

CONSULTANT ADVICE NOTICE

Project: Monaro Cluster - Hindmarsh

CAN No: G-003[1.4]

Date: 24 March 2022

Project No: 38745 - 003

Pages: 21

Name	Company	Email
To: Stefan Szczew	Hindmarsh	stefan.szczew@hindmarsh.com.au
Cc: Laurent Laberibe	Norman Disney & Young	l.laberibe@ndy.com

Reference is made to the response submissions from the Department of Planning, Industry and Environment (DPIE), - Queanbeyan-Palerang Regional Council and Transport for NSW (TfNSW) with respect to SSDA submission for the New High School in Jerrabomberra (Reference SSD – 24461956).

For any queries regarding this correspondence, please contact Greg Shargorodsky on (02) 9928 6800.

Introduction

In November 2021 Norman Disney & Young (NDY) issued Phase 4 (refer School's Infrastructure project phase definition) design drawings and specifications for the new high school in Jerrabomberra.

The site plan for the new high school in Jerrabomberra is displayed in Figure 1.

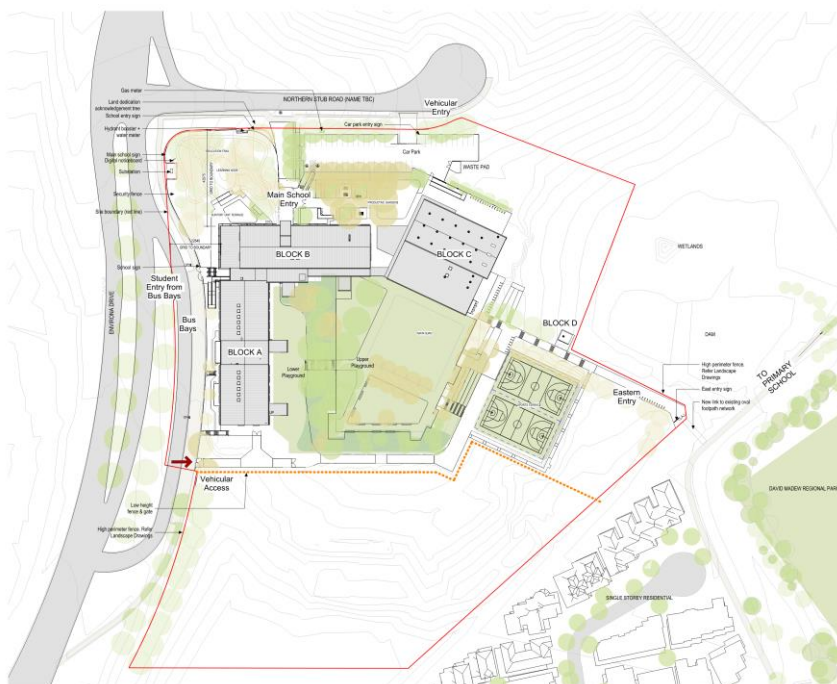


Figure 1: Site Plan (Source: TKD)

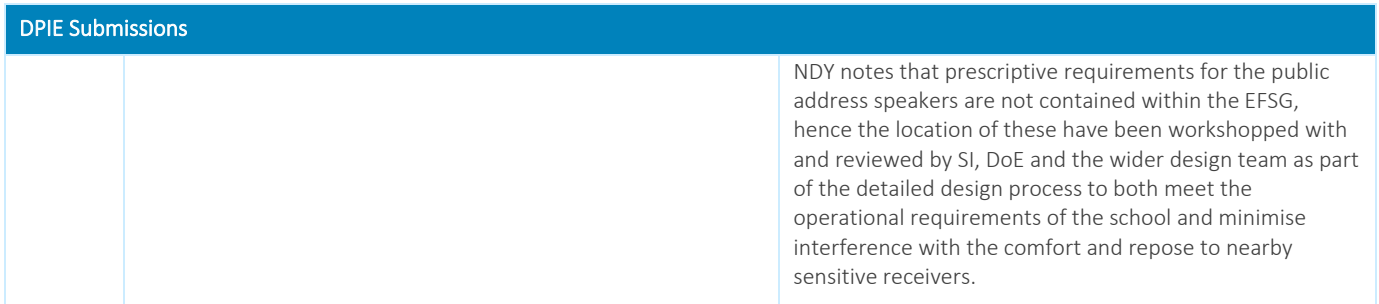


The Department of Planning Industry and Environment (DPIE) and Queanbeyan-Palerang Regional Council (QPRC) have issued a number of comments that relate to NDY's design. The purpose of this Consultant Advice Note (CAN) is to respond to each of these comments.

