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**WARNING**  
**ACCURACY OF UNDERGROUND SERVICES INFORMATION**  
UNDERGROUND SERVICES SHOWN ON THIS PLAN HAVE BEEN LOCATED TO THE QUALITY LEVEL INDICATED IN THE LINE TYPE DESCRIPTION. THE LOCATION AND DEPTHS STATED SHOULD BE TREATED AS APPROXIMATE AND CAN ONLY BE VERIFIED VIA PRObing METHODS (MANUAL EXPOSURE/NON-DESTRUCTIVE DIGGING, GL-A) OF WHICH UNLESS OTHERWISE AGREED UPON IS THE RESPONSIBILITY OF THE CONTRACTOR.  
THERE IS NO GUARANTEE ALL SERVICES THAT EXIST IN THE AREA COVERED ON THIS PLAN ARE SHOWN.  
THIS PLAN DOES NOT REPLACE BEFORE YOU DIG PLANS.

LEGEND	
(CB)	COMMUNICATIONS
(FACB)	FIRE ALARM CABLE
(FOB)	FIBRE OPTIC
(NMB)	NBN
(OPT)	OPTICS
(TBT)	TESLTRA
(VRCB)	VICROADS COMMS
(VTCB)	VICTRACK COMMS
(AGD)	AGG DRAIN
(CSWB)	CHARGED STORM WATER
(PSWB)	PUMPED STORM WATER
(SWB)	STORM WATER
(CPB)	CATHODIC PROTECTION
(EMB)	EARTH WIRE
(EFB)	ELECTRIC FENCE
(ELVB)	EXTRA LOW VOLTAGE
(HVVB)	HIGH VOLTAGE ELECTRICITY
(HVO)	HIGH VOLTAGE OVERHEAD
(ICWB)	IRRIGATION CONTROL WIRE
(LVB)	LOW VOLTAGE ELECTRICITY
(LVO)	LOW VOLTAGE OVERHEAD
(SGB)	RAIL SIGNALS
(VREB)	VICROADS ELECTRICITY
(VTEB)	VICTRACK ELECTRICITY
(CAB)	COMPRESSED AIR
(FIB)	FUEL
(G)	GAS
(GTXB)	GAS TRANSMISSION
(OIB)	OIL
(SLB)	STEAM LINE
(GPR)	GROUND PENETRATING RADAR
(UNK)	UNKNOWN
(EFB)	EFFLUENT
(PSB)	PUMPED SEWER
(SB)	SEWER
(SRMB)	SEWER RISING MAIN
(TWB)	TRADE WASTE
(PWB)	POTABLE WATER
(TWB)	TANK WATER
(BWB)	BORNE WATER
(DWB)	DAM WATER
(PFB)	POOL FILTRATION
(RWB)	RECYCLED WATER
(IWB)	IRRIGATION WATER
(FSB)	FIRE SERVICE
(F)	FENCE
(C)	COMMUNICATIONS FEATURE
(S)	STORM WATER FEATURE
(E)	ELECTRICAL FEATURE
(H)	HYDROCARBONS FEATURE
(U)	UNKNOWN FEATURE
(S)	SEWER FEATURE
(P)	POTABLE WATER FEATURE
(T)	TANK WATER FEATURE
(B)	BORNE WATER FEATURE
(D)	DAM WATER FEATURE
(P)	POOL FILTRATION FEATURE
(R)	RECYCLED WATER FEATURE
(I)	IRRIGATION WATER FEATURE
(F)	FIRE SERVICE FEATURE
(M)	SURVEY MARK / TBM
(D)	PIPE DIAMETER IN MM
(C)	COVER LEVEL
(I)	INVERT LEVEL
(D)	DEPTH TO COVER
(D)	DEPTH TO INVERT
(B)	BELOW SURFACE LEVEL
(A)	AUSTRALIAN HEIGHT DATUM
(B)	BACK OF CURB
(E)	END OF TRACE
(N)	NOT TRACED FURTHER
(U)	UNABLE TO LOCATE
(O)	UNABLE TO OPEN
(D)	DEPTH BELOW SURFACE (m)
(L)	POINT LEVEL (AHD)

