





R1 | ADDITIONAL SW AND SEWER INVESTIGATION 25/03/21 CG AMM DATE DRN CHK REVISION DESCRIPTION

# Utility MAPPING

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HAYBALL UNDERGROUND UTILITY SURVEY 8 BILLS STREET HAWTHORN, VIC

SCALE AT A1: 1:200

DATUM: AHD GRID: MGA20 Z55

STATE/YEAR

JOB No

VIC20 - 0510 - US - 01 R1

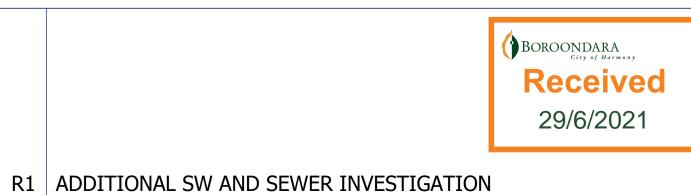


—— C —— Communications cable/pipe — OF — OF — Comms optic fibre pipe —──>— Drainage pipe — E — E — Electric cable/pipe

— HV — HV — Electric HV cable/pipe **──G──G─** Gas pipe **──s──>**── Sewer/Waste pipe ——u—— Unidentified pipe/Anomaly ──w──w─ Water pipe

Refer to sheet 6 for full legend, notes and disclaimers.

QL-A POTHOLING RESULTS - MGA2020 Z55										
PH/TRENCH NUMBER	EASTING	NORTHING	ELEVATION	DEPTH m	SIZE mm	MATERIAL	QUALITY LEVEL	ASSET OWNER	COMMENT	SURVEY DATE
PH01	327633.441	5810276.822	13.47	1.04	1200	CONCRETE	QL-A	CO BOROONDARA	NDD	23/03/2021
PH02	327634.755	5810277.167	13.47	1.10	1200	CONCRETE	QL-A	CO BOROONDARA		23/03/2021



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CHECKED:

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### SUBSURFACE UTILITY INFORMATION (SUI) AS5488 CLASSIFICATION

QUALITY LABELING UTILITY INFORMATION BY A CLASSIFICATION CODE ALLOWS THE USER OF THIS INFORMATION TO UNDERSTAND CLEARLY HOW THE INFORMATION WAS COLLECTED AND THEN PLACE AN APPROPRIATE AMOUNT OF RELIANCE ON IT. PROJECT RISKS RELATED TO UNDERGROUND UTILITIES CAN THEN BE PROPERLY MANAGED

#### **QUALITY A:**

INFORMATION IS THE HIGHEST POSSIBLE LEVEL OF ACCURACY AND IS OBTAINED EXPOSING THE UNDERGROUND UTILITY USING A NON DESTRUCTIVE EXCAVATION (POT HOLING) TECHNIQUE. THE VERTICAL INFORMATION FOR THIS LOCATING METHOD IS TO THE TOP OF THE SHALLOWEST PART OF THE LOCATED SERVICE THE 3D LOCATION IS RECORDED AS AN X,Y,Z COORDINATE. EXPECTED HORIZONTAL AND VERTICAL ACCURACY IS +/-50mm.

#### **QUALITY B:**

INFORMATION IS COLLECTED BY DESIGNATING THE HORIZONTAL AND VERTICAL LOCATION OF UNDERGROUND UTILITIES BY USING ELECTROMAGNETIC PIPE AND CABLE LOCATORS, SONDES OR FLEXI TRACE, GROUND PENETRATING RADAR AND ACOUSTIC PULSE EQUIPMENT. THIS IS THE MOST COMMON FORM OF UTILITY LOCATING AND ALTHOUGH AN X,Y, AND Z AXIS CAN BE ESTABLISHED IT IS NOT ALWAYS ENTIRELY ACCURATE DUE TO DIFFERING ELECTROMAGNETIC FIELDS, SOIL CONDITIONS AND MULTIPLE BANKS OF CABLES AFFECTING THE LOCATING SIGNAL EXPECTED HORIZONTAL ACCURACY IS +/-300mm, VERTICAL ACCURACY +/-500mm **QUALITY C:** 

INFORMATION IS COLLECTED BY CORRELATING THE SURVEY OF VISIBLE UTILITY SURFACE FEATURES SUCH AS MARKER PLATES OR WATER HYDRANTS AND ACQUIRED DIAL BEFORE YOU DIG PLANS TO DRAW A STRING WHICH SHOWS THE APPROXIMATE POSITION OF SERVICES. THIS METHOD DOES NOT USUALLY SHOW MULTIPLE BANKS OF CABLES AND DOES NOT ALWAYS SHOW THREE DIMENSIONAL INFORMATION. EXPECTED HORIZONTAL ACCURACY (SURFACE FEATURES ONLY) IS +/-300mm.

