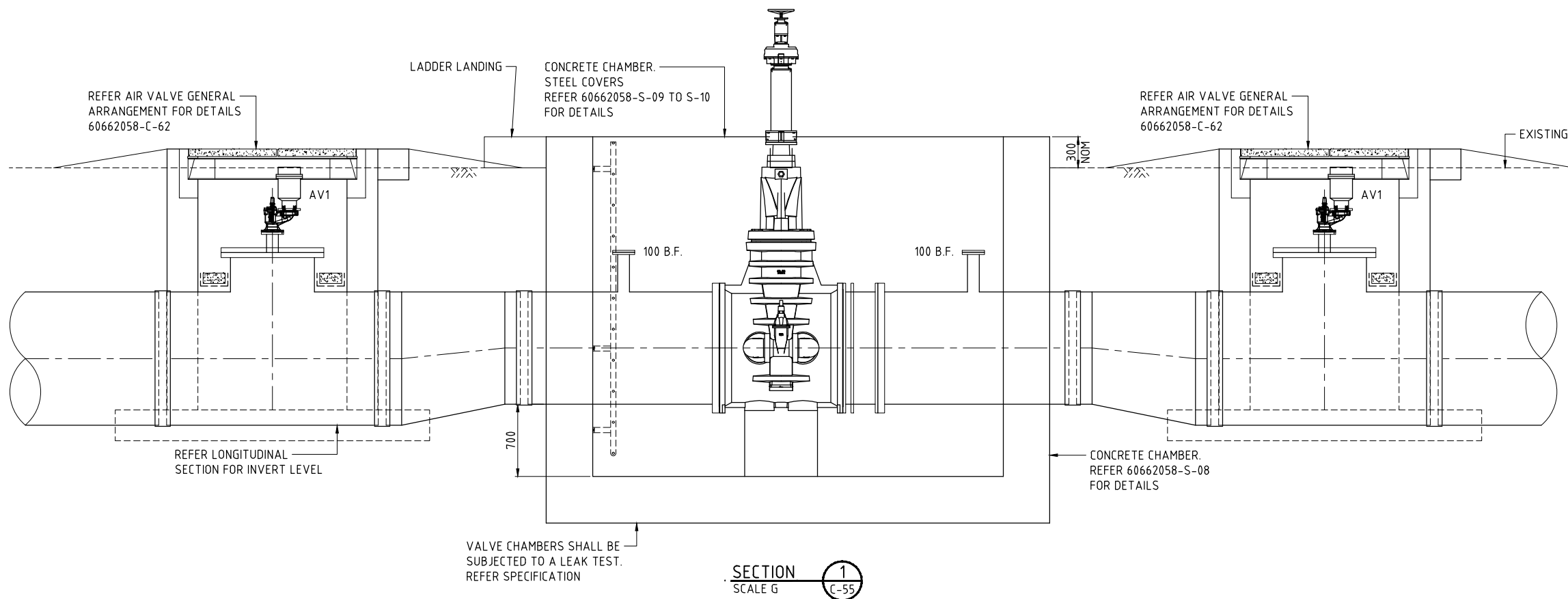
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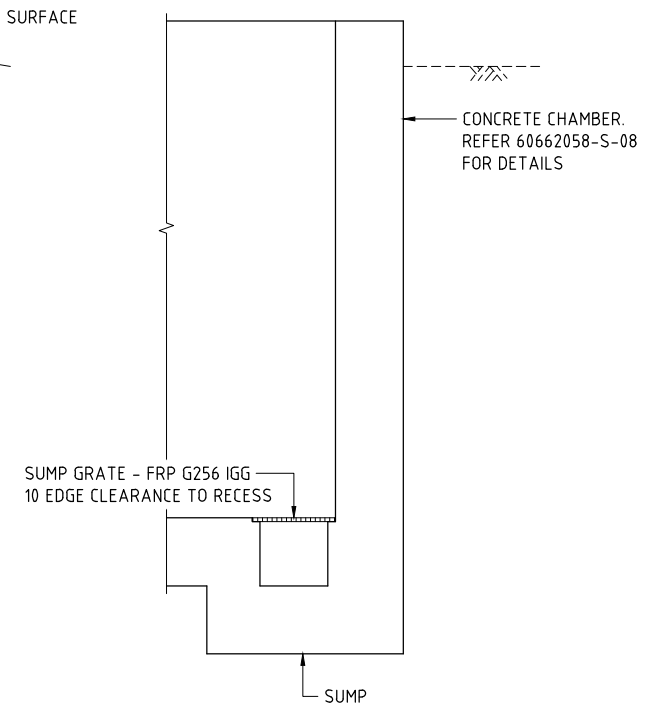
AECOM Australia Pty Ltd A.B.N. 20 093 846 925



ROSS RIVER DAM TO DOUGLAS WTP PIPELINE		
VALVE CHAMBER 3 - GENERAL ARRANGEMENT PLAN		
Status	TENDER	Rev D
Draw No.	60662058-C-55	



SECTION 1
SCALE G (C-55)

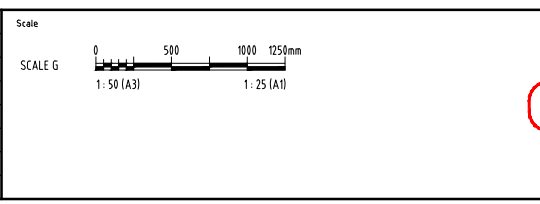


- NOTES**
1. REFER 60662058-C-03 AND C-04 FOR PIPELINE NOTES
 2. REFER 60662058-C-05 FOR PIPELINE LEGENDS
 3. REFER 60662058-C-63 TO C-65 FOR PIPE SPECIALS

LAST MODIFIED: 17/12/21 2:28 AM
CAD: RFP-6662058-VALVE_CHAMBER_3_SECTION_1.dwg
SHEETS: 6662058-C-56.DWG

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No.	BY	DATE	DESCRIPTION	APPD
D	PSA	19.11.21	ISSUED FOR TENDER	
C	PSA	20.10.21	90% DESIGN	
B	PSA	17.09.21	PIPELINE SUPPLY TENDER	
A	PSA	24.08.21	50% SUBMISSION	



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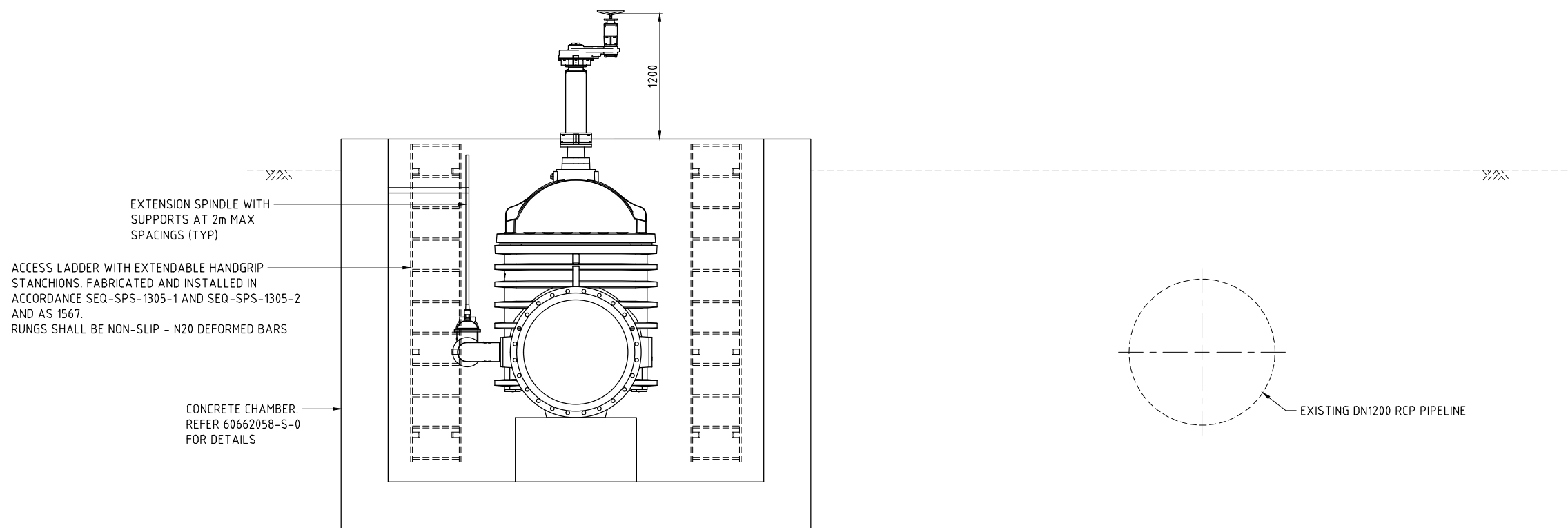
AECOM Australia Pty Ltd A.B.N. 20 093 846 925



ROSS RIVER DAM TO DOUGLAS WTP PIPELINE
VALVE CHAMBER 3 - GENERAL ARRANGEMENT
SECTIONS - SHEET 1

Status	TENDER	Dwg No.	60662058-C-56	Rev.	D
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CAD: RFP-6662058-VAL-CAD_GIS-910_CAD-03_SHEETS-6662058-C-57.DWG
 LAST MODIFIED: 17/12/21 2:28 AM

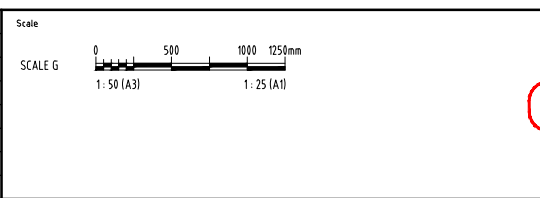


SECTION 3
SCALE G (C-55)

- NOTES**
- REFER 60662058-C-03 AND C-04 FOR PIPELINE NOTES
 - REFER 60662058-C-05 FOR PIPELINE LEGENDS
 - REFER 60662058-C-63 TO C-65 FOR PIPE SPECIALS
 - LADDER TOP RUNG IS NOT LEVEL WITH TOP LANDING AND DOES NOT COMPLY WITH AS 1657-2013.
 - VERTICAL LADDER FOR VALVE CHAMBER. 750 mm CLEARANCE IS NOT PROVIDED BETWEEN LADDER AND EDGE OF LID AND DOES NOT COMPLY WITH AS 1657-2013.

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No.	BY	DATE	DESCRIPTION	APPD
D	PSA	19.11.21	ISSUED FOR TENDER	
C	PSA	20.10.21	90% DESIGN	
B	PSA	17.09.21	PIPELINE SUPPLY TENDER	
A	PSA	24.08.21	50% SUBMISSION	



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DESIGNED	CHECKED
APPROVED	DATE

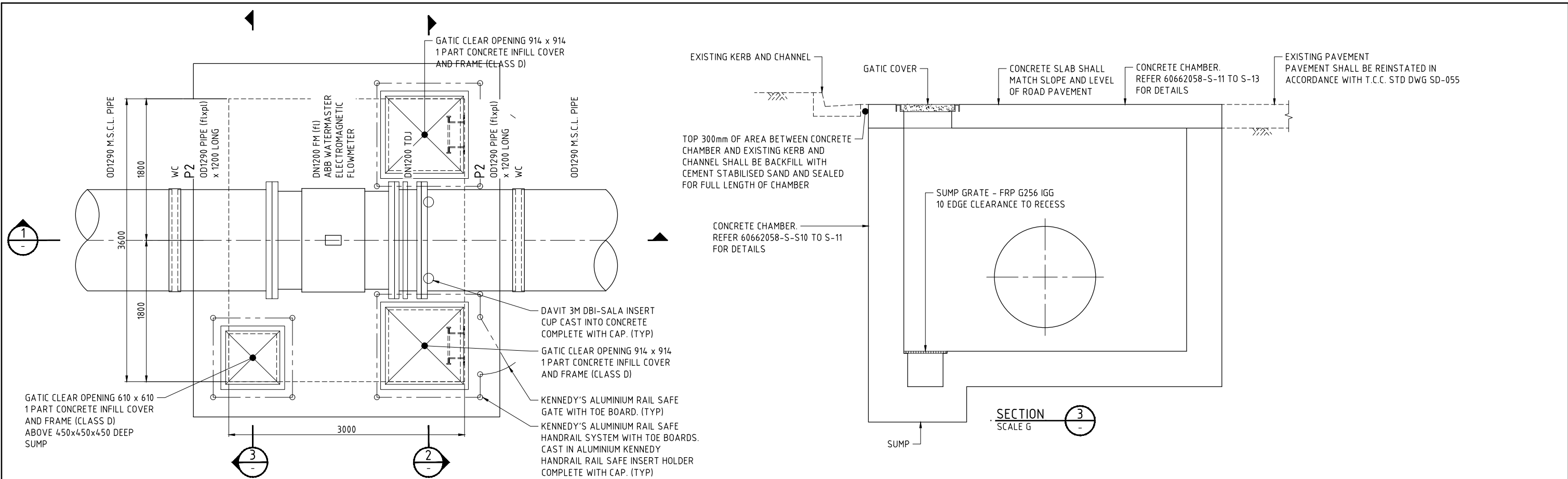
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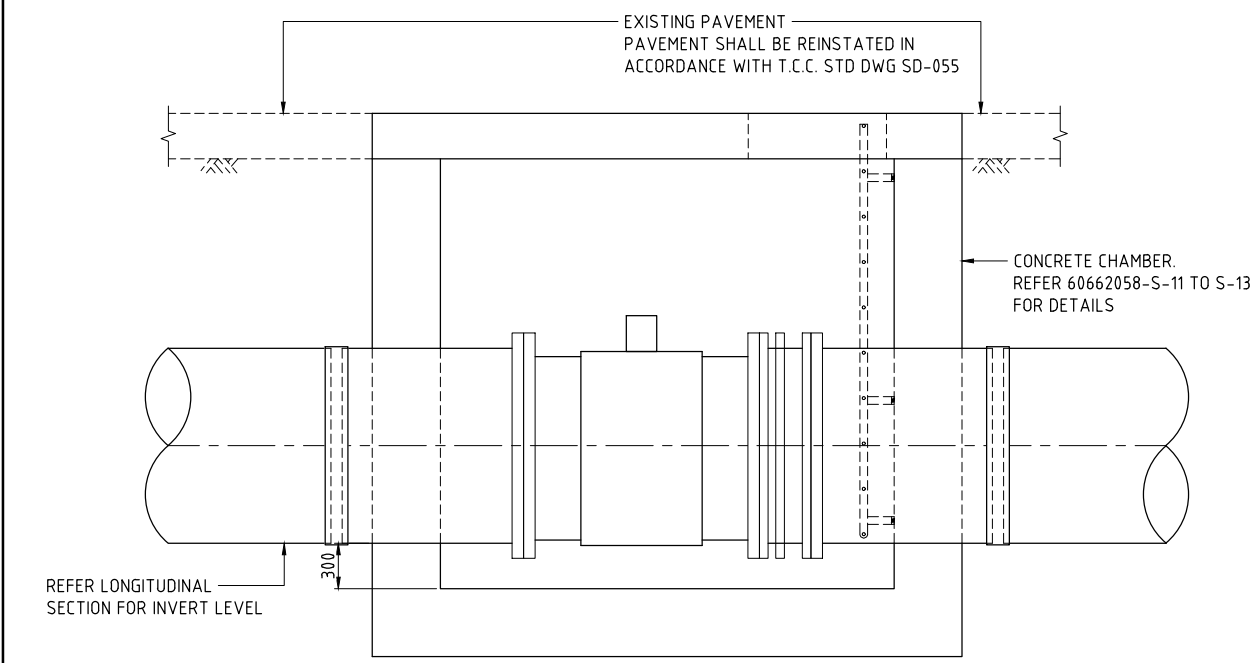
AECOM Australia Pty Ltd A.B.N. 20 093 846 925



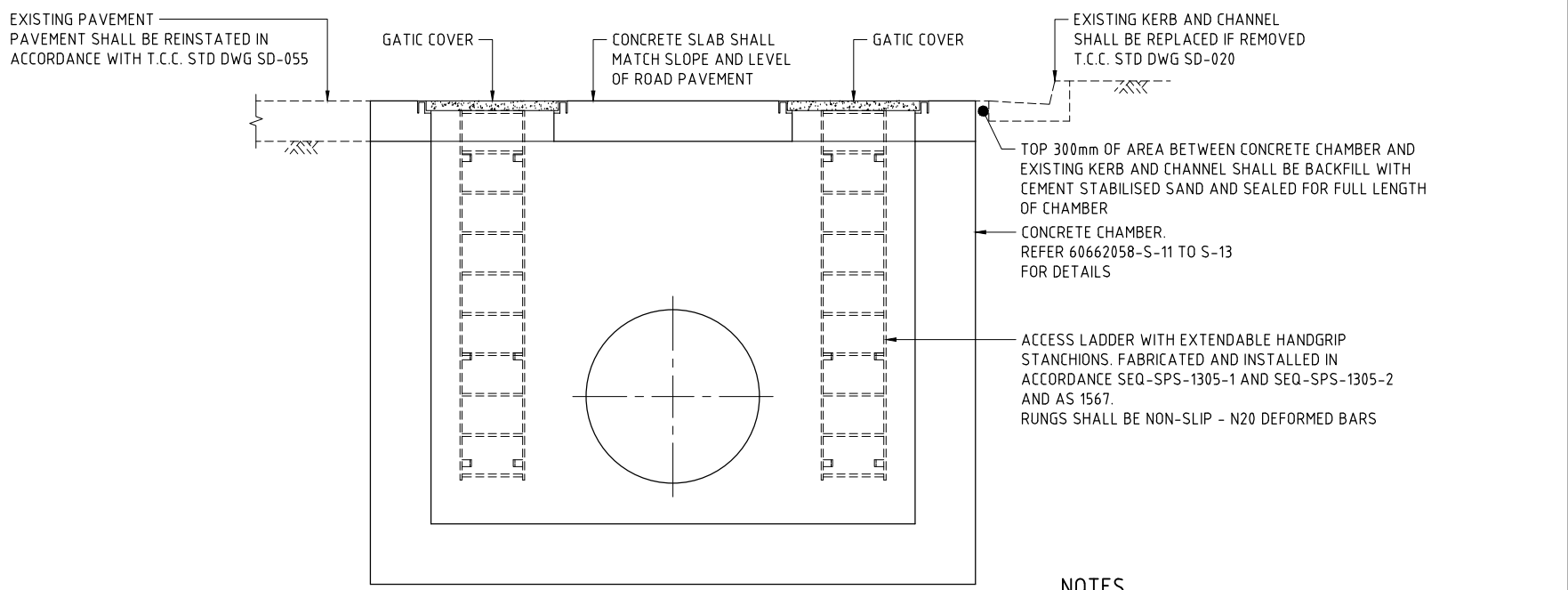
ROSS RIVER DAM TO DOUGLAS WTP PIPELINE		
VALVE CHAMBER 3 - GENERAL ARRANGEMENT SECTIONS - SHEET 2		
Status	TENDER	Rev. D
Dwg No.	60662058-C-57	



PLAN
FLOWMETER INSTALLATION ARRANGEMENT
 SCALE G
 60662058-C-09



SECTION 1
 SCALE G

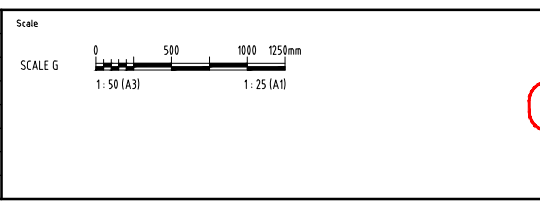


SECTION 2
 SCALE G

- NOTES**
- REFER 60662058-C-03 AND C-04 FOR PIPELINE NOTES
 - REFER 60662058-C-05 FOR PIPELINE LEGENDS
 - REFER 60662058-C-63 TO C-65 FOR PIPE SPECIALS
 - LADDER TOP RUNG IS NOT LEVEL WITH TOP LANDING AND DOES NOT COMPLY WITH AS 1657-2013.
 - VERTICAL LADDER FOR VALVE CHAMBER. 750 mm CLEARANCE IS NOT PROVIDED BETWEEN LADDER AND EDGE OF LID AND DOES NOT COMPLY WITH AS 1657-2013.

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No.	BY	DATE	DESCRIPTION	APPD
D	PSA	19.11.21	ISSUED FOR TENDER	
C	PSA	20.10.21	90% DESIGN	
B	PSA	17.09.21	PIPELINE SUPPLY TENDER	
A	PSA	24.08.21	50% SUBMISSION	



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DESIGNED	CHECKED
APPROVED	DATE

NOT FOR CONSTRUCTION

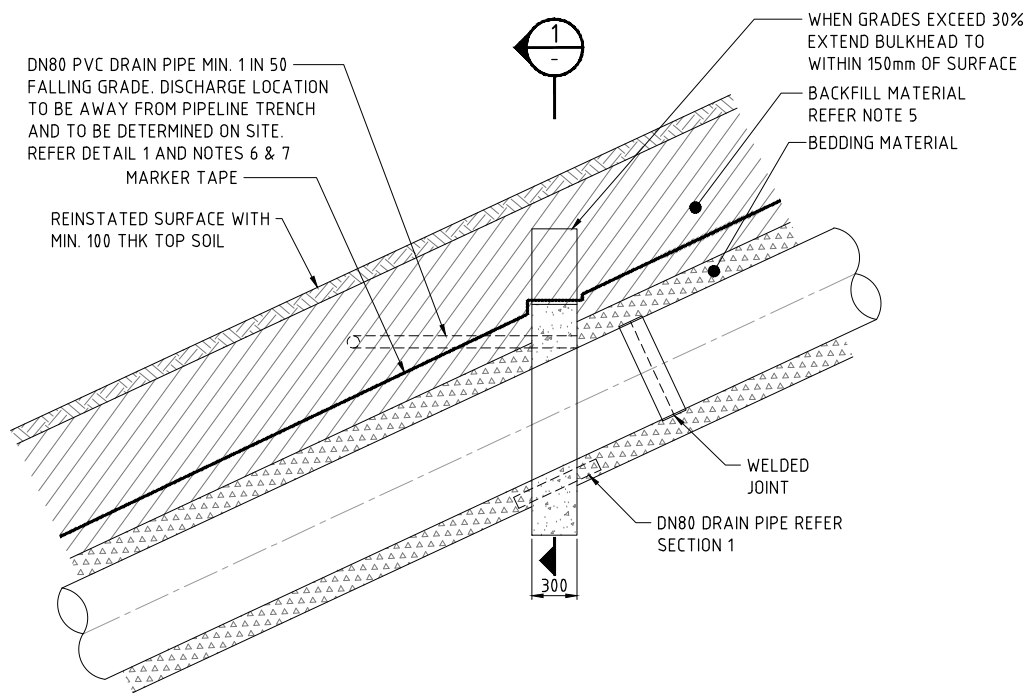
AECOM

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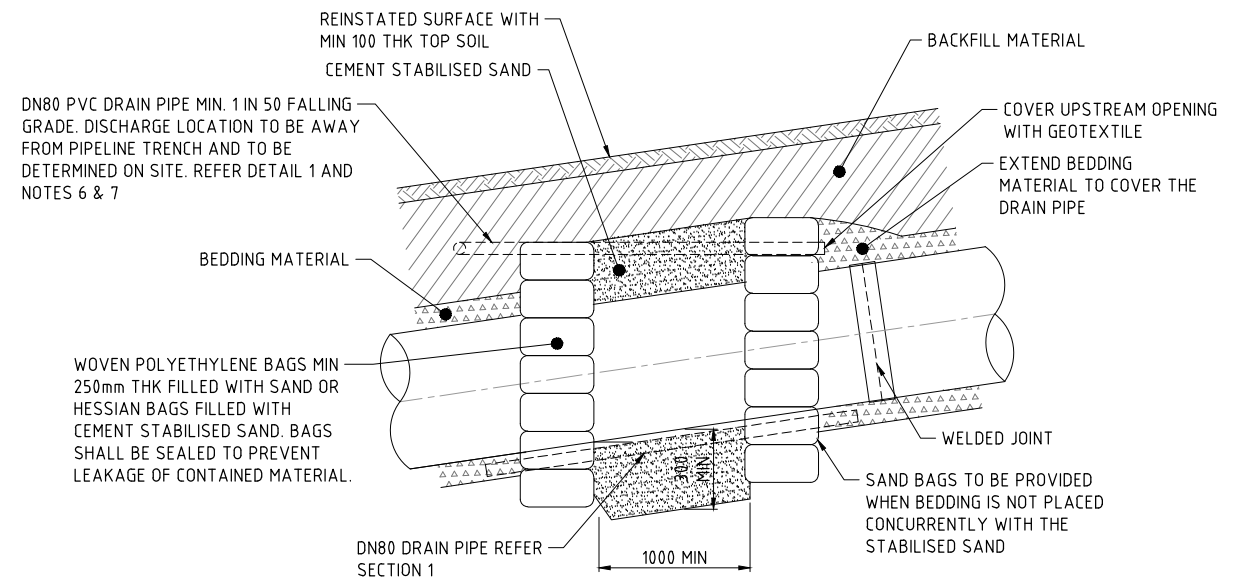


ROSS RIVER DAM TO DOUGLAS WTP PIPELINE
FLOW METER CHAMBER - GENERAL ARRANGEMENT

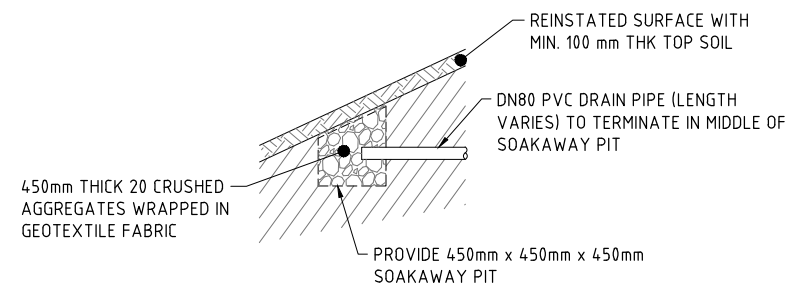
Status: TENDER
 Rev: D
 60662058-C-58



BULKHEAD DETAILS - WELDED PIPE
SCALE G



TRENCHSTOP DETAILS
SCALE G



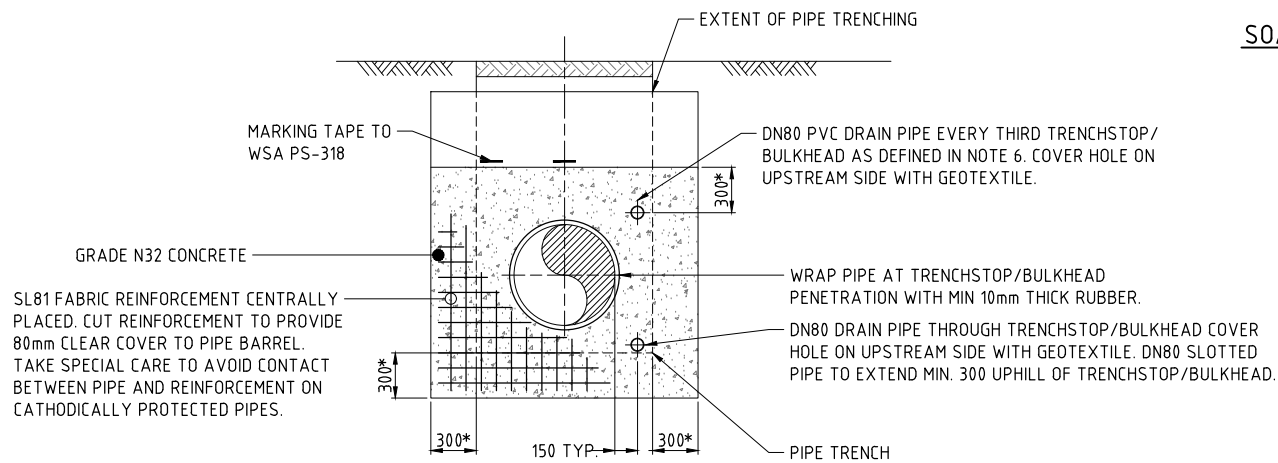
SOAKAWAY PIT - TYPICAL DETAIL 1
SCALE G

NOTES

1. CONSTRUCT CONCRETE BULKHEAD AND TRENCHSTOPS AT LOCATION SPECIFIED IN THE INDIVIDUAL DESIGN PACKAGE DRAWINGS.
2. ALL TRENCHSTOP/BULKHEAD SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF WATER SUPPLY CODE OF AUSTRALIA WSA 03-2011-3.1 SYDNEY WATER EDITION 2014.
3. DIMENSIONS MARKED WITH ASTERISK (*) MAY BE REDUCED TO 75mm IN ROCK.
4. WHEN GROUNDWATER SPRINGS ARE INTERCEPTED BY THE TRENCH INSTALL A TRENCHSTOP.
5. AN EXPERIENCED GEOTECHNICAL ENGINEER SHALL MAKE AN ASSESSMENT OF THE GROUND CONDITIONS ON SITE AND IF REQUIRED RECOMMEND GROUND STABILISATION OR REMEDIATION METHODS.
6. THE HIGH LEVEL DRAIN SHOULD BE PROVIDED WHERE GRADES EXCEED 20%. WHERE THE LENGTH OF GRADE EXCEEDING 20% IS LESS THAN 40m, THE PIPE MAY BE OMITTED.

NOTES

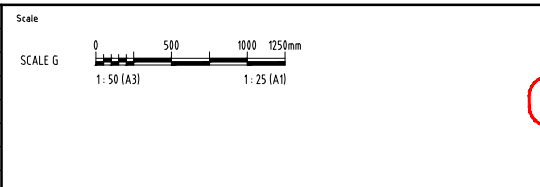
1. REFER 60662058-C-03 AND C-04 FOR PIPELINE NOTES
2. REFER 60662058-C-05 FOR PIPELINE LEGENDS
3. REFER 60662058-S-01 AND S-02 FOR STRUCTURAL NOTES AND LEGEND



SECTION
SCALE G

LAST MODIFIED: 20/12/2021 10:38 AM
CAD: RFP-646X/6462058/98_CAD_GIS/98_CAD/21_SHEETS/6462058-C-60.DWG

No.	BY	DATE	DESCRIPTION	APPD
D	PSA	19.11.21	ISSUED FOR TENDER	
C	PSA	20.10.21	90% DESIGN	
B	PSA	17.09.21	PIPELINE SUPPLY TENDER	
A	PSA	24.08.21	50% SUBMISSION	



DESIGNED		CHECKED	
APPROVED		DATE	

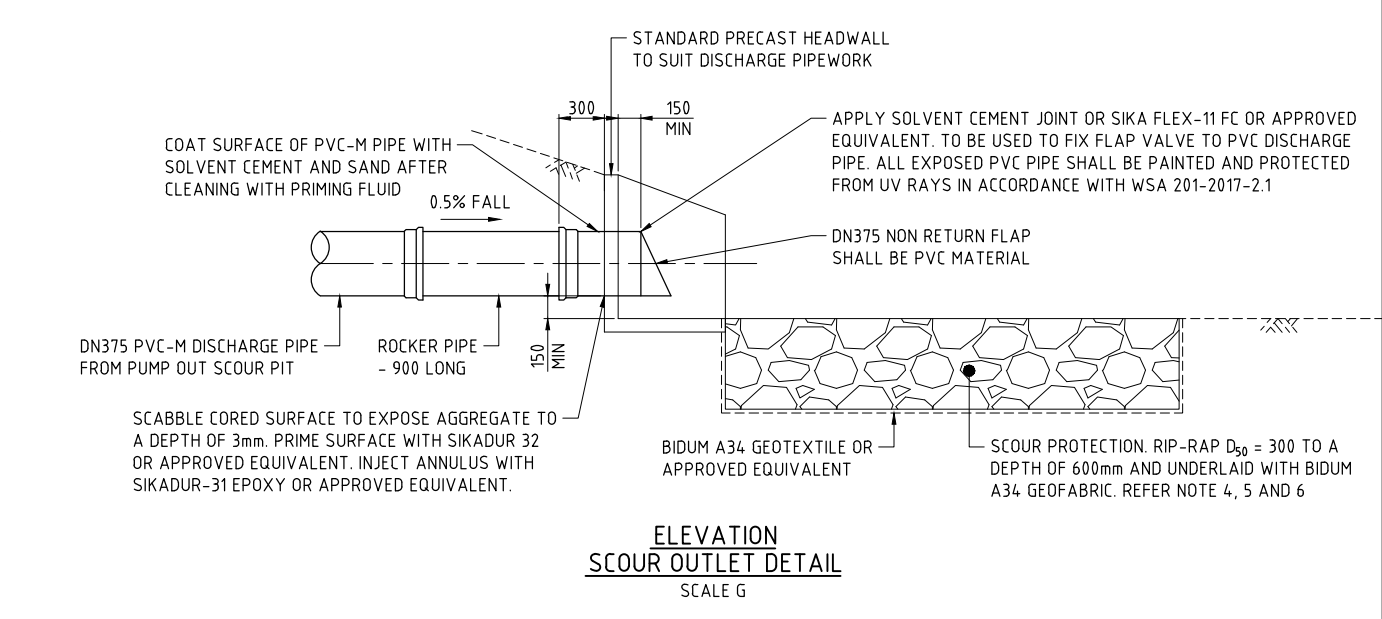
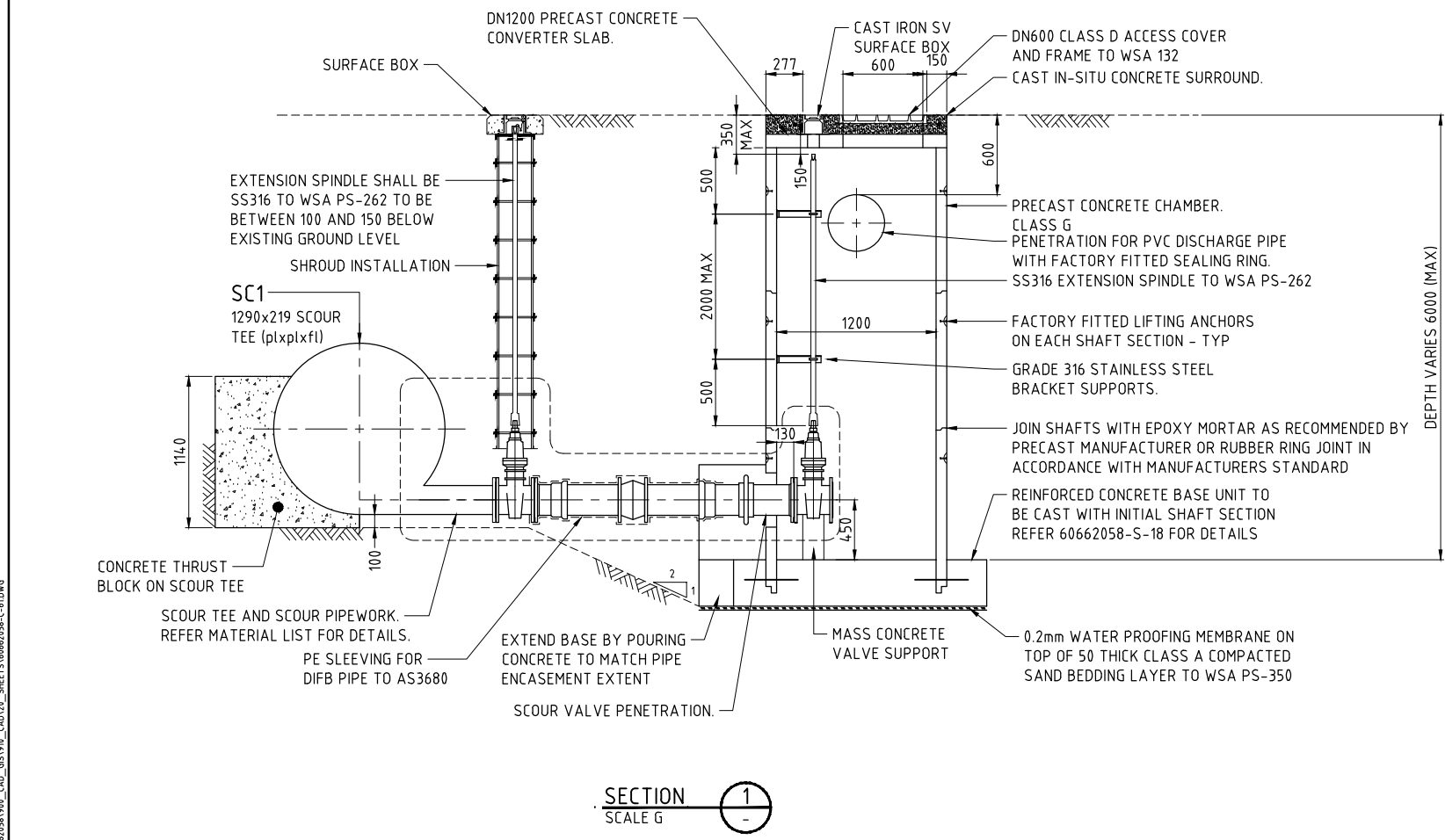
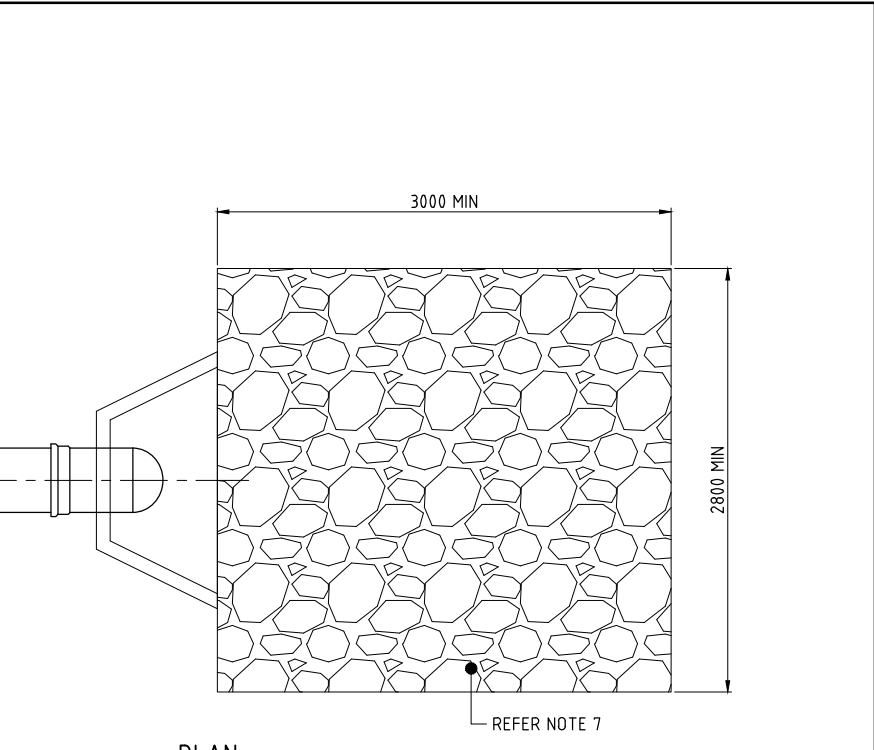
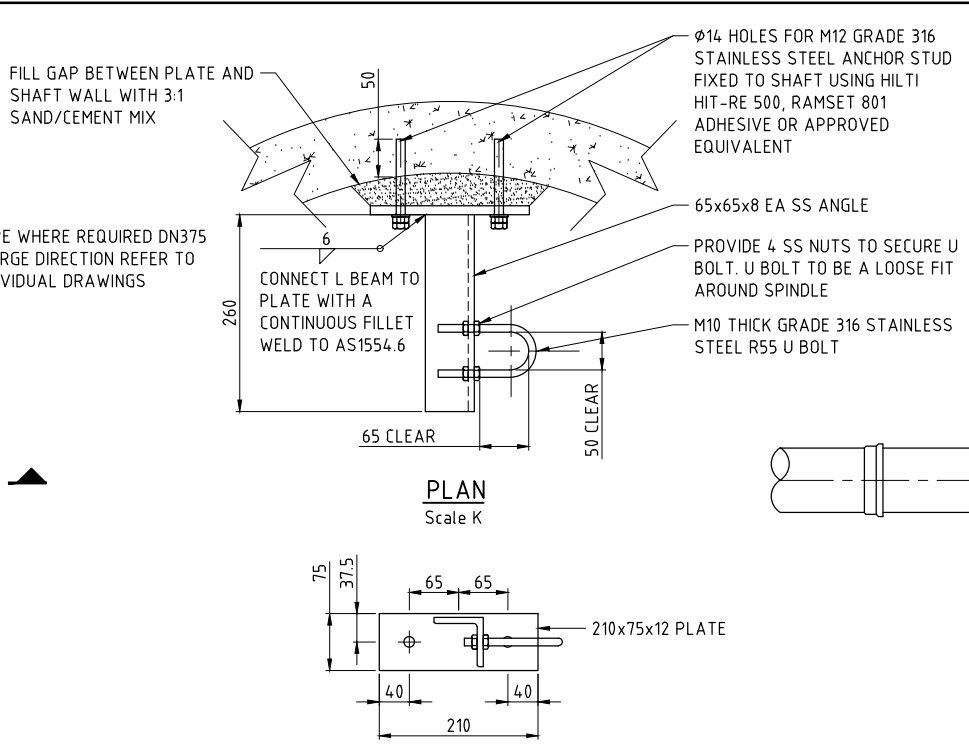
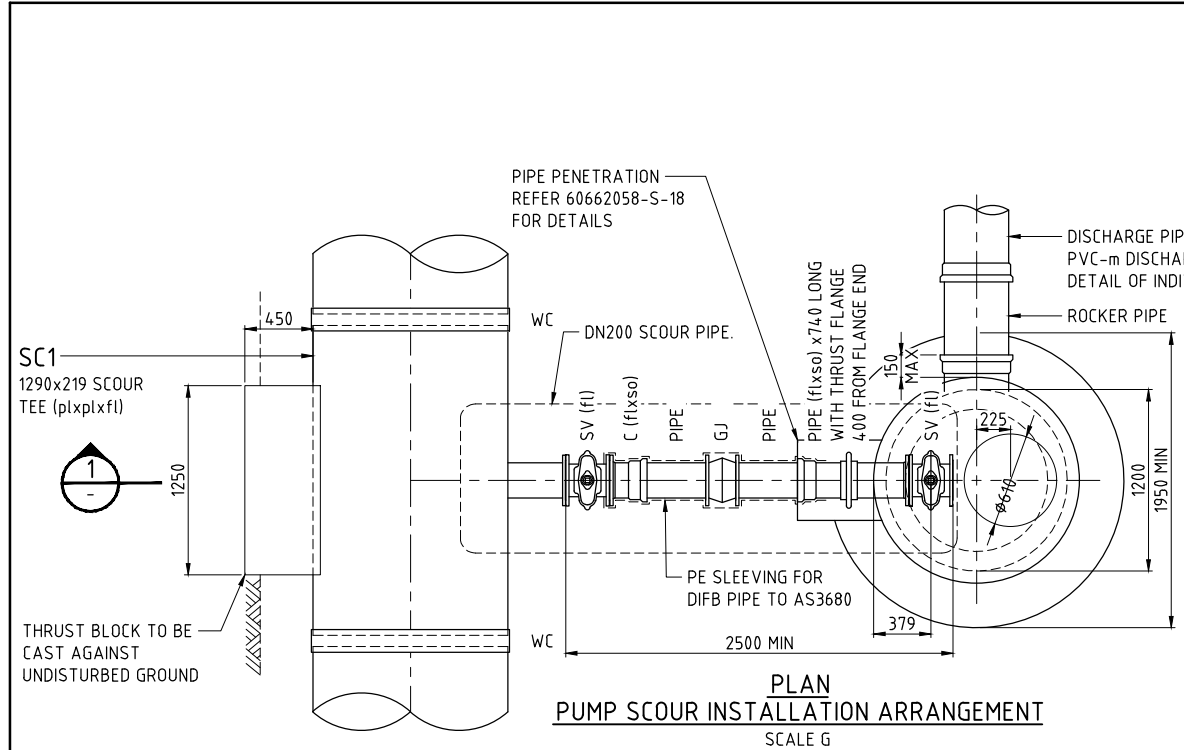
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ROSS RIVER DAM TO DOUGLAS WTP PIPELINE	
CONCRETE BULKHEAD AND TRENCH STOP DETAILS	
Status	TENDER
Drwg No.	60662058-C-60
Rev.	D

