



#### Civilscan is a DBYD Ltd Certified Locating Organisation (CLO)

The Certified Locating Organisation (CLO) program is a formal agreement between DBYD Certification Ltd (as representative of the utility) and a locating company that gives certain properly certified employees access permissions to utility networks for the purposes of locating that utility's assets

#### Why Certified Locating Organisation status is necessary?

WHS regulations requires that all reasonable steps must be taken to obtain current underground essential services information about a workplace where excavation work is being carried out **before directing or allowing the excavation work to commence**. (WHS Regulations 2011, 304 Excavation work—underground essential services information).

Additionally, there is a "Duty of Care" to minimise the risk to fellow workers and the public against accidents, damage to property and fatalities. Underground networks are complex and requires expert knowledge to interpret information, to identify and locate components, to pothole underground assets for validation and to safely work around assets without causing damage.



Call 1300 AS5488

## Underground Services Report (USR)

10003964

Prepared for:

**Norm and Mary Amato**



OPTUS



#### Our Services

- ✓ **Electronic Locating**
- ✓ **Ground Penetrating Radar**
- ✓ **Non Destructive vacuum Excavation & vacuum loading**
- ✓ **Concrete Scanning**
- ✓ **CCTV Pipe Inspections**
- ✓ **Drain Cleaning**



25 Winbourne Road Brookvale NSW 2100  
ABN 51167311159  
1300 57 5488

## Underground Services Report

### Location Activities means

- (a) reviewing and interpreting plans of underground and above ground services provided by utilities;
- (b) conducting site investigations utilizing plans, knowledge and experience;
- (c) identifying and locating utility assets using approved industry equipment and practices including EMF devices, sondes, transponders and physically exposing if applicable; and
- (d) recording and marking of sub surface information in accordance with AS5488

To be completed by the underground service locator and emailed/handed to the client

### DBYD Details

Location		23 Nimbey Avenue Narraweena NSW 2099			
Was the work site adversely affected to hinder normal locating procedures? (Leave blank if No)		<input checked="" type="checkbox"/>	If Yes, please provide a comment  Examples include Wet Weather, Construction activities in progress, operational production facility		Drainage survey requires cctv tractor camera to propel sonde thru concrete pipes
DBYD Job	-	Telstra Sequence		-	Enquiry Date
Optus Sequence		Optus Log			Have all plans been received <input checked="" type="checkbox"/>
Electrical High Voltage Transmission	Ausgrid	If Yes, refer to asset owner warning coversheet and contact Ausgrid prior to excavation Take note of Ausgrid instructions and exclusion zones.			
	Endeavour				
	Other				
Jemena High Pressure Gas		If Yes, refer to Jemena High Pressure Gas Warning coversheet and contact Jemena High Pressure Gas Network representative prior to excavation. Take note of Jemena instructions and exclusion zones.			
Gas/Oil/Fuel Pipeline		If Yes, refer to the asset owner's warning coversheet and contact the representative prior to excavation. Take note of asset owner's instructions and exclusion zones.			

### Services Located

- Spatial data to AS5488.1-2019 Classification of Subsurface Utility
- Measurements are in cm as per the instrument's accuracy
- ELV70B means Electricity Low Voltage (<1000V) 70cm AS5488.1-2019 QL-B below surface at the measurement point only.
- Pipes indicate diameter (⊙) and depth to Top of Pipe. Invert Level (IL) maybe indicated in diagrams.