#### **QUALITY D:**

INFORMATION IS THE MOST BASIC LEVEL OF UTILITY LOCATIONS USING ONLY INFORMATION BASED ON EXISTING DIAL BEFORE YOU DIG PLANS OR OTHER RECORDS AND BY MEASURING BOUNDARY OFFSETS ETC. THIS METHOD OF UTILITY LOCATION SHOULD ALWAYS BE TREATED AS AN INDICATION OF THE PRESENCE OF A SERVICE ONLY AND SHOULD NOT BE USED FOR DESIGN. TOLERANCE DOES NOT APPLY TO AN INDICATIVE LOCATION THAT IS ATTRIBUTED TO QUALITY LEVEL D.

#### **DETECTION DISCLAIMER:**

ELECTROMAGNETIC LOCATING TECHNIQUES AS WELL AS GROUND PENETRATING RADAR HAVE BEEN UTILISED IN THE LOCATION OF UNDERGROUND SERVICES. THESE CARRIED OUT TO CONFIRM SERVICE IDENTIFICATION, POSITIONS AND PARTICULARLY HEIGHTS, WHERE THESE ARE CRITICAL. ALTHOUGH ALL REASONABLE EFFORT HAS BEEN MADE IN LOCATING AND MAPPING THE UNDERGROUND SERVICES. THE COMPLETE EXTENTS OF THE THIS UTILITY SURVEY INFORMATION CANNOT BE GUARANTEED.

#### SURVEY TECHNIQUE DISCLAIMER:

ALL SURVEY INFORMATION COLLECTED BY UTILITY MAPPING SHOWN ON THIS PLAN HAS BEEN SURVEYED USING GNSS AND TPS SURVEY METHODS. EXPECTED MINIMUM ACCURACY OF GNSS SURVEY DATA IS +/-50mm. ACCURACY IS SUBJECT TO VARIATION DEPENDANT ON SITE CONDITIONS AND SURVEY CONTROL NETWORK SOURCES. AFOREMENTIONED TOLERANCE PROVIDED SHOULD BE USED AS A GUIDE ONLY AND REVIEWED ON A PROJECT BY PROJECT BASIS.

## THIRD PARTY INFORMATION DISCLAIMER:

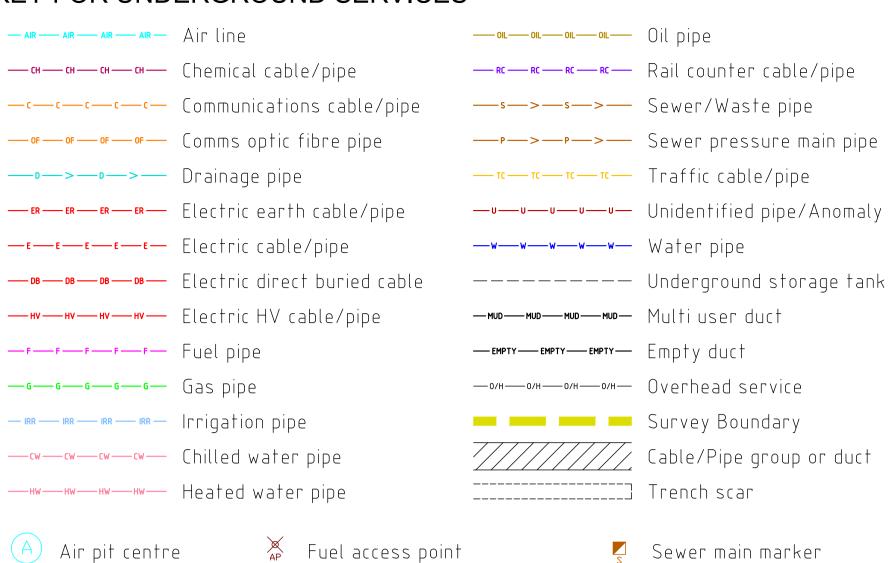
ALL FEATURES SHOWN IN GREY HAVE BEEN TAKEN FROM EXTERNAL SOURCES AND AS SUCH UTILITY MAPPING CANNOT VERIFY THE ACCURACY OF THIS INFORMATION. CONTACTING THE RELEVANT PROVIDER IS RECOMMENDED FOR THE LATEST INFORMATION.

#### **AERIAL IMAGERY DISCLAIMER:**

AERIAL IMAGERY HAS BEEN SUPPLIED UNDER A COMMERCIAL LICENCE AGREEMENT AND IS NOT TO BE REPRODUCED FOR ANY OTHER PURPOSES OTHER THAN THAT INTENDED BY UTILITY MAPPING UNDER ANY CIRCUMSTANCE WITHOUT WRITTEN APPROVAL. FEATURES SHOWN ON IMAGERY ARE INDICATIVE ONLY AND MAY NOT REPRESENT THE TRUE AND FINAL POSITION OF FEATURES ON SITE.