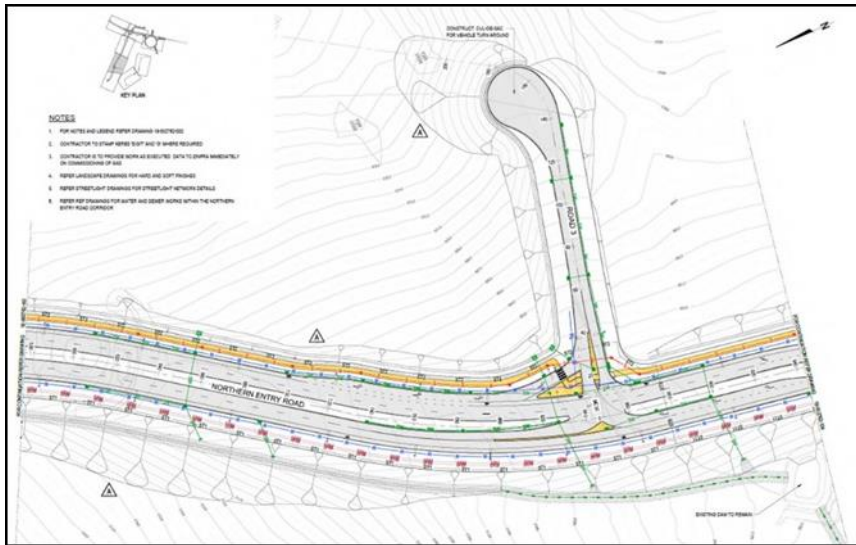
Responses to Comments

Table 1 DPIE RtS Letter

DPIE Submissions		
No	DPIE RtS Letter	Response
EPA – Appendix A	<p><u>Mechanical Plant and Equipment</u></p> <p>The EPA is unclear whether mechanical plant and equipment (especially mechanical ventilation plant) has been selected. Accordingly, the EPA anticipates that details of mechanical services, plant and equipment are not yet available and the EIS does not appear to show the location of plant and equipment.</p> <p>The EPA recommends that the proponent ensure that mechanical plant and equipment installed does not generate noise that:</p> <ul style="list-style-type: none">• Exceeds 5 dBA above the rating background noise level (day, evening and night) measured at the boundaries of the proposal site, and• Exhibits tonal or other annoying characteristics.	<p>Refer to Appendix A, drawing number M-EP-01, for the proposed locations of the mechanical services external plant and associated equipment schedules.</p>
EPA – Appendix A	<p><u>Public Address and School Bell System</u></p> <p>The EPA notes that inadequate design and installation as well as inappropriate use of school public address and bell system can have noise impacts on nearby sensitive receivers. Appropriate design, installation and operation of these system can both meet the objectives of proper administration of the school and ensuring the safety of students, staff and visitors and avoid interfering unreasonably with the comfort and repose of nearby sensitive receivers.</p> <p>The EPA recommends that the school public address and bell system be designed, installed and operated to ensure that the system does not interfere unreasonably with the comfort and repose of nearby sensitive receivers.</p>	<p>The documented PA system is an internet protocol (IP) based system, with speakers separated into zones. The zoning of the PA system facilitates:</p> <ul style="list-style-type: none">▶ Isolating the operation of the speakers to a specific zone▶ The sound pressure level is adjustable for each individual zone <p>Refer to Appendix B for the clause reference within the electrical specification, specifying that all audio-visual equipment must be purchased by suppliers listed on the Multimedia Solutions Contract to ensure that the final PA solution selected meets the Department of Education (DoE) operational requirements. This aligns with School Infrastructure's (SI) procurement requirements. NDY has positioned period bells in accordance with the Educational Facilities Standards and Guidelines (EFSG) 64.17 which specifies:</p> <p><i>Generally, install period bells on the following basis:</i></p> <ul style="list-style-type: none">▶ <i>Internally – one bell per building per floor, located in corridors, spaced to best utilise the effective range of the bell, typically no more than 15 metres from the end of a corridor and spaced at a maximum of 60 metres apart – in noisy locations one bell every 30 metres.</i>▶ <i>Externally – one bell outside the multi-purpose hall adjacent to the Canteen, one bell within each separate courtyard and one directed towards each major playing area.</i>