Service	⊙	Q L	Comments
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Service		⊖	Q L	Comments
Comms (All)				
				<div>Additional Recommendations:</div> <div>Gas Monitor Level:</div>

Service		⊙	Q L	Comments	
SMOF (All)					
				Additional Recommendations:	

Service		⊙	Q L	Comments	
Optus					
				Additional Recommendations:	

Service		⊙	Q L	Comments	
SX (Verizon)					
Data (Data/ Video/ Intercom)					
HPGM					
				Additional Recommendations:	

Service		⊙	Q L	Comments	
GM					
				Additional Recommendations:	
GS					

Service		⊖	Q L	Comments	
				Additional Recommendations:	
ELV					
				Additional Recommendations:	





Service		⊙	Q L	Comments	
EHV					
				Additional Recommendations:	
WM					

Service		⊙	Q L	Comments	
				Additional Recommendations:	
WS				Additional Recommendations:	

Service		⊖	Q L	Comments	
FH					
				Additional Recommendations:	
IR					

Service		⊙	Q L	Comments	
				Additional Recommendations:	
S					
				Additional Recommendations:	
				Gas Monitor Level:	

Service	⊙	Q L	Comments
SW	<input checked="" type="checkbox"/>	375	B
			<p>Pipe trace survey initiated from KIP between #23 &amp; #25 Nimbey Ave with tractor camera. This method was abandoned upon reaching a drop section to the main line. A push-rod camera was then deployed as a substitute, however, due to using a skid and not under motor control, the distance achieved was limited. Traces on 3 x locations are consistent with the pipe being parallel to the fenceline and 0.3m from FL to CL. From the last electronic location a soil probe was used to reach top of pipe. At 0.3m from fence line the probe hit solid material at almost full length of 1.6m and 38m from kerb.</p> <p>Additional Recommendations:</p> <p><input checked="" type="checkbox"/> CCTV Inspection</p> <p>Gas Monitor Level:  <input checked="" type="checkbox"/> O2 Level=20.9</p>

Service	⊘	Q L	Comments		
					
OTHER			Additional Recommendations:		

Task Description	Compliance	Details of non compliance (Attach separate statement if insufficient space)
SWMS or JSA Completed	<input checked="" type="checkbox"/>	
DBYD/ Utility information received from the client	<input checked="" type="checkbox"/>	Non DBYD Plans (DSS, Survey etc)
Traffic Management		Private Property

	<input checked="" type="checkbox"/>	
Services marked on ground as per ground marking requirements	<input checked="" type="checkbox"/>	
Indicative depths provided	<input checked="" type="checkbox"/>	
Drainage inverts provided / measured	<input checked="" type="checkbox"/>	
Site walk-thru completed		
USR- Marked up service plans for Quality Classes	<input checked="" type="checkbox"/>	
Different services in common trench located separately	<input checked="" type="checkbox"/>	
Marked up Utility plans submitted to the Client	<input checked="" type="checkbox"/>	
Services located not shown on DBYD/ Utility plans;		
Services not located / unable to be found;		
Utility / Asset owner locator required to discover service		