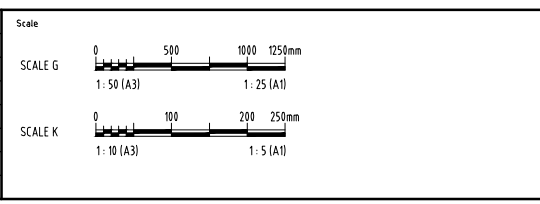
NOT FOR CONSTRUCTION



- NOTES**
- REFER 60662058-C-03 AND C-04 FOR PIPELINE NOTES
 - REFER 60662058-C-05 FOR PIPELINE LEGENDS
 - REFER 60662058-C-63 TO C-65 FOR PIPE SPECIALS
 - SPACES BETWEEN ROCKS SHALL BE FILLED WITH SMALLER CRUSHED ROCKS AND LOCKED IN WITH CROWBAR.
 - ALL ROCK FOR RIP-RAP SHALL BE HARD SANDSTONE OF MINIMUM DENSITY 2100kg/M³
 - KEY ROCKS TOGETHER TO MINIMISE MOVEMENT.
 - THE SIZE OF THE PACKED ROCK SCOUR PROTECTION SHOWN IN THE DRAWING IS THE ABSOLUTE MINIMUM AND SHALL BE DETERMINED ON SITE.

This drawing is confidential and shall only be used for the purposes of this project.

NO.	BY	DATE	DESCRIPTION	APPD
D	PSA	19.11.21	ISSUED FOR TENDER	
C	PSA	20.10.21	90% DESIGN	
B	PSA	17.09.21	PIPELINE SUPPLY TENDER	
A	PSA	24.08.21	50% SUBMISSION	



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DESIGNED	CHECKED
DRAWN	CHECKED
APPROVED	DATE

AECOM

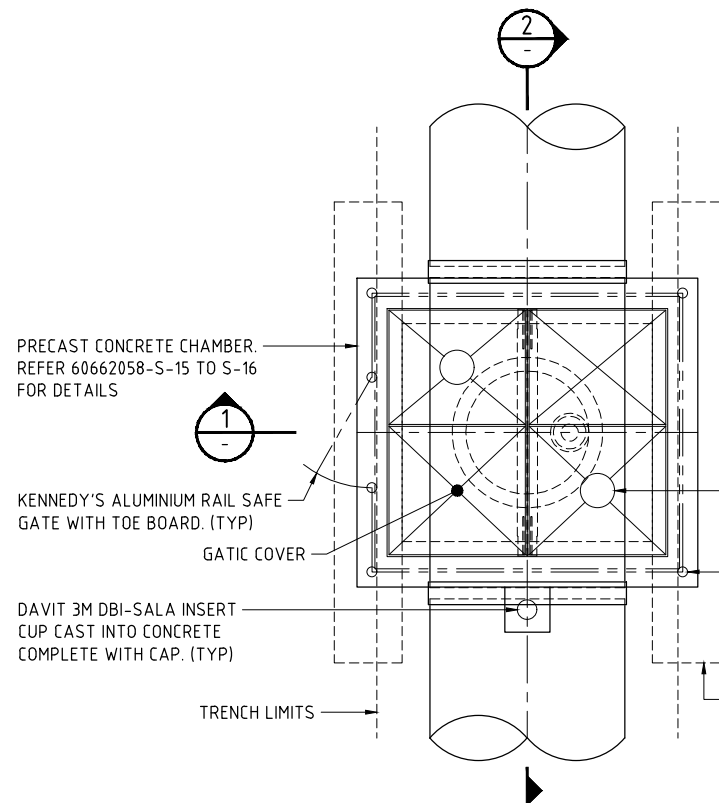
City of Townsville

AECOM Australia Pty Ltd A.B.N. 20 093 846 925

ROSS RIVER DAM TO DOUGLAS WTP PIPELINE

SCOUR TYPICAL DETAILS
GENERAL ARRANGEMENT

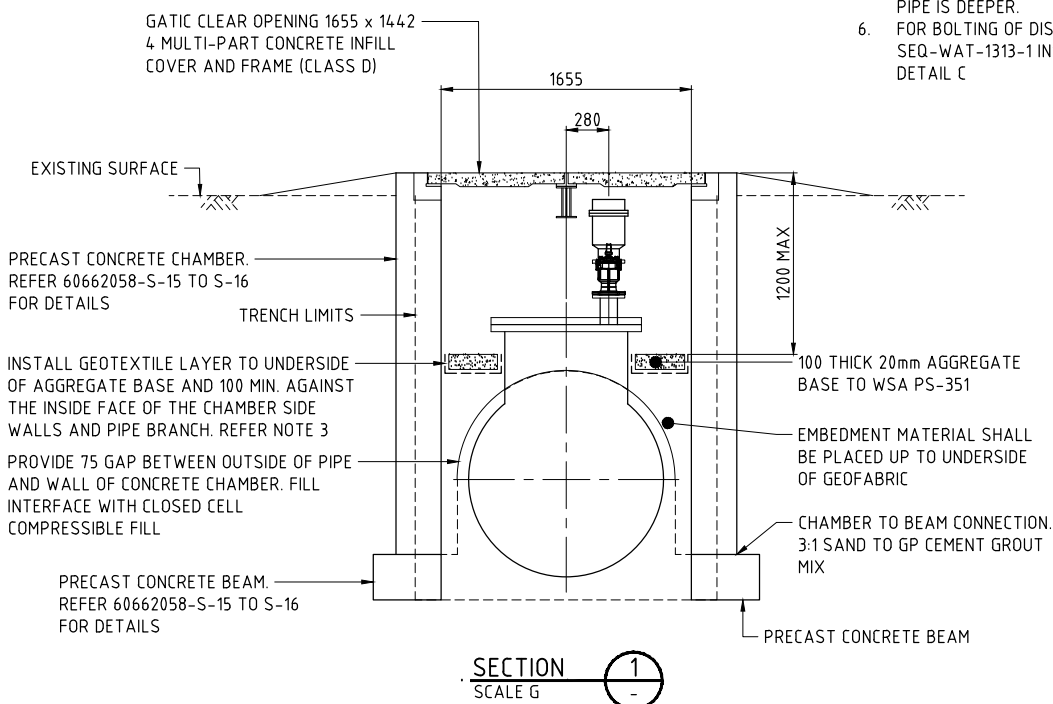
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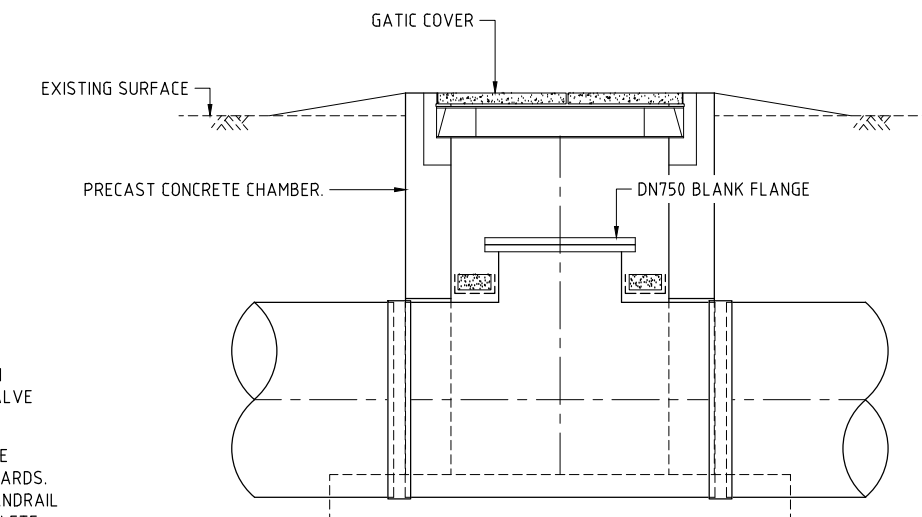
PLAN
AIR VALVE INSTALLATION ARRANGEMENT
SCALE G

NOTES

1. REFER 60662058-C-03 AND C-04 FOR PIPELINE NOTES
2. REFER 60662058-C-05 FOR PIPELINE LEGENDS
3. GEOTEXTILE LAYER TO MEET CLASS C STRUCTURAL AND CLASS 4 PERMEABILITY PARAMETERS.
4. ALL BUTT WELDS SHALL BE FULL PENETRATION CARRIED OUT AND TESTED IN ACCORDANCE WITH AS/NZS 1554.1 CATEGORY SP. ADDITIONAL DN100 SS316 SCH 40 (flxfl) (PN16 FLANGES) EXTENSION RISER (LENGTH TO SUIT) MAY BE REQUIRED IF MAIN PIPE IS DEEPER.
5. FOR BOLTING OF DISSIMILAR METALS SHALL BE AS PER SEQ-WAT-1313-1 INSULATED FLANGED JOINTS FOR STEEL MAINS DETAIL C

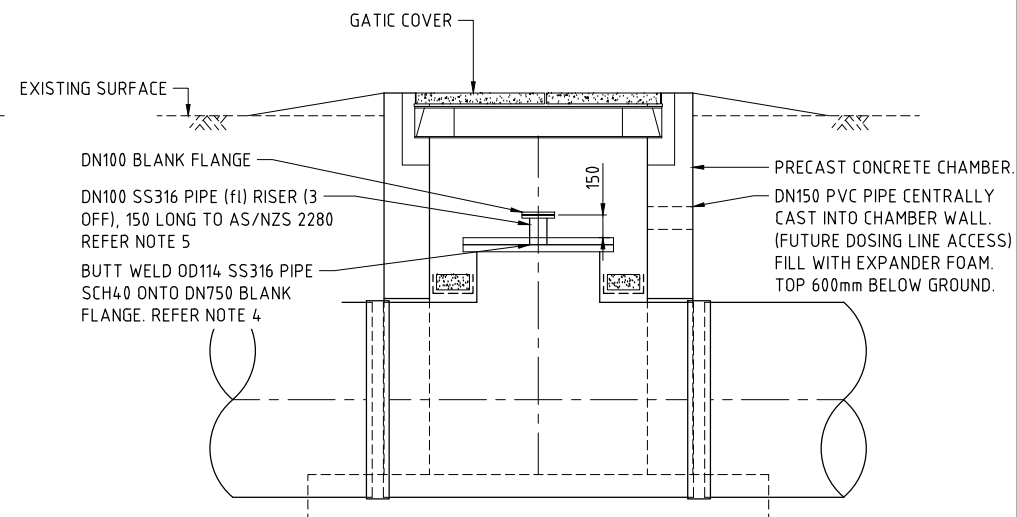


SECTION 1
SCALE G



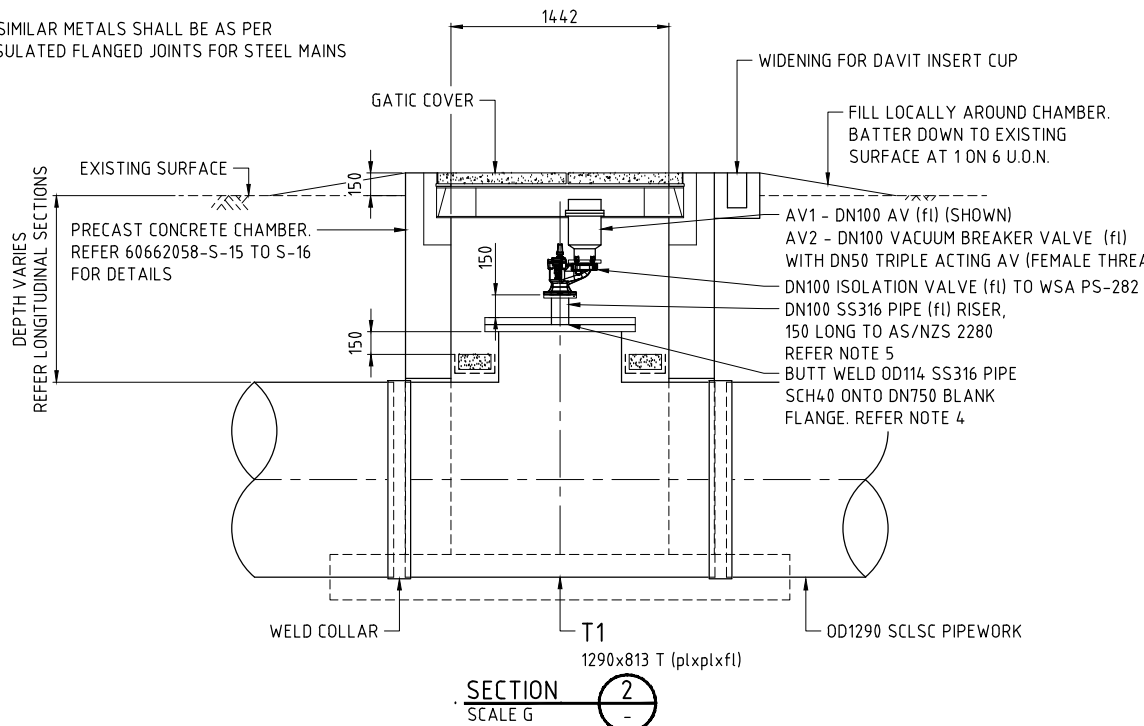
SECTION
ACCESS MANHOLE INSTALLATION ARRANGEMENT
SCALE G

ALL DETAILS AS PER AIR VALVE INSTALLATION ARRANGEMENT UNLESS OTHERWISE DETAILED

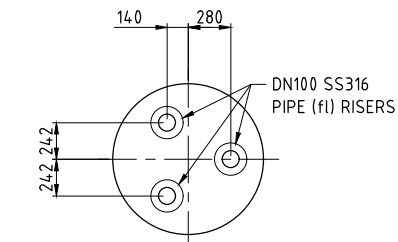


SECTION
DOSING MANHOLE INSTALLATION ARRANGEMENT
SCALE G

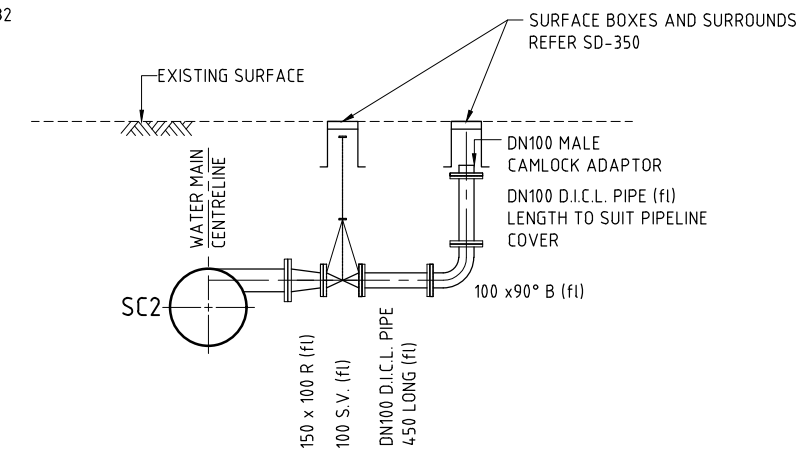
ALL DETAILS AS PER AIR VALVE INSTALLATION ARRANGEMENT UNLESS OTHERWISE DETAILED



SECTION 2
SCALE G



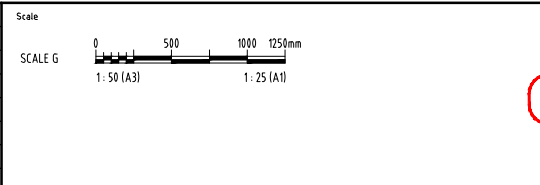
PLAN
DOSING MANHOLE BLANK FLANGE ARRANGEMENT
SCALE G



TYPICAL SECTION
AIR BLEED INSTALLATION
SCALE G

LAST MODIFIED: 17/02/2021 3:05 PM
REVISIONS
CAD: REP: 646X/6462058_V08_CAD_GIS: 918_CAD: 0312_SHEETS/6462058-C-62.DWG

This drawing is confidential and shall only be used for the purposes of this project.				
No.	BY	DATE	DESCRIPTION	APPD
D	PSA	19.11.21	ISSUED FOR TENDER	
C	PSA	20.10.21	90% DESIGN	
B	PSA	17.09.21	PIPELINE SUPPLY TENDER	
A	PSA	24.08.21	50% SUBMISSION	



DESIGNED		CHECKED	
APPROVED		DATE	

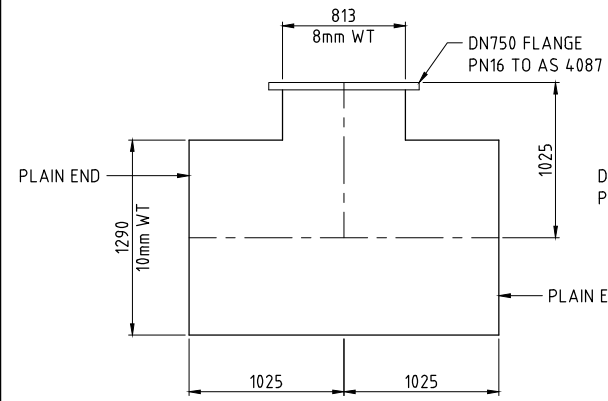
NOT FOR CONSTRUCTION

THE SIGNING OF THIS TITLE BLOCK CONFIRMS THE DESIGN AND DRAFTING OF THIS PROJECT HAVE BEEN PREPARED AND CHECKED IN ACCORDANCE WITH THE AECOM QUALITY ASSURANCE SYSTEM TO ISO 9001:2000

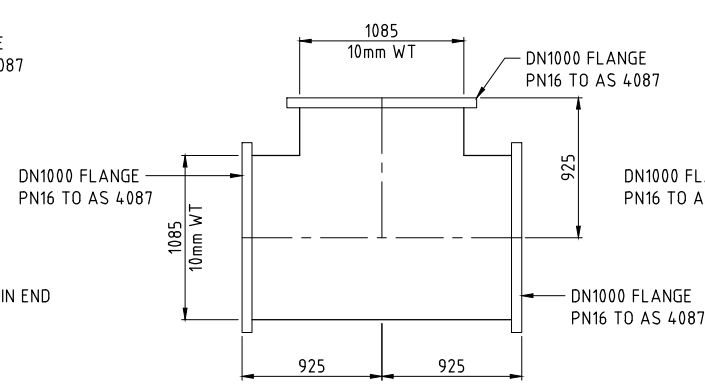
AECOM

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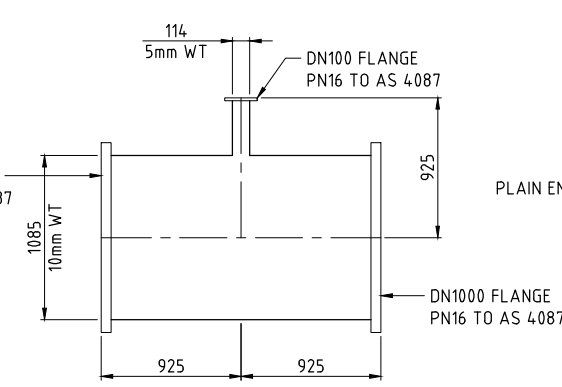
ROSS RIVER DAM TO DOUGLAS WTP PIPELINE		
AIR VALVE TYPICAL DETAILS GENERAL ARRANGEMENT		
Status	TENDER	Rev
Drwg No.	60662058-C-62	D



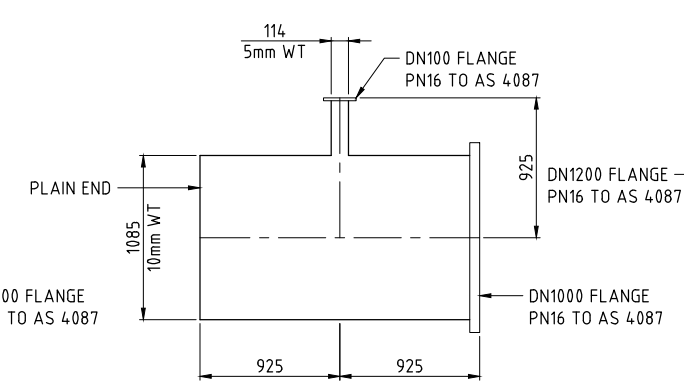
MK T1 - ELEVATION



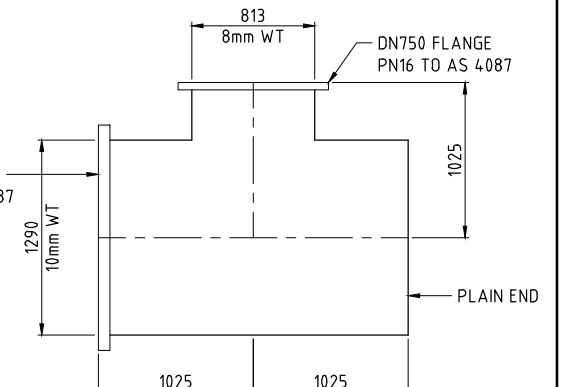
MK T2 - PLAN



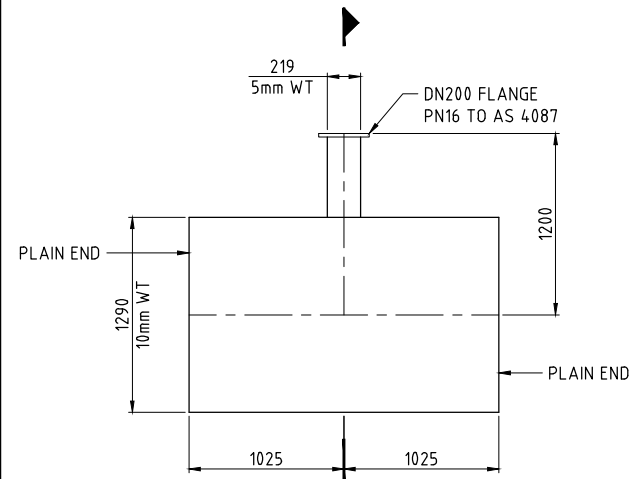
MK T3 - ELEVATION



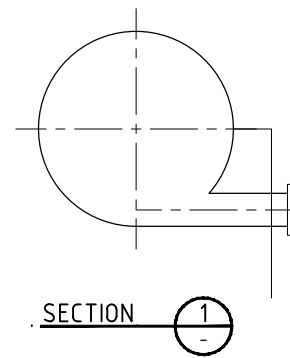
MK T4 - ELEVATION



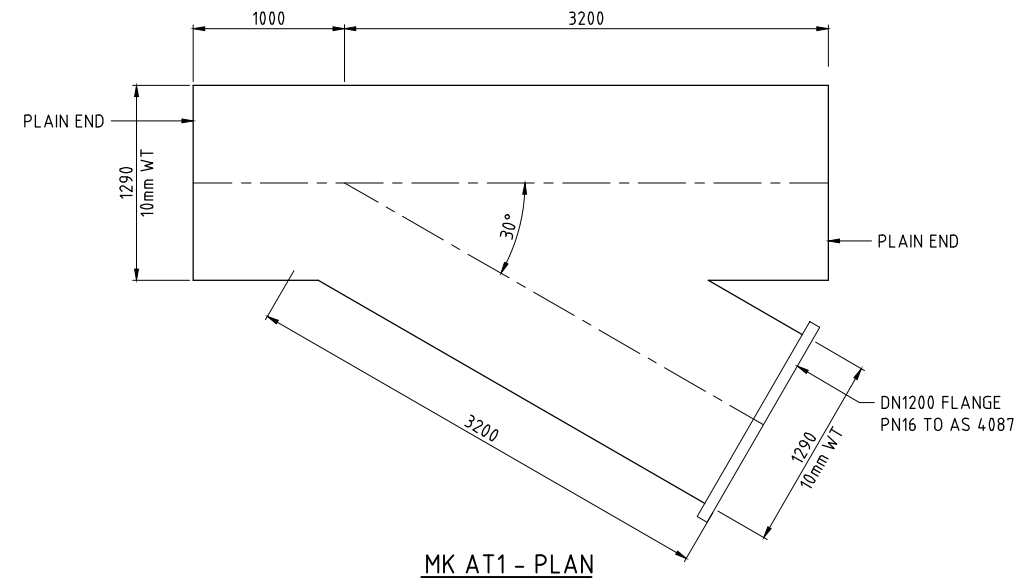
MK T6 - ELEVATION



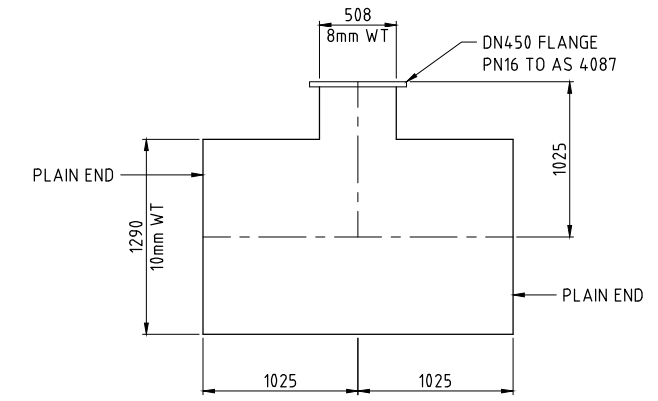
MK SC1 - PLAN



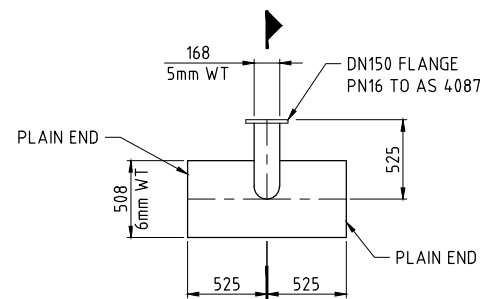
SECTION 1



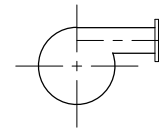
MK AT1 - PLAN



MK T5 - ELEVATION



MK SC2 - PLAN



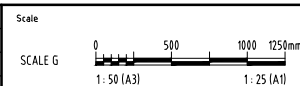
SECTION 2

NOTES

- REFER 60662058-C-03 AND C-04 FOR PIPELINE NOTES
- REFER 60662058-C-05 FOR PIPELINE LEGENDS

LAST MODIFIED: 20/02/2021 2:04 PM CAD: RFP-6662058-001_CAD_GIS-010_CAD-010_SHEETS-6662058-C-63.DWG

No.	BY	DATE	DESCRIPTION	APPD
D	PSA	19.11.21	ISSUED FOR TENDER	
C	PSA	20.10.21	90% DESIGN	
B	PSA	17.09.21	PIPELINE SUPPLY TENDER	
A	PSA	24.08.21	50% SUBMISSION	



DESIGNED		CHECKED	
APPROVED		DATE	

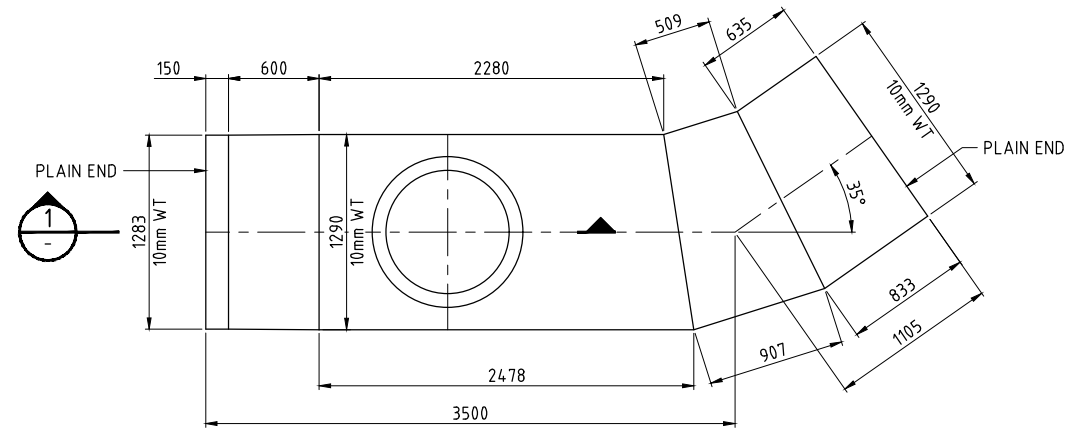
THE SIGNING OF THIS TITLE BLOCK CONFIRMS THE DESIGN AND DRAFTING OF THIS PROJECT HAVE BEEN PREPARED AND CHECKED IN ACCORDANCE WITH THE AECOM QUALITY ASSURANCE SYSTEM TO ISO 9001-2000

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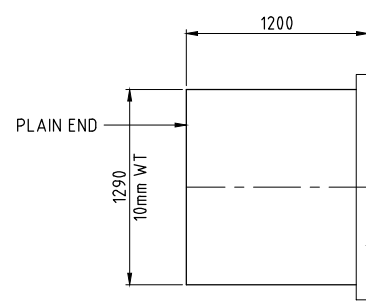
AECOM Australia Pty Ltd A.B.N. 20 093 846 925



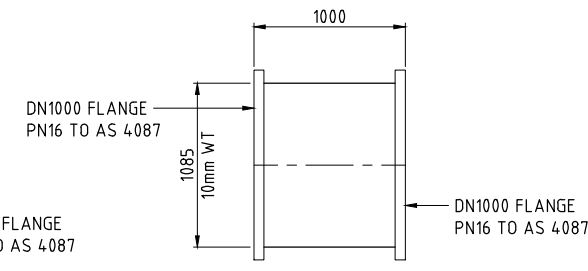
ROSS RIVER DAM TO DOUGLAS WTP PIPELINE	
STEEL PIPE SPECIALS SHEET 1	
Status	TENDER
Dwg No.	60662058-C-63
Rev.	D



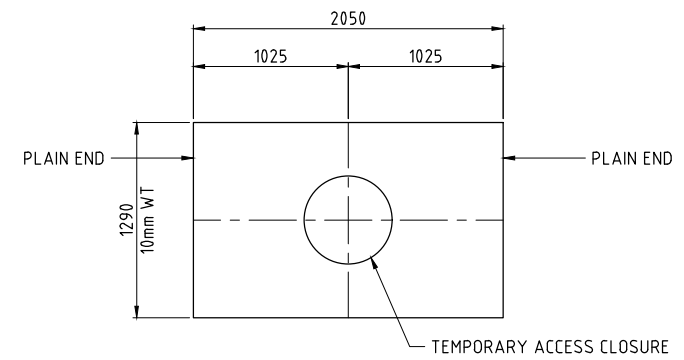
MK P1 - PLAN



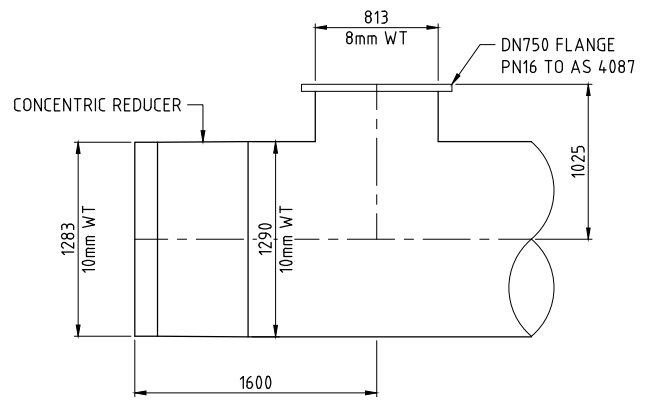
MK P2 - PLAN



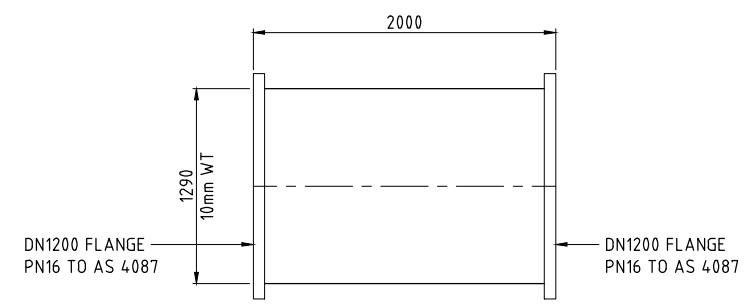
MK P3 - PLAN



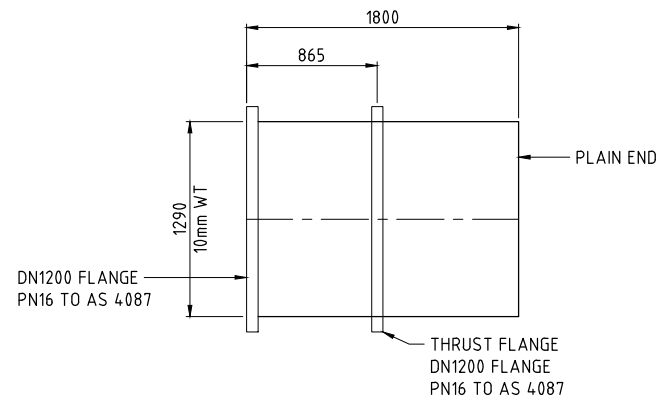
MK P4 - PLAN



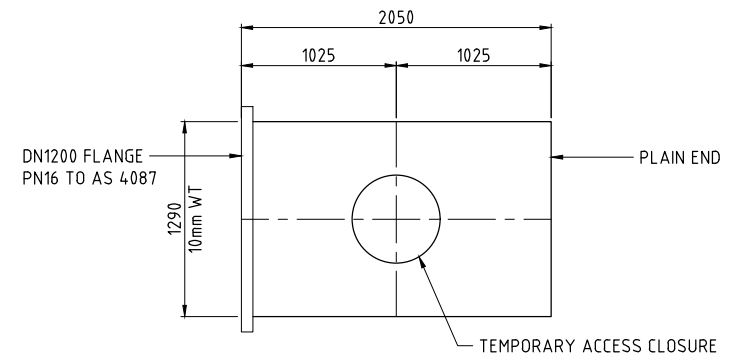
SECTION 1



MK P6 - PLAN



MK P8 - PLAN

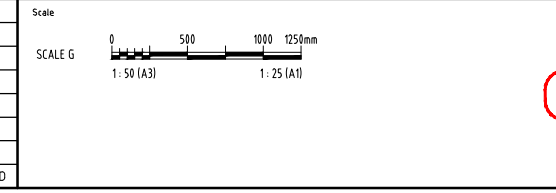


MK P5 - PLAN

- NOTES**
- REFER 60662058-C-03 AND C-04 FOR PIPELINE NOTES
 - REFER 60662058-C-05 FOR PIPELINE LEGENDS

LAST MODIFIED: 17/02/2021 11:14 PM
CAD: RFP-646X\6462058\910_CAD_GIS\910_CAD\21_SHEETS\6462058-C-64.DWG

No.	BY	DATE	DESCRIPTION	APPD
D	PSA	19.11.21	ISSUED FOR TENDER	
C	PSA	20.10.21	90% DESIGN	
B	PSA	17.09.21	PIPELINE SUPPLY TENDER	
A	PSA	24.08.21	50% SUBMISSION	