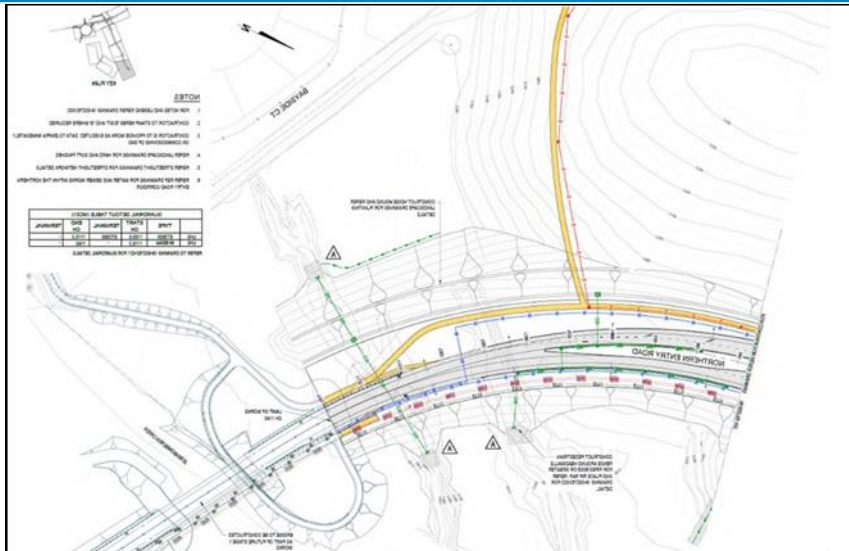


TfNSW Submissions		
No	TfNSW RtS Letter	Response
N/A	N/A	N/A

QPRC Submissions		
No	Item	Request
2	<p>Utilities</p> <p>Further definition and coordination of water services required with Council</p>	Refer to response to 2.2
2.1	<p><u>Comments</u></p> <p>The main Council facilities impacted by the development are shown in the extract image below.</p> <ul style="list-style-type: none"> • Red – Sewer “S” • Blue – Water “W” • Green – Stormwater “SW” 	Refer to response to 2.2



QPRC Submissions



Services Plans (not WAE) – 300 Lanyon Drive (to become 101 Environa Drive) Jerrabomberra

2.1.1 Water

The high school development site is within the Jerrabomberra pressure zone and has connectivity to recently constructed 300mmØ DICL potable water main in the eastern verge of Environa Drive and northern verge of the north road, associated with the Environa Drive project in 2021.

Refer to response to 2.2

2.1.2 Sewer

The high school development site will be serviced by a recently constructed 225mmØ PVC local sewer main in the eastern verge of Environa Drive, associated with the Environa Drive project in 2021.
Figure 4 in the plan shows sewer connection to manhole S112 near the Bus Zone. The sewer connection should be through a standard connection to the sewer main running towards the rear of the school block.

Refer to response to 2.2

2.1.3 Storm Water

The high school development site can be serviced by a storm water connection to the recently constructed pit (G02) adjacent to the Bus Lane with a 600mmØ RCP drainage pipe connecting to the new infrastructure line in Environa Drive.

The proposed development of the site will increase runoff, thus a stormwater management plan demonstrating the proposed development will not exceed pre-development runoff flow for both 20% and 1% storm events is required in accordance with Council's D5 Stormwater Drainage Design specification, and water quality in accordance with Council's D7 Erosion Control and Stormwater Management Design specification and corresponding computer modelling.