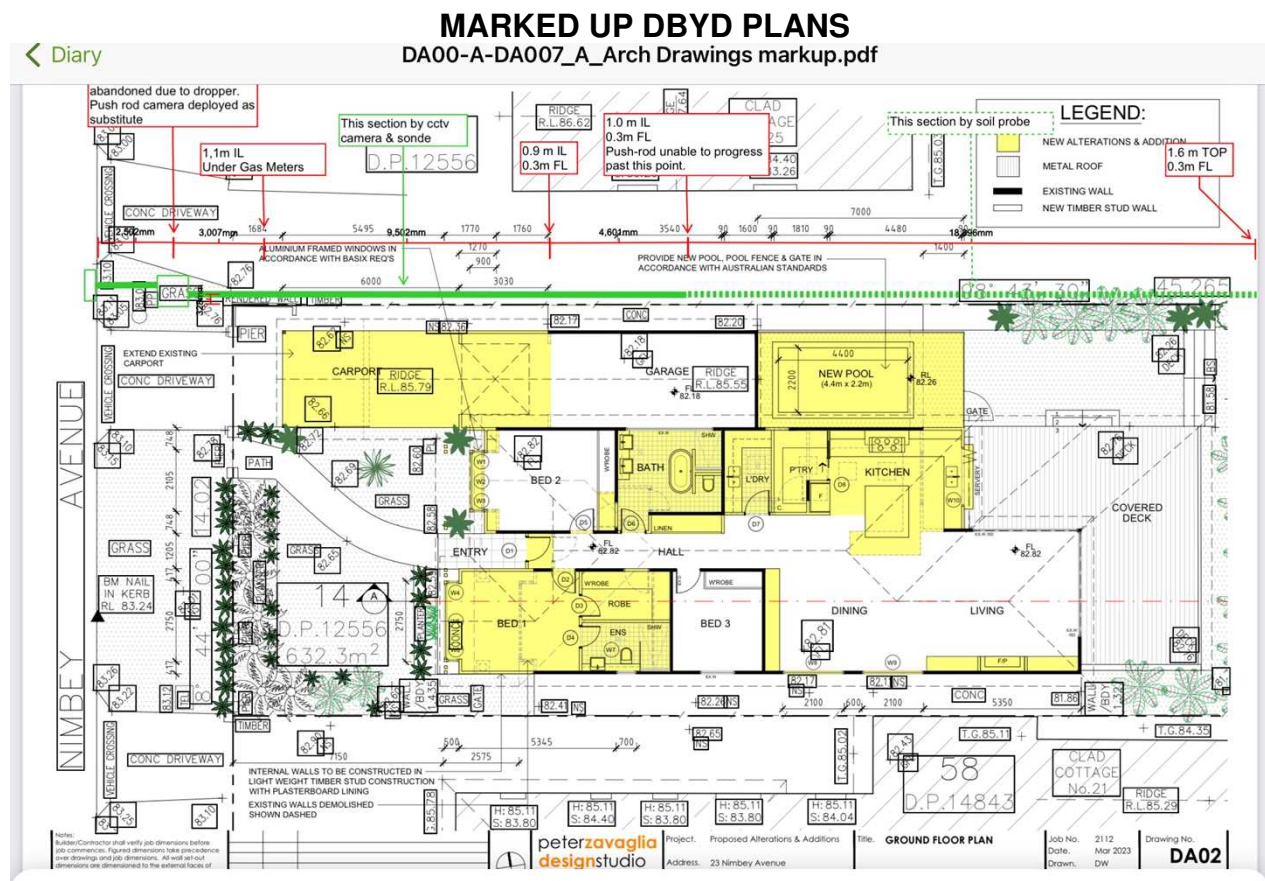


Figure 1 Work area overview





Soil probe fully inserted



Small gaps had to be aligned to be able to detect the sonde



Location of dropper



Detection under gas meters.





	
CL of pipe is under the hedge 0.3m from FL	Soil probe fully inserted

Figure 2 On-site images

Note	Details
1	Survey commenced with tractor camera, which was abandoned at the discovery of a dropper and continued with a push rod camera until it could progress any further and finished with a soil probe.
2	
3	
4	
5	

## EQUIPMENT LIST

	Equipment	Description	Usage
	RD 7100 TL Receiver RD 8000 PXL Receiver	EMF Locator Set	Active or passive service location for conductive pipes & cables
<input checked="" type="checkbox"/>	RD 7100 TL Receiver RD 8000 PXL Receiver	EMF Locator Set	Active or passive service location for conductive pipes & cables + Power
	RD TX-3 Transmitter	EMF Locator Set	Active service location for conductive pipes & cables only
	RD TX-10 Transmitter	EMF Locator Set	Active service location for conductive pipes & cables only
	IDS Duo GPR (250/700Mhz)	Ground Penetrating Radar	Non-conductive pipes & cables
	Vetter 7.4mm Rod (80m)	Rodding Reel	Non-conductive pipes & cable ducts
	Vetter 4.5mm Rod (80m)	Rodding Reel	Non-conductive pipes & cable ducts
	CCTV push rod Camera	Rodding Reel + camera + sender	Conductive & non-conductive pipes & ducts > 100mm