**Notes**

- TRACEABILITY OF SERVICE MATERIAL TYPES:** The ability to locate underground services using electronic (radar) detection is heavily dependent on the type of material a given underground service is made from. To summarise, metallic pipes and electrical cables can often be identified as these are conductive materials suitable for locating using electronic detection. Conducts including non-conductive cables (e.g. fibre optic), sewer pipes and storm water pipes do not themselves conduct electricity. To locate these types of materials a conductive tracing rod is fed into the underground service and the signal emitted from the rod or tracing head (sonde) is then located. An installation of electronic detector is when an underground service is made from non-conductive material such as polyvinyl chloride (PVC) or polyethylene (PE) etc. and where the service is also under pressure. It cannot be opened or accessed like a conduit or drainage pipe. Examples of these are PVC water pipes, polypropylene pipes, poly gas pipes, sealed and flooded gravity fed storm water harvesting systems and pressurised rising sewer mains. Without the presence of an accessible trace wire, accurate plans or capability to isolate and access the service, ability to locate these services is limited.
- INFORMATION REGARDING UNDERGROUND SERVICE DEPTHS:** Depths of services provided on this drawing are obtained using electronic detection (L-B) unless otherwise stated. Accuracy of these readings is highly dependent on the environment. Depths should be taken as a guide only and service depths should be proven manually on site when excavating within the vicinity of the service.
- INFORMATION REGARDING DEPTHS OF STORM WATER AND SEWER PIPES:** Depths of storm water and sewer pipes are provided in various manners on this plan. Unless otherwise stated, depths of pipes measured from pit access points/man holes are noted from top of pit to pipe invert level (I) in mm. In some cases, australian height datum (AHD) levels are provided. This can be used to derive the I/AHD of the pipe. In some cases this may already be calculated and noted as I/AHD.
- METHODS OF OBTAINING DEPTHS FOR STORM WATER & SEWER:**  
depth measured using electronic detection: the method of determining the I at specific points along any given pipe is obtained using electronic detection.  
An in-depth explanation of how this is achieved is as follows: a tracing rod is fed into the pipe from an access point, for example a junction pit or manhole. The tracing rod has a locating sonde attached to the head. The rod is fed into the pipe so the head is directly below the specific point with the transmitting sonde sitting on the bottom of the inside of the pipe. Electronic depth is obtained and noted at approximately 50mm below the surface level. Additionally if required and if not already provided, surface levels are then measured using a topcon roving surveyor's GPS. Electronic depth is then subtracted from the measured GPS surface level and to ascertain an approximate invert level and depth measured using inferred depth. This method assumes consistent and linear fall on a pipe. First, depth is obtained using depths measured at access points for the pipe, for example at 2 separate junction pits or manholes. Approximate depth can then be derived for a particular point along the pipe by considering calculated grade, invert levels and surface level and at the given point.
- We are not licensed surveyors; therefore certified levels can only be obtained by exposing the utility by excavation and having it surveyed by a licensed surveyor.
- Depending on the nature of the works, reason for survey and field conditions determines if and what method will be used and how much information is provided. Every attempt will be made to provide all relevant information however, should additional information be required subsequent site visits and/or techniques may be needed.

**Notes regarding quality levels, taken from as/nz/s 5488:2015**  
quality level is defined as "a classification reflecting the precision and accuracy of utility location and attribute information"  
quality levels will be represented on the line type as a single letter (a-b) or 'd' in brackets, proceeding the utility descriptor. See below.

- (LVA) Quality Level A - probing to prove a utility location.
- (LVB) Quality Level B - use of locating equipment/electronic detection to locate a utility.
- (LVC) Quality Level C - using features above the surface to make alignments. For example, fire hydrants, utility pits.
- (LVD) Quality Level D - from plans, anecdotal evidence.

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. Quality levels may vary on separate sections of a single subsurface utility, depending on the source information available for each section.

**NOTE**  
This master plan is based on data collected from various surveys conducted across the college over an extended period. While an area may indicate the presence of certain services, it may not necessarily reflect all the services present in that area - there may be additional services not shown.  
The focus should be on the idea that "this service has been located and mapped," rather than thinking "this area has been scanned."

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UNDERGROUND SERVICES (PARTIAL)  
SITE ADDRESS  
**SALESIAN COLLEGE SUNBURY**  
1 MACEDON ST,  
SUNBURY VIC 3429

PROJECTION: MGA2020 MGA ZONE 55  
HEIGHT DATUM: AHD  
FIELD WORK: JAKE SUTHERLAND  
DRAWN: JAKE SUTHERLAND  
DATE: VARIOUS - SEE COVERSHEET