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DESIGNED	CHECKED
APPROVED	DATE

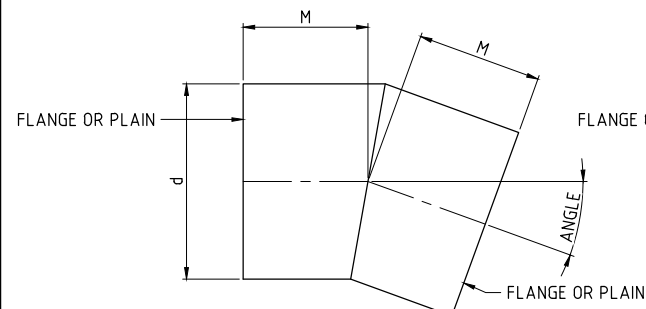
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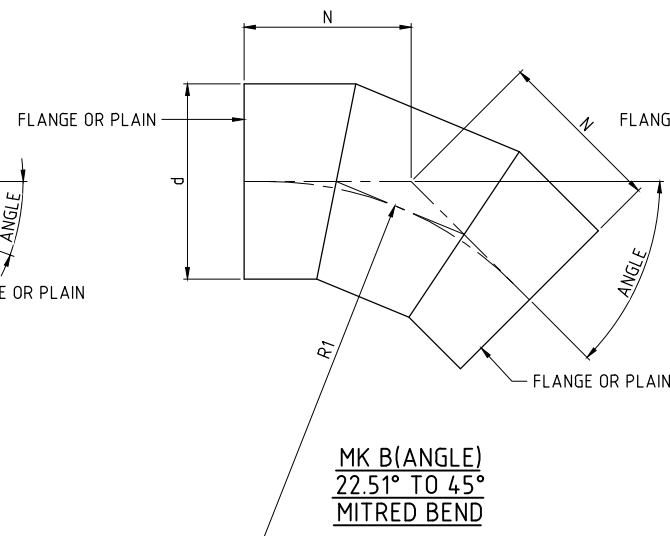
ROSS RIVER DAM TO DOUGLAS WTP PIPELINE		
STEEL PIPE SPECIALS SHEET 2		
Status	TENDER	Rev. D
Proj No.	60662058-C-64	

NOT FOR CONSTRUCTION

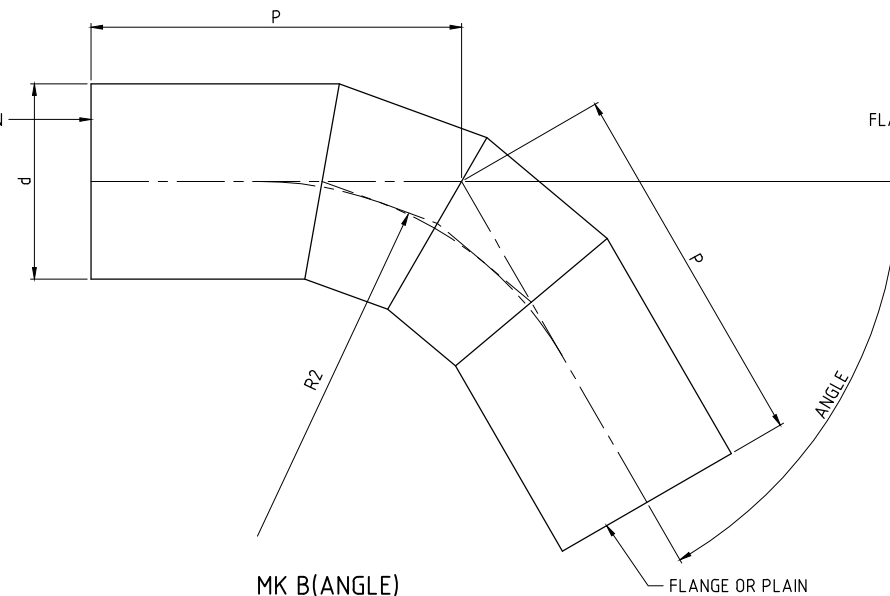


MK B(ANGLE)
0° TO 22.5°
MITRED BEND

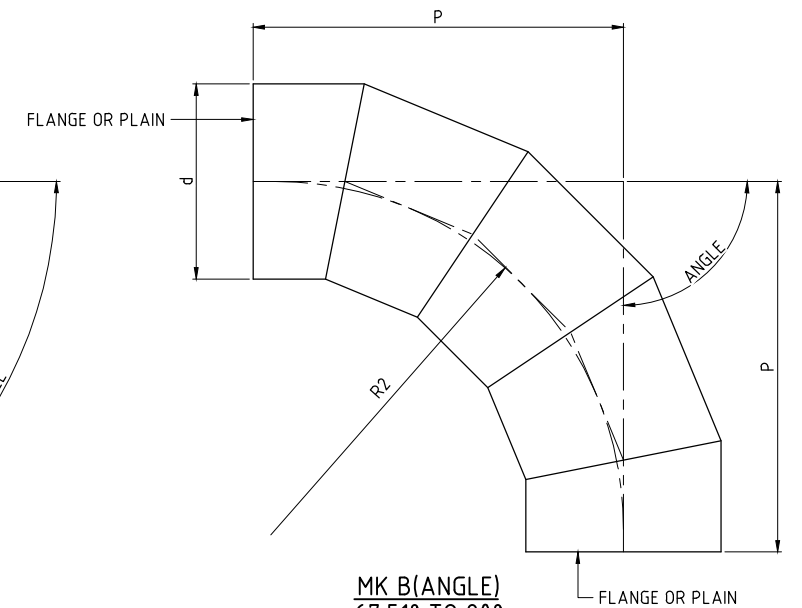
MK P2 - PLAN



MK B(ANGLE)
22.51° TO 45°
MITRED BEND



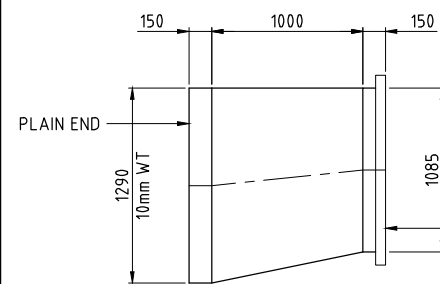
MK B(ANGLE)
45.01° TO 67.5°
MITRED BEND



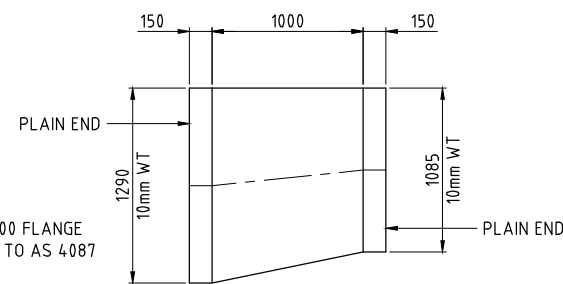
MK B(ANGLE)
67.51° TO 90°
MITRED BEND

MITRED BEND TABLE							
DIAMETER (d)	STEEL THICKNESS (WT)	M	N	R1	P	R2	FLANGE PN16 TO AS 4087 (DN)
508	6	525	565	1000	1150	1000	450
1290	10	825	1105	2300	2450	2300	1200

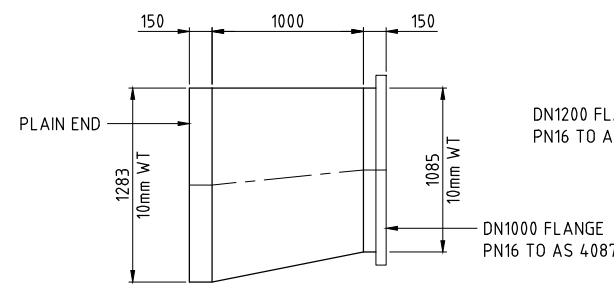
ALL STEEL BENDS ARE PLAIN ENDS U.O.N.
REFER PLAN AND LONGITUDINAL SECTIONS AND DETAIL PLANS TO DETERMINE IF BEND HAS FLANGED CONNECTIONS



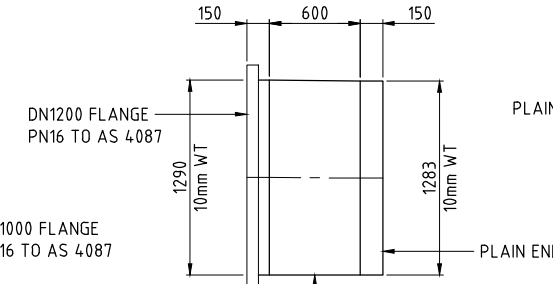
MK RE1 - ELEVATION



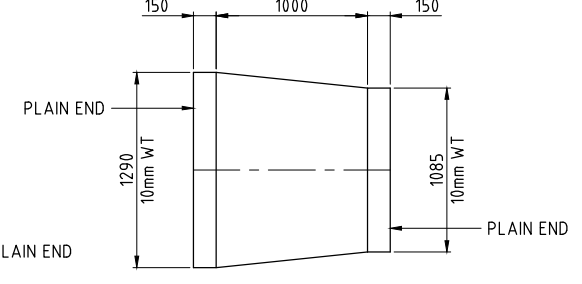
MK RE2 - ELEVATION



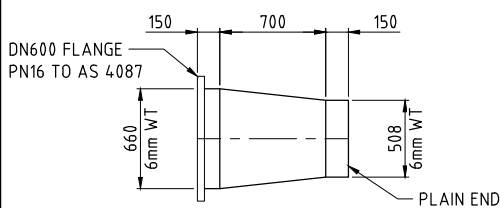
MK RE4 - ELEVATION



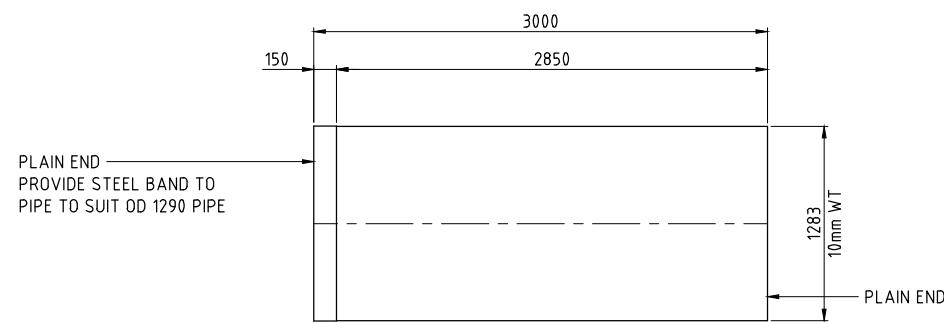
MK RE5 - ELEVATION



MK RC1 - ELEVATION



MK RC2 - PLAN



MK RE3 - ELEVATION

NOTES

- REFER 60662058-C-03 AND C-04 FOR PIPELINE NOTES
- REFER 60662058-C-05 FOR PIPELINE LEGENDS

LAST MODIFIED: 19/12/2021 10:33 AM
CAD: RFP-6662058-03-CAD_GIS-910_CAD-02_SHEETS-6662058-C-65.DWG

No.	BY	DATE	DESCRIPTION	APPD
D	PSA	19.11.21	ISSUED FOR TENDER	
C	PSA	20.10.21	90% DESIGN	
B	PSA	17.09.21	PIPELINE SUPPLY TENDER	
A	PSA	24.08.21	50% SUBMISSION	

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Scale: 1:50 (A3) 1:25 (A1)

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DESIGNED	CHECKED
APPROVED	DATE

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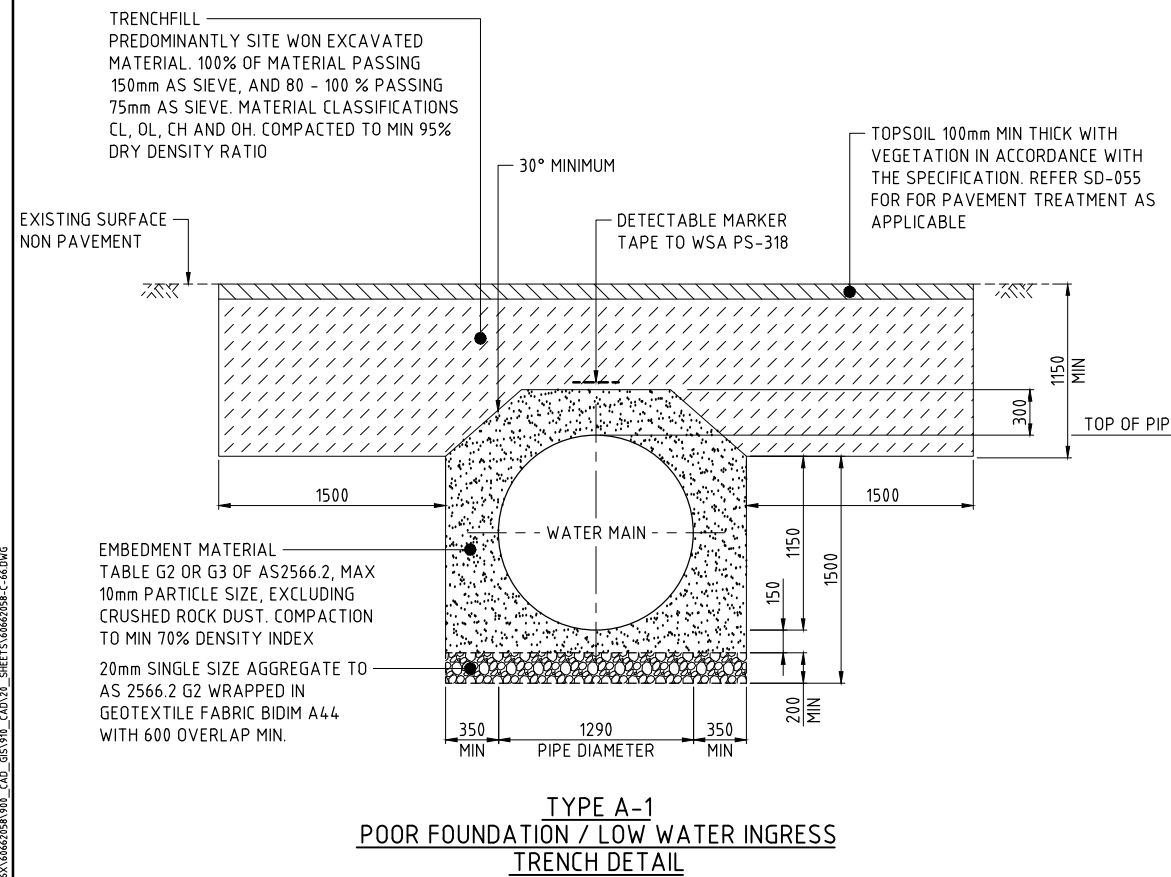
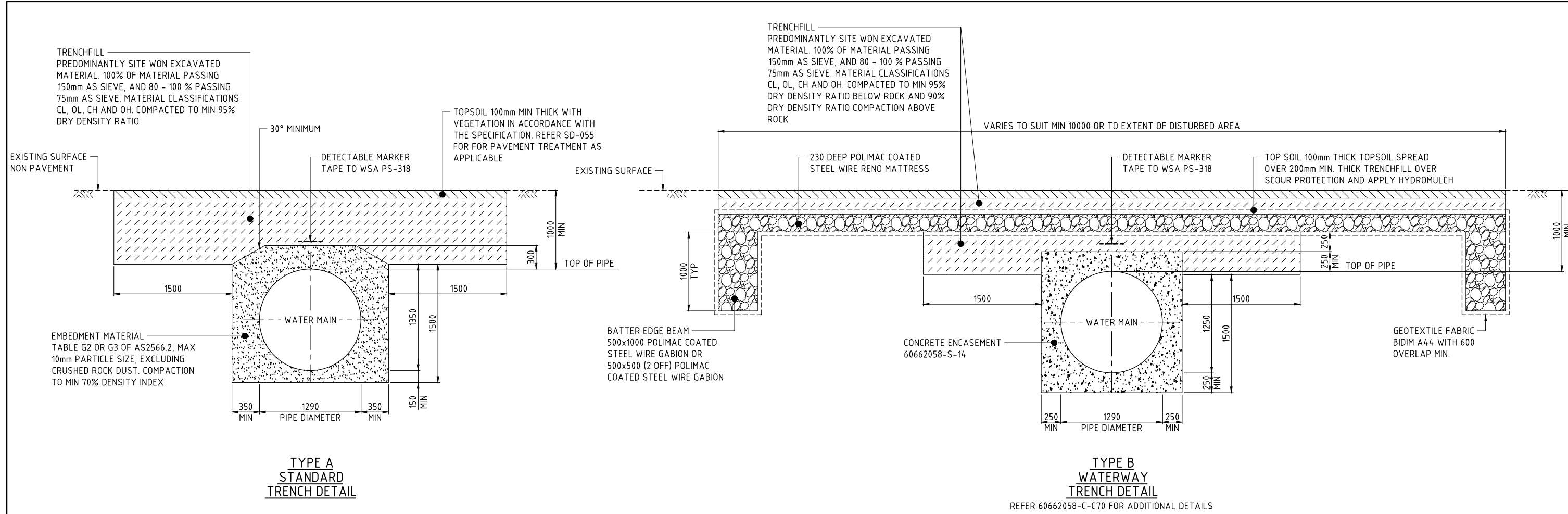
ROSS RIVER DAM TO DOUGLAS WTP PIPELINE

STEEL PIPE SPECIALS SHEET 3

Status: TENDER

Proj No: 60662058-C-65

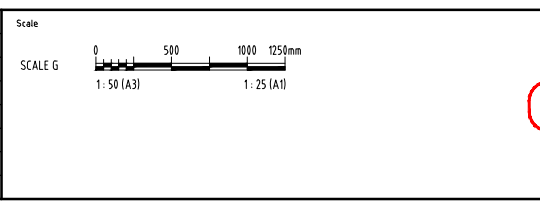
Rev: D



- NOTES**
- REFER 60662058-C-03 AND C-04 FOR PIPELINE NOTES
 - REFER 60662058-C-05 FOR PIPELINE LEGENDS
 - BENCHING SHOWN INDICATIVELY. BENCHING REQUIREMENTS VARY BASED ON NATIVE SOIL / GROUND - REFER GEOTECHNICAL REPORT.

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No.	BY	DATE	DESCRIPTION	APPD
D	PSA	19.11.21	ISSUED FOR TENDER	
C	PSA	20.10.21	90% DESIGN	
B	PSA	17.09.21	PIPELINE SUPPLY TENDER	
A	PSA	24.08.21	50% SUBMISSION	



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DESIGNED	CHECKED
APPROVED	DATE

AECOM

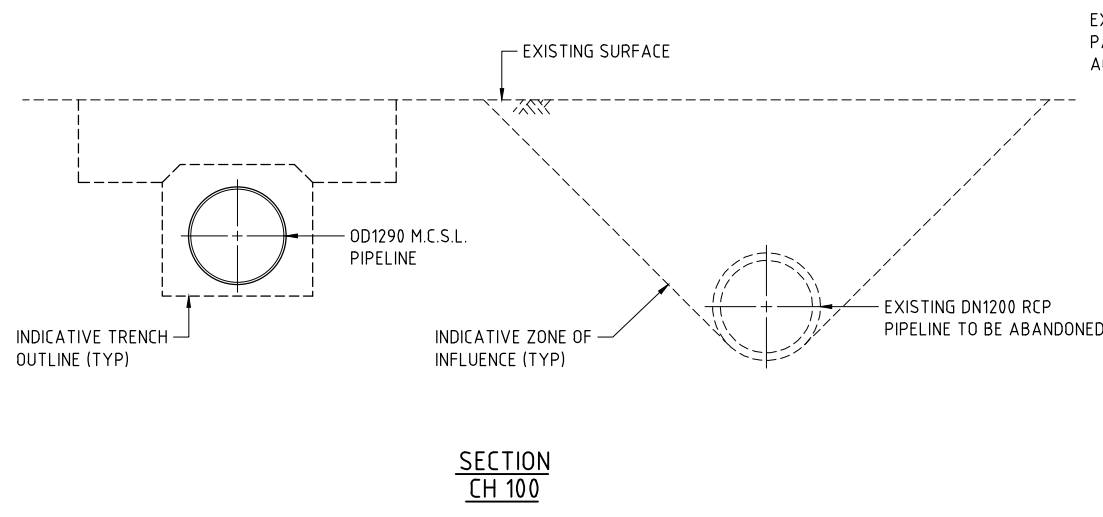
AECOM Australia Pty Ltd A.B.N. 20 093 846 925



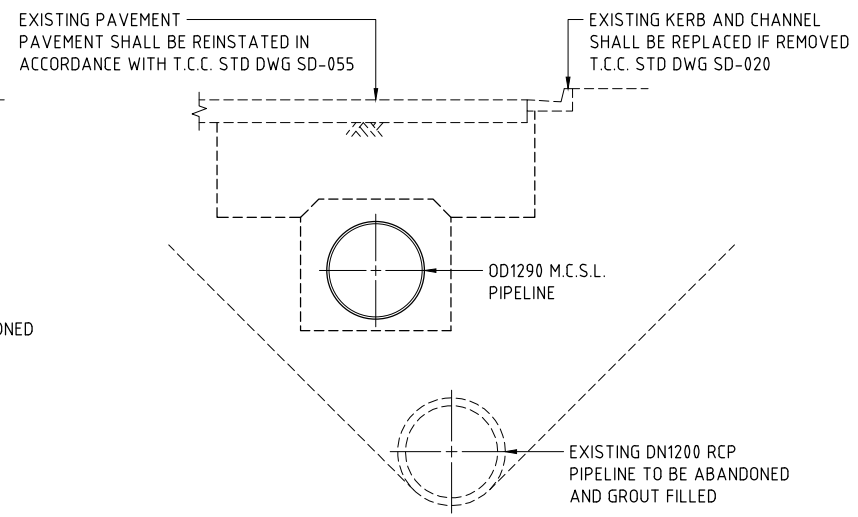
ROSS RIVER DAM TO DOUGLAS WTP PIPELINE
TYPICAL TRENCH SECTIONS

Status TENDER
Dwg No. 60662058-C-66
Rev. D

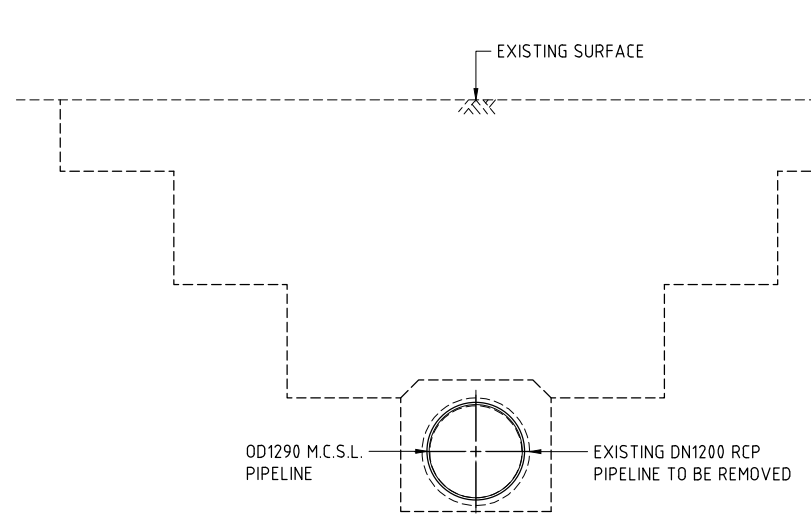
NOT FOR CONSTRUCTION



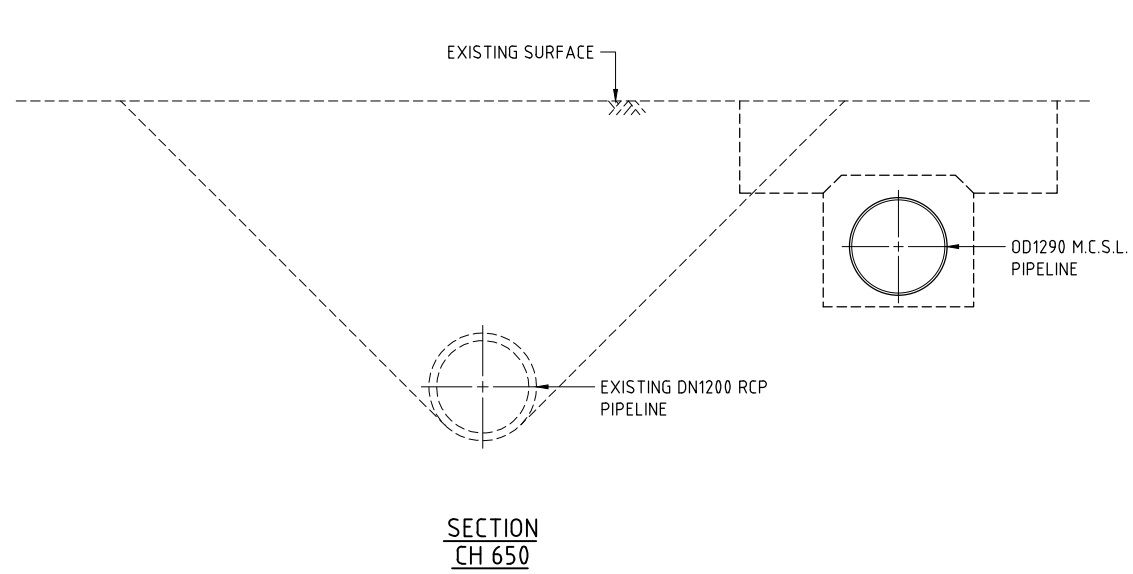
SECTION
CH 100



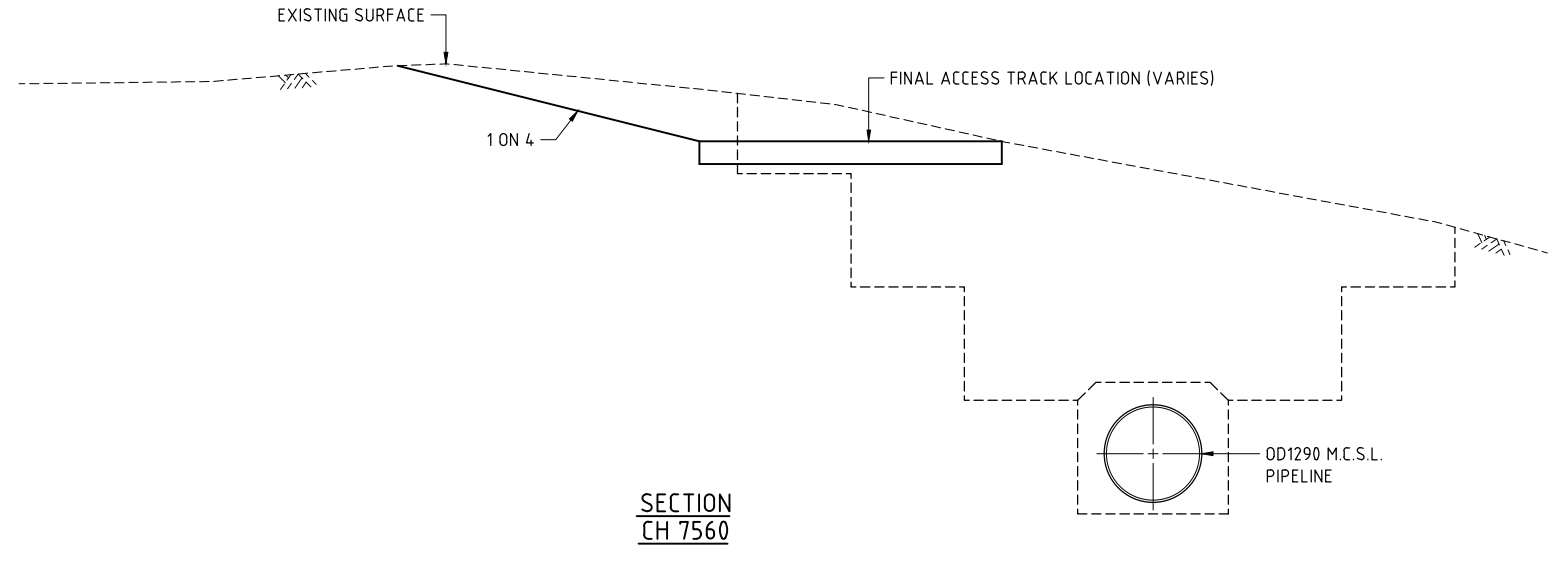
SECTION
CH 400



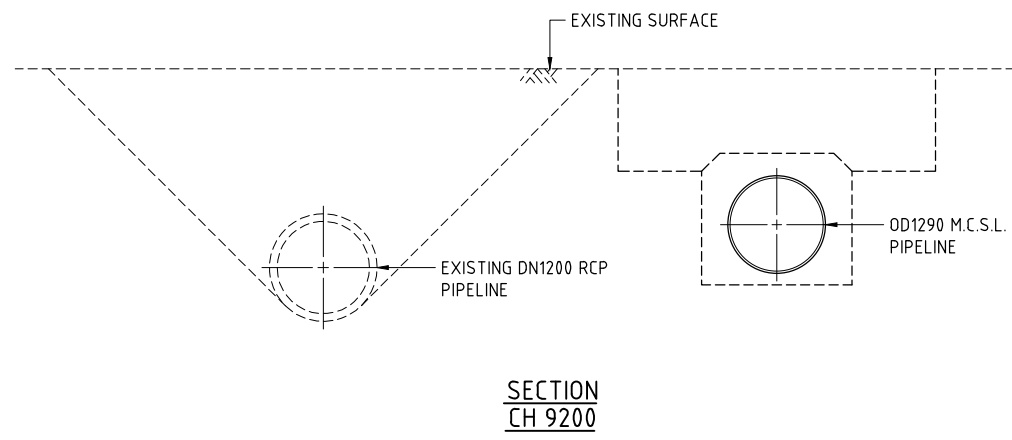
SECTION
CH 525



SECTION
CH 650



SECTION
CH 7560

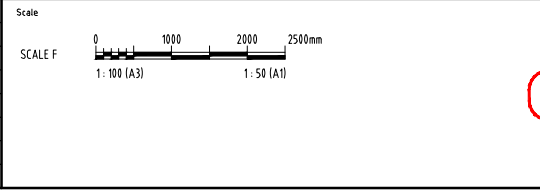


SECTION
CH 9200

- NOTES**
- BENCHED TRENCH SHOWN TYP.
 - CONTRACTOR MAY ELECT SHORING, BATTERING OR BENCHING OR COMBINATION AS APPROPRIATE AT EACH LOCATION
 - REFER PLAN AND LONGITUDINAL SECTION PLANS FOR EXTENT OF CONSTRUCTION CORRIDOR

LAST MODIFIED: 17/12/2021 08:48 AM
CAD: RFP-666X16662058_V08_CAD_GIS_V10_CAD_V10_SHEETS/6662058-C-47.DWG

This drawing is confidential and shall only be used for the purposes of this project.				
No.	BY	DATE	DESCRIPTION	APPD
D	PSA	19.11.21	ISSUED FOR TENDER	
C	PSA	20.10.21	90% DESIGN	
B	PSA	17.09.21	PIPELINE SUPPLY TENDER	
A	PSA	24.08.21	50% SUBMISSION	



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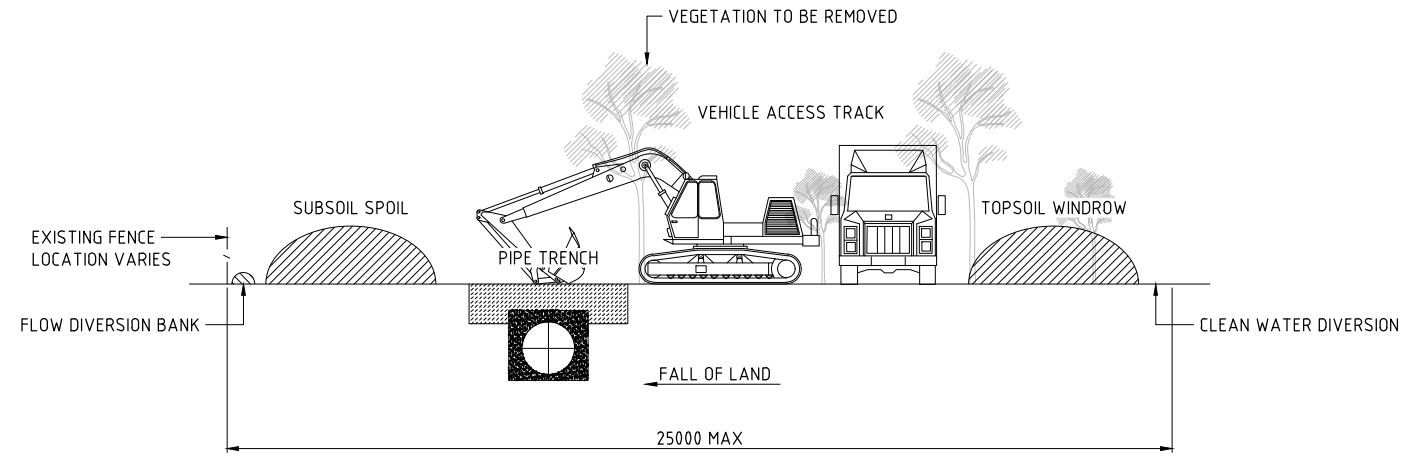
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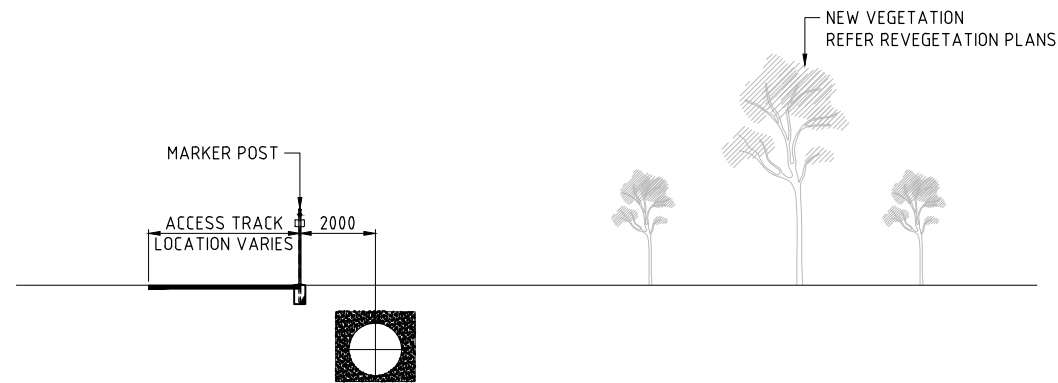
AECOM

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ROSS RIVER DAM TO DOUGLAS WTP PIPELINE	
PIPELINE SECTIONS	
Status	TENDER
Drwg No.	60662058-C-67
Rev.	D



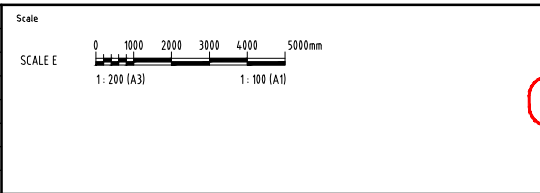
INDICATIVE SECTION
DEFENCE LAND
DURING CONSTRUCTION



INDICATIVE SECTION
DEFENCE LAND
AFTER CONSTRUCTION

LAST MODIFIED: 17/12/21 13:44 CAD: RFP-666X-6662058-980_CAD_GIS-918_CAD-VIS_SHEETS-6662058-C-68.DWG

This drawing is confidential and shall only be used for the purposes of this project.				
REVISIONS				
No.	BY	DATE	DESCRIPTION	APPD
D	PSA	19.11.21	ISSUED FOR TENDER	
C	PSA	20.10.21	90% DESIGN	
B	PSA	17.09.21	PIPELINE SUPPLY TENDER	
A	PSA	24.08.21	50% SUBMISSION	



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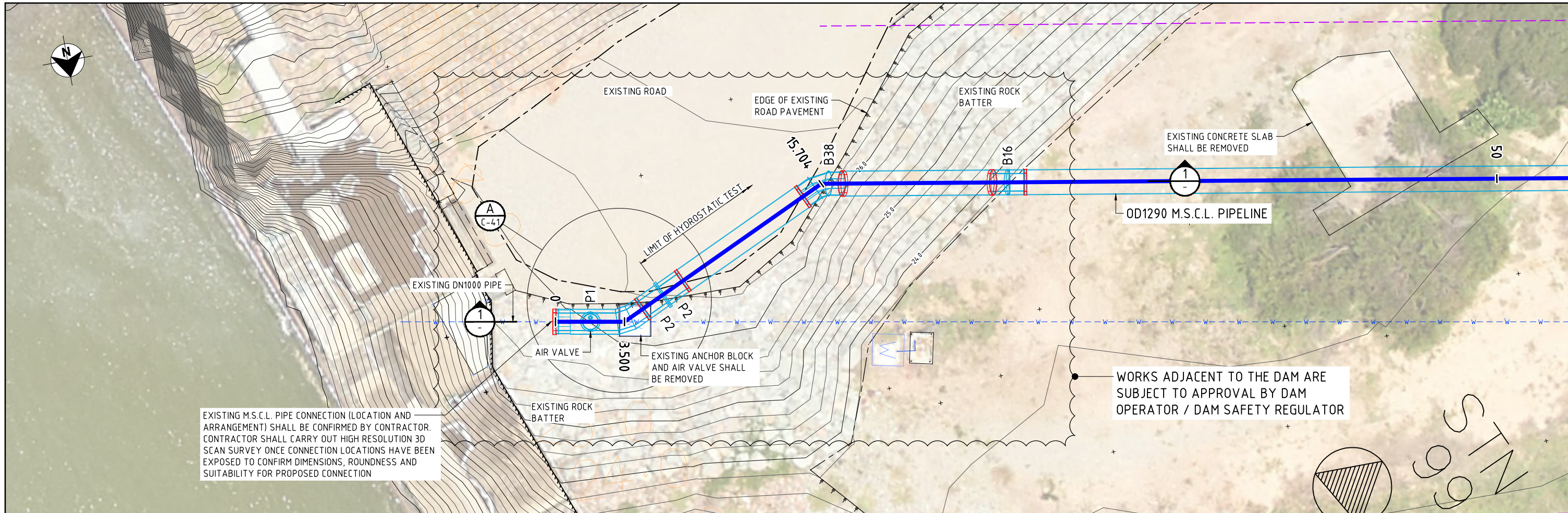
DESIGNED	CHECKED
APPROVED	DATE

