

Cyanide (Soils)
GAC 791 mg/kg

Cyanide EQS
GAC 1ug/l



Location Symbols

-  Approximate Rotary Borehole Location (URS 2004)

 Approximate Trial Pit Location (URS 2006)

 Approximate Window Sample Probehole Location (URS 2006)

 Approximate Shell and Auger Location (URS 2006)

 Approximate Trial Pit Location (ERM 2009)

 Approximate Trial Pit Location (Westlakes 2019)

 Approximate Window Sample Probehole Location (Westlakes 2019)

 Approximate Cable Percussive Borehole Location (Westlakes 2019)

 Approximate Trial Pit Location (Westlakes 2019)

 Approximate Window Sample Probehole Location (Westlakes 2019)
-  Approximate Cable Percussive Borehole Location (Westlakes 2019)

 Approximate Rotary Borehole Location (Parson Brickenhoff 2007)

 Approximate Test Location (Parson Brickenhoff 2007)

 Approximate Sample Probehole Location (Parson Brickenhoff 2007)

 Approximate Trial Pit Location (Parson Brickenhoff 2007)
-  Total Cyanide (Water)

 Total Cyanide (Soil)

 Water Exceedance - Cyanide (E3P 2020)

Notes:

Data for Manox site
only

Client:

Engie

Job No:

13-887

Date:

04.08.2020

Drawing No:

023

Scale:

NTS



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Job Title:

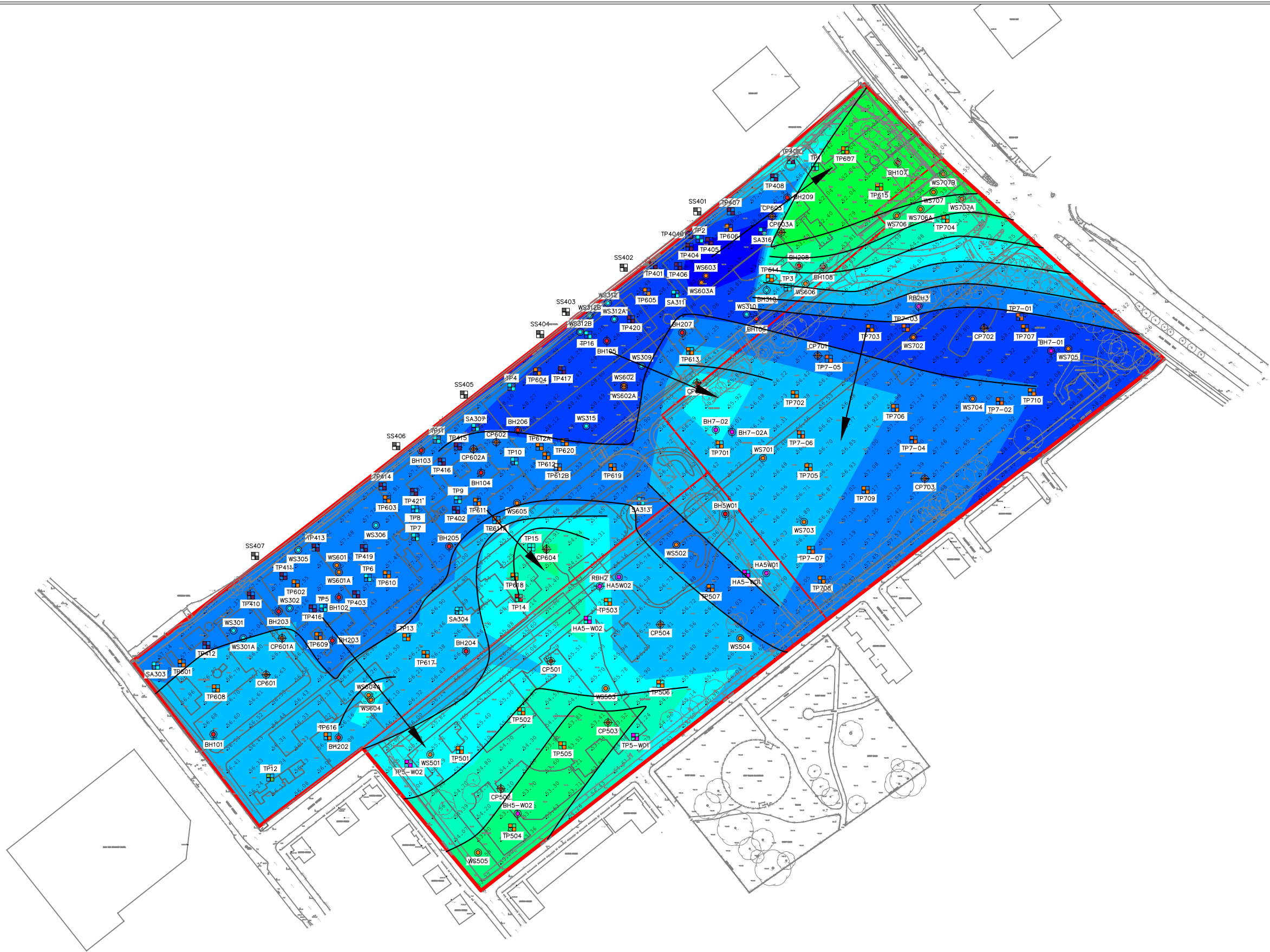
Manox

Drawing Title:

Cyanide Exceedance
Plan

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P1	R2	04.08.2020	REVISION	HM	OJ
P1	R1	03.08.2020	REVISION	HM	OJ
P1	-	20.07.2020	REVISION	LM	MD
Phase	Revision	Date	Issue	Drawn	Checked



Location Symbols

- Approximate Window Sample Probehole Location with Install
- Approximate Window Sample Probehole Location
- Approximate Trial Pit Location
- Approximate Trial Trench Location
- Approximate Groundwater Flow

Depth to Groundwater AOD (m)

- Depth to Groundwater 51.00 - 51.99m
- Depth to Groundwater 52.00 - 52.99m
- Depth to Groundwater 53.00 - 53.99m
- Depth to Groundwater 54.00 - 54.99m
- Depth to Groundwater 55.00 - 55.99m
- Depth to Groundwater 56.00 - 56.99m
- Depth to Groundwater 57.00 - 57.99m
- Depth to Groundwater >58.00

Notes:

P1	R1	29.07.2020	REVISION	HM	OJ
P1	-	28.07.2020	DRAFT	HM	OJ
Phase	Revision	Date	Issue	Drawn	Checked

Client:

Engie

Job Title:

Manox

Job No:

13-887

Drawing No:

025

Date:

29.07.2020

Scale:

NTS

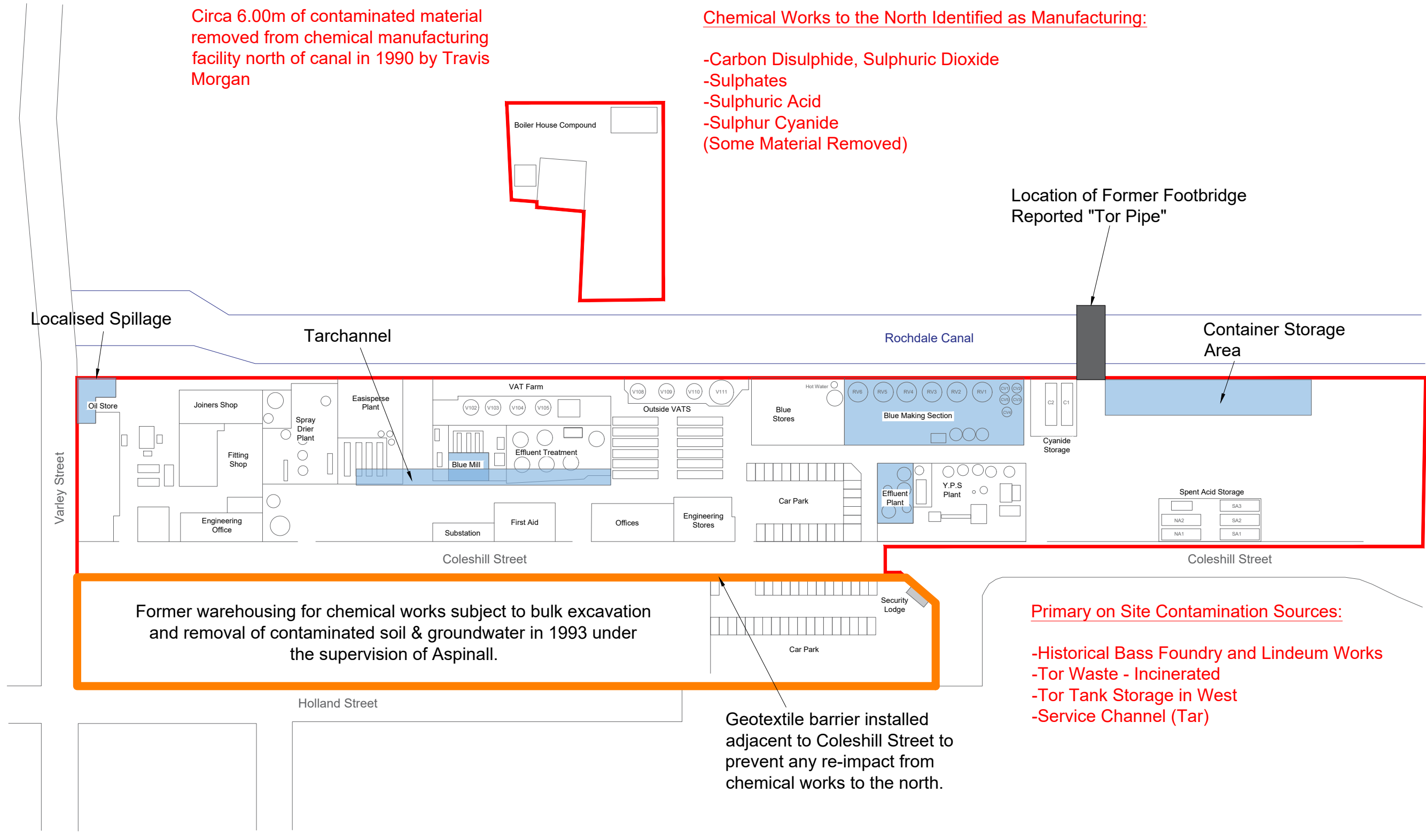
Drawing Title:

Depth to Ground
Water (AOD) Plan



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Circa 6.00m of contaminated material removed from chemical manufacturing facility north of canal in 1990 by Travis Morgan

Chemical Works to the North Identified as Manufacturing:

- Carbon Disulphide, Sulphuric Dioxide
- Sulphates
- Sulphuric Acid
- Sulphur Cyanide
- (Some Material Removed)

Location of Former Footbridge Reported "Tor Pipe"

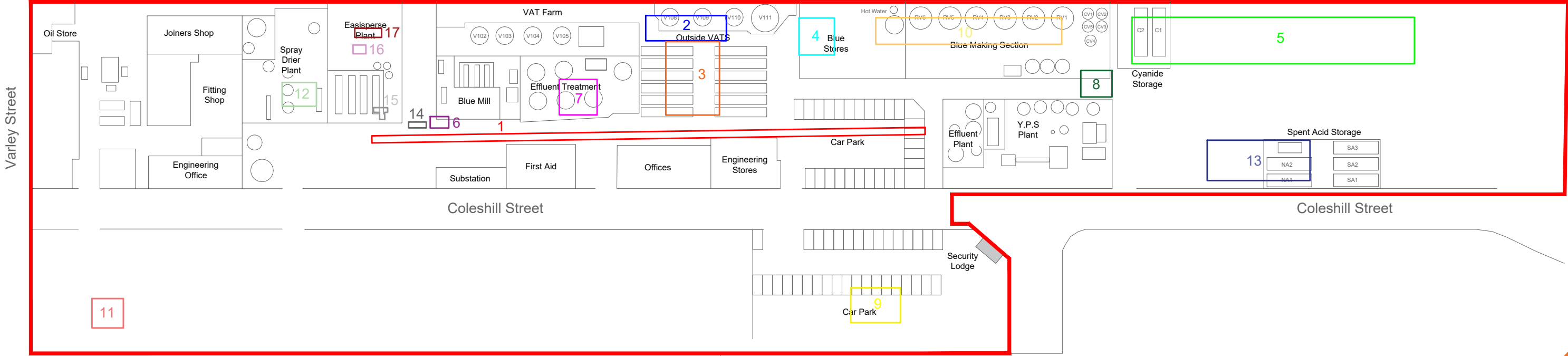
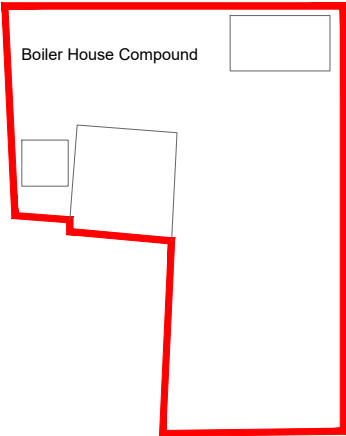
Primary on Site Contamination Sources:

- Historical Bass Foundry and Lindeum Works
- Tor Waste - Incinerated
- Tor Tank Storage in West
- Service Channel (Tar)



	Notes: This Drawing Defines the Known Operations By Degussa in ~ 2004						Client: Engie		Job No: 13-887	Date: 04.08.2020	 Environmental Engineering Partnerships Ltd City Heliport & Business Centre Eccles, Manchester, M30 7RU Tel: 0161 707 9612 E-mail: info@e3p.co.uk Website: www.e3p.co.uk																	
									Drawing No: 026	Scale: NTS																		
	<table><tr><td>P1</td><td>R1</td><td>04.08.2020</td><td>REVISION</td><td>HM</td><td>OJ</td></tr><tr><td>P1</td><td>-</td><td>30.07.2020</td><td>DRAFT</td><td>LM</td><td>MD</td></tr><tr><td>Phase</td><td>Revision</td><td>Date</td><td>Issue</td><td>Drawn</td><td>Checked</td></tr></table>						P1	R1	04.08.2020	REVISION		HM	OJ	P1	-	30.07.2020	DRAFT	LM	MD	Phase	Revision	Date	Issue	Drawn	Checked	Job Title: Manox		Drawing Title: Main Contamination Sources Degussa Operations
P1	R1	04.08.2020	REVISION	HM	OJ																							
P1	-	30.07.2020	DRAFT	LM	MD																							
Phase	Revision	Date	Issue	Drawn	Checked																							

1	Inferred position of Tar channel
2	Reinforced concrete bund base and concrete hardstanding
3	Buried flagstone horizon
4	Brick/Concrete construction sump/basement with metal top cover.
5	Brick/Concrete plinth/hardstanding horizon
6	Sump or chamber
7	Potential brick built chamber
8	Brick built foundations (unknown structure)
9	Buried basement or former hardstanding horizon
10	Bund floor
11	Foundations of Former residential properties
12	Brick build foundations
13	Concrete basement/hardstanding horizon
14	Network or drainage channels
15	Below ground chamber (with stains)
16	Pit for lift shaft (suspected)
17	Pit for recessed plant