**REVISION DESCRIPTION** 

## KEY FOR UNDERGROUND SERVICES



F Fuel pit centre Air valve Fuel valve

CH Chemical pit centre Chemical valve Gas meter

Comms main marker Comms pillar Comms pole C Comms pit centre

Drainage connection Drainage down pipe Drainage pump

(D) Drainage pit centre Electric dome

Electric earth cover (ME) Mechanical pit centre Electric earth spike

Electric junction box ( ) Oil pit centre 🔆 Electric light 🏻 Oil valve Electric light pole

Electric main marker Rail junction box Electric power pole Rail light (R) Rail pit centre

(E) Electric pit centre 

Gas main marker G Gas pit centre

Gas test point 🔀 Gas valve

Irrigation pit centre Irrigation sprinkler Irrigation valve

Rail signal control box

Rail traffic signal

Mechanical chilled water valve Mechanical hot water valve

> Water bore ₩ Water connection

Water fire hose ₩ Water meter

Sewer connection

Sewer flush point

Sewer pit centre

Sewer pipe vent

Sewer valve

Traffic camera

← Traffic sensor

Traffic pit centre

😽 Traffic signal light

Unknown main marker

(U) Unknown pit centre

Unknown valve

Sewer inspection opening

Sewer inspection shaft

✓ Water main marker ₩ Water pump

W Water pit centre

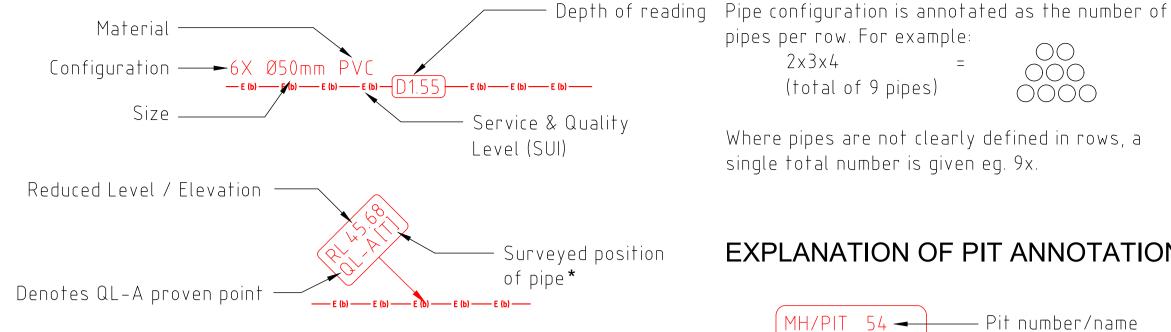
₩ Water tap ₩ Water valve

Characteristic change Pothole (indicative)

Miscellaneous pipe riser

End of trace

## EXPLANATION OF PIPE ANNOTATION



**EXPLANATION OF PIT ANNOTATION** 

2×3×4

(total of 9 pipes)

**EXPLANATION OF CONFIGURATION** 

000

MH/PIT 54 — Pit number/name 45.70 <del>↓</del> Lid level DEPTH 1.80 — Depth to base

\* Surveyed position of pipe: C = Centre, I = Invert, T = Top, G = Ground Level Where Ground Level is shown it indicates that no depth has been obtainable.

# EXPLANATION OF SUBSURFACE UTILITY INFORMATION (SUI AS5488)



## ABBREVIATIONS FOR UNDERGROUND SERVICES

AC	Asbestos cement	NLA	Not located – route assumed
ALK	Alkathene	NLI	Not located – route plotted from
BR	Brick	<b>.</b>	on-site information
	Castiron	NLR	Not located – route plotted from
CICL	Cast iron cement lined		records
CONC	Concrete	NLT	Not located – plotted from visible
CU	Copper		trench scar detail
DI	Ductile iron	NVP	No visible pipes
DICL	Ductile iron cement lined	UTF	Unable to find
DIPL	Ductile iron poly lined	UTGA	Unable to gain access
ΕW	Earthenware	UTL	Unable to lift
FG	Fibreglass	UTR	Unable to rod
Gl	Galvanised iron	UTS	Unable to survey
GRP	Glass reinforced plastic	UTT	Unable to trace
MDPE	Medium density polyethylene		
MS	Medium steel	BL	Base level
MSCL	Medium steel cement lined	CL	Cover level
PE	Polyethylene		Invert level (pipe)
PVC	Polyvinyl chloride	NFI	No further information
RC	Reinforced concrete	NS	No signal
SGW		0/H	Overhead
	Salt glazed ware	0711	Overnead
SI	Spun iron	(D)	
SPL	Steel poly lined	(R)	Information taken from records
ST	Steel		
VC	Vitrified clay		

## NOTES FOR UNDERGROUND SERVICES

- 1. Pipe sizes which cannot be obtained by visual survey are taken from record drawings/marker plates where available.
- Cable routes shown as a single line may actually consist of many cables, refer to annotated configuration
- Drainage pipe sizes & invert levels have been determined without man entry into chambers. Every effort has been made to correctly obtain this information, however, accuracy is dependent on visibility from the surface.
- 4. All annotations depict 'depth to service' UNLESS otherwise stated. Annotations marked 'RL' indicate the true elevation of service feature.
- Utility lines located using Electromagnetic Induction (EMI) or similar proving techniques are assumed to have been located to the approximate CENTRE of the service.
- 6. Utility lines located using Ground Penetrating Radar (GPR) or similar proving techniques are assumed to have been located to the TOP of the service.



DATE

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