The provided civil plans support the construction of an on-site detention (OSD) tank to accept stormwater from impermeable areas, which is a necessary requirement for this development.

Refer to response to 2.2



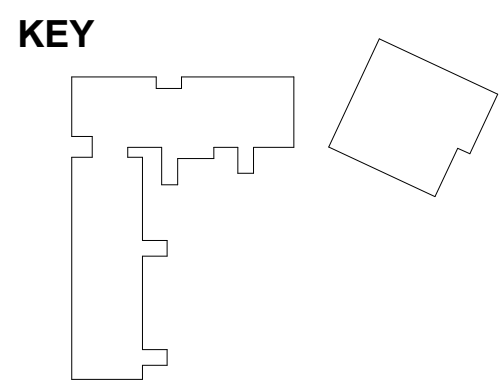
QPRC Submissions		
2.2	<p><u>Recommendations</u></p> <p>That the consent authority impose conditions requiring:</p> <ul style="list-style-type: none">• Preparation of a hydraulic design plan providing details of the required sizing for all water, sewer and stormwater services required for the site.• The preparation of an on-site detention design to limit stormwater discharge from the site to pre-development flows. <p>That all connections and alterations to Council's utility services are inspected by Council staff prior to backfilling.</p>	<p>As part of NDY's phase 4 design packages, a hydraulics services site plan (as recommended by Council) was detailed which highlights the location and sizing for the water and sewer services for the site (note: below-ground stormwater is contained within the civil engineering package). The hydraulic services site plan has been appended to this CAN in Appendix C.</p>

NORMAN DISNEY & YOUNG

Greg Shargorodsky | Project Leader
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Appendix A: Mechanical Services External Plant



NSW Nominated Architects: Robert Denton Reg. No. 5782, Alex Kibble Reg. No. 6015				
Do not scale drawings. Verify all dimensions on site. Notify architect of all discrepancies				
Rev	Date	Description	Chkd	Auth
P01	24/03/22	RTS ISSUE	ML	GS

Item No	CU-LGBA.02	CU-LGBA.03/04	CU-LGBB.01	CU-LGBB.02
Location	BLOCK A	BLOCK A	BLOCK B	BLOCK B
Description	AIR COOLED VRF CONDENSER	AIR COOLED VRF CONDENSER	AIR COOLED VRF CONDENSER	AIR COOLED VRF CONDENSER
Unit Type	HEAT RECOVERY	HEAT RECOVERY	HEAT RECOVERY	HEAT PUMP
Refrigerant	R-410A	R-410A	R-410A	R-410A
Cooling Capacity (kW)	30.8	73	51.7	26.5
Heating Capacity (kW)	34.1	82.3	52.8	25.8
Air Dry Bulb Temperature Ambient Cooling (°C)	35	35	35	35
Air Dry Bulb Temperature Ambient Winter (°C)	-2.6	-2.6	-2.6	-2.6
Air Discharge Type	VERTICAL	VERTICAL	VERTICAL	VERTICAL
Air Flow Rate Condenser (L/s)	3000	6983	3767	3183
Condenser air discharge external resistance (Pa)	50	50	50	50
Compressor Type	HERMETICALLY SEALED SCROLL TYPE	HERMETICALLY SEALED SCROLL TYPE	HERMETICALLY SEALED SCROLL TYPE	HERMETICALLY SEALED SCROLL TYPE
Overall Noise Level	59 dB(A) re 1pW	63 dB(A)	62 dB(A)	59 dB(A)
Motor Size (kW)	0.5	1.7	1.2	0.55
Starter Type	DOL	DOL	DOL	DOL
Switchboard Number	MSSB-LGBA.01	MSSB-LGBA.02	MSSB-GBB.01	MSSB-GBB.01
Electrical Power (kW)	9.22	21.9	15.4	8.91
Hail guard coil protection	YES	YES	YES	YES
Electrical Supply (V/Ph/Hz)	415/3/50	415/3/50	415/3/50	415/3/50
Breaker Size (A)	25	60	40	25