NOT FOR CONSTRUCTION

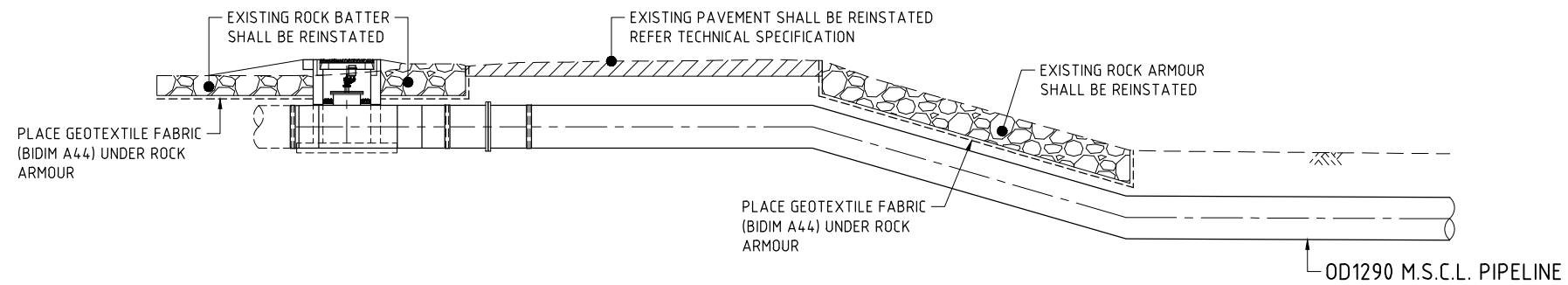
AECOM

AECOM Australia Pty Ltd A.B.N. 20 093 846 925

ROSS RIVER DAM TO DOUGLAS WTP PIPELINE		
INDICATIVE CORRIDOR SECTIONS		
Status	TENDER	Rev. D
Dwg No.	60662058-C-68	



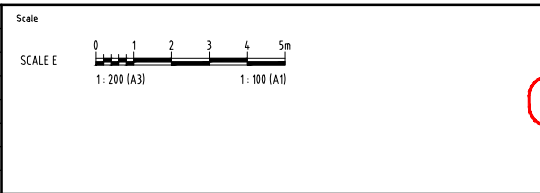
PLAN



SECTION 1

LAST MODIFIED: 20/12/2021 09:55 AM
REVISIONS
CAD: RFP-6662058-999_CAD_GIS-918_CAD-VIS_SHEETS-6662058-C-69.DWG

No.	BY	DATE	DESCRIPTION	APPD
D	PSA	19.11.21	ISSUED FOR TENDER	
C	PSA	20.10.21	90% DESIGN	
B	PSA	17.09.21	PIPELINE SUPPLY TENDER	
A	PSA	24.08.21	50% SUBMISSION	



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DESIGNED	CHECKED
APPROVED	DATE

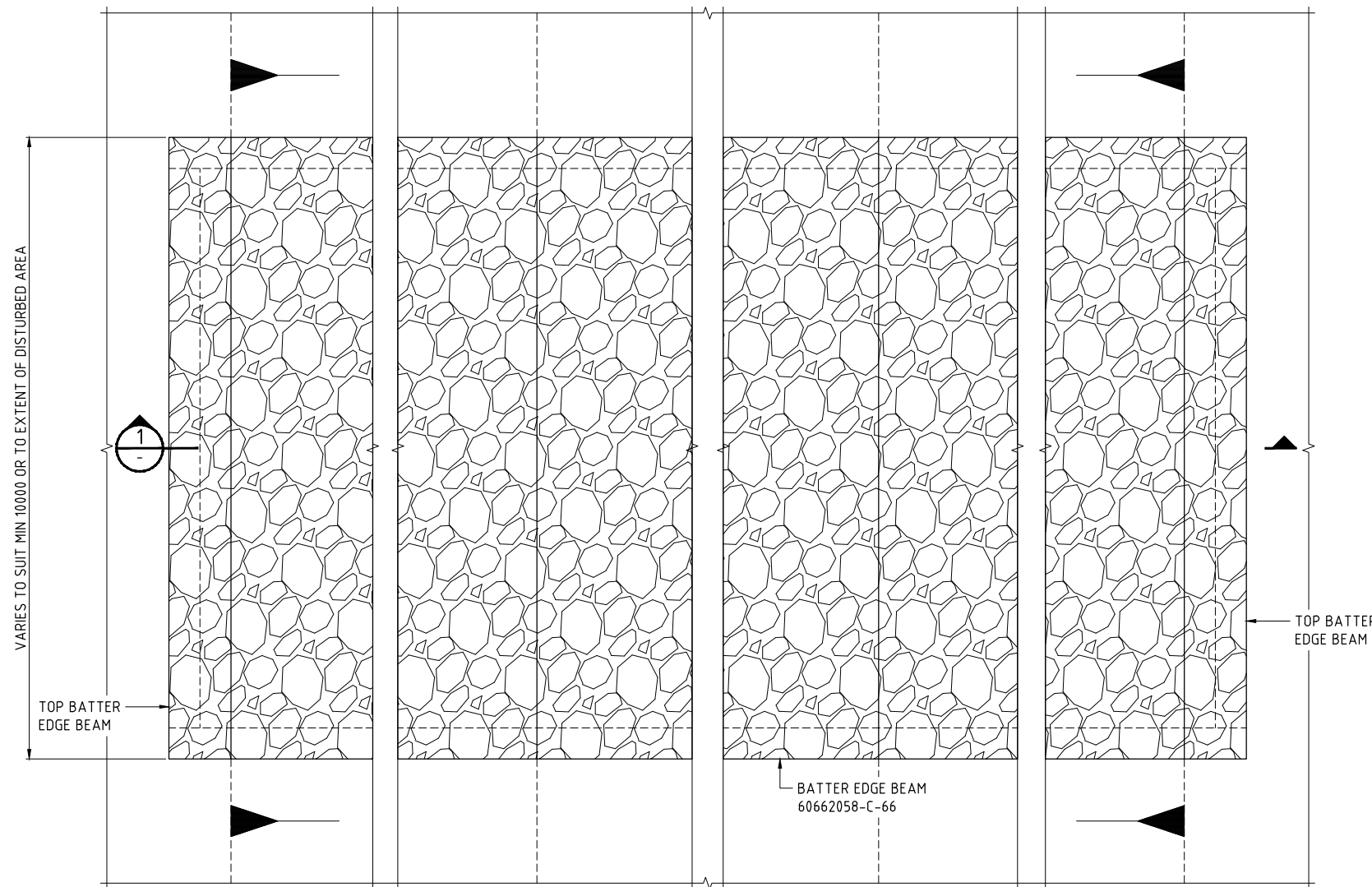
NOT FOR CONSTRUCTION



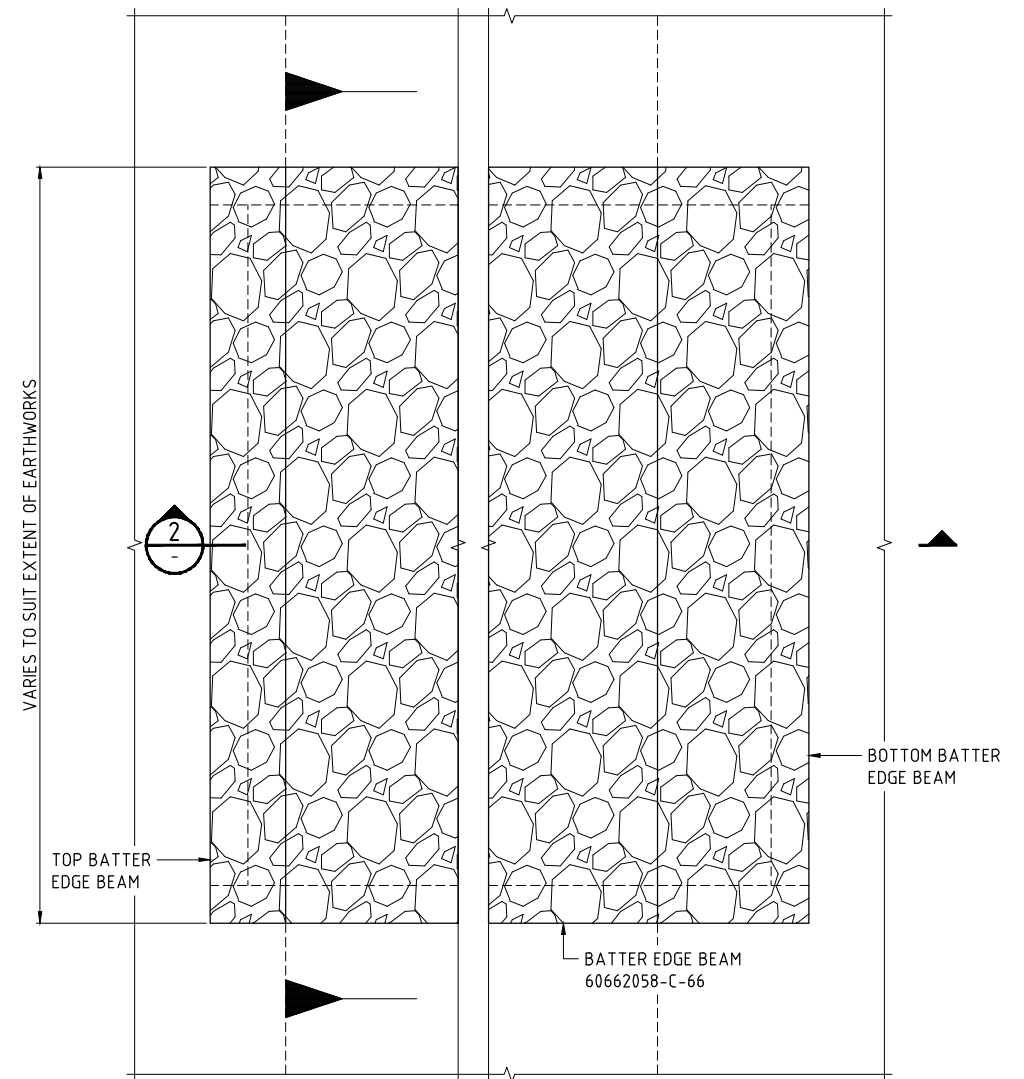
AECOM Australia Pty Ltd A.B.N. 20 093 846 925



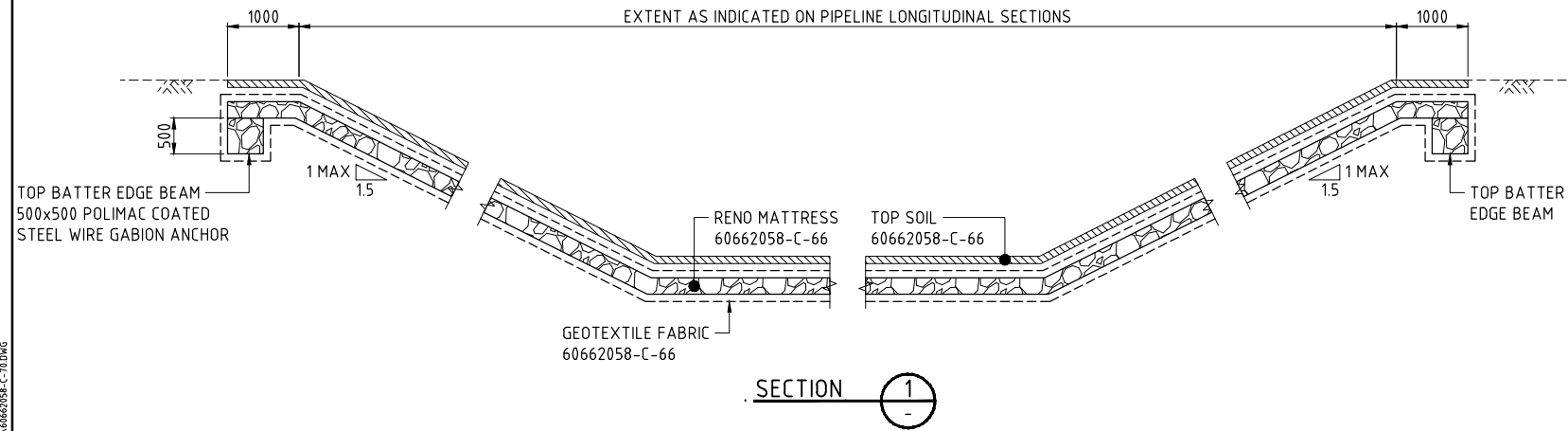
ROSS RIVER DAM TO DOUGLAS WTP PIPELINE	
CH0 TO CH30 REINSTATEMENT	
Status	TENDER
Dwg No.	60662058-C-69
Rev.	D



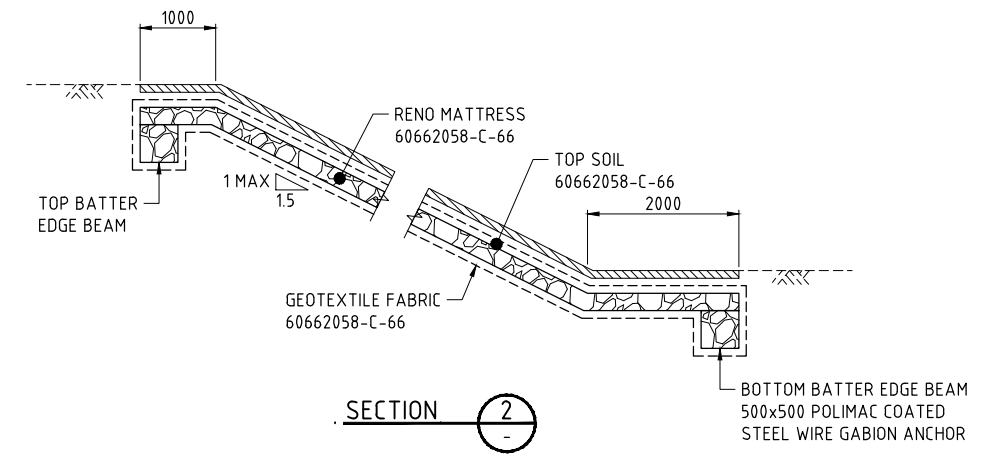
PLAN
FULL CREEK PROTECTION



PLAN
BATTER PROTECTION



SECTION 1

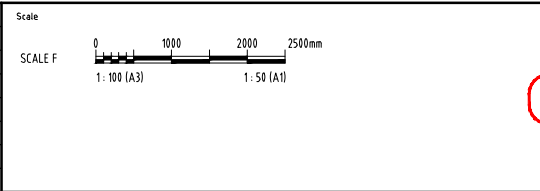


SECTION 2

- NOTES**
- REFER 60662058-C-03 AND C-04 FOR PIPELINE NOTES
 - REFER 60662058-C-05 FOR PIPELINE LEGENDS
 - REFER 60662058-C-66 FOR TYPICAL SECTIONS

LAST MODIFIED: 17/02/21 12:41 PM
REVISIONS
CAD: RFP-666X-6662058-999_CAD_GIS-910_CAD-VIS_SHEETS-6662058-C-70.DWG

This drawing is confidential and shall only be used for the purposes of this project.				
No.	BY	DATE	DESCRIPTION	APPD
D	PSA	19.11.21	ISSUED FOR TENDER	
C	PSA	20.10.21	90% DESIGN	
B	PSA	17.09.21	PIPELINE SUPPLY TENDER	
A	PSA	24.08.21	50% SUBMISSION	



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DESIGNED	CHECKED
APPROVED	DATE

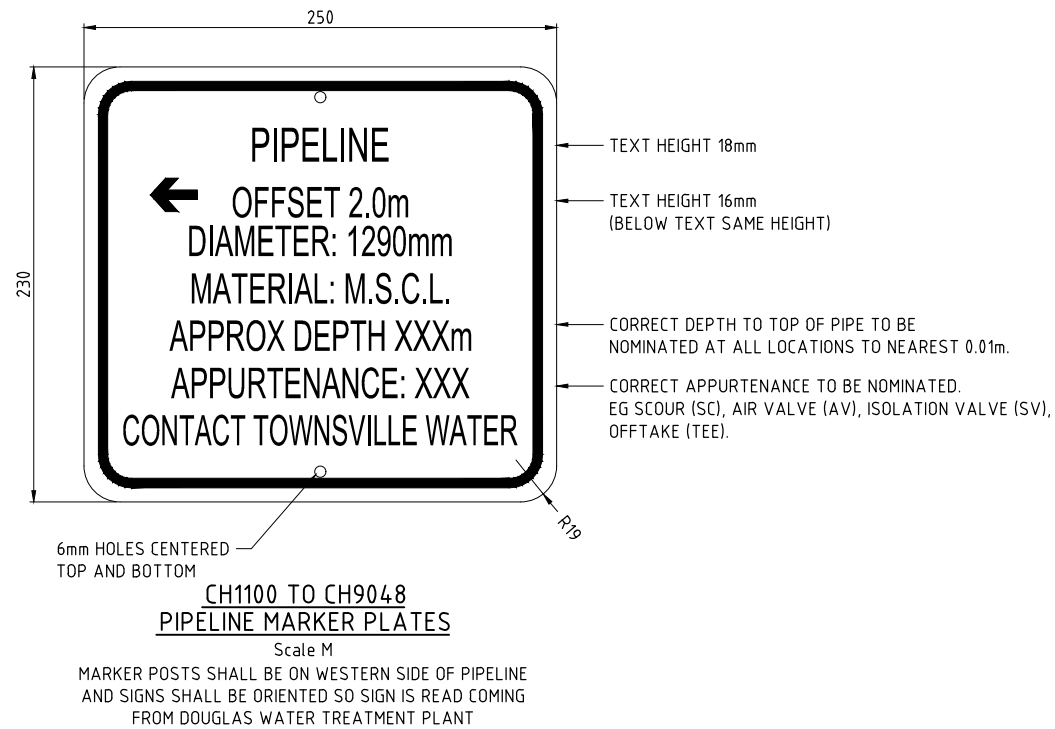
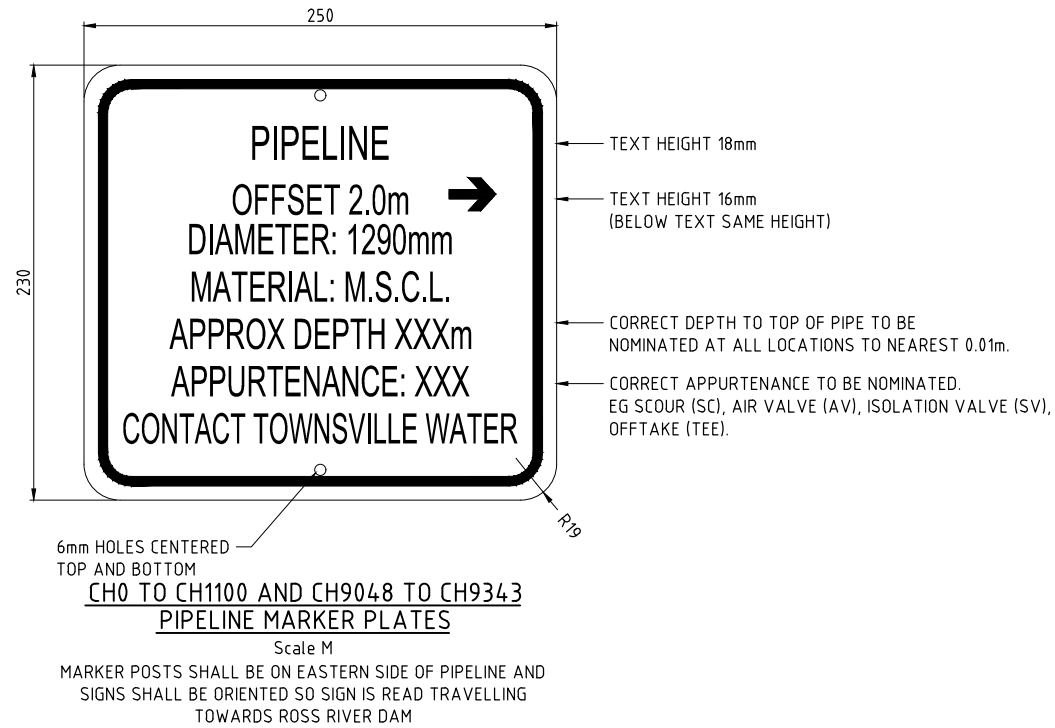
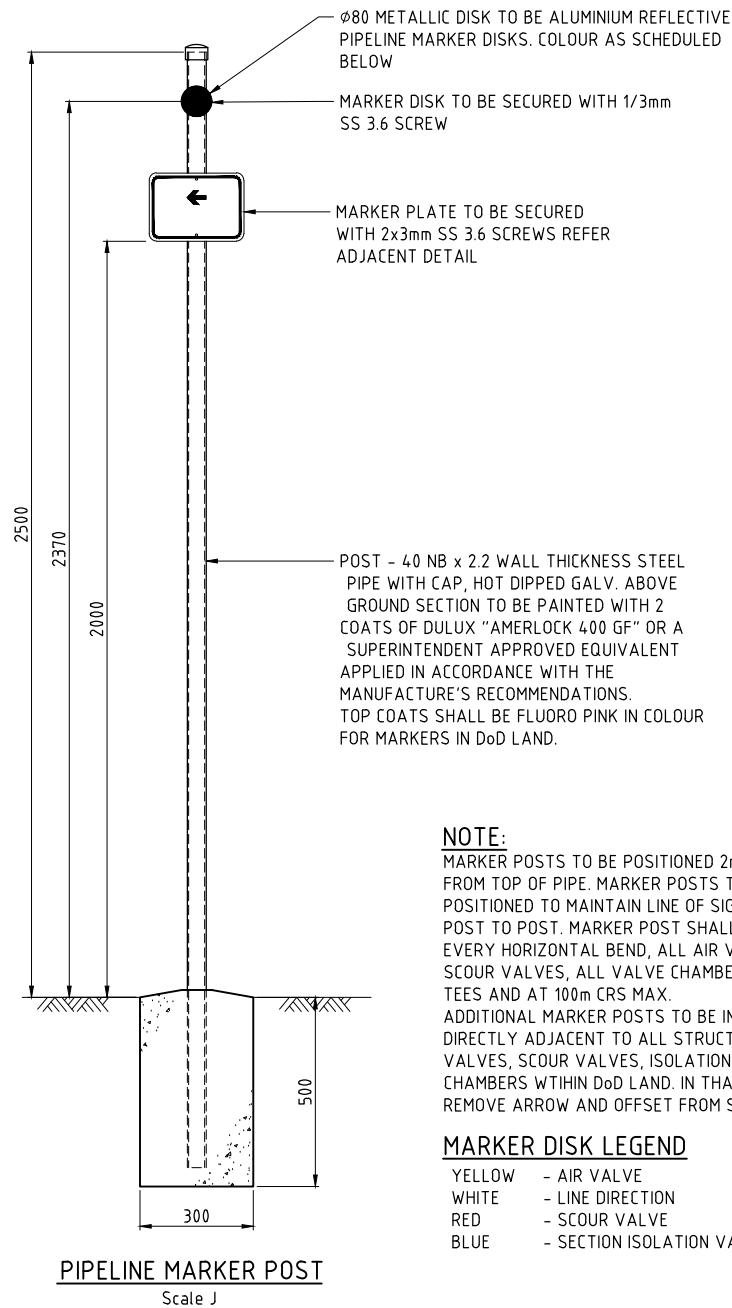
NOT FOR CONSTRUCTION



AECOM Australia Pty Ltd A.B.N. 20 093 846 925



ROSS RIVER DAM TO DOUGLAS WTP PIPELINE		
ROCK PROTECTION DETAILS		
Status	TENDER	Rev. D
Drwg No.	60662058-C-70	

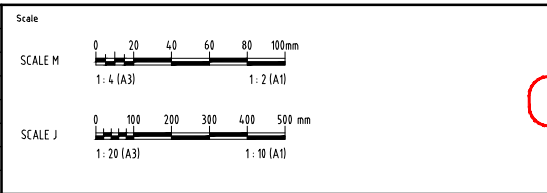


- SIGN NOTES**
- SIGN TO BE MANUFACTURED IN ACCORDANCE WITH AS1319.
 - BLACK TEXT (FONT:SWIS721 BT) ON COLOURBOND METAL BACKING
 - ALL TEXT JUSTIFICATION TO BE CENTRAL ABOUT SIGN.
 - CONTRACTOR TO CONFIRM SIGNAGE ARROW DIRECTION ON SITE

- NOTES**
- REFER 60662058-C-03 AND C-04 FOR PIPELINE NOTES
 - REFER 60662058-C-05 FOR PIPELINE LEGENDS

LAST MODIFIED: 20/02/2021 11:14 AM C:\D:\REP\646X\6462058\948_CAD_GIS\948_CAD\210_SHEETS\6462058-C-11.DWG

No.	BY	DATE	DESCRIPTION	APPD
D	PSA	19.11.21	ISSUED FOR TENDER	
C	PSA	20.10.21	90% DESIGN	
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DESIGNED	CHECKED
APPROVED	DATE

NOT FOR CONSTRUCTION

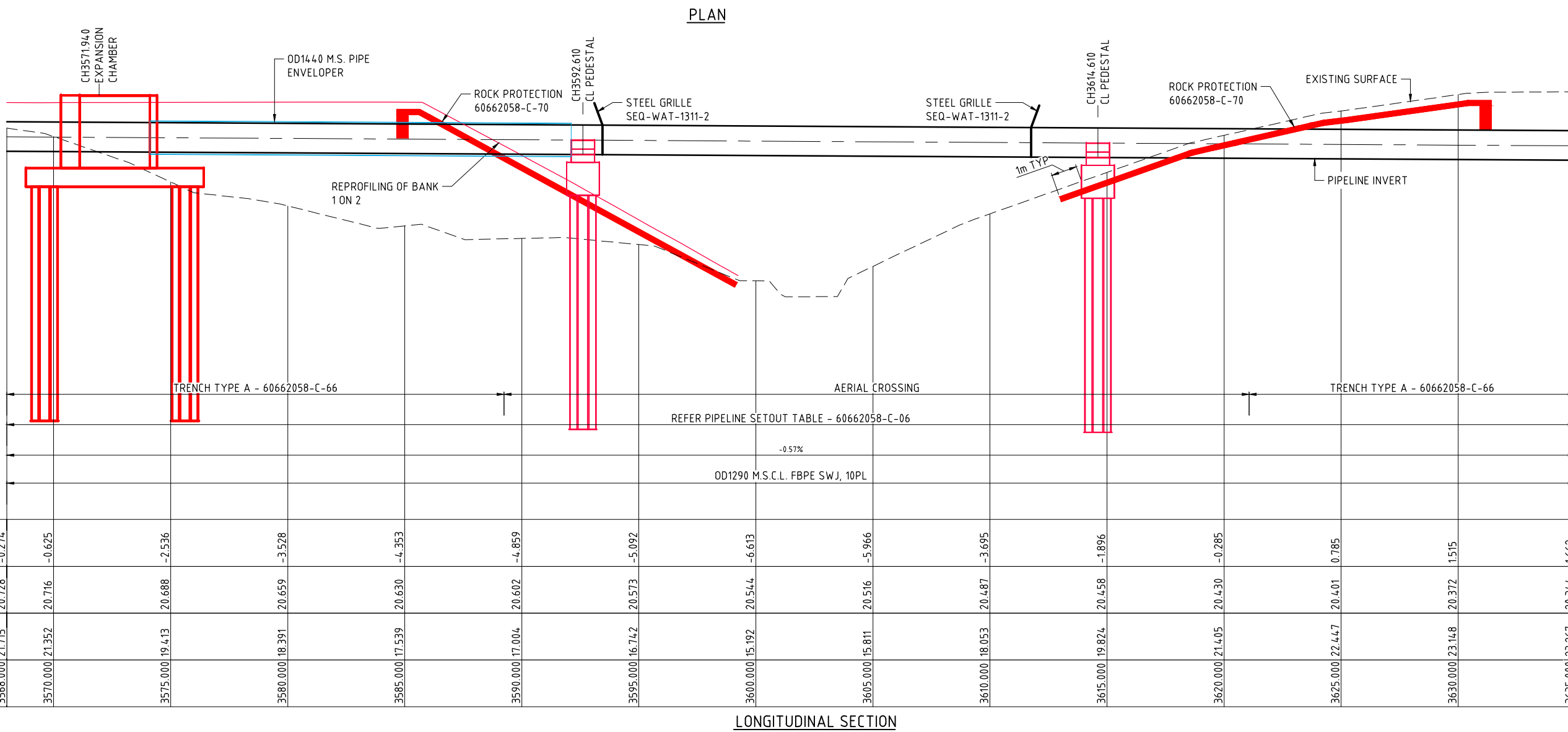
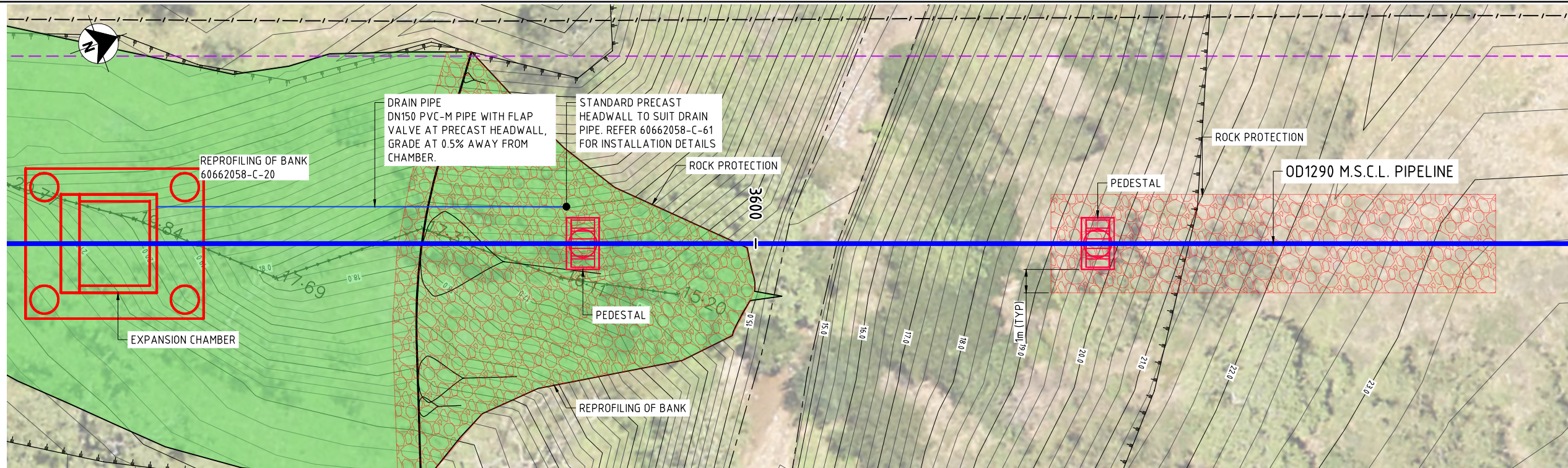
AECOM

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City of Townsville

ROSS RIVER DAM TO DOUGLAS WTP PIPELINE
 MARKER POST DETAILS

Status TENDER
 Dwg No. 60662058-C-71
 Rev. D



ALL PIPES ARE FULLY RESTRAINED UNLESS NOTED OTHERWISE. UNRESTRAINED JOINTS MUST NOT BE USED

NOTES

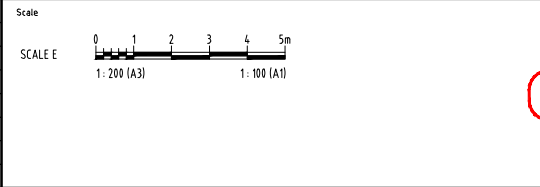
- REFER 60662058-C-03 AND C-04 FOR PIPELINE NOTES
- REFER 60662058-C-05 FOR PIPELINE LEGENDS

TRENCH TYPE SECTION	TRENCH TYPE A - 60662058-C-66		AERIAL CROSSING										TRENCH TYPE A - 60662058-C-66		
PIPELINE HORIZONTAL ALIGNMENT			REFER PIPELINE SETOUT TABLE - 60662058-C-06												
GRADE			-0.51%												
PIPE DETAILS			OD1290 M.S.C.L. FBPE SWJ, 10PL												
DEFLECTIONS DATUM	R.L. 5.0														
DEPTH OF COVER	-0.274	-0.625	-2.536	-3.528	-4.353	-4.859	-5.092	-6.613	-5.966	-3.695	-1.896	-0.285	0.785	1.515	1.662
PIPE INVERT LEVEL	20.728	20.716	20.688	20.659	20.630	20.602	20.573	20.544	20.516	20.487	20.458	20.430	20.401	20.372	20.344
EXISTING SURFACE	21.715	21.352	19.413	18.391	17.539	17.004	16.742	15.192	15.811	18.053	19.824	21.405	22.447	23.148	23.267
CHAINAGE	3568.000	3570.000	3575.000	3580.000	3585.000	3590.000	3595.000	3600.000	3605.000	3610.000	3615.000	3620.000	3625.000	3630.000	3635.000

CAD: REP: 60662058-010-CAD_GIS: 60662058-010-CAD_GIS: SHEETS: 60662058-C-72.DWG

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No.	BY	DATE	DESCRIPTION	APPD
D	PSA	19.11.21	ISSUED FOR TENDER	
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B	PSA	17.09.21	PIPELINE SUPPLY TENDER	
A	PSA	24.08.21	50% SUBMISSION	



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DESIGNED	CHECKED
APPROVED	DATE

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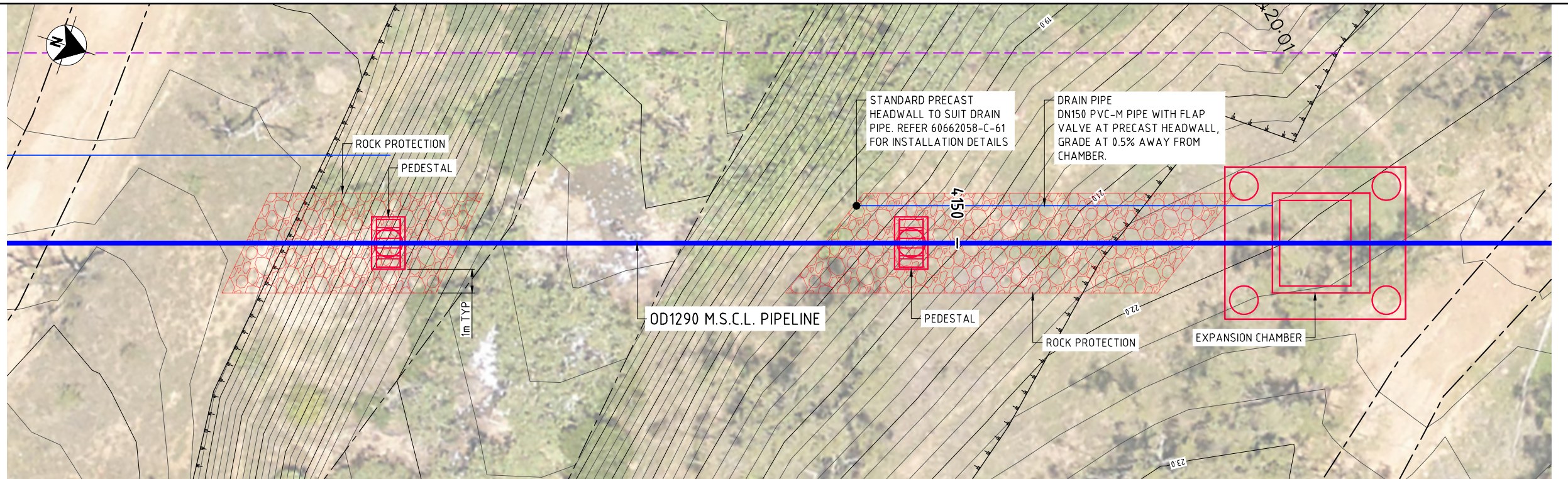
AECOM Australia Pty Ltd A.B.N. 20 093 846 925