		Robotic tractor + camera + sonde	Tracot camera especially suited to concrete pipes and sewer connections
	Sonde (battery powered transmitter)	Rodding Reel + sonde	Conductive & non-conductive pipes & ducts up to 100mm diameter
<input checked="" type="checkbox"/>	Non-metallic 1.2m probe Insulated 1.6m "Mighty Probe"	Non-conductive rated to 1000V	Testing depth
	Metal 1.0m probe	NOT FOR ELECTRICS	Testing depth
	GPR Concrete (min 1.6GHz)	Ground Penetrating Radar for concrete	Concrete scanning rebar, PT cables, voids
	Rebar detector	Concrete scanning (to 150mm)	Concrete scanning to 150mm
	Acoustic Locator	Geophone Acoustic Locator	Non-metallic pipes and leak detection
	Vacuum Excavation or Hand Digging HPWJ (High Pressure Water Jetting)	Non-Destructive Excavation HPWJ used for gravity sewer or stormwater drainage	Potholing, under-shoring, QL-A validation Drain cleaning for CCTV inspections and clearing pipe obstructions

### COLOUR ALLOCATION LIST

Asset Type	Colour	Symbol Examples
Gas Main	Yellow	HPGM or GM
Gas Service	Yellow	G
Water Main	Blue	WM
Water Service	Blue	WS
Fire Water	Red	FW
Sewer	Cream (Green maybe used)	S
Stormwater	Green	SW
Telecommunications	White	C
Optical Fiber	White	SMOF (O/F maybe used)
Data/Video	White	D or V
Reclaimed Water	Violet	RW
Power	Orange (Red maybe used)	E (H/V & L/V)
Street Lighting	Orange (Red maybe used)	SL
Unidentified	Pink	As required ("?" maybe used)

\*Pink maybe used in poor contrast conditions such as green on grass

### ABBREVIATIONS USED

Acronym	Meaning	Additional information
HPGM	High Pressure Gas Main	> 210kPa
GM	Gas Main	<210kPa
GS	Gas service	Typically connected to a meter
WM	Water Main	Typically potable mains distribution
WS	Water Service	Typically potable connected to a meter
FW	Firefighting Water	Typically connected to fire hydrants, boosters etc
RW	Reclaimed water	Non potable treated water
S	Sewer	All sewerage
SW	Stormwater	All stormwater

Acronym	Meaning	Additional information
C	Communications	Typically copper services
SMOF	Single Mode Optical Fiber	Only optical fiber type for long distance. Typical of a carrier.
MMOF	Multi Mode Optical Fiber	An optical fiber type for short distance (typically internal building runs)
D	Data	Includes telemetry and other remote control applications such as security
V	Video	Typically security cameras
EHV	Electricity High Voltage	> 1000V typically substation supply and transmission supply & DC (Railways)
ELV	Electricity Low Voltage	< 1000V including 415V & DC
UKN	Unknown	A located target which cannot be identified without potholing eg abandoned pipes or cabling
HYD	Hydrant	Typically on a water main
SV	Stop valve	Typically on a water main
AV	Air valve	Typically on a water main
SCOUR	Scour point	Typically on a water main
CPIT	Communications Pit	Pit for private, unknown or other communications carriers such as TPG, Superloop etc
OPIT	Optus pit	Includes Verizon (SX)
NPIT	Nextgen pit	Includes Vocus
TPIT	Telstra pit	
SWPIT	Stormwater pit	
SMH	Sewer Man Hole	Typically requires confined space access
SWMH	Stormwater Man Hole	Typically requires confined space access
TMH	Telstra Man Hole	Now classified as a footway access chamber. Typically requires confined space access
Pnnn	PVC conduit	nnn is the diameter 20, 35, 100 etc eg P100
Annn	Asbestos conduit or duct	nnn is the diameter 20, 35, 100 etc eg A100
ACnnn	Asbestos cement lined	Typically for water mains. nnn is the diameter eg AC100
UPnnn	Ultra PVC	typically for water mains includes 'Blue Brute' and other PVC variants. nnn is the diameter eg UP100
RC	Reinforced Concrete	Typical of stormwater pipes
SIS	Sewer Inspection Shaft	
IS	Inspection Shaft	
IL	Invert Level	Generally used instead of QL when tracing with sondes eg SW60IL

## AS5488 Classification of Subsurface Utility Information (SUI) Quality Levels

Quality levels apply to a subsurface utility at the date that the information was obtained and at that particular measurement point.