Item No	CU-GBB.05	CU-GBBFF.01/02	CU-GBBFF.03	CU-LGBA.01
Location	BLOCK B	BLOCK B	BLOCK B	BLOCK A
Description	AIR COOLED VRF CONDENSER	AIR COOLED VRF CONDENSER	AIR COOLED VRF CONDENSER	AIR COOLED VRF CONDENSER
Unit Type	HEAT PUMP	HEAT RECOVERY	HEAT RECOVERY	HEAT PUMP
Refrigerant	R-410A	R-410A	R-410A	R-410A
Cooling Capacity (kW)	7.1	78.4	16.1	12.3
Heating Capacity (kW)	7	90.7	20.2	9.4
Air Dry Bulb Temperature Ambient Cooling (°C)	35	35	35	35
Air Dry Bulb Temperature Ambient Winter (°C)	-2.6	-2.6	-2.6	-2.6
Air Discharge Type	VERTICAL	VERTICAL	VERTICAL	VERTICAL
Air Flow Rate Condenser (L/s)	1267	6767	2633	3000
Condenser air discharge external resistance (Pa)	50	50	50	50
Compressor Type	HERMETICALLY SEALED SWING TYPE	HERMETICALLY SEALED SCROLL TYPE	HERMETICALLY SEALED SCROLL TYPE	HERMETICALLY SEALED SCROLL TYPE
Overall Noise Level	51/52 dB(A)	64 dB(A)	56 dB(A)	63 dB(A)
Motor Size (kW)	1.92	1.7	0.5	0.2
Starter Type	DOL	DOL	DOL	DOL
Switchboard Number	MSSB-GBB.01	MSSB-GBB.02	MSSB-GBB.02	MSSB-LGBA.01
Electrical Power (kW)	2.44	24.2	5.68	
Hail guard coil protection	YES	YES	YES	YES
Electrical Supply (V/Ph/Hz)	240/1/50	415/3/50	415/3/50	415/3/50
Breaker Size (A)	25	70	20	25

Item No	CU-GBA.04/05	CU-GBB.01	CU-GBB.02	CU-GBB.03/04
Location	BLOCK A	BLOCK B	BLOCK B	BLOCK B
Description	AIR COOLED VRF CONDENSER	AIR COOLED VRF CONDENSER	AIR COOLED VRF CONDENSER	AIR COOLED VRF CONDENSER
Unit Type	HEAT RECOVERY	HEAT RECOVERY	HEAT PUMP	HEAT RECOVERY
Refrigerant	R-410A	R-410A	R-410A	R-410A
Cooling Capacity (kW)	97.1	53.3	12	74.3
Heating Capacity (kW)	110.3	58.5	0.8	77.4
Air Dry Bulb Temperature Ambient Cooling (°C)	35	35	35	35
Air Dry Bulb Temperature Ambient Winter (°C)	-2.6	-2.6	-2.6	-2.6
Air Discharge Type	VERTICAL	VERTICAL	VERTICAL	VERTICAL
Air Flow Rate Condenser (L/s)		4483	2333	6983
Condenser air discharge external resistance (Pa)	50	50	50	50
Compressor Type	HERMETICALLY SEALED SCROLL TYPE	HERMETICALLY SEALED SCROLL TYPE	HERMETICALLY SEALED SCROLL TYPE	HERMETICALLY SEALED SCROLL TYPE
Overall Noise Level	64 dB(A)	65 dB(A)	57/58 dB(A)	63 dB(A)
Motor Size (kW)	2.2	1.2	0.4	1.7
Starter Type	DOL	DOL	DOL	DOL
Switchboard Number	MSSB-LGBA.02	MSSB-GBB.01	MSSB-GBB.02	MSSB-GBB.02
Electrical Power (kW)	29.2	18	6.25	21.9
Hail guard coil protection	YES	YES	YES	YES
Electrical Supply (V/Ph/Hz)	415/3/50	415/3/50	415/3/50	415/3/50
Breaker Size (A)	90	45	25	60