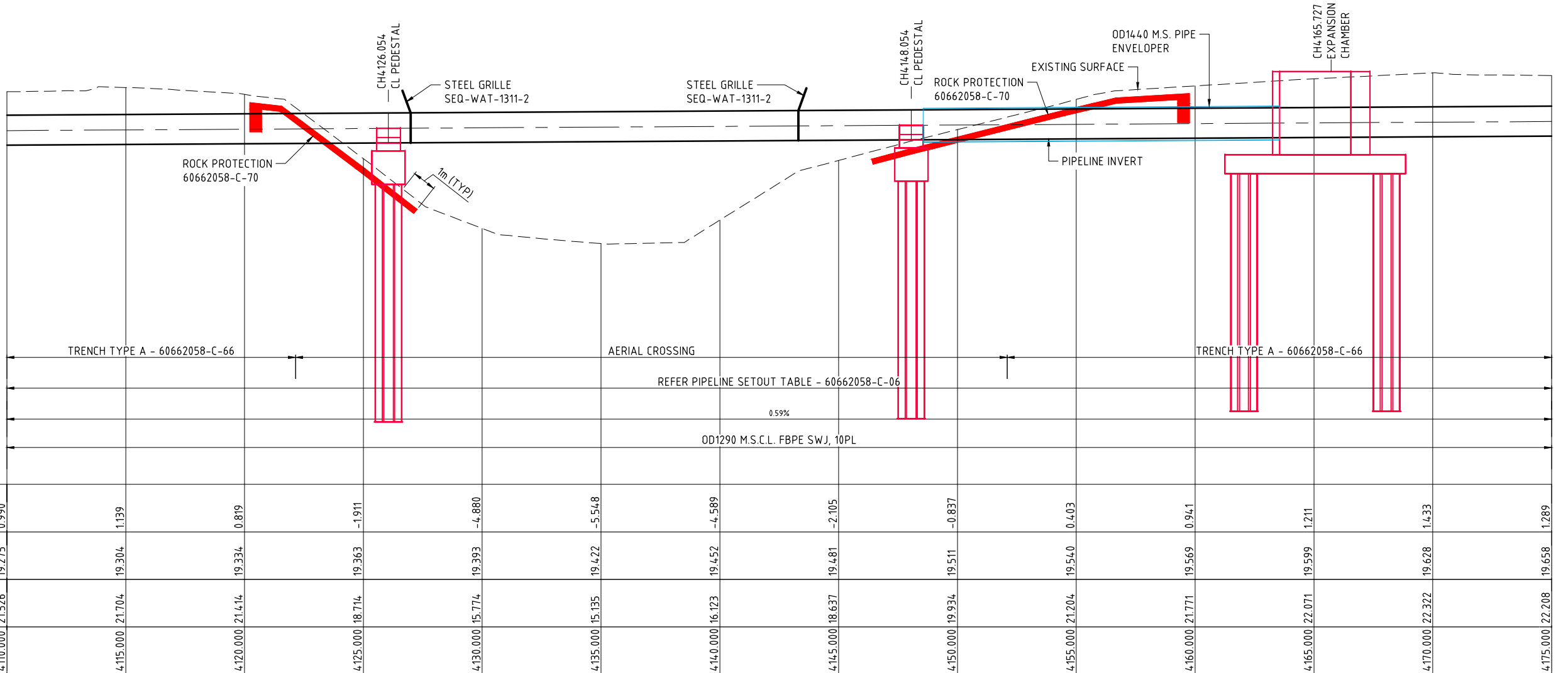
ROSS RIVER DAM TO DOUGLAS WTP PIPELINE

AERIAL CROSSING
CREEK 8
PLAN AND LONGITUDINAL SECTION

Status: TENDER
Dry No: 60662058-C-72
Rev: D



PLAN



LONGITUDINAL SECTION

ALL PIPES ARE FULLY RESTRAINED UNLESS NOTED OTHERWISE. UNRESTRAINED JOINTS MUST NOT BE USED

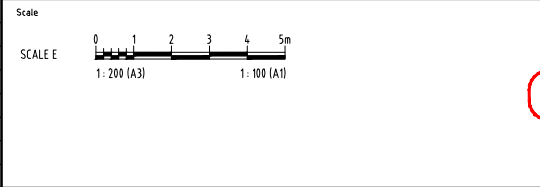
NOTES

- REFER 60662058-C-03 AND C-04 FOR PIPELINE NOTES
- REFER 60662058-C-05 FOR PIPELINE LEGENDS

TRENCH TYPE SECTION	TRENCH TYPE A - 60662058-C-66		AERIAL CROSSING		TRENCH TYPE A - 60662058-C-66	
PIPELINE HORIZONTAL ALIGNMENT	REFER PIPELINE SETOUT TABLE - 60662058-C-06					
GRADE	0.59%					
PIPE DETAILS	OD1290 M.S.C.L. FBPE SWJ, 10PL					
DEFLECTIONS DATUM	R.L. 5.0					
DEPTH OF COVER	0.990	1.139	0.819	-1.911	-4.880	-5.548
PIPE INVERT LEVEL	19.275	19.304	19.334	19.363	19.393	19.422
EXISTING SURFACE	21.526	21.704	21.414	18.714	15.774	16.123
CHAINAGE	4.110.000	4.115.000	4.120.000	4.125.000	4.130.000	4.135.000
	4.140.000	4.145.000	4.150.000	4.155.000	4.160.000	4.165.000
	4.170.000	4.175.000	4.180.000	4.185.000	4.190.000	4.195.000

CAD: REP: 60662058-999_CAD_GIS: 910_CAD: 025_SHEETS: 60662058-C-73.DWG

This drawing is confidential and shall only be used for the purposes of this project.				
No.	BY	DATE	DESCRIPTION	APPD
D	PSA	19.11.21	ISSUED FOR TENDER	
C	PSA	20.10.21	90% DESIGN	
B	PSA	17.09.21	PIPELINE SUPPLY TENDER	
A	PSA	24.08.21	50% SUBMISSION	



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DESIGNED	CHECKED
APPROVED	DATE

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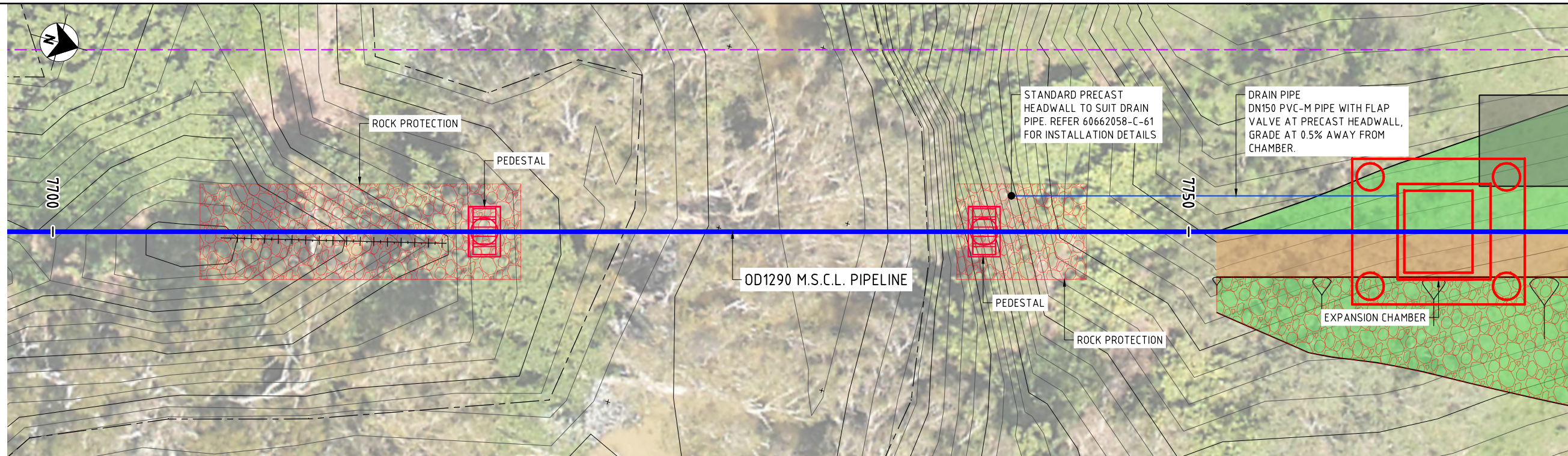
AECOM Australia Pty Ltd A.B.N. 20 093 846 925

City of Townsville

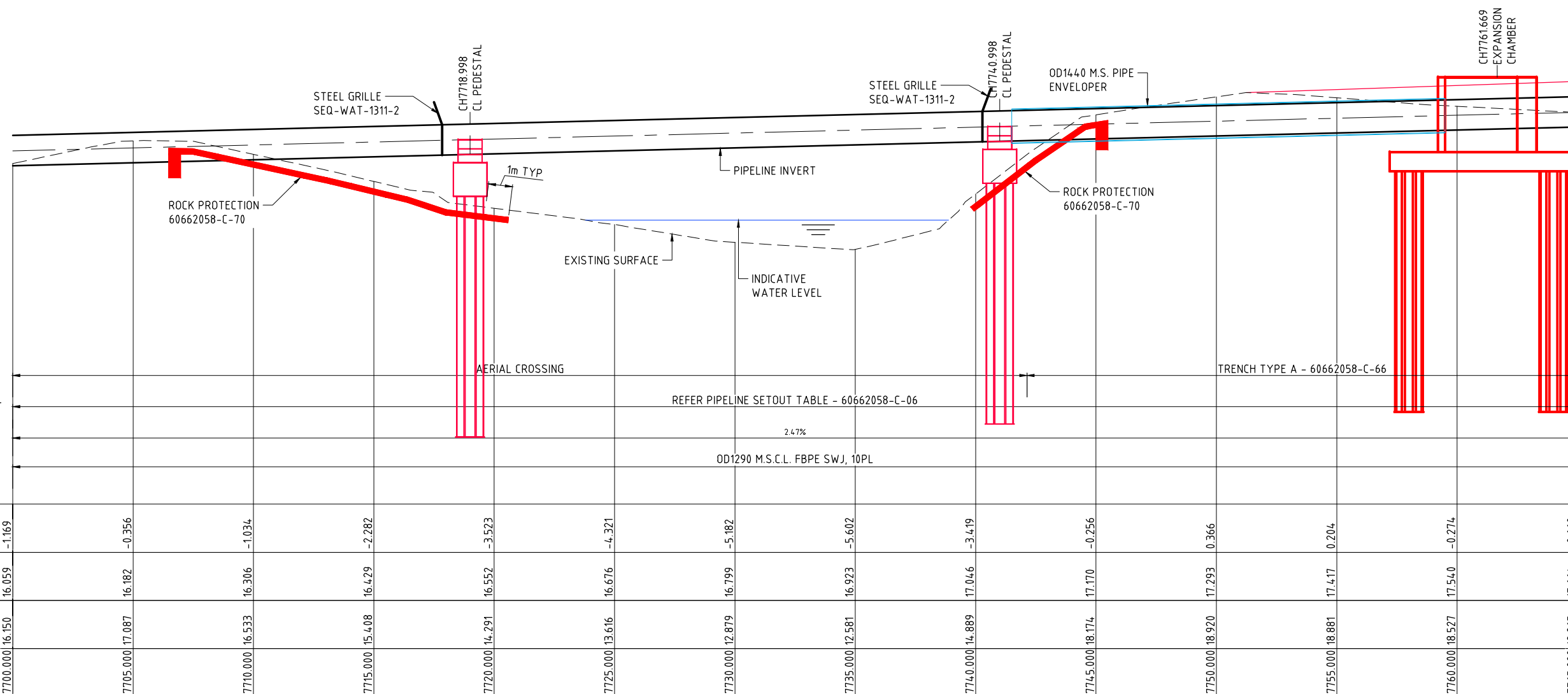
ROSS RIVER DAM TO DOUGLAS WTP PIPELINE

AERIAL CROSSING
CREEK 10
PLAN AND LONGITUDINAL SECTION

Status: TENDER Dwg No: 60662058-C-73 Rev: D



PLAN



LONGITUDINAL SECTION

ALL PIPES ARE FULLY RESTRAINED UNLESS NOTED OTHERWISE. UNRESTRAINED JOINTS MUST NOT BE USED

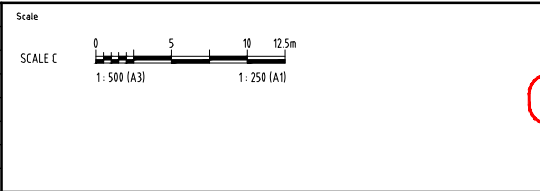
NOTES

- REFER 60662058-C-03 AND C-04 FOR PIPELINE NOTES
- REFER 60662058-C-05 FOR PIPELINE LEGENDS

TRENCH TYPE SECTION	AERIAL CROSSING													TRENCH TYPE A - 60662058-C-66		
PIPELINE HORIZONTAL ALIGNMENT	REFER PIPELINE SETOUT TABLE - 60662058-C-06															
GRADE	2.47%															
PIPE DETAILS	OD1290 M.S.C.L. FBPE SWJ, 10PL															
DEFLECTIONS DATUM	R.L. 2.0															
DEPTH OF COVER	-1.169	-0.356	-1.034	-2.282	-3.523	-4.321	-5.182	-5.602	-3.419	-0.256	0.366	0.204	-0.274	-0.660		
PIPE INVERT LEVEL	16.059	16.182	16.306	16.429	16.552	16.676	16.799	16.923	17.046	17.170	17.293	17.417	17.540	17.664		
EXISTING SURFACE	16.150	17.087	16.533	15.408	14.291	13.616	12.879	12.581	14.889	18.174	18.920	18.881	18.527	18.265		
CHAINAGE	7700.000	7705.000	7710.000	7715.000	7720.000	7725.000	7730.000	7735.000	7740.000	7745.000	7750.000	7755.000	7760.000	7765.000		

CAD: REP: 60662058-998_CAD_GIS: 918_CAD: 025_SHEETS: 60662058-C-74.DWG

This drawing is confidential and shall only be used for the purposes of this project.				
REVISIONS				
No.	BY	DATE	DESCRIPTION	APPROVED
D	PSA	19.11.21	ISSUED FOR TENDER	
C	PSA	20.10.21	90% DESIGN	
B	PSA	17.09.21	PIPELINE SUPPLY TENDER	
A	PSA	24.08.21	50% SUBMISSION	



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APPROVED	DATE

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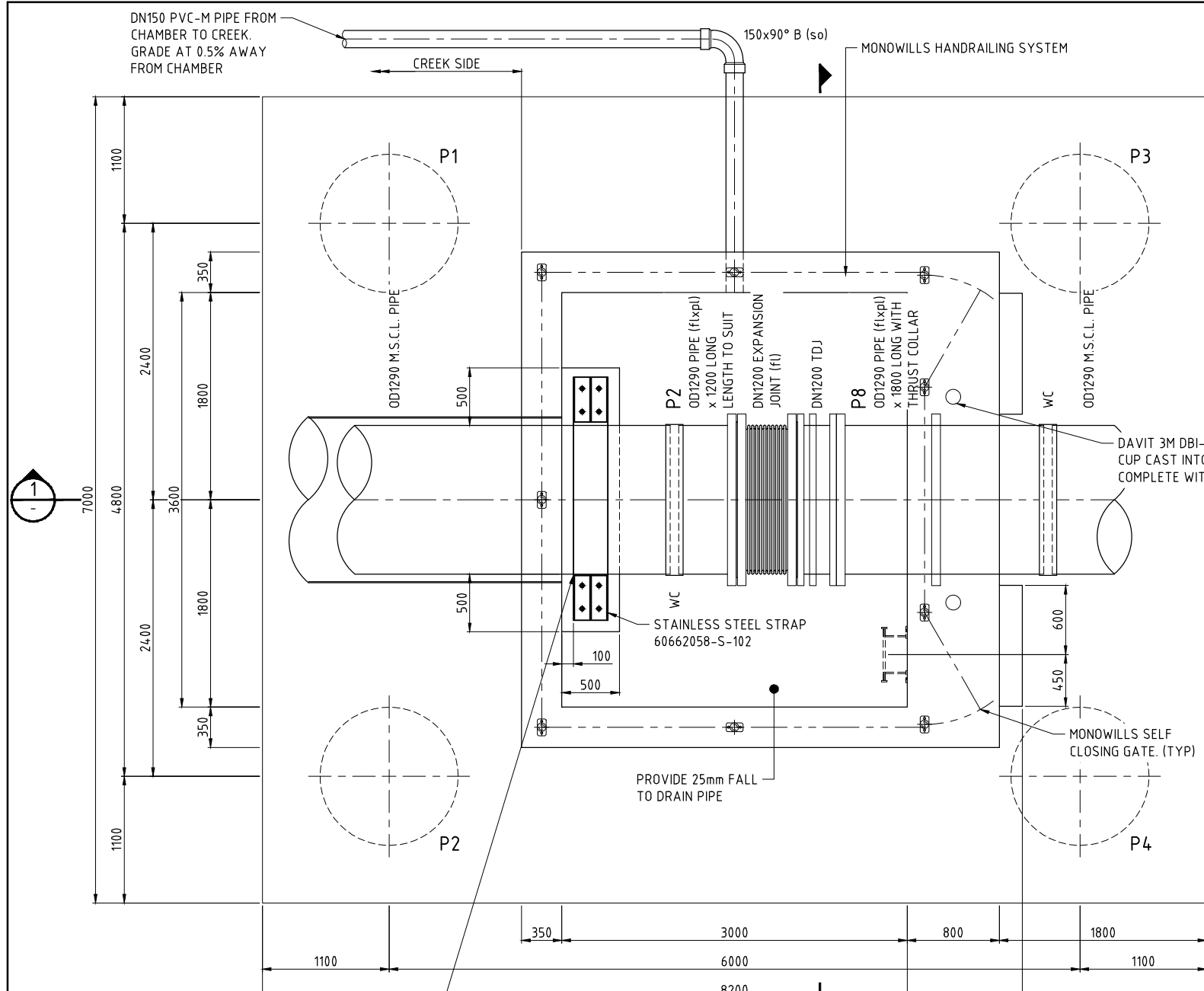
ROSS RIVER DAM TO DOUGLAS WTP PIPELINE

AERIAL CROSSING
CREEK 18
PLAN AND LONGITUDINAL SECTION

Status: TENDER

Rev No: 60662058-C-74

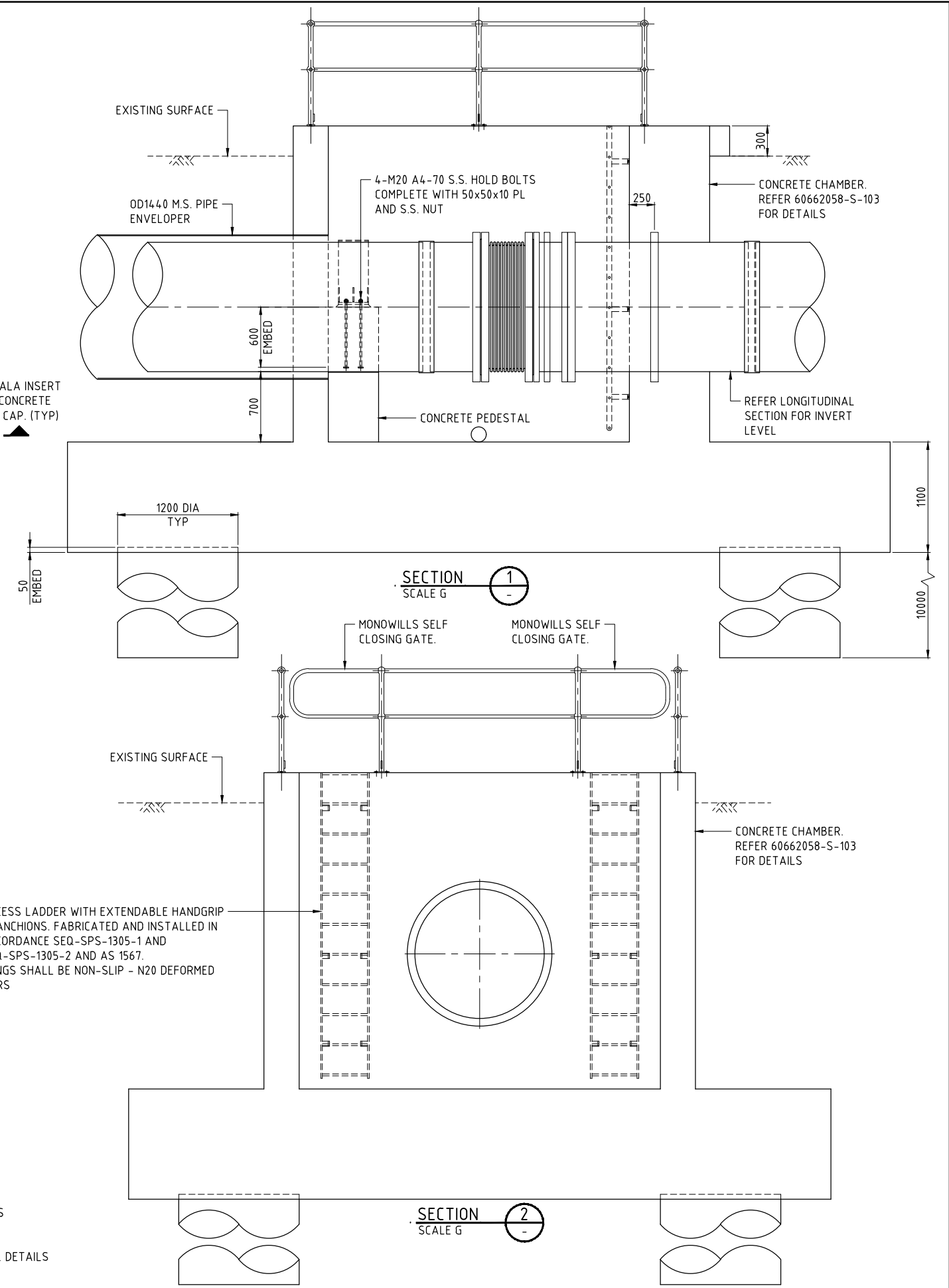
Rev: D



PLAN
EXPANSION JOINT INSTALLATION ARRANGEMENT
SCALE G

6mm THICK x 1500mm WIDE RUBBER WRAPPED AROUND PIPE CENTRALLY LOCATED ON EACH PEDESTAL. FIX TO PIPE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS. 6mm THICK x 1100mm WIDE PTFE SHEET SHALL BE WRAPPED AROUND PIPE CENTRALLY LOCATED ON EACH PEDESTAL BETWEEN RUBBER AND CONCRETE / STAINLESS STEEL STRAPS.

- NOTES**
1. REFER 60662058-C-03 AND C-04 FOR PIPELINE NOTES
 2. REFER 60662058-C-05 FOR PIPELINE LEGENDS
 3. REFER 60662058-C-63 TO C-65 FOR PIPE SPECIALS
 4. REFER 60662058-S-103 AND S-104 FOR STRUCTURAL DETAILS

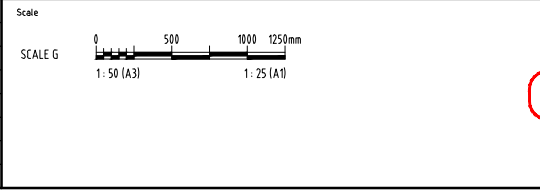


SECTION 1
SCALE G

SECTION 2
SCALE G

LAST MODIFIED: 19/11/21 11:41 PM
CAD: REF: 60662058-03-CAD_GIS: 60662058-03-SHEETS: 60662058-C-75.DWG

No.	BY	DATE	DESCRIPTION	APPD
D	PSA	19.11.21	ISSUED FOR TENDER	
C	PSA	20.10.21	90% DESIGN	
B	PSA	17.09.21	PIPELINE SUPPLY TENDER	
A	PSA	24.08.21	50% SUBMISSION	



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DESIGNED	CHECKED
APPROVED	DATE

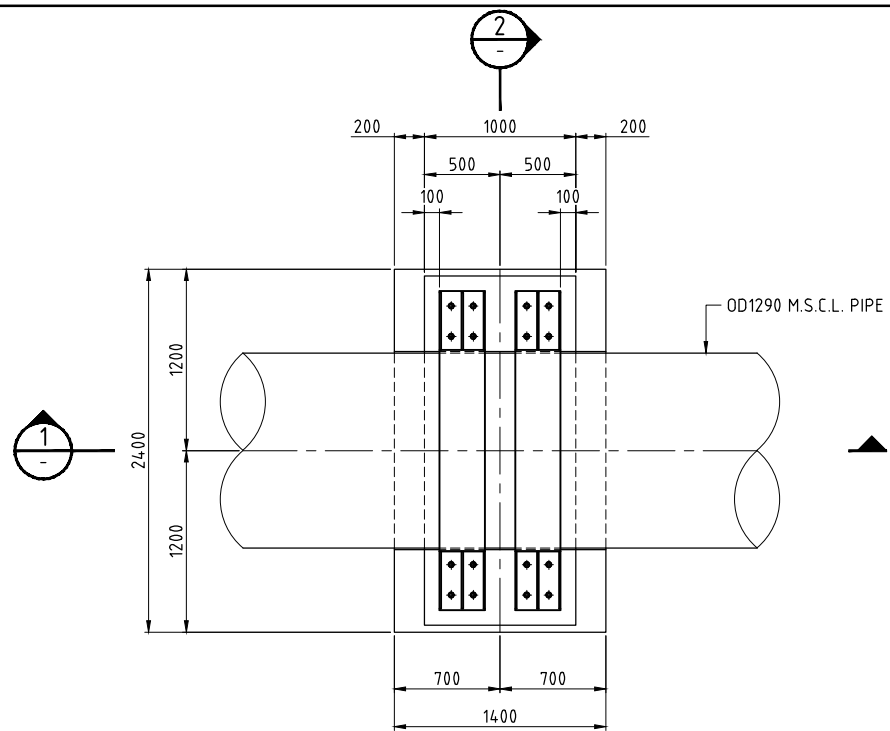
AECOM

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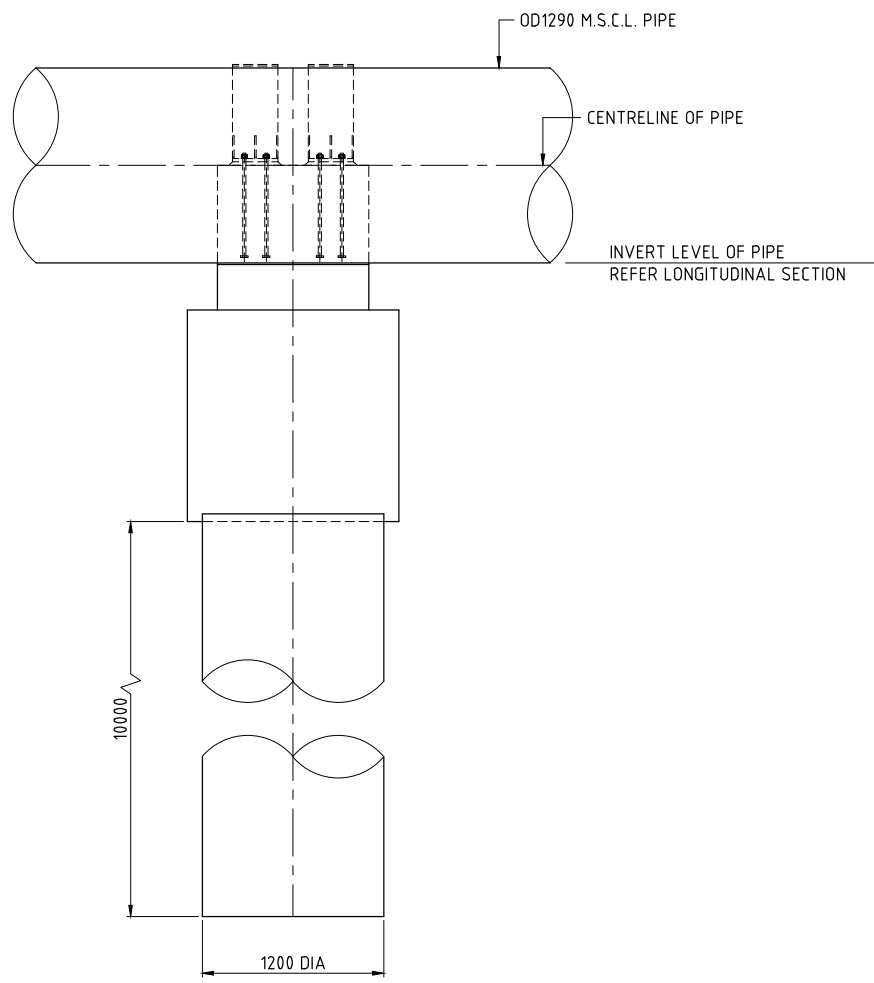
ROSS RIVER DAM TO DOUGLAS WTP PIPELINE		EXPANSION JOINT CHAMBER - GENERAL ARRANGEMENT	
Status	TENDER	Dwg No.	60662058-C-75
Rev.	D		

NOT FOR CONSTRUCTION

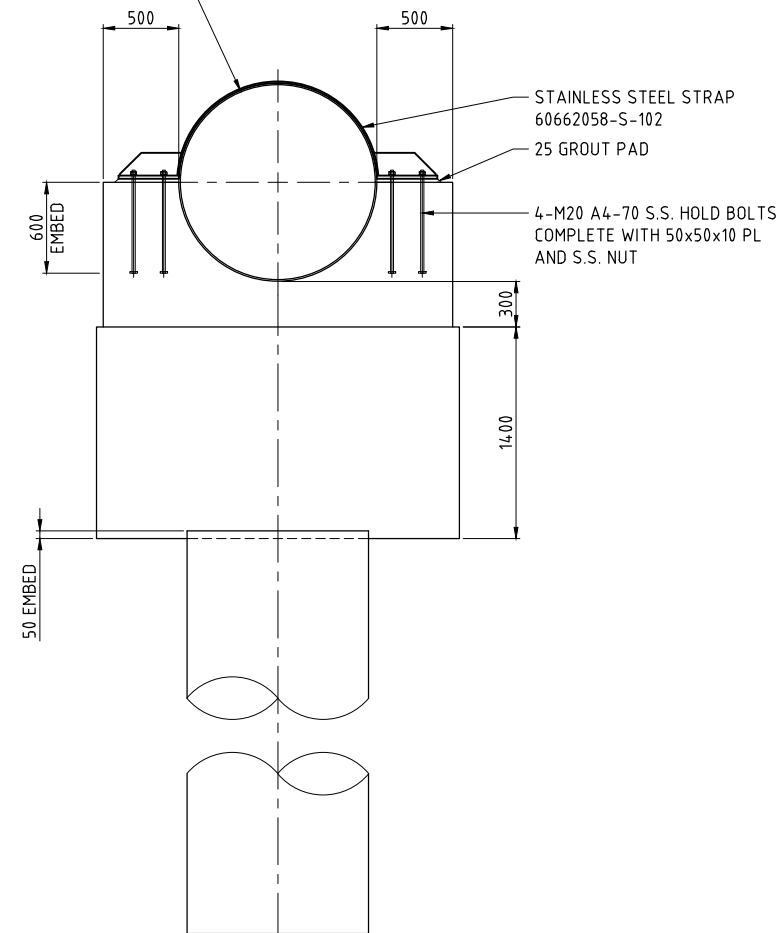


PLAN
PIPE PEDESTAL ARRANGEMENT
SCALE G

6mm THICK x 1500mm WIDE RUBBER WRAPPED AROUND PIPE CENTRALLY LOCATED ON EACH PEDESTAL. FIX TO PIPE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS. 6mm THICK x 1100mm WIDE PTFE SHEET SHALL BE WRAPPED AROUND PIPE CENTRALLY LOCATED ON EACH PEDESTAL BETWEEN RUBBER AND CONCRETE / STAINLESS STEEL STRAPS.



SECTION 1
SCALE G

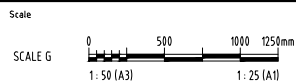


SECTION 2
SCALE G

- NOTES**
1. REFER 60662058-C-03 AND C-04 FOR PIPELINE NOTES
 2. REFER 60662058-C-05 FOR PIPELINE LEGENDS
 3. REFER 60662058-S-101 AND S-102 FOR STRUCTURAL DETAILS

LAST MODIFIED: 17/02/2021 2:02 PM
CAD: RFP-666X/6662058/98_CAD_GIS/98_CAD/21_SHEETS/6662058-C-76.DWG

No.	BY	DATE	DESCRIPTION	APPD
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B	PSA	17.09.21	PIPELINE SUPPLY TENDER	
A	PSA	24.08.21	50% SUBMISSION	



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DESIGNED	CHECKED
APPROVED	DATE

NOT FOR CONSTRUCTION

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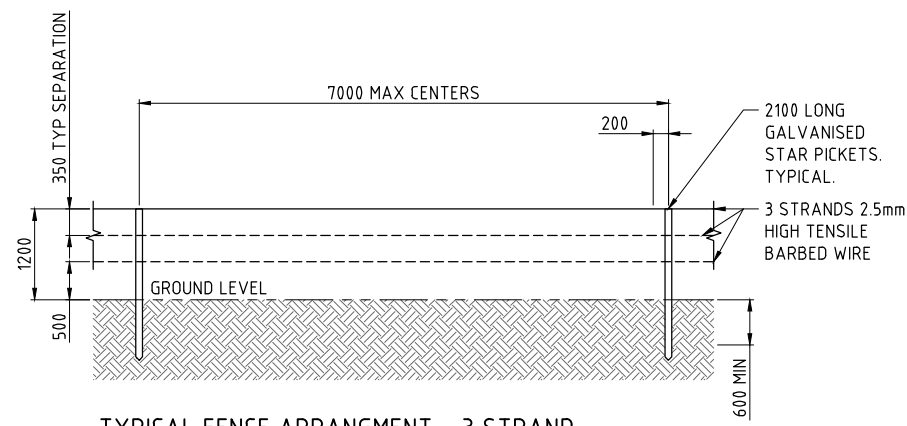
AECOM Australia Pty Ltd A.B.N. 20 093 846 925



ROSS RIVER DAM TO DOUGLAS WTP PIPELINE	
PIPE PEDESTALS - GENERAL ARRANGEMENT	
Status	TENDER
Dwg No.	60662058-C-76
Rev.	D

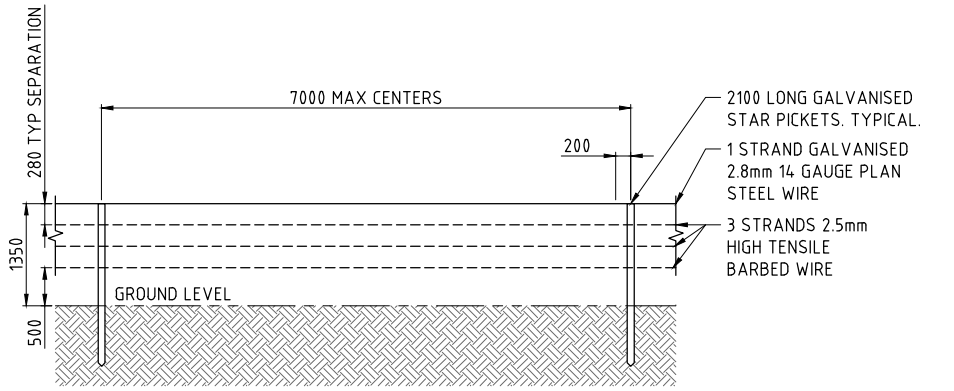
NOTES

1. STEEL WORK AND FITTINGS TO BE HOT DIP GALVANISED TO AS 4680.
2. GALVANISED WIRE FENCING TO COMPLY WITH AS 2423.
3. REPAIR DAMAGE TO GALVANISED COATING TO AS/NZS 4680 SECTION 8
- REPAIR AFTER GALVANIZING. USE ORGANIC TWO-PACK ZINC RICH EPOXY COATING COMPLYING WITH AS/NZS 3750.9 APPLIED IN TWO COATS EACH 50 MICRON, MINIMUM TOTAL DRY FILM THICKNESS 100 MICRONS. DO NOT USE SPRAY CANS OF COLD GALV OR ZINC ALLOY SOLDER STICKS. SURFACE PREPARATION OF EXPOSED BARE STEEL TO BE ABRASIVE BLAST CLEANED TO AS/NZS 1627.4 CLASS 2 1/2 (PREPARED OR POWER TOOL CLEANED 1627.2 CLASS ST 3. LIGHTLY SWEEP BLAST GALVANIZED SURFACE.
4. COATING REPAIRS: REINSTATE COATING TO DAMAGED AREAS TO PROTECTIVE COATINGS SPECIFICATION. FIELD WELD REPAIRS: DO NOT WELD THROUGH EXISTING GALVANISING OR COATINGS. REMOVE WELD SPLATTER, RESIDUAL FLUX etc BY CHIPPING, GRINDING OR ABRASIVE BLAST CLEANING. GRIND FLUSH ROUGH WELD BEADS. PREPARE SURFACE FOR PAINTING AS PER COATING SPECIFICATION. REMOVE RUST, LOOSE AND BURNT PAINT AND SUFFICIENT SOUND COATING SO PAINT EDGE IS FEATHERED AND SMOOTH. STRIPE COAT ALL WELDS, EDGES AND ROUGH SURFACES USING A BRUSH. REINSTATE COATING AS PER PROTECTIVE COATINGS SPECIFICATION.
5. ALL 50NB STEEL RAILS TO BE MINIMUM 2.5mm WALL THICKNESS.
6. ALL 80NB STEEL SUPPORT POSTS TO BE MINIMUM 3.0mm WALL THICKNESS.
7. STRAINER POSTS TO BE CONSTRUCTED AT 400m INTERVALS.
8. CORNER/ANGLE POSTS ARE TO BE INSTALLED AT EVERY CHANGE OF DIRECTION.
9. ALL CORNER/ANGLE, STRAINER, AND GATE ASSEMBLIES ARE TO BE CONSTRUCTED TO EITHER THE THREE OR FOUR STRAND DESIGN ON THE ADJACENT FENCING ARRANGEMENT.