Notes:				
P1	REVA	30.07.2020	LM	MD
Phase	Issue	Date	Drawn	Checked

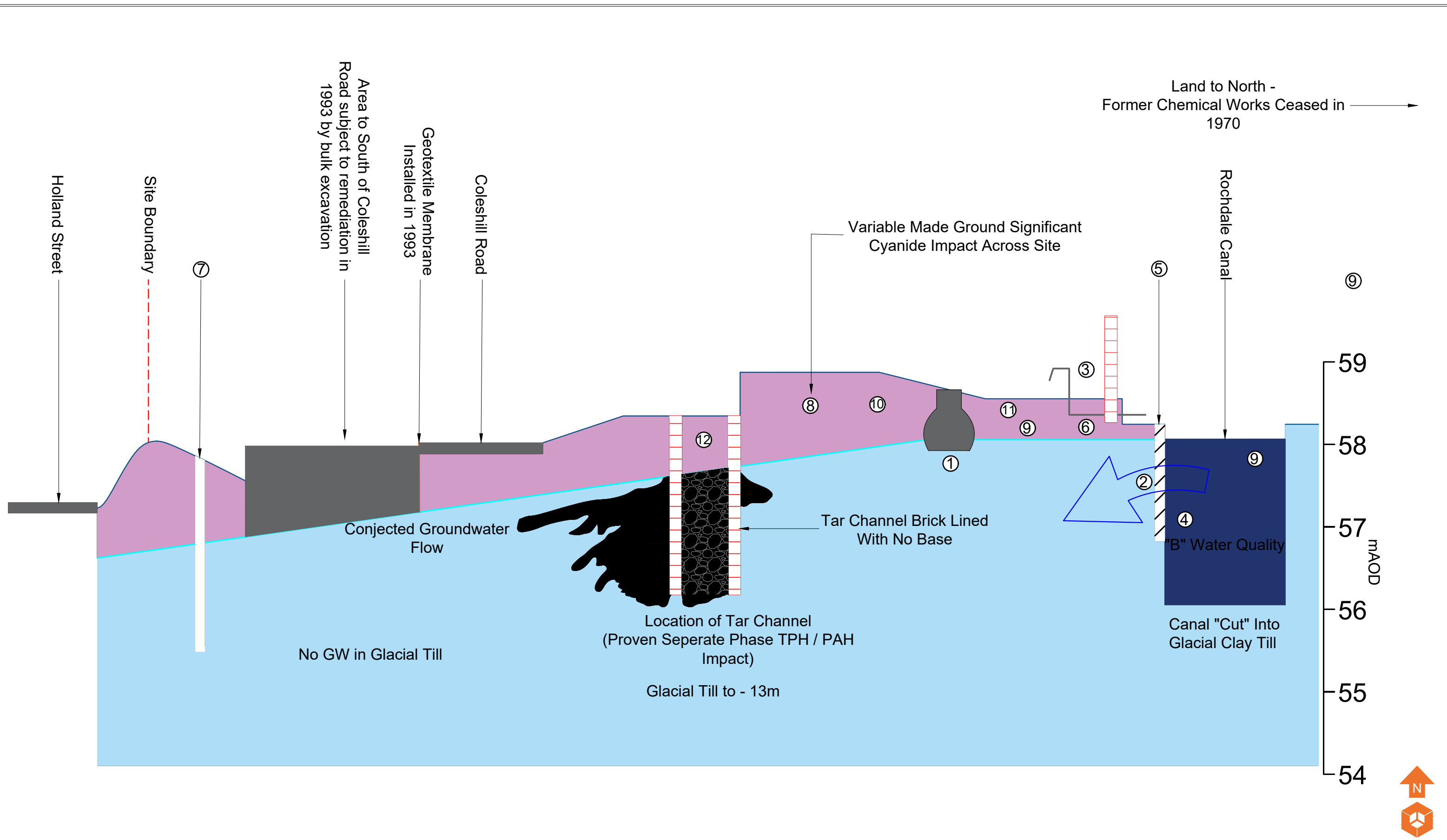
Client:	Engie
Job Title:	Manox

Job No:	13-887	Date:	30.07.2020
Drawing No:	027	Scale:	1:1000 @ A3
Drawing Title:	Location of Known Below Ground Structures		



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Location Symbols

① Localised separate phase TPH (With PAH) impact of near surface representation of surface spillage. (Not delineated) Limited migration to south down hydraulic gradient. Vertical migration confined by clay walls

② Canal "Up" hydraulic graient likely scenerario is canal is contributing to hydrology & shallow perched water confined above law permeability clay

③ Former / Remenant drainage infrastrucutre represents a preferntial pathway to canal. All infrastructure to be removed & pathway negated

④ Canal wall lining limit hydraulic impact

⑤ ERM Investigation confirmed visual leakage of contaminants through boundary wall to canal considered to be leaching not GW hydraulic conductivity.

⑥ Perched water confirmed by walls at higher elevation to canal and is seeping through and impacting. remediation to solidify and stabilise cyanide impact will remove this pathway

⑦ Monitoring wells down hydraulic gradient do not show significant cyanide impact

⑧ Made ground in Manox sector impacted by semi volatile and volatile organic compounds. No tox data readily available to inform robust SSR's mitlgate pathway by vapor membrane.

⑨ Carbon disulphide (CS2) off site primary source CS2 impact known in canal and sediment. Low level CS2 impact onsite no primary CS2 source identified on Manox.

⑩ Significant aromatic semi volatile PAH/SVOC impact on site in MG across Manox.

⑪ Significant arsenic and lead impact in MG multiple instances of discoloration (Blue and Green) suggesting primary source.

⑫ Salt glazed feeder pipe to tar channel

Conjected Groundwater Flow

Rochdale Canal

Tar Channel

Glacial Clay Till

Notes:

P1	R1	03.08.2020	REVISION	HM	MD
P1	-	31.07.2020	DRAFT	HM	MD
Phase	Revision	Date	Issue	Drawn	Checked

Client:

Engie

Manox

Job No:

13-887

Drawing No:

028

Date:

03.08.2020

Scale:

NTS

Drawing Title:

Canal Impact Section Plan

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