3 SPLIT SYSTEM OUTDOOR UNIT SCHEDULE

Item No	CU-GBA.03	CU-GBA.06	CU-GBB.06
Location	BLOCK A	BLOCK A	BLOCK A
Description	AIR COOLED CONDENSER	AIR COOLED CONDENSER	AIR COOLED CONDENSER
Cooling Capacity (kW)	4.56	4.07	4.42
Air Dry Bulb Temperature Ambient Cooling (°C)	35	3.48	3.48
Air Dry Bulb Temperature Ambient Heating (°C)	-2.6	-2.6	-2.6
Overall Noise Level	48/51 dB(A) re 1pW	48/51 dB(A) re 1pW	48/51 dB(A) re 1pW
Air Flow Rate (L/s)	615	615	615
Air Discharge Type	HORIZONTAL	HORIZONTAL	HORIZONTAL
Fan Type	PROPELLER	PROPELLER	PROPELLER
Compressor Type	HERMETICALLY SEALED SWING TYPE	HERMETICALLY SEALED SWING TYPE	HERMETICALLY SEALED SWING TYPE
Motor Size (kW)	1.3	1.3	1.3
Starter Type	DOL	DOL	DOL
Switchboard Number	MSSB-LGBA.01	MSSB-LGBA.01	MSSB-LGBA.01
Electrical Supply (V/Ph/Hz)	240/1/50	240/1/50	240/1/50
Hail guard coil protection	YES	YES	YES

5 VARIABLE REFRIGERANT VOLUME OUTDOOR UNIT SCHEDULE

Item No	CU-BC.01	CU-BC.02	CU-BC.03	CU-GBA.01/02
Location	BLOCK C	BLOCK C	BLOCK C	BLOCK A
Description	AIR COOLED VRF CONDENSER	AIR COOLED VRF CONDENSER	AIR COOLED VRF CONDENSER	AIR COOLED VRF CONDENSER
Unit Type	HEAT RECOVERY	HEAT PUMP	HEAT PUMP	HEAT RECOVERY
Refrigerant	R-410A	R-410A	R-410A	R-410A
Cooling Capacity (kW)	38.4	6.5	6	95.8
Heating Capacity (kW)	46.4	0.3	0.4	108.2
Air Dry Bulb Temperature Ambient Cooling (°C)	35	35	35	35
Air Dry Bulb Temperature Ambient Winter (°C)	-2.6	-2.6	-2.6	-2.6
Air Discharge Type	VERTICAL	HORIZONTAL	HORIZONTAL	VERTICAL
Air Flow Rate Condenser (L/s)	3900	1267	1267	8466
Condenser air discharge external resistance (Pa)	50	50	50	50
Compressor Type	HERMETICALLY SEALED SCROLL TYPE	HERMETICALLY SEALED SWING TYPE	HERMETICALLY SEALED SWING TYPE	HERMETICALLY SEALED SCROLL TYPE
Overall Noise Level	60 dB(A)	51/52 dB(A)	51/52 dB(A)	66 dB(A)
Motor Size (kW)	1.2	0.2	0.2	2.4
Starter Type	DOL	DOL	DOL	DOL
Switchboard Number	MSSB-GBC.01	MSSB-GBC.01	MSSB-GBC.01	MSSB-LGBA.01
Electrical Power (kW)	10.9	2.44	2.44	31
Hail guard coil protection	YES	YES	YES	YES
Electrical Supply (V/Ph/Hz)	415/3/50	240/1/50	240/1/50	415/3/50
Breaker Size (A)	35	25	25	80



Appendix B: Electrical Specification – Multimedia Solutions Contract

Australian Standards:

- AS 3000 - Wiring Rules
- AS 3080 - Telecommunications Installation – Generic cabling for commercial premises
- AS 3084 - Telecommunications Installation – Telecommunication Pathways and Spaces for Commercial Buildings
- AS 11801 – Information Technology – Generic Cabling for Customer Premises
- AS 61935-1 – Telecommunications installations – Generic cabling systems – Specification for the testing of balanced communication cabling
- AS 61935-2 – Telecommunications installations – Generic cabling systems – Specification for the testing of patch cords in accordance with values set out in AS 3080
- ISO 14763-3 – Telecommunications installations – Generic cabling systems – Specification for the testing of Optical fibre communication cabling
- ISO/IEC TR 24704 – Information Technology - Customer premises cabling for wireless access points