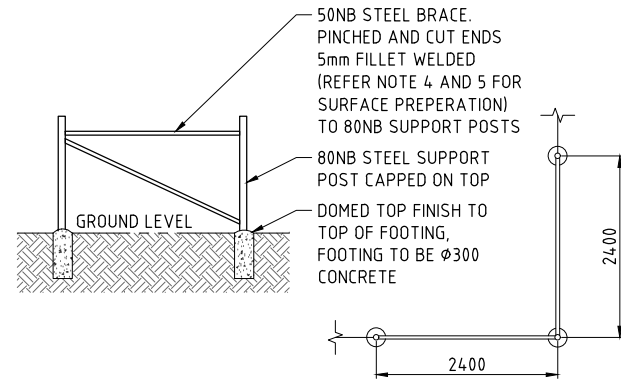
TYPICAL FENCE ARRANGMENT - 3 STRAND

SCALE F - (DEFENCE WARNING SIGN NOT TO SCALE)
NOTE: 3 STRAND FENCE ARRANGEMENT USED FOR OTHER BOUNDARIES I.E PUBLIC ROADS ECT



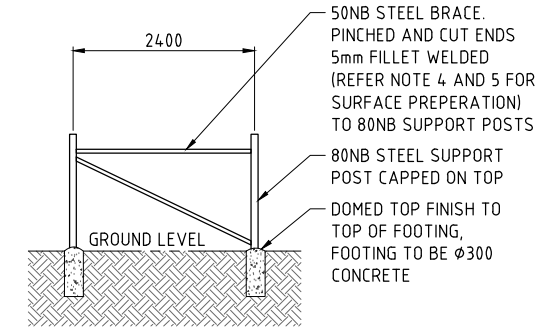
TYPICAL FENCE ARRANGMENT - 3 STRAND

SCALE F - (DEFENCE WARNING SIGN NOT TO SCALE)
NOTE: 3 STRAND FENCE ARRANGEMENT USED FOR OTHER BOUNDARIES I.E PUBLIC ROADS ECT



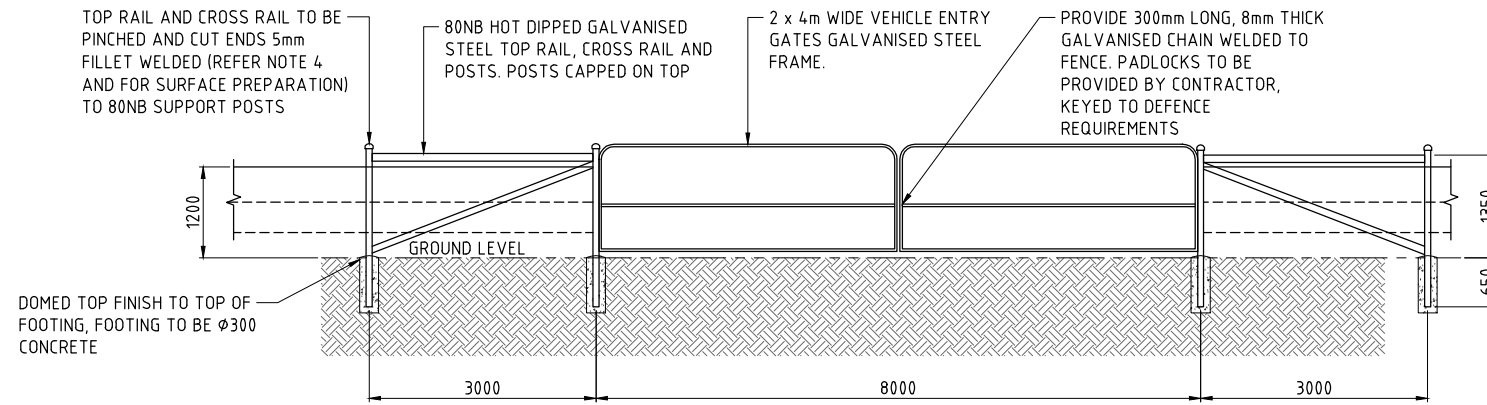
TYPICAL CORNER FENCE ARRANGMENT

SCALE F - NOTE: NO WIRE SHOWN, ADOPT RESPECTIVE THREE/FOUR WIRE ARRANGEMENT



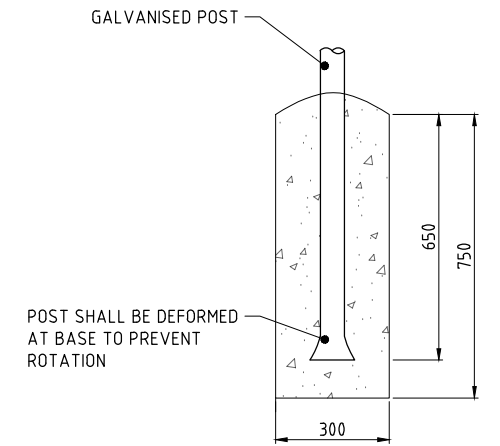
TYPICAL STRAINER POST ARRANGMENT

SCALE F -
NOTE:
1. NO WIRE SHOWN, ADOPT RESPECTIVE THREE/FOUR WIRE ARRANGEMENT.
2. STRAINER POST ARRANGEMENT TO BE AT EVERY 400m OR AT CHANGE OF DIRECTION.



VEHICLE ENTRY GATE ASSEMBLY

SCALE F

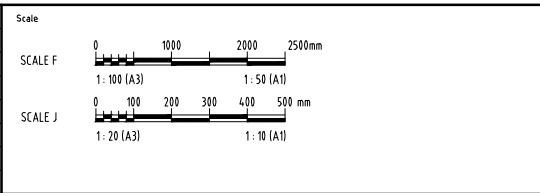


FOOTING DETAIL

Scale J

LAST MODIFIED: 17/07/2021 2:41 PM
REVISIONS
CAD: RFP-6662058-98_CAD_GIS-918_CAD-02_SHEETS-6662058-C-71.DWG

No.	BY	DATE	DESCRIPTION	APPD
D	PSA	19.11.21	ISSUED FOR TENDER	
C	PSA	20.10.21	90% DESIGN	
B	PSA	17.09.21	PIPELINE SUPPLY TENDER	
A	PSA	24.08.21	50% SUBMISSION	



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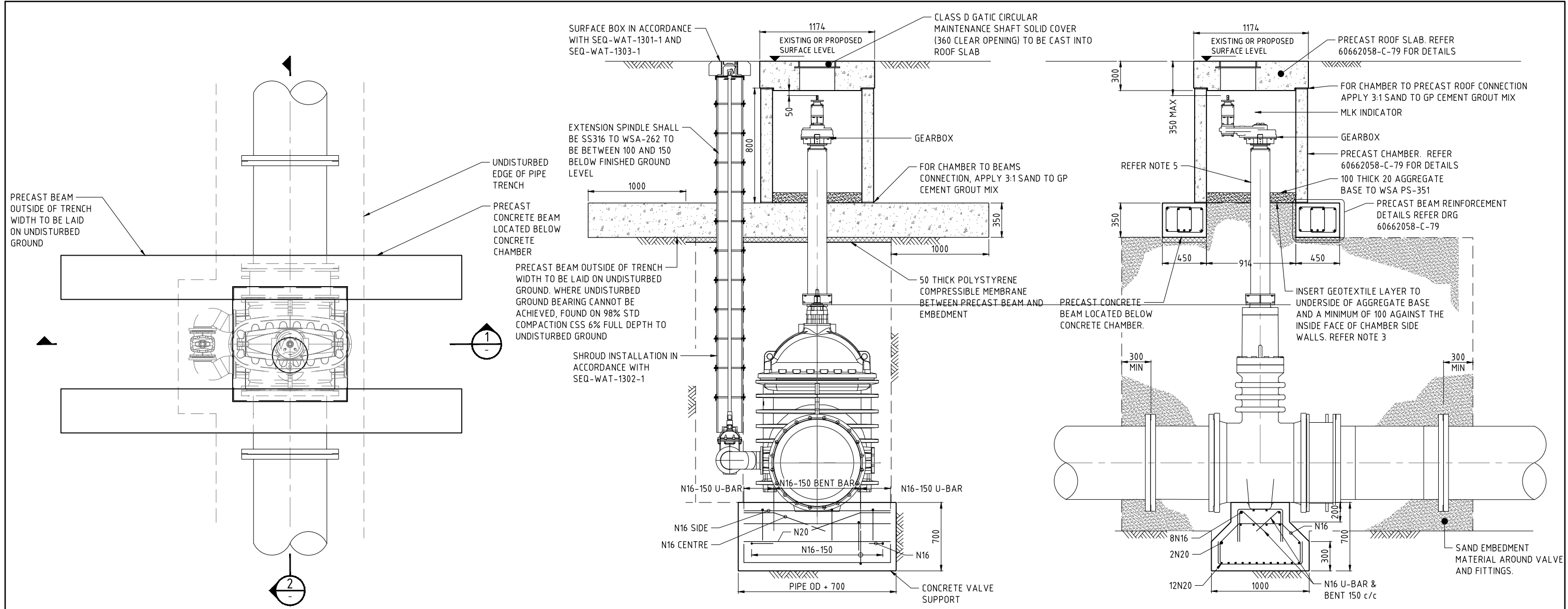
DESIGNED	CHECKED
DRAWN	CHECKED
APPROVED	DATE

AECOM

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City of Townsville

ROSS RIVER DAM TO DOUGLAS WTP PIPELINE		TYPICAL GATE AND FENCE DETAILS	
Status	TENDER	Drw No.	60662058-C-77
Rev.		Rev.	D



**GATE VALVE INSTALLATION ARRANGEMENT
(WITHOUT INTEGRAL BYPASS)**
SCALE H

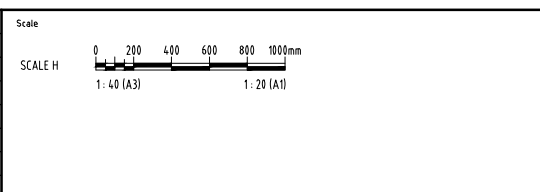
SECTION 1
SCALE H

SECTION 2
SCALE H

- NOTE**
1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DWG 60662058-C-79.
 2. SHROUD, EXTENSION SPINDLE AND SURFACE BOX INSTALLATION SHALL BE INSTALLED IN ACCORDANCE TO SEQ-WAT-1302-1, SEQ-WAT-1305-1 AND SEQ-WAT-1306-1.
 3. ALL PIPE LENGTHS AND DIMENSIONS DO NOT INCLUDE GASKET THICKNESS.

LAST MODIFIED: 17/02/2021 09:48 AM
CAD: REP: 60662058-C-78.DWG
SHEETS: 60662058-C-78.DWG

This drawing is confidential and shall only be used for the purposes of this project.				
No.	BY	DATE	DESCRIPTION	APPD
D	PSA	19.11.21	ISSUED FOR TENDER	
C	PSA	20.10.21	90% DESIGN	
B	PSA	17.09.21	PIPELINE SUPPLY TENDER	
A	PSA	24.08.21	50% SUBMISSION	



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DESIGNED	CHECKED
DRAWN	CHECKED
APPROVED	DATE

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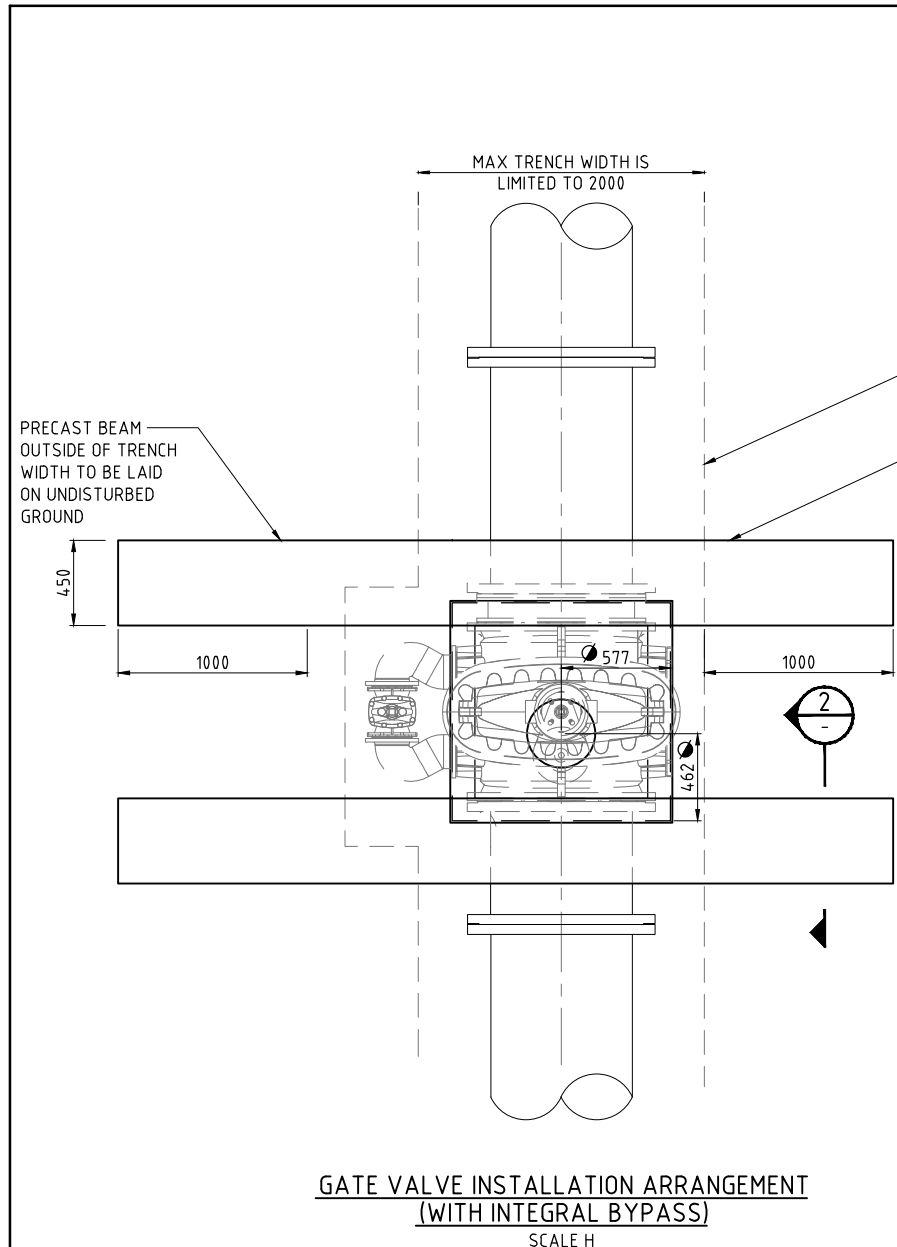
City of Townsville

ROSS RIVER DAM TO DOUGLAS WTP PIPELINE

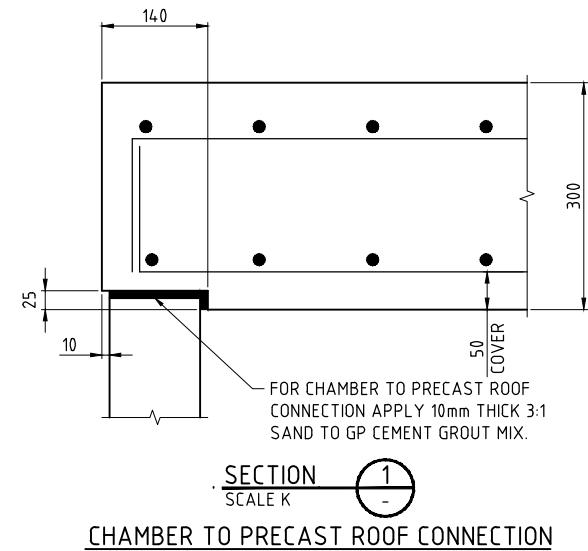
DIRECT BURIED VALVE INSTALLATION DETAILS

SHEET 1

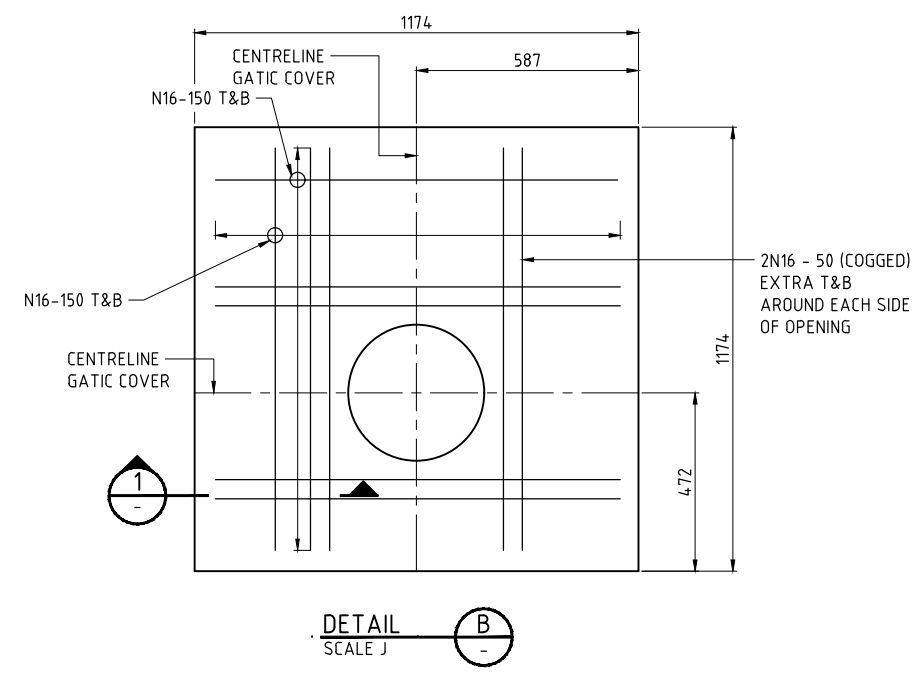
Status	TENDER	Dwg No.	60662058-C-78	Rev.	D
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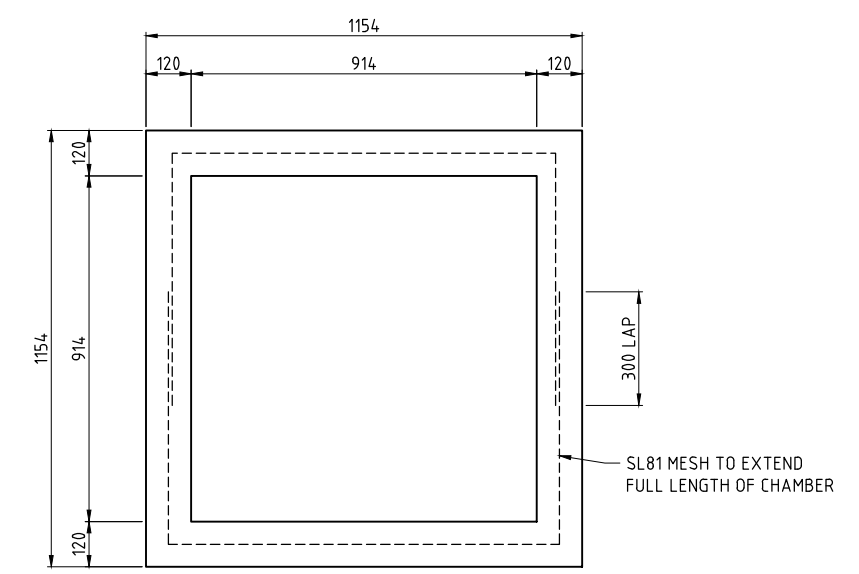
**GATE VALVE INSTALLATION ARRANGEMENT
(WITH INTEGRAL BYPASS)**
SCALE H



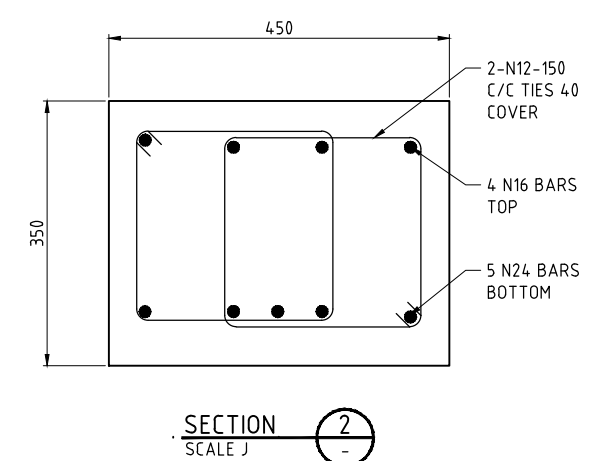
SECTION 1
SCALE K
CHAMBER TO PRECAST ROOF CONNECTION



DETAIL B
SCALE J
PRECAST LID REINFORCEMENT DETAILS



**MAINTENANCE ACCESSIBLE
PRECAST 914 x 914 CHAMBER**
SCALE J



SECTION 2
SCALE J
PRECAST BEAM REINFORCEMENT DETAILS

GENERAL NOTES

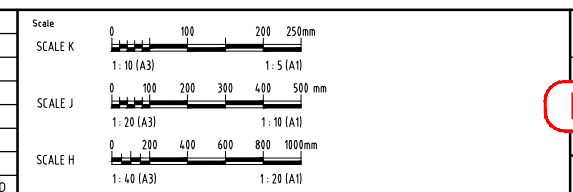
- REFER 60662058-C-03 TO C-05 FOR NOTES AND LEGEND
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DWG 60662058-C-78.
- NOT USED.
- ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
- NOT USED.
- DESIGN BASED ON 225KPa MINIMUM ALLOWABLE SOIL BEARING PRESSURE. FOUNDATION TO BE INSPECTED AND APPROVED BY AN EXPERIENCED GEOTECHNICAL ENGINEER PRIOR TO THE PLACING OF CONCRETE BEAMS AND CONCRETE VALVE SUPPORTS. ANY OVER-EXCAVATION TO BE FILLED IN ACCORDANCE WITH GEOTECHNICAL ENGINEERS RECOMMENDATION.
- THE REQUIREMENT OF EXTENSION SLEEVE / SPINDLE SHALL BE REFERRED TO VALVE SPECIFICATION AND TECHNICAL DATA SHEETS AND DETAILED DESIGN DRAWINGS.
- NOT USED.
- NOT USED.
- TAPPING SCREW RECESS SHALL BE DRILLED SLIGHTLY INTO THE VALVE STEM CAP TO ALLOW LOCKING SCREWS (MIN 2nos.) TO LOCK THE EXTENSION SPINDLE AND THE VALVE STEM CAP. THIS IS TO ENSURE THE EXTENSION SPINDLE DOES NOT LIFT OFF THE STEM CAP.
- CONTRACTOR SHALL DESIGN ALL LIFTING POINTS.

CONCRETE NOTES

- CONCRETE, CONCRETE WORK, AND STEEL REINFORCEMENT SHALL CONFORM TO A.S. 3600, CONCRETE STRUCTURES.
- ALL CONCRETE GRADE SHOWN SHALL BE GRADE N32 TO AS1379. SLUMP SHALL BE 80mm. MAXIMUM AGGREGATE SIZE SHALL BE 20mm.
- THE PROPORTION OF FLY ASH SHALL BE 25% BY WEIGHT OF THE TOTAL COMBINED WEIGHT OF FLY ASH AND CEMENT.
- EXPOSURE CLASSIFICATION FOR DURABILITY
MEMBERS IN CONTACT WITH THE GROUND - A2
MEMBERS IN ABOVE GROUND EXTERIOR ENVIRONMENTS - B1
- PROVIDE ALL EXPOSED EDGES AND CORNERS WITH 20MM CHAMFERS OR FILLETS, UNO.
- REINFORCEMENT SHOWN ON DRAWINGS IS REPRESENTED DIAGRAMMATICALLY AND NOT NECESSARILY IN TRUE PROJECTION.
- ALL REINFORCEMENT HOOKS AND COGS SHALL BE STANDARD UNLESS SHOWN OR NOTED OTHERWISE ON THE DRAWINGS.
- ALL REINFORCING SHALL BE ACRS (AUSTRALIAN CERTIFICATION AUTHORITY FOR REINFORCING AND STRUCTURAL STEEL) CERTIFIED.
- ALL REINFORCEMENT SHALL BE TO AS4671 SHAPE D. STRENGTH GRADE = 500MPa. DUCTILITY CLASS N.
- CONCRETE COVER TO CAST-INSITU ELEMENTS SHALL BE 80mm UNO AND FOR PRECAST ELEMENTS SHALL BE 40mm

LAST MODIFIED: 17/10/2021 03:33 AM
CAD: RFP-1646X16462058-VALV_CAD_G05100_CAD121_SHEETS16462058-C-79.DWG

No.	BY	DATE	DESCRIPTION	APPD
D	PSA	19.11.21	ISSUED FOR TENDER	
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A	PSA	24.08.21	50% SUBMISSION	



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DESIGNED	CHECKED
APPROVED	DATE

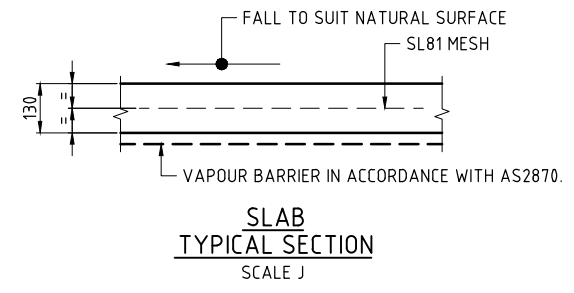
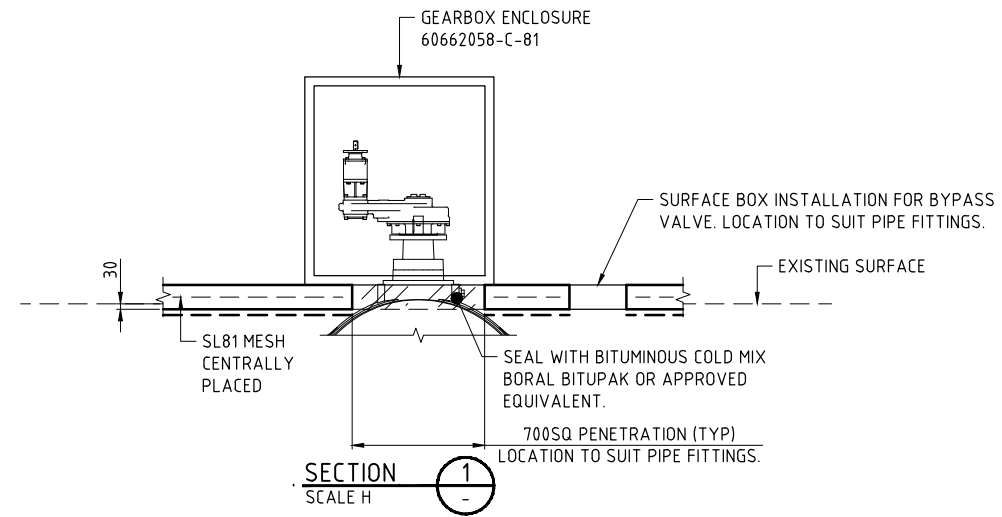
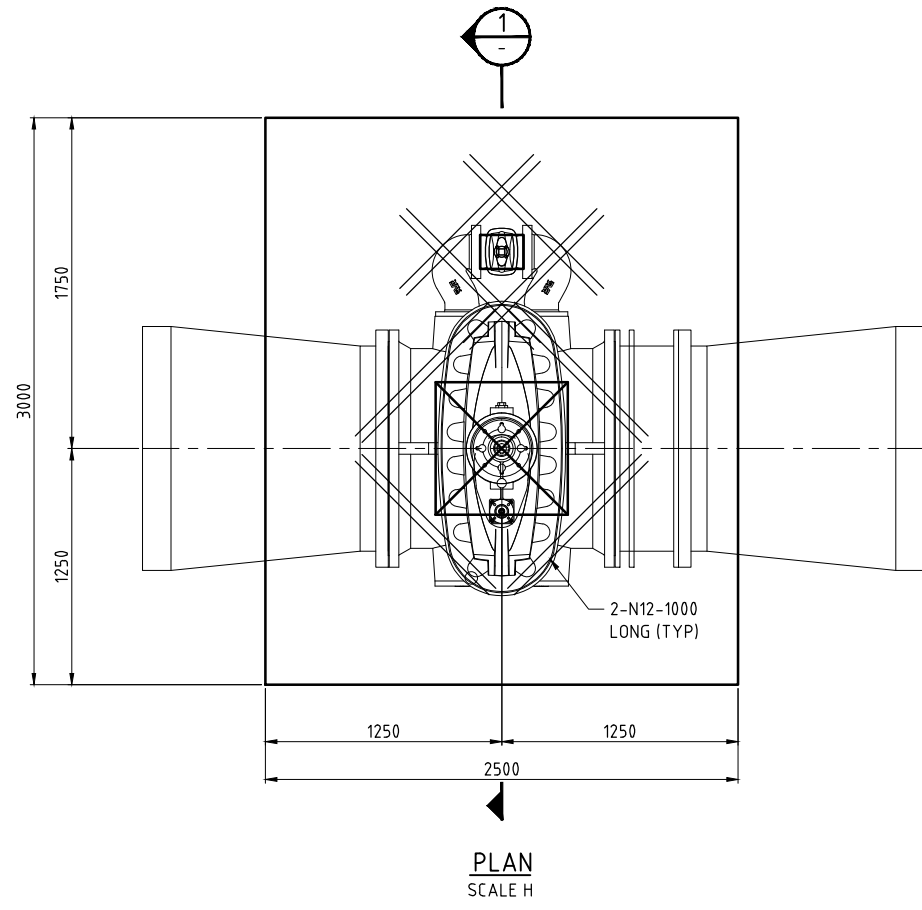
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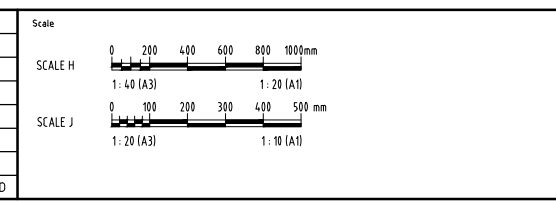
ROSS RIVER DAM TO DOUGLAS WTP PIPELINE	
DIRECT BURIED VALVE INSTALLATION DETAILS SHEET 2	
Status	TENDER
Drwg No.	60662058-C-79
Rev.	D



- NOTE**
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DWG 60662058-C-81.
 - SHROUD, EXTENSION SPINDLE AND SURFACE BOX INSTALLATION SHALL BE INSTALLED IN ACCORDANCE TO SEQ-WAT-1302-1, SEQ-WAT-1305-1 AND SEQ-WAT-1306-1.
 - REFER 60662058-S-01 TO S-02 FOR STRUCTURAL CONCRETE NOTES

LAST MODIFIED: 17/12/21 10:30 AM
REVISIONS
CAD: RFP-60662058-V01_CAD_GIS-V01_CAD-V01_SHEETS-60662058-C-80.DWG

This drawing is confidential and shall only be used for the purposes of this project.				
No.	BY	DATE	DESCRIPTION	APPD
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B	PSA	17.09.21	PIPELINE SUPPLY TENDER	
A	PSA	24.08.21	50% SUBMISSION	



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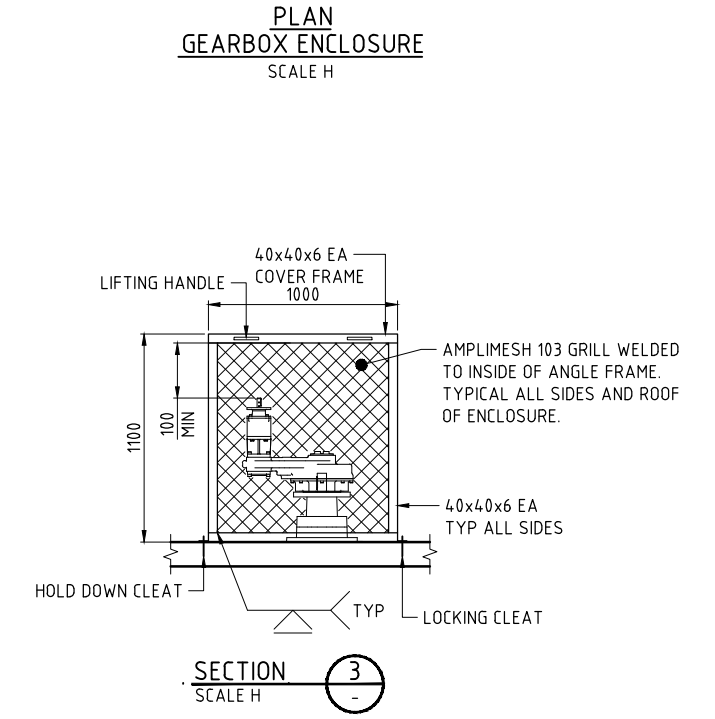
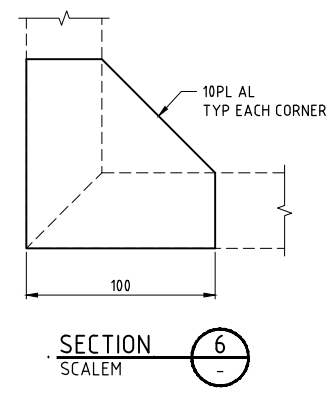
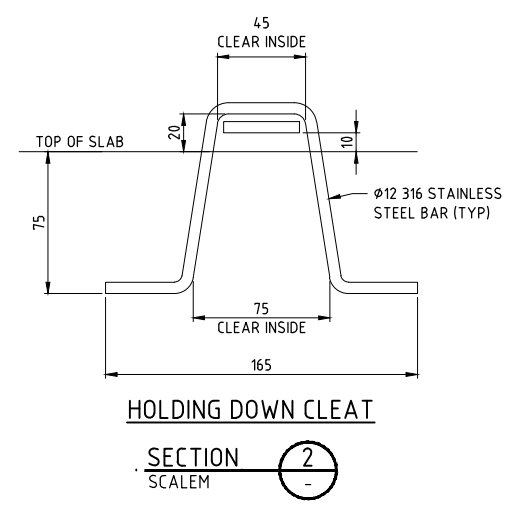
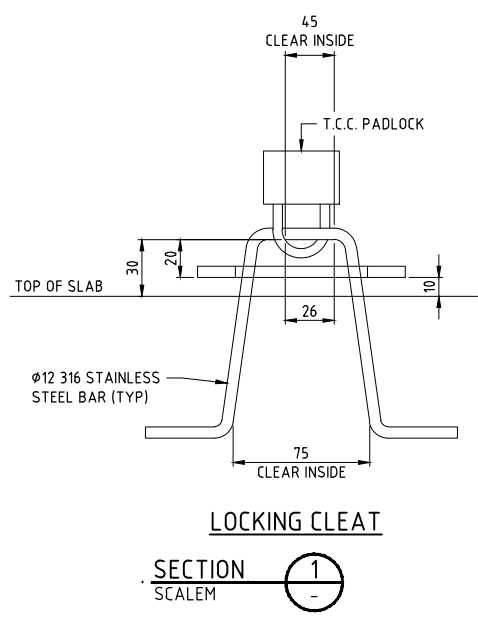
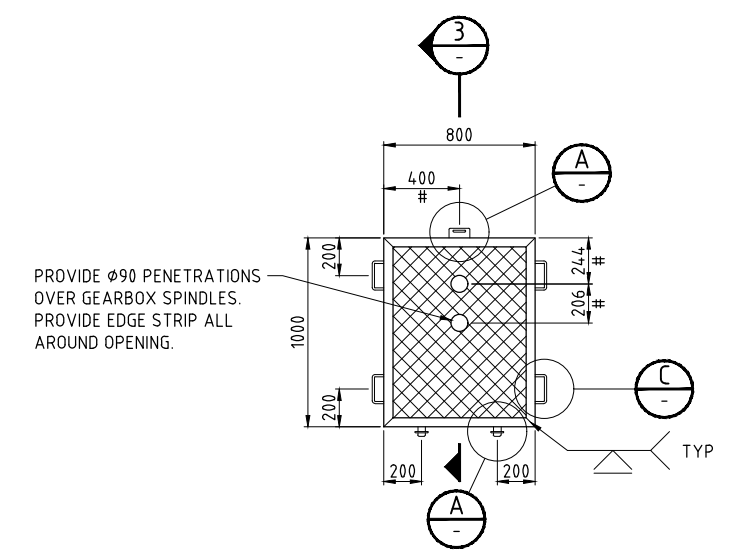
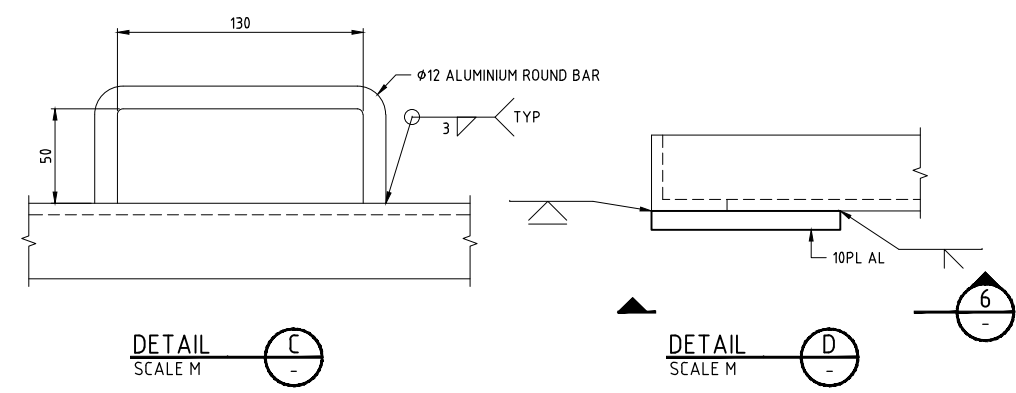
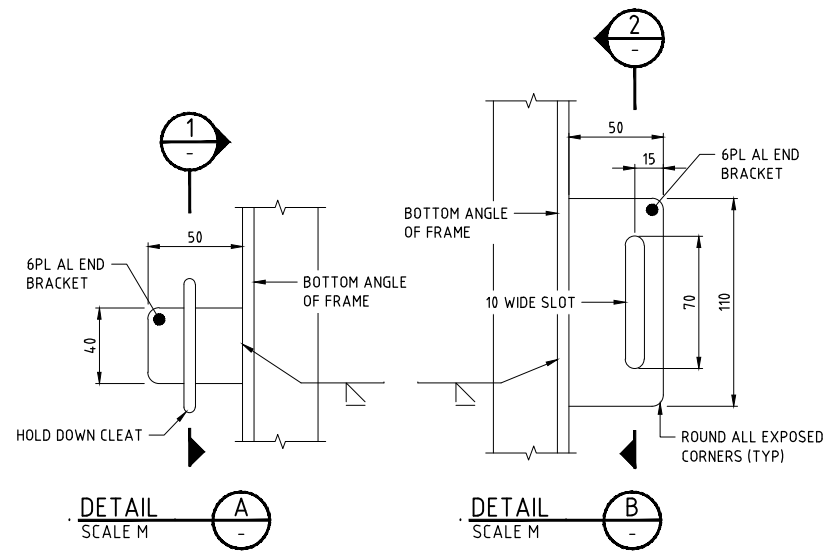
DESIGNED	CHECKED
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APPROVED	DATE

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ROSS RIVER DAM TO DOUGLAS WTP PIPELINE		
VALVE GEARBOX PROTECTIVE ENCLOSURE SHEET 1		
Status	TENDER	Rev. D
Dwg No.	60662058-C-80	



- ALUMINIUM NOTES**
- A1. ALUMINIUM AND ALUMINIUM WORKS SHALL BE IN ACCORDANCE WITH AS1664.
 - A2. ALUMINIUM ALLOYS SHALL BE AS FOLLOWS:
 EXTRUDED SECTIONS - 6061 - T6
 PLATE - 5251 - H34
 - A3. WELDING SHALL COMPLY WITH A.S. 1665.
 - A4. CONNECTIONS WITH DISSIMILAR METALS SHALL BE MADE USING NEOPRENE OR NYLON SEPARATORS.
 - A5. ALUMINIUM SURFACES IN CONTACT WITH CONCRETE SHALL BE COATED WITH ALKALI RESISTANT BITUMINOUS PAINT IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

NOTE
 1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH DWG 60662058-C-80.