Due to physical man-made and natural changes that may occur in the area around the subsurface utility since that date, at any future time and without further investigation the relative spatial position only indicates the best information available about the location of the subsurface utility.

**Quality Levels are a classification reflecting the precision and accuracy of utility location and attribute information.**

A quality level describes the amount and accuracy of information that is collected or held on a subsurface utility. There are four quality levels—D, C, B and A.

**Quality level A is considered to be the highest quality level.**

Description	Nomenclature	Attributes
Quality Level D	QL-D	The attribute information and metadata of a subsurface utility can be compiled from any, or a combination of, the following: (a) Existing records. (b) Cursory site inspection. (c) Anecdotal evidence. (d) Ground Penetrating Radar
Quality Level C	QL-C	A surface feature correlation or an interpretation of the approximate location and attributes of a subsurface utility asset using a combination of existing records (and/or anecdotal evidence) and a site survey of visible evidence. The minimum requirement for quality level C is relative spatial position. The location of surface features measured in terms of relative spatial positioning with a maximum horizontal tolerance of $\pm 300$ mm.
Quality Level B	QL-B	Provides relative subsurface feature location in three dimensions. The minimum requirement for quality level B is relative spatial position. Location of surface features measured in terms of relative spatial positioning with a maximum horizontal tolerance of $\pm 300$ mm; and Location of subsurface features measured in terms of relative spatial positioning with a maximum horizontal tolerance of $\pm 300$ mm and maximum vertical tolerance of $\pm 500$ mm.
Quality Level A	QL-A	Highest quality level and consists of the positive identification of the attribute and location of a subsurface utility at a point to an absolute spatial position in three dimensions. It is the only quality level that defines a subsurface utility as 'validated'. Where the whole line segment cannot be verified by line of sight, quality level A shall not be attributed to the line segment between validated points ie the whole line MUST be exposed.

## WARNING & DISCLAIMER

It must be noted that there are many factors beyond the control or knowledge of CIVILSCAN. There is no guarantee that all services have been located & marked. There has been no judgement made as to what is in the area to be excavated. It is purely an instrumental reading and interpretation and should be taken as such. It is highly recommended to expose the asset by potholing.


We shall not be liable in respect to any claim directly or indirectly arising from or in connection with any loss or damage when such loss or damage occurs due to works undertaken by a third party main contractor, excavator, principal or owner when such mechanical excavating activities occur within a minimum of 1 metre in diameter of the area(s) identified or the standard requirements as per the Work Cover Guidelines, Ausgrid Network Standards (NS156) and Asset Owners Requirement Guidelines for any work near powerlines. This exclusion does not apply to potholing and/or vacuum excavation within the identified area.

The party carrying out the excavation has to make the final decision and is solely responsible for the work being carried out. No liability is attached to CIVILSCAN in relation to the contents of this report or in respect of the work.

It is also important to note that the client fully understands the limitations of the available technology.

Site Representative Present	Present	Not Present	Name	Peter
		<input checked="" type="checkbox"/>		
Billable Hours (excluding any downtime)		Final Report <input checked="" type="checkbox"/>		
Date	25/05/2023		Signature	

### DBYD Certified Locator Details

USL	John Monty	Signature		Date	25/05/2023
Location	23 Nimbey Avenue Narraweena NSW 2099		Optus Certified	<input checked="" type="checkbox"/>	

DBYD CLO Locator	Certification Number
John Monty	Y

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