LAST MODIFIED: 17/12/21 2:28 AM
 CAD: RFP-60662058-VALVE_GEARBOX_ENCLOSURE_SHEETS-60662058-C-81.DWG

This drawing is confidential and shall only be used for the purposes of this project.				
Scale				
SCALE H 0 200 400 600 800 1000mm				
SCALE M 0 20 40 60 80 100mm				
REVISIONS				
No.	BY	DATE	DESCRIPTION	APPD
D	PSA	19.11.21	ISSUED FOR TENDER	
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B	PSA	17.09.21	PIPELINE SUPPLY TENDER	
A	PSA	24.08.21	50% SUBMISSION	

DESIGNED		CHECKED	
APPROVED		DATE	

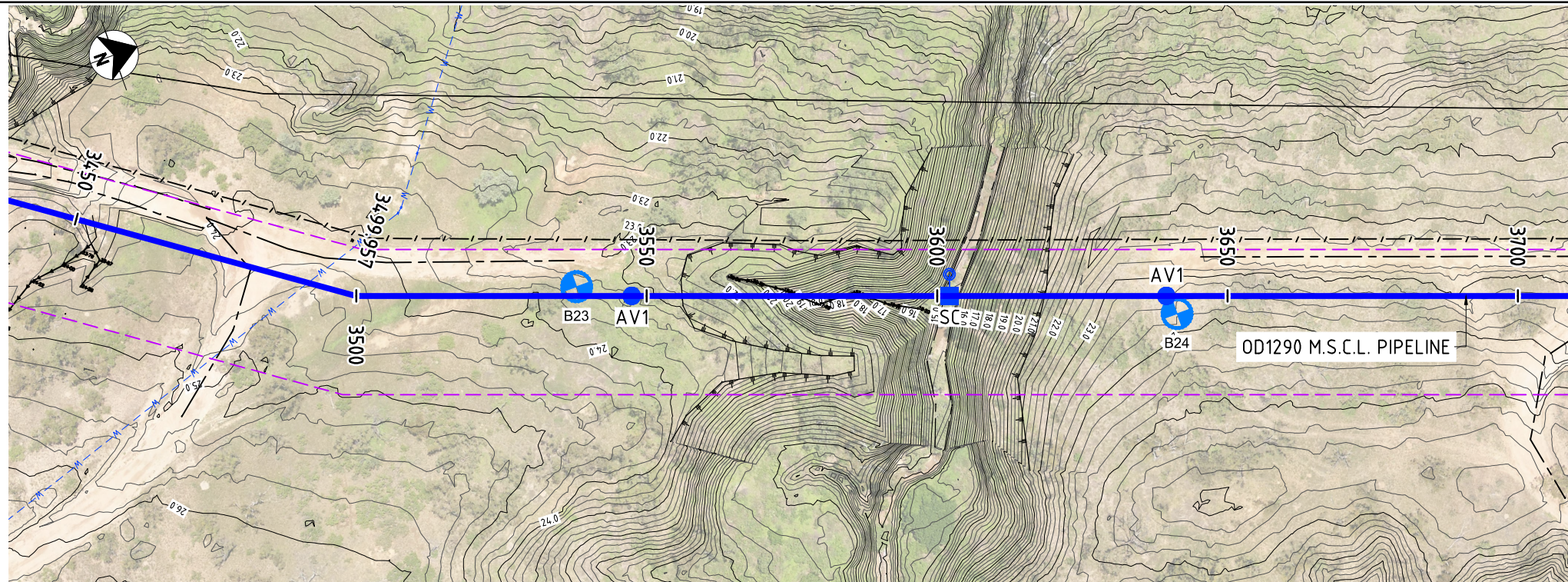
NOT FOR CONSTRUCTION

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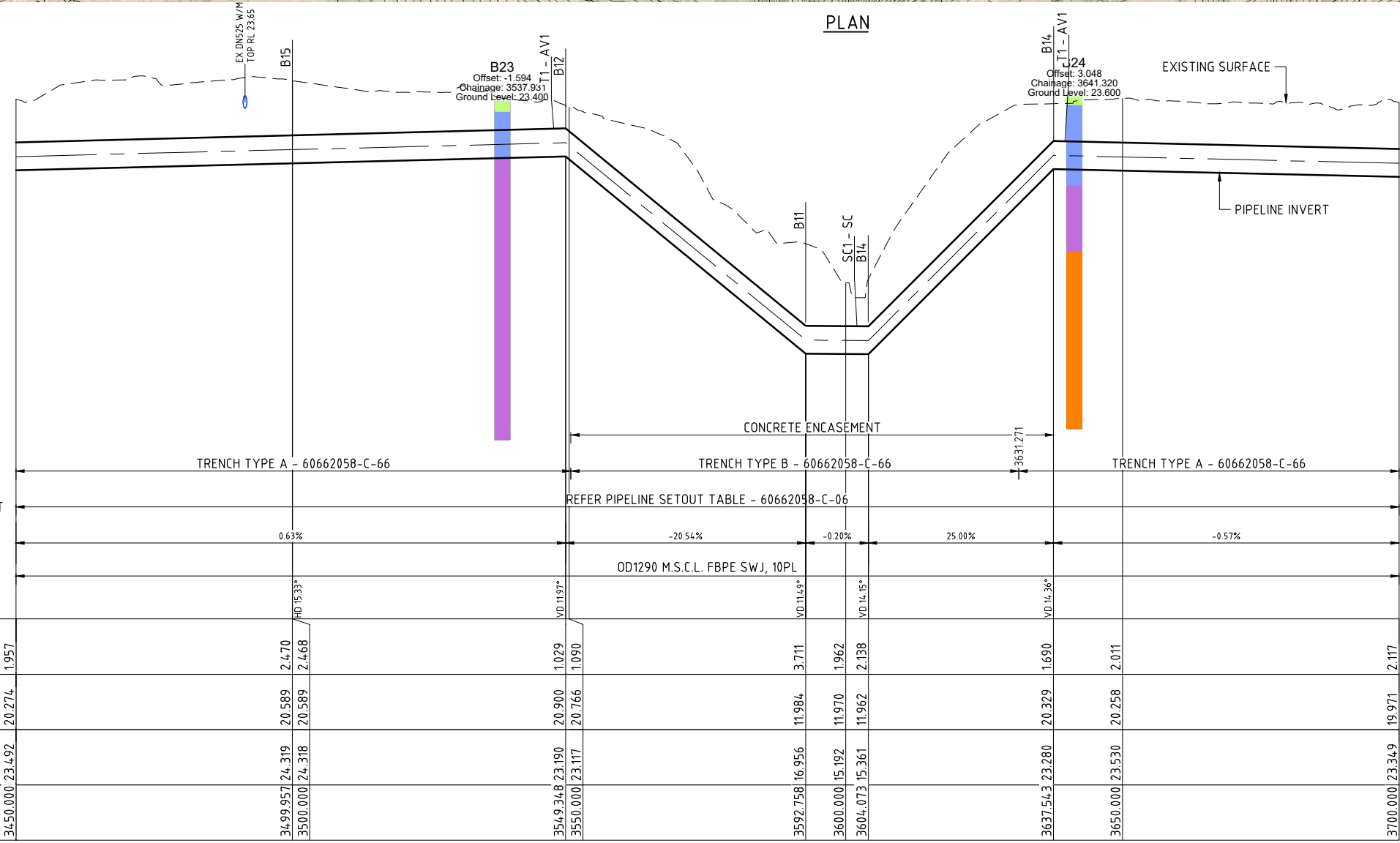
AECOM Australia Pty Ltd A.B.N. 20 093 846 925



ROSS RIVER DAM TO DOUGLAS WTP PIPELINE		
VALVE GEARBOX PROTECTIVE ENCLOSURE SHEET 2		
Status	TENDER	Rev. D
Proj No.	60662058-C-81	



PLAN



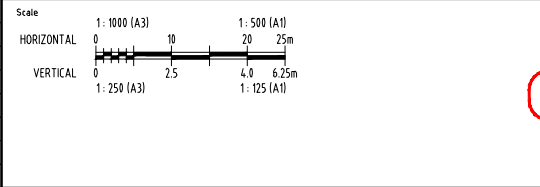
LONGITUDINAL SECTION

ALL PIPES ARE FULLY RESTRAINED UNLESS NOTED OTHERWISE. UNRESTRAINED JOINTS MUST NOT BE USED

- NOTES**
- REFER 60662058-C-03 AND C-04 FOR PIPELINE NOTES
 - REFER 60662058-C-05 FOR PIPELINE LEGENDS

LAST MODIFIED: 17/12/2021 2:53 PM CAD: RFP-60662058-V08_CAD_GIS-V08_CAD-V08_SHEETS-60662058-C-100.DWG

No.	BY	DATE	DESCRIPTION	APPD
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B	PSA	17.09.21	PIPELINE SUPPLY TENDER	
A	PSA	24.08.21	50% SUBMISSION	



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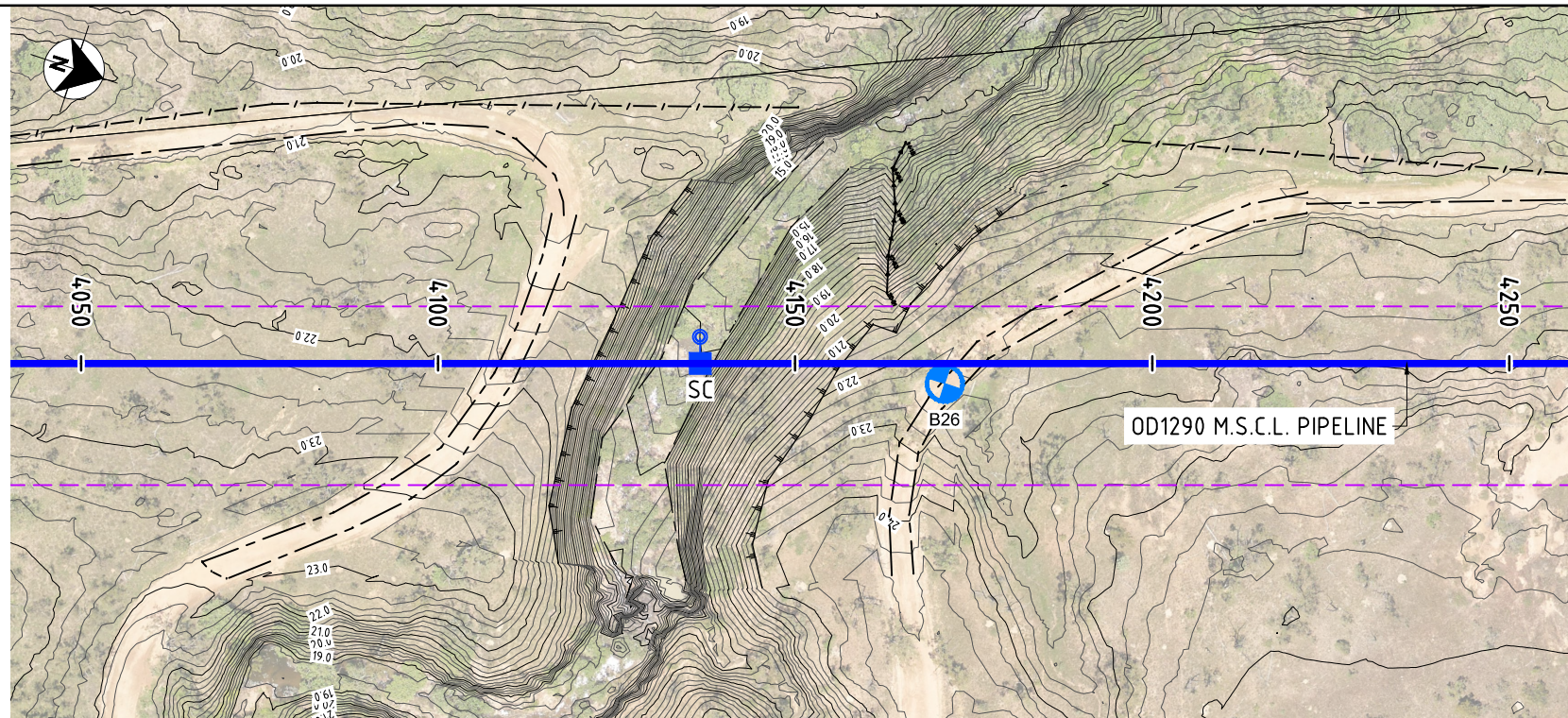
ROSS RIVER DAM TO DOUGLAS WTP PIPELINE

CREEK 8 TRENCHED OPTION PLAN AND LONGITUDINAL SECTION

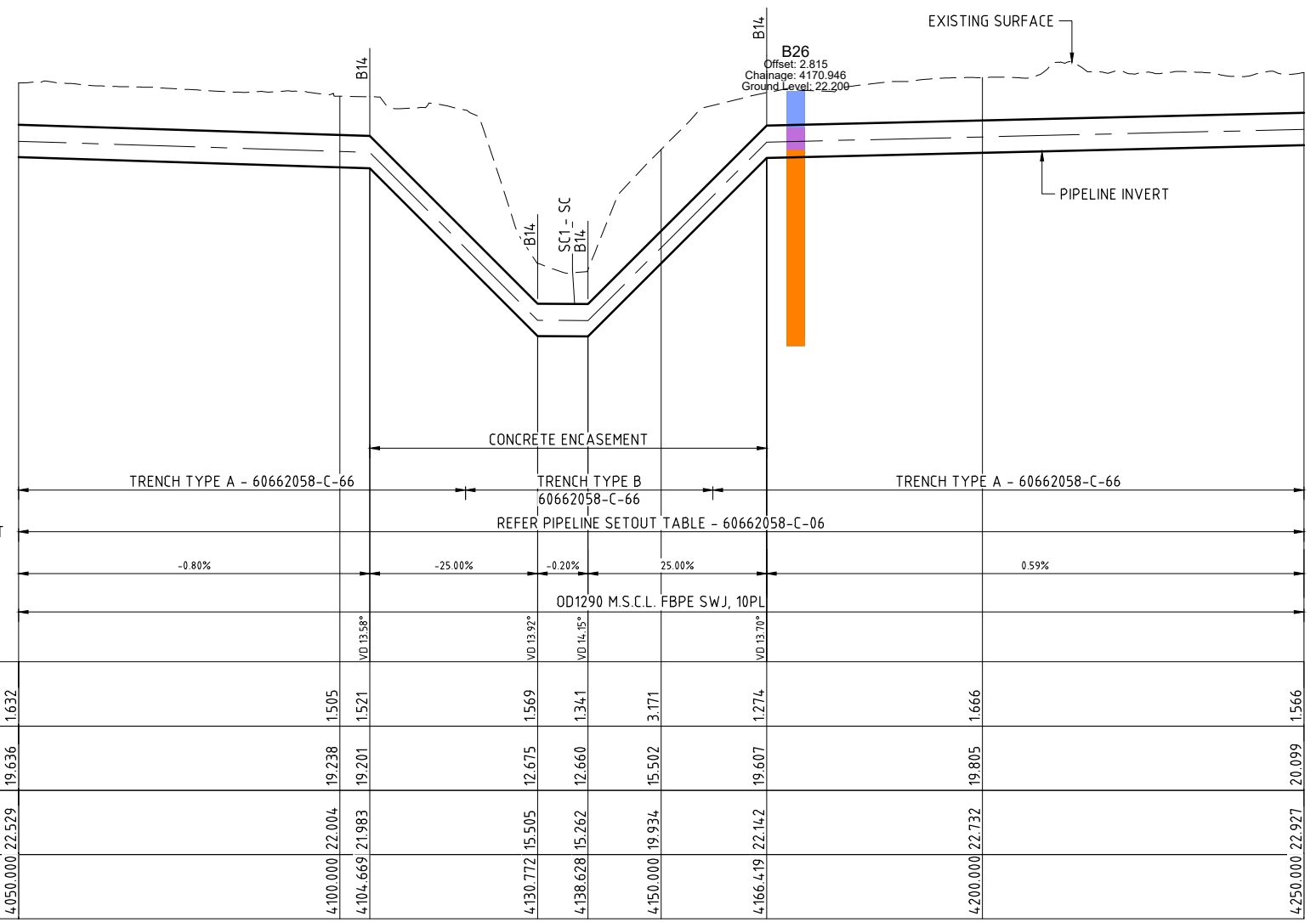
Status: TENDER

Drwg No: 60662058-C-100

Rev: D



PLAN



ALL PIPES ARE FULLY RESTRAINED UNLESS NOTED OTHERWISE. UNRESTRAINED JOINTS MUST NOT BE USED

TRENCH TYPE SECTION	TRENCH TYPE A - 60662058-C-66		TRENCH TYPE B 60662058-C-66		TRENCH TYPE A - 60662058-C-66	
PIPELINE HORIZONTAL ALIGNMENT	REFER PIPELINE SETOUT TABLE - 60662058-C-06					
GRADE	-0.80%		-25.00%		-0.20% 25.00%	
PIPE DETAILS	OD1290 M.S.C.L. FBPE SWJ, 10PL					
DEFLECTIONS DATUM	R.L. 0.0					
DEPTH OF COVER	1.632	1.505	1.569	1.341	3.171	1.274
PIPE INVERT LEVEL	19.636	19.238	12.675	12.660	15.502	19.607
EXISTING SURFACE	22.579	22.004	15.505	15.262	19.934	22.142
CHAINAGE	4050.000	4100.000	4130.772	4138.628	4150.000	4166.419
		4104.669	4104.669	4104.669	4104.669	4104.669
		19.201	19.201	19.201	19.201	19.201
		21.983	21.983	21.983	21.983	21.983
		15.505	15.505	15.505	15.505	15.505
		12.675	12.675	12.675	12.675	12.675
		12.660	12.660	12.660	12.660	12.660
		15.502	15.502	15.502	15.502	15.502
		19.607	19.607	19.607	19.607	19.607
		19.805	19.805	19.805	19.805	19.805
		20.099	20.099	20.099	20.099	20.099
		22.732	22.732	22.732	22.732	22.732
		22.927	22.927	22.927	22.927	22.927

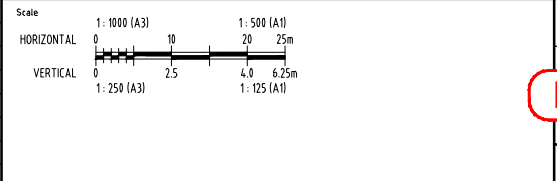
LONGITUDINAL SECTION

- NOTES**
- REFER 60662058-C-03 AND C-04 FOR PIPELINE NOTES
 - REFER 60662058-C-05 FOR PIPELINE LEGENDS

LAST MODIFIED: 17/12/2021 2:53 PM

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No.	BY	DATE	DESCRIPTION	APPD
D	PSA	19.11.21	ISSUED FOR TENDER	
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B	PSA	17.09.21	PIPELINE SUPPLY TENDER	
A	PSA	24.08.21	50% SUBMISSION	



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APPROVED: _____ DATE: _____

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AECOM

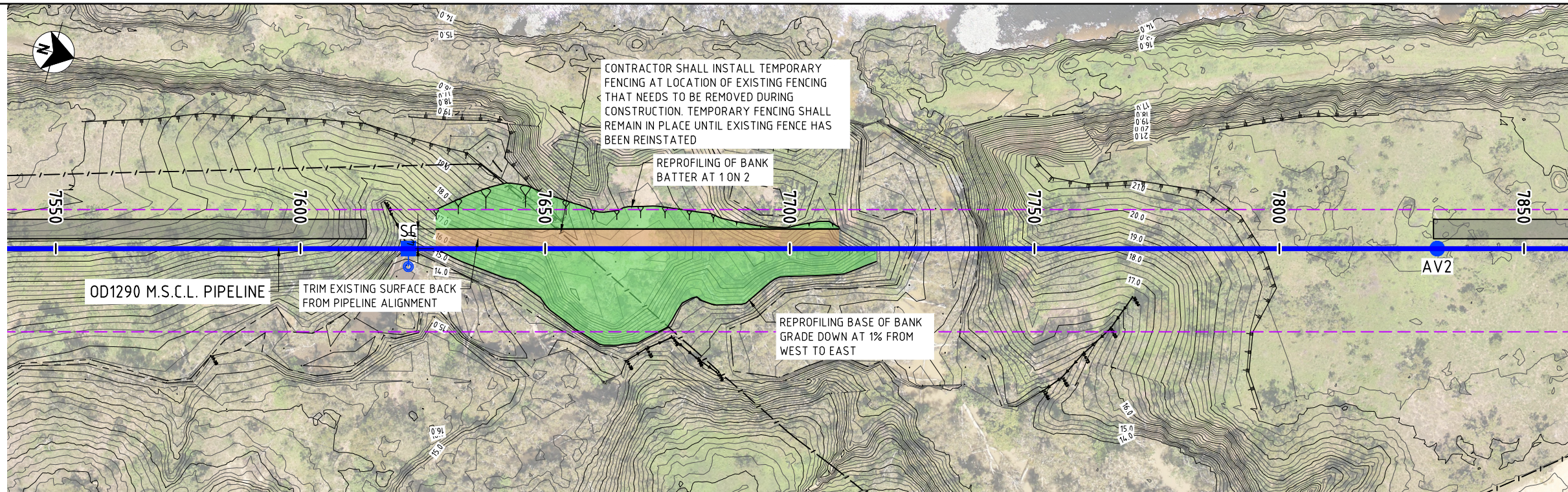
AECOM Australia Pty Ltd A.B.N. 20 093 846 925

City of Townsville

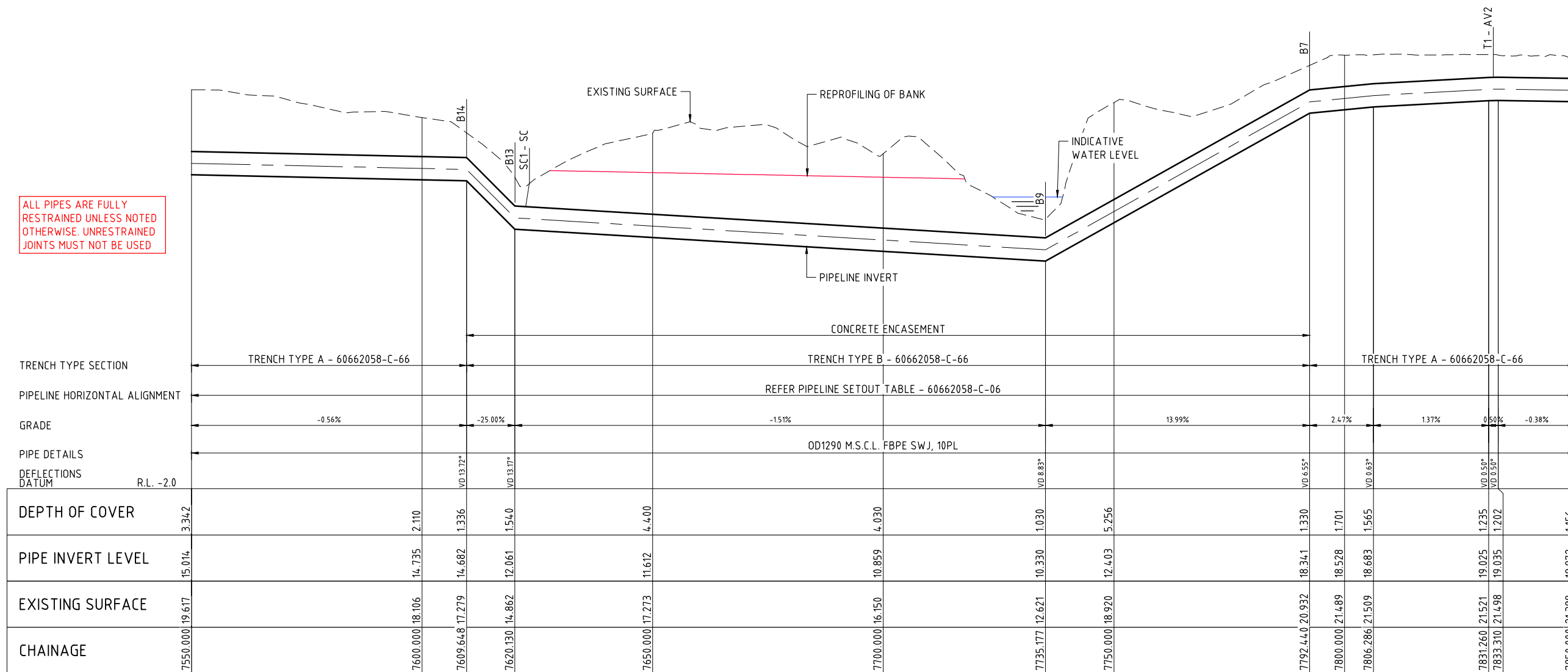
ROSS RIVER DAM TO DOUGLAS WTP PIPELINE

CREEK 10 TRENCHED OPTION
PLAN AND LONGITUDINAL SECTION

Status: TENDER Dwg No: 60662058-C-101 Rev: D



PLAN



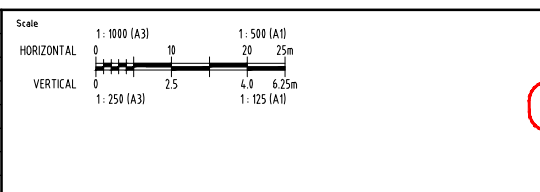
LONGITUDINAL SECTION

- NOTES
- REFER 60662058-C-03 AND C-04 FOR PIPELINE NOTES
 - REFER 60662058-C-05 FOR PIPELINE LEGENDS

LAST MODIFIED: 17/12/2021 2:53 PM CAD: REP: 60662058-102_CAD_GIS: 910_CAD: 025_SHEETS: 60662058-C-102.DWG

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No.	BY	DATE	DESCRIPTION	APPD
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B	PSA	17.09.21	PIPELINE SUPPLY TENDER	
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APPROVED: _____ DATE: _____

NOT FOR CONSTRUCTION

AECOM

AECOM Australia Pty Ltd A.B.N. 20 093 846 925



ROSS RIVER DAM TO DOUGLAS WTP PIPELINE

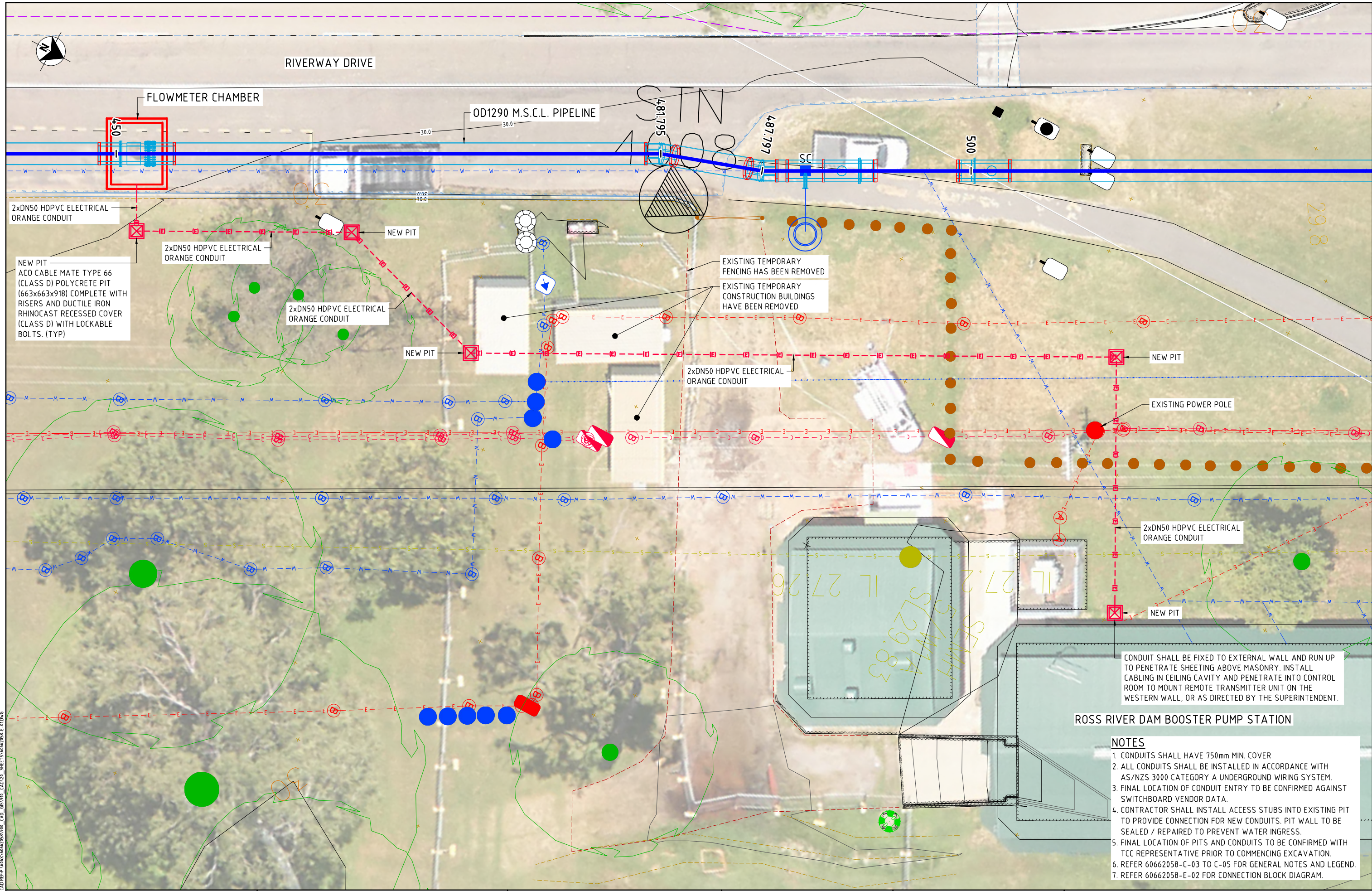
CREEK 18 TRENCHED OPTION

PLAN AND LONGITUDINAL SECTION

Status: TENDER

Rev No: 60662058-C-102

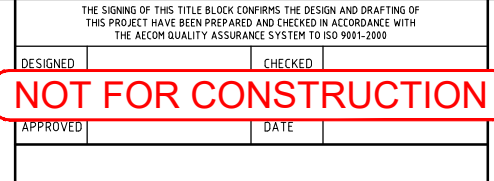
Rev: D



CAD: REP: 60662058-V01_CAD_GIS: 9/18/2021 12:23 AM
 REVISIONS
 A PSA ISSUED FOR TENDER
 No. BY DATE DESCRIPTION APPD

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Scale								
SCALE F								
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DESIGNED	CHECKED							
APPROVED	DATE							

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NOT FOR CONSTRUCTION
 AECOM Australia Pty Ltd A.B.N. 20 093 846 925

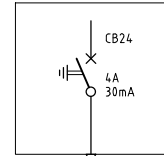


ROSS RIVER DAM TO DOUGLAS WTP PIPELINE
ELECTRICAL DETAILS
FLOWMETER
LAYOUT PLAN
 Status TENDER
 Dwg No. 60662058-E-01
 Rev. A

- NOTES**
1. CONDUITS SHALL HAVE 750mm MIN. COVER
 2. ALL CONDUITS SHALL BE INSTALLED IN ACCORDANCE WITH AS/NZS 3000 CATEGORY A UNDERGROUND WIRING SYSTEM.
 3. FINAL LOCATION OF CONDUIT ENTRY TO BE CONFIRMED AGAINST SWITCHBOARD VENDOR DATA.
 4. CONTRACTOR SHALL INSTALL ACCESS STUBS INTO EXISTING PIT TO PROVIDE CONNECTION FOR NEW CONDUITS. PIT WALL TO BE SEALED / REPAIRED TO PREVENT WATER INGRESS.
 5. FINAL LOCATION OF PITS AND CONDUITS TO BE CONFIRMED WITH TCC REPRESENTATIVE PRIOR TO COMMENCING EXCAVATION.
 6. REFER 60662058-C-03 TO C-05 FOR GENERAL NOTES AND LEGEND.
 7. REFER 60662058-E-02 FOR CONNECTION BLOCK DIAGRAM.

CONDUIT SHALL BE FIXED TO EXTERNAL WALL AND RUN UP TO PENETRATE SHEETING ABOVE MASONRY. INSTALL CABLING IN CEILING CAVITY AND PENETRATE INTO CONTROL ROOM TO MOUNT REMOTE TRANSMITTER UNIT ON THE WESTERN WALL, OR AS DIRECTED BY THE SUPERINTENDENT.

EXISTING 240V DB - QCC
PANEL BOARD (NOTE 2)



CABLE TO BE
2C+E 1.5mm²
PVC/PVC
(20m)

RRD - DWTP FLOWMETER
REMOTE TRANSMITTER
UNIT (NOTE 3)



RRD - DWTP FLOWMETER
SENSOR UNIT

DEM SENSOR
CABLE
(150m) (NOTE 5)

1 PR 0.5mm²
INSTROLEX
(5m)

EXISTING DWTP
TELEMETRY PANEL
(NOTE 4)

NOTES

- REFER FLOWMETER ORIGINAL EQUIPMENT MANUFACTURER SPECIFICATION.
- REFER EXISTING DWTP DO-E-10-7006 (R7)
- REFER TO OEM USER GUIDE / MANUAL FOR CABLE TERMINATION DETAILS.
- NEW FLOWMETER ANALOG SIGNAL TO REPLACE EXISTING FLOWMETER SIGNAL (CH0.2.1). REFER TO EXISTING DWTP DRAWINGS DO-E-10-7020 (R7) AND DO-E-10-7124 (R2) FOR EXISTING TERMINATION DETAILS. WIRING ASSOCIATED WITH EXISTING FLOWMETER TO BE DISCONNECTED AND MADE SAFE.
- OEM SUPPLIED SENSOR CABLE. SPARE LENGTH TO BE COILED - DO NOT CUT.
- FLOWMETER SENSING ELEMENT TO BE INSTALLED WITH APPROPRIATE EARTHING RINGS / CONNECTIONS AND GROUNDED IN ACCORDANCE WITH OEM REQUIREMENTS.
- REFER 60662058-E-01 FOR LAYOUT PLAN

LAST MODIFIED: 20/11/2021 12:28 AM
CAD: RFP-60662058-RRD-CAD-013-SHEETS\60662058-E-02.DWG

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Scale

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ROSS RIVER DAM TO DOUGLAS WTP PIPELINE
ELECTRICAL DETAILS
FLOWMETER
CONNECTION BLOCK DIAGRAM

Status	TENDER	Dwg No.	60662058-E-02	Rev.	A
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GENERAL NOTES

- THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE ARCHITECTS AND OTHER ENGINEERS DRAWINGS, AND ALL DIMENSIONS AND DETAILS SHALL BE CHECKED WITH THEIR DRAWINGS AND ON SITE.
- TRADE NAMES HAVE BEEN USED ONLY TO ESTABLISH A BASIC REQUIREMENT AND ANY SATISFACTORY EQUIVALENT MAY BE SUBMITTED FOR REVIEW.
- ALL DIMENSIONS OF EXISTING STRUCTURES SHALL BE CHECKED PRIOR TO FABRICATION AND ERECTION.
- DURING CONSTRUCTION THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE STRUCTURE AND EXCAVATIONS IN A STABLE CONDITION, AND ENSURING NO PART SHALL BE OVERSTRESSED UNDER CONSTRUCTION ACTIVITY.
- ALL PRODUCTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS WRITTEN RECOMMENDATIONS.

CONCRETE NOTES

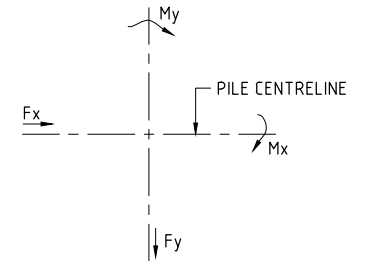
- CONCRETE, CONCRETE WORK, AND STEEL REINFORCEMENT SHALL CONFORM TO A.S. 5100.5, CONCRETE STRUCTURES.
- STRENGTH GRADE = N32 U.N.O.
- COVER TO REINFORCEMENT SHALL BE 50 mm U.N.O.
- COVER TO PILE REINFORCEMENT SHALL BE 80mm.
- THE PROPORTION OF FLY ASH SHALL BE 25% BY WEIGHT OF THE TOTAL COMBINED WEIGHT OF FLY ASH AND CEMENT.
- MAXIMUM SLUMP OF CONCRETE = 80±15mm U.N.O.
- MAXIMUM NOMINAL SIZE OF AGGREGATE = 20mm.
- EXPOSURE CLASSIFICATION FOR PILES SHALL BE 'B1'/MILD AS PER A.S. 5100.5 AND AS 2159.
- EXPOSURE CLASSIFICATION FOR ALL OTHER ELEMENTS 'B1' AS PER A.S. 5100.5
- PROVIDE ALL EXPOSED EDGES AND CORNERS WITH 20mm CHAMFERS OR FILLETS, U.N.O.
- REINFORCEMENT SHOWN ON DRAWINGS IS REPRESENTED DIAGRAMMATICALLY AND NOT NECESSARILY IN TRUE PROJECTION.
- ALL REINFORCEMENT HOOKS AND COGS SHALL BE STANDARD UNLESS SHOWN OR NOTED OTHERWISE ON THE DRAWINGS.
- ALL REINFORCING STEEL SHALL BE ACRS (AUSTRALIAN CERTIFICATION AUTHORITY FOR REINFORCING AND STRUCTURAL STEEL) CERTIFIED.
- CONCRETE SURFACE FINISH TO SLABS SHALL BE NON-SLIP (ROUGH BROOM FINISH)
- FOR SECTIONS EXCEEDING 500mm THICK, ADDITIONAL PRECAUTIONS SHALL BE TAKEN TO PREVENT CRACKING DUE TO THE TEMPERATURE DIFFERENTIAL BETWEEN THE WARMER INTERIOR AND THE COOLER SURFACES.

STAINLESS STEEL NOTES

- ALL STAINLESS STEEL (S.S.) SHALL BE GRADE 316 U.N.O.
- ALL WELDING SHALL BE IN ACCORDANCE WITH A.S. 1554.6.
- ALL WELDS SHALL BE 6 CFW U.N.O.
- WELDING OF STAINLESS STEEL INCLUDING CLEANING, PICKLING, AND PASSIVATION, SHALL COMPLY WITH AWRA 16 TECHNICAL NOTE - WELDING OF STAINLESS STEEL-DECEMBER 1985.

PILE NOTES

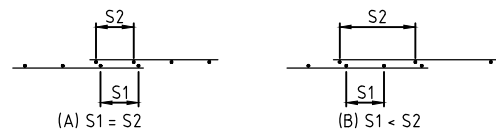
- PILES TO BE BORED CAST-IN-PLACE REINFORCED CONCRETE PILES, CONSTRUCTED AND TESTED AS PER AS 2159 AND MRTS63A (11/20).
- FOUNDATION CONDITIONS ENCOUNTERED ON SITE SHALL BE CONFIRMED TO BE OF THE SAME OR BETTER QUALITY TO THE ASSUMED FOUNDING MATERIAL TYPE STATED ON THE DRAWINGS, AS VERIFIED BY AN EXPERIENCED RPEQ CIVIL ENGINEER WHO IS COMPETENT IN THE FIELD OF GEOTECHNICAL ENGINEERING TO THE APPROVAL OF THE ADMINISTRATOR.
- IF UNSUITABLE MATERIAL OR GROUNDWATER SEEPAGE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL ALLOW FOR TEMPORARY CASING/SHORING TO PREVENT COLLAPSE OF MATERIAL INTO EXCAVATIONS. THE PILE HOLE SHALL BE CLEARED OF EXCAVATION SPOILS AND DEBRIS PRIOR TO INSTALLATION OF REINFORCEMENT CAGE AND CONCRETE PLACEMENT.
- A GEOTECHNICAL STRENGTH REDUCTION FACTOR (ϕ_g) OF $\frac{1}{3}$ HAS BEEN ADOPTED IN DESIGN.



SHEAR FORCE AND BENDING MOMENT DIAGRAM

BAR REINFORCEMENT LAPPED SPLICES U.N.O. ON JOB DWGS.

BAR LOCATION	BAR SIZE					
	N12	N16	N20	N24	N28	N32
HORIZ. BARS WITH 300mm OR MORE CONC. BELOW	500	700	1000	1350	1750	2150
ALL OTHER BARS	400	550	800	1100	1350	1650



FABRIC REINFORCEMENT LAPPED SPLICES

REINFORCEMENT NOTATION

- EXAMPLE N16-300 OR R10-300
- N = DEFORMED CLASS N BARS. 16 = BAR SIZE IN MILLIMETRES
- R = GRADE 250R PLAIN BAR 300 = SPACING OF BARS

LEGEND TO NOTATION ON DRAWINGS

- E.W. EACH WAY
- B.F. BOTH FACE
- B. BOTTOM
- T. TOP
- C.J. CONSTRUCTION JOINT
- U.N.O. UNLESS OTHERWISE NOTED

PLE DESIGN LOADS - EXPANSION JOINT CHAMBER													
LOCATION	PILE	SERVICEABILITY PILE LOADS (S)						ULTIMATE PILE LOADS (S*)					
		COMPRESSION (kN)	TENSION (kN)	LONGITUDINAL SHEAR (kN) Fx	TRANSVERSE SHEAR (kN) Fy	TRANSVERSE BENDING (kNm) Mx	LONGITUDINAL BENDING (kNm) My	COMPRESSION (kN)	TENSION (kN)	LONGITUDINAL SHEAR (kN) Fx	TRANSVERSE SHEAR (kN) Fy	TRANSVERSE BENDING (kNm) Mx	LONGITUDINAL BENDING (kNm) My
CREEK 8	P1	?	?	?	?	?	?	?	?	?	?	?	?
	P2	?	?	?	?	?	?	?	?	?	?	?	?
	P3	?	?	?	?	?	?	?	?	?	?	?	?
	P4	?	?	?	?	?	?	?	?	?	?	?	?
CREEK 10	P1	?	?	?	?	?	?	?	?	?	?	?	?
	P2	?	?	?	?	?	?	?	?	?	?	?	?
	P3	?	?	?	?	?	?	?	?	?	?	?	?
	P4	?	?	?	?	?	?	?	?	?	?	?	?
CREEK 18	P1	?	?	?	?	?	?	?	?	?	?	?	?
	P2	?	?	?	?	?	?	?	?	?	?	?	?
	P3	?	?	?	?	?	?	?	?	?	?	?	?
	P4	?	?	?	?	?	?	?	?	?	?	?	?

PLE DESIGN LOADS - CREEK CROSSINGS													
LOCATION	PILE	SERVICEABILITY PILE LOADS (S)						ULTIMATE PILE LOADS (S*)					
		COMPRESSION (kN)	TENSION (kN)	LONGITUDINAL SHEAR (kN) Fx	TRANSVERSE SHEAR (kN) Fy	TRANSVERSE BENDING (kNm) Mx	LONGITUDINAL BENDING (kNm) My	COMPRESSION (kN)	TENSION (kN)	LONGITUDINAL SHEAR (kN) Fx	TRANSVERSE SHEAR (kN) Fy	TRANSVERSE BENDING (kNm) Mx	LONGITUDINAL BENDING (kNm) My
CREEK 8	P1	?	?	?	?	?	?	?	?	?	?	?	?
	P2	?	?	?	?	?	?	?	?	?	?	?	?
CREEK 10	P1	?	?	?	?	?	?	?	?	?	?	?	?
	P2	?	?	?	?	?	?	?	?	?	?	?	?
CREEK 18	P1	?	?	?	?	?	?	?	?	?	?	?	?
	P2	?	?	?	?	?	?	?	?	?	?	?	?

HOLD

LAST MODIFIED: 10/12/2021 10:48 PM CAD: REP-1646X16462058_V01_CAD_GIS_V01_CAD_V23_SHEETS16462058-S-INDWG

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No.	BY	DATE	DESCRIPTION	APPD											
A	PSA	19.11.21	ISSUED FOR TENDER												

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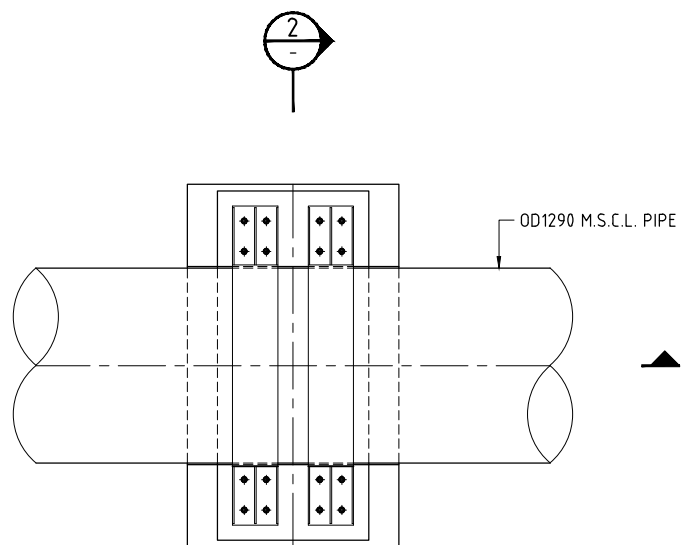
AECOM

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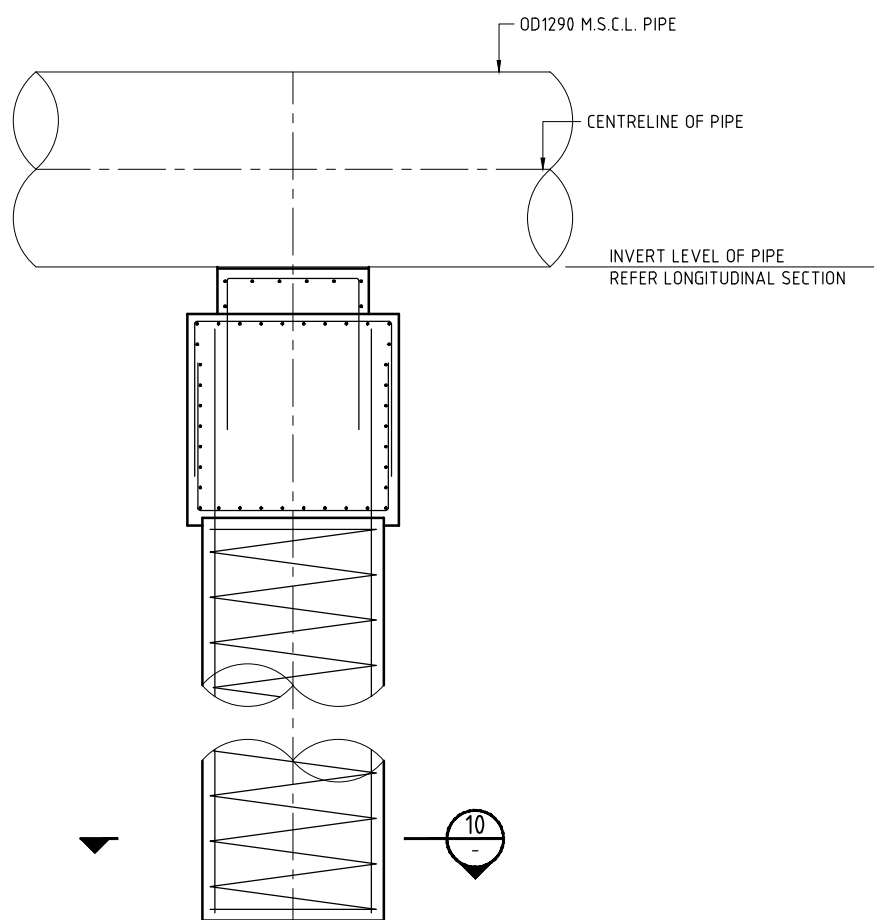
ROSS RIVER DAM TO DOUGLAS WTP PIPELINE

STRUCTURAL NOTES AND LEGEND

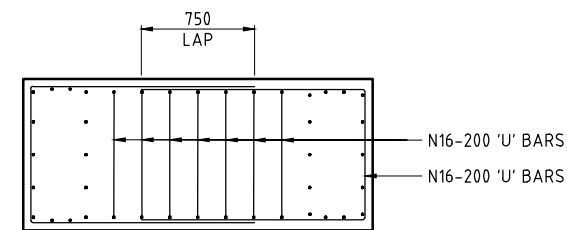
Status: TENDER Dwg No: 60662058-S-100 Rev: A



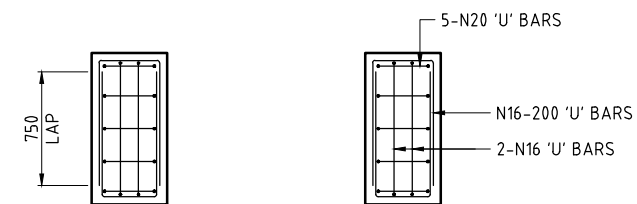
PLAN
PIPE PEDESTAL ARRANGEMENT
SCALE G



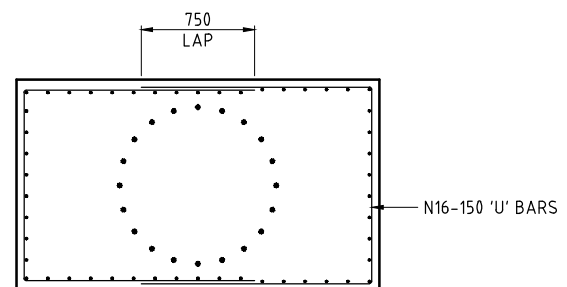
SECTION 1
SCALE G



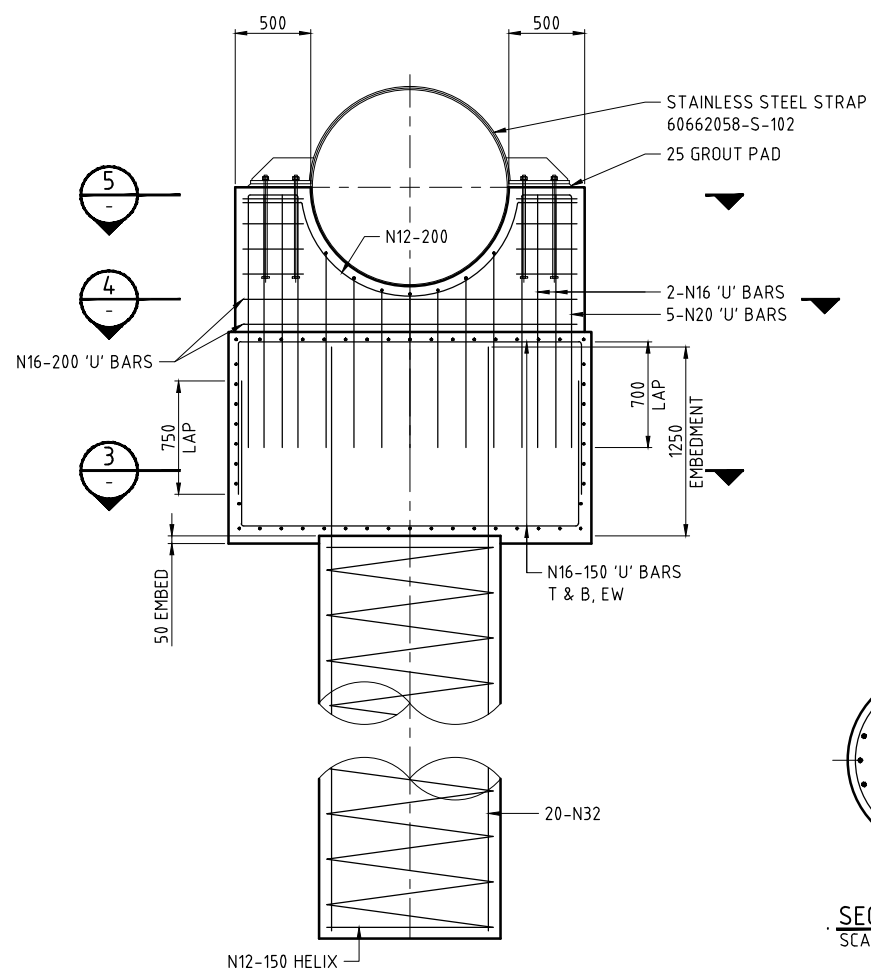
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SCALE G



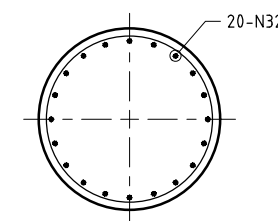
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SECTION 3
SCALE G



SECTION 2
SCALE G

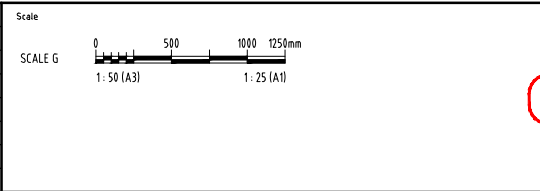


SECTION 10
SCALE G

- NOTES
- REFER 60662058-C-76 FOR GENERAL DETAILS
 - REFER 60662058-S-100 FOR STRUCTURAL NOTES AND LEGEND

LAST MODIFIED: 19/11/21 10:15 AM
REVISIONS
CAD: RFP-60662058-100_CAD_GIS-100_CAD-100_SHEETS-60662058-S-101.DWG

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APPROVED	DATE

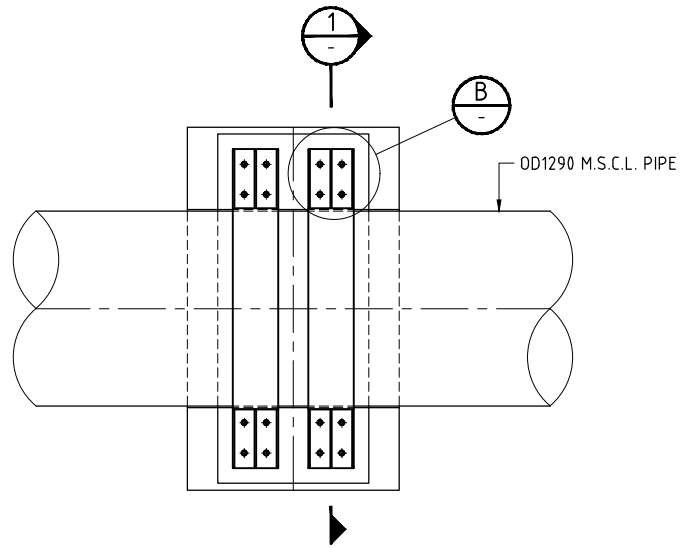
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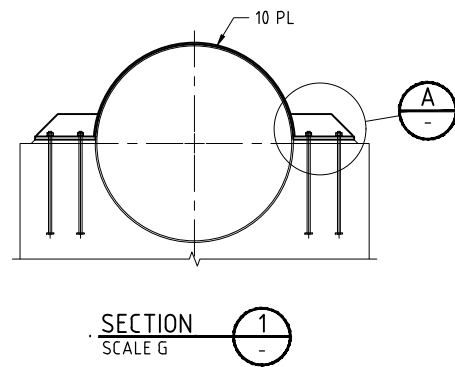
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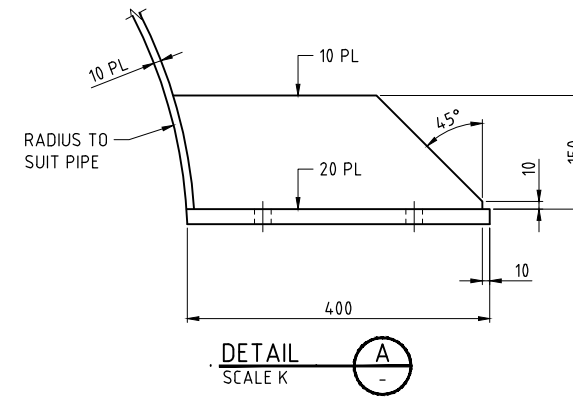
ROSS RIVER DAM TO DOUGLAS WTP PIPELINE		
PIPE PEDESTALS - REINFORCEMENT DETAILS SHEET 1		
Status	TENDER	Rev. A
Dwg No.	60662058-S-101	



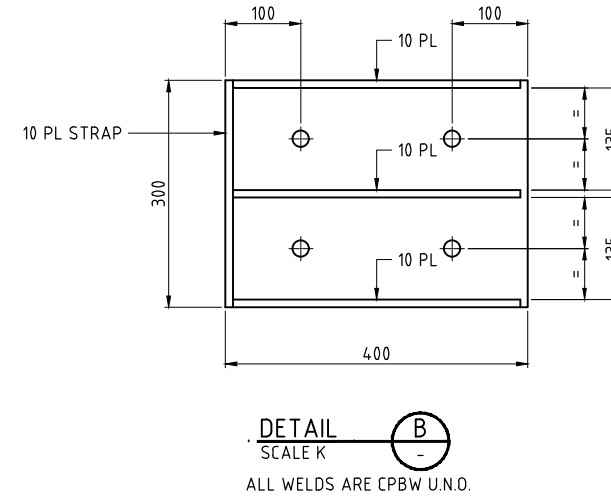
PLAN
PIPE PEDESTAL ARRANGEMENT
SCALE G



SECTION 1
SCALE G



DETAIL A
SCALE K



DETAIL B
SCALE K
ALL WELDS ARE CPBW U.N.O.

NOTES

- REFER 60662058-C-76 FOR GENERAL DETAILS
- REFER 60662058-S-100 FOR STRUCTURAL NOTES AND LEGEND
- REFER 60662058-S-101 FOR REINFORCEMENT DETAILS

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REVISIONS
CAD: RFP-646X-6462058-100_CAD_GIS-100_CAD-100_SHEETS-6462058-S-102.DWG

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Scale	0 500 1000 1250mm
SCALE G	1: 50 (A3) 1: 25 (A1)
SCALE K	0 100 200 250mm
	1: 10 (A3) 1: 5 (A1)

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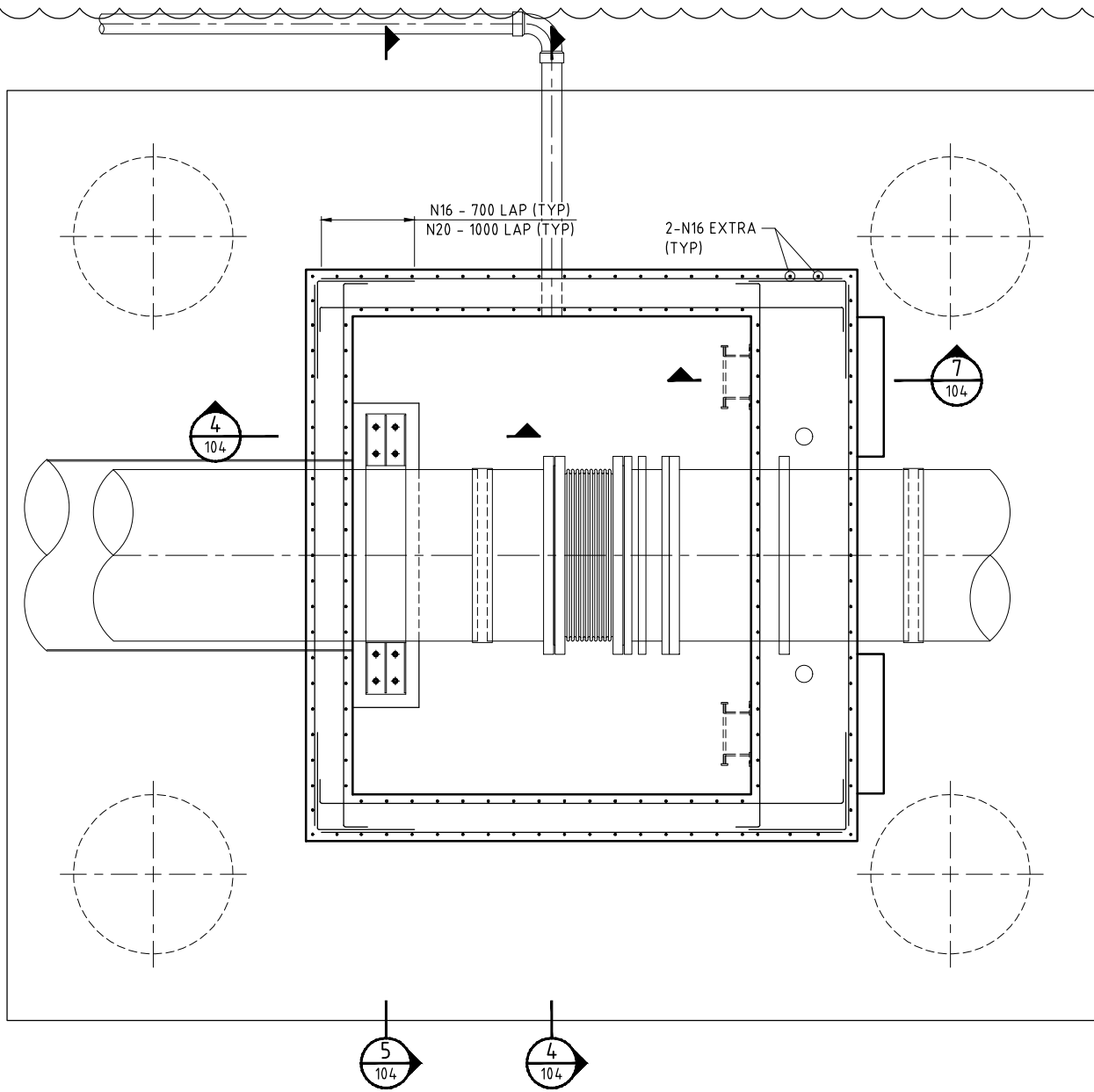
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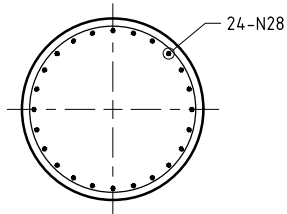
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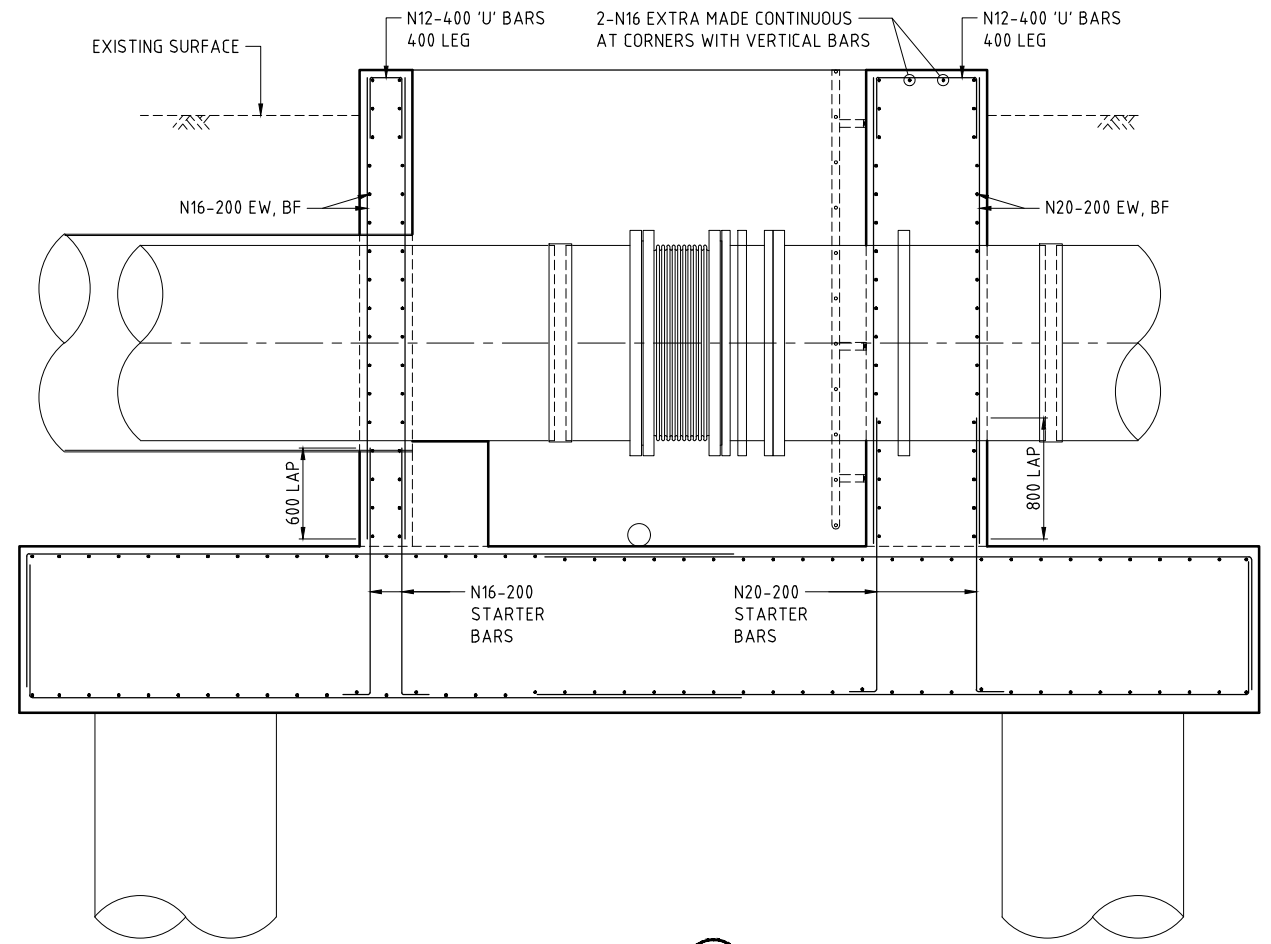
ROSS RIVER DAM TO DOUGLAS WTP PIPELINE		
PIPE PEDESTALS - STAINLESS STEEL STRAP DETAILS SHEET 1		
Status	TENDER	Rev. A
Dwg No.	60662058-S-102	



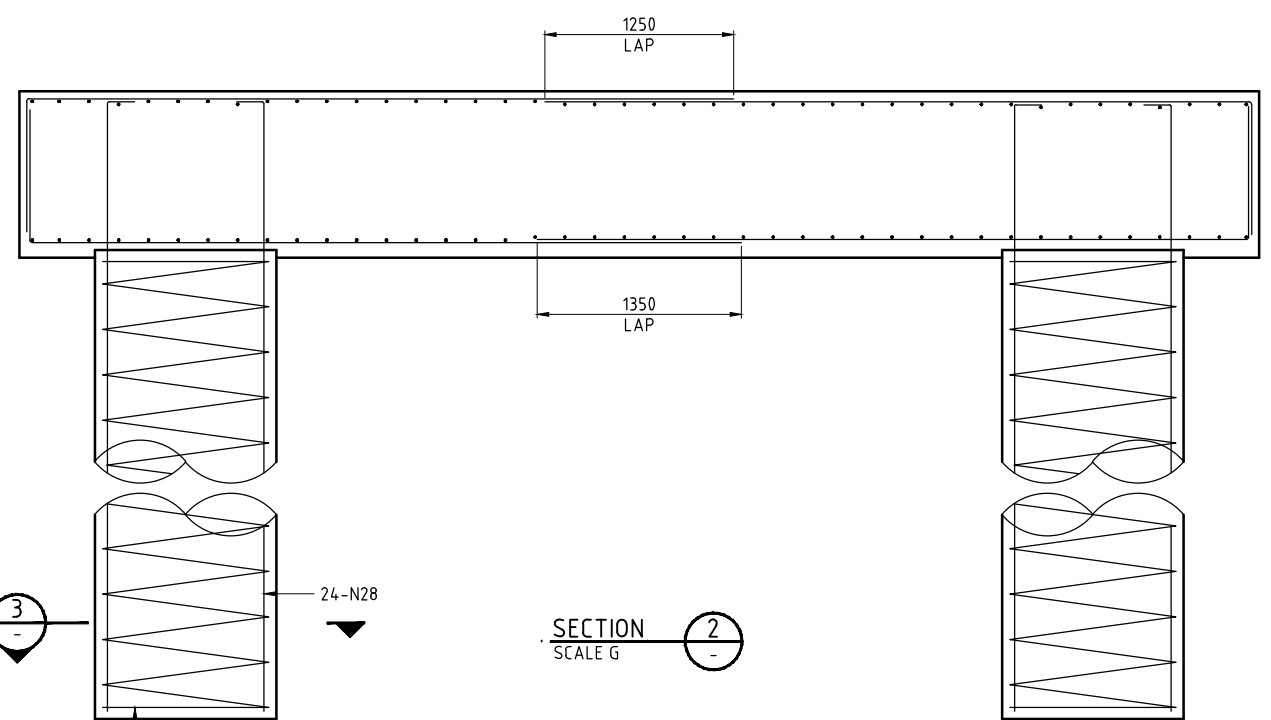
PLAN
EXPANSION JOINT INSTALLATION ARRANGEMENT
SCALE G



SECTION
SCALE G



SECTION
SCALE G



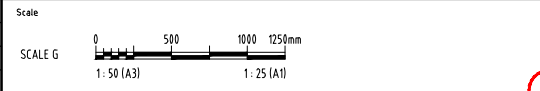
SECTION
SCALE G

- NOTES**
- REFER 60662058-C-75 FOR GENERAL DETAILS
 - REFER 60662058-S-100 FOR STRUCTURAL NOTES AND LEGEND

HOLD

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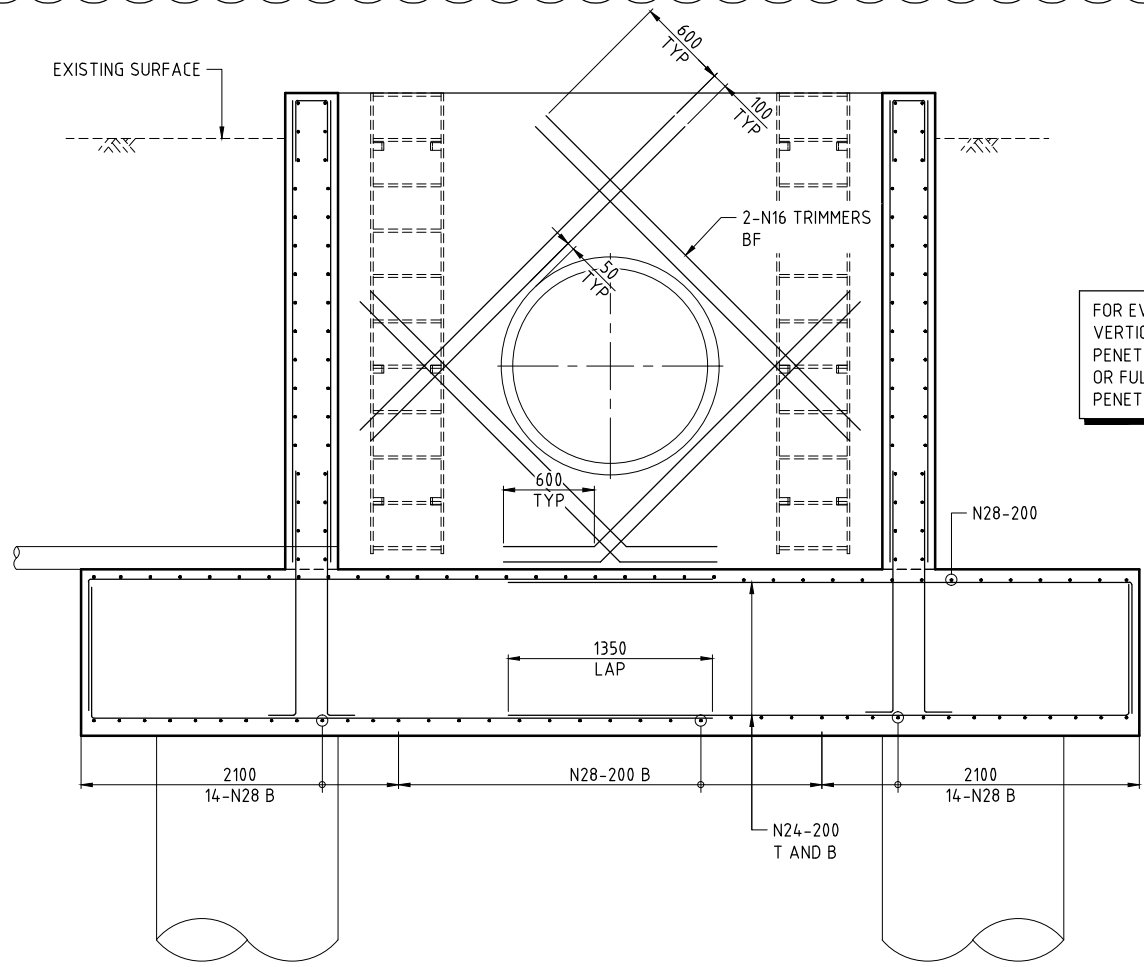


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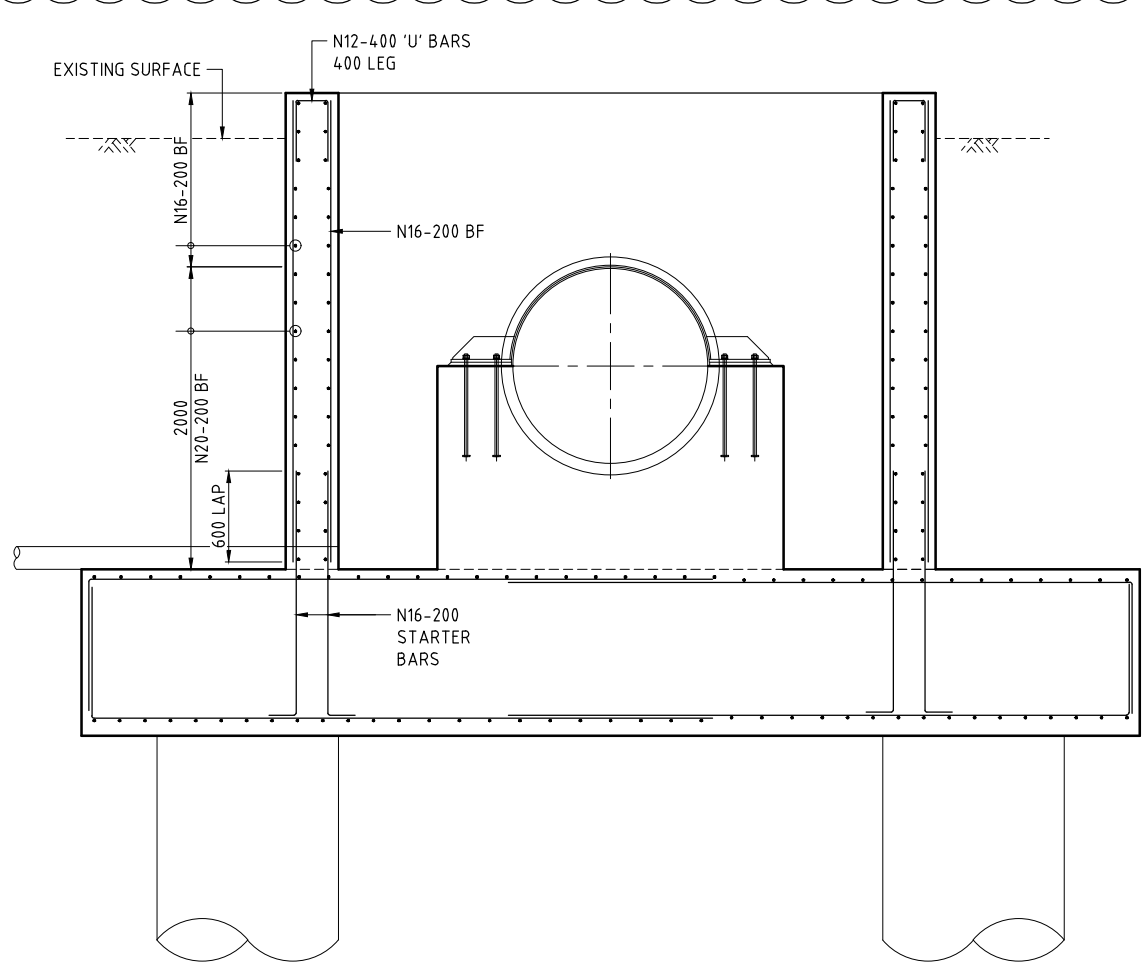
ROSS RIVER DAM TO DOUGLAS WTP PIPELINE
EXPANSION JOINT CHAMBER - REINFORCEMENT DETAILS
SHEET 1

Status	TENDER	Dwg No.	60662058-S-103	Rev.	A
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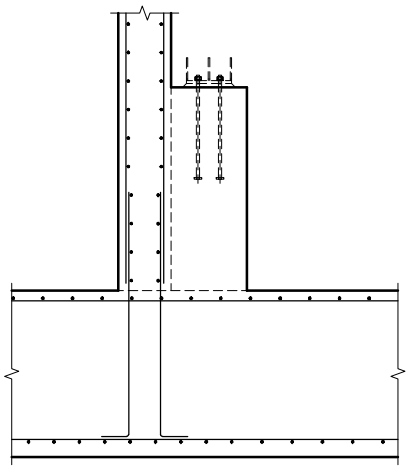


FOR EVERY TWO (2) HORIZONTAL AND VERTICAL BAR STOPPING AT THE PIPE PENETRATION ADD ONE (1) FULL HEIGHT OR FULL WIDTH BAR EACH SIDE OF THE PENETRATION.

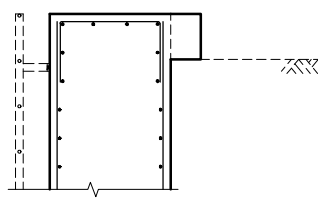
SECTION 4
SCALE G 103



SECTION 5
SCALE G 103



SECTION 6
SCALE G 103



SECTION 7
SCALE G 103

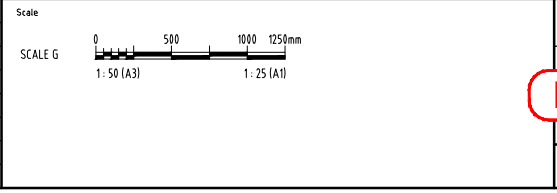
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- NOTES**
- REFER 60662058-C-75 FOR GENERAL DETAILS
 - REFER 60662058-S-100 FOR STRUCTURAL NOTES AND LEGEND

LAST MODIFIED: 19/11/21 2:27 PM
CAD: REP: 646X16462058 V04_CAD_GIS V04_CAD V02_SHEETS 6462058-S-104.DWG

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ROSS RIVER DAM TO DOUGLAS WTP PIPELINE
EXPANSION JOINT CHAMBER - REINFORCEMENT DETAILS
SHEET 2

Status TENDER Dwg No. 60662058-S-104 Rev. A