AS/ACIF Technical Standards and Codes:

- Telecommunications Act (1997):
- CCM – ACMA Communications Cabling Manual (Volume 1 and 2)
- AS/ACIF S008 – Requirements for authorized cabling products
- AS/ACIF S009 – Installation requirements for customer cabling (wiring rules)

International Standards:

- IEC 297 – Dimensions of mechanical structures of the 482.6mm (19 inch) series
- ISO/IEC 11801 – Telecommunications Installations – Integrated Telecommunications Cabling Systems for Commercial Premises
- EIA 310 D – Cabinets, Racks, Panels and Associated Equipment
- TIA/EIA 568-B.1 – Commercial Building Telecommunications Cabling Standards Part 1: General Requirements
- TIA/EIA 568-B.2 – Commercial Building Telecommunications Cabling Standards Part 2: Balanced twisted Pair Cabling Components
- TIA/EIA 568-B.2-ad10 – Balanced Twisted Pair Cabling Components
- TIA/EIA 568-B.3 – Commercial Building Telecommunications Cabling Standards Part 3: Optical Fiber Cabling Components Standard
- TIA/EIA 606 – Administration Standard for the Telecommunications Infrastructure of Commercial Buildings
- TIA/EIA 758 – Customer owned Outside Plant Telecommunications Infrastructure Standard

Where there is any conflict between any material, installation method, etc within this specification and the EFSGs, the EFSG shall take precedence unless noted in the departure schedules report.

1.4 AV SYSTEMS SUMMARY

The purpose of this Specification is to provide the design intent and outline the minimum functional and performance requirements related to the Audio Visual systems.

This Specification is not intended to provide the final Audio Visual system design or all individual items of equipment needed to complete the installation. The Audio Visual Contractor will take responsibility for the final system design to provide the full functionality and operation outlined within this Specification and accompanying documents.

The Audio Visual Contractor shall review and adhere to the NSW Department of Education (DoE) Educational Facilities Standards Guidelines (EFSG).

The Audio Visual Contractor will allow to provide liaison and coordination with the Architect, DoE IT staff, the Builder and all other trades on site to ensure a complete, co-ordinated and fully operational Audio Visual system is delivered.

The Audio Visual Contractor shall submit detailed design proposals, schematic drawings, room operation descriptions, room and equipment layouts, elevation drawings, line-of-site drawings, design calculations, equipment schedules, technical data, rack layouts and touch panel and user interface

layouts for review and approval by DoE and the NDY Engineer prior to ordering equipment and installation.

All Audio Visual equipment must be purchased by suppliers listed on the below website –

[Multimedia Solutions Contract | buy.nsw](https://buy.nsw.gov.au/contracts/multimedia-solutions)

<https://buy.nsw.gov.au/contracts/multimedia-solutions>

Roles & Responsibility Matrix

The responsibilities of the AV works is classified as follows:

Group	Description
Group 1	Contractor Supplied, Contractor Installed
Group 2	DoE Supplied, Contractor Installed
Group 3	Supplied and Installed by DoE
Group 4	Supplied and installed by school

Item	Group
AV Equipment	
Data projector	Group 1
Projector mounting bracket	Group 1
LCD Screen (fixed)	Group 3
LCD Screen (mobile)	Group 3
LCD mounting bracket	Group 3
Room PC with wireless keyboard & mouse	Group 3
AV wall connection plates for hearing augmentation	Group 1
Audio Digital Signal Processor	Group 1
PA Loudspeakers	Group 1
PA Loudspeaker brackets	Group 1
PA Power amplifiers	Group 1
Fix installed Hearing assistance loop	Group 1
Fix installed wireless hearing assistance system	Group 1
Portable Hearing assistance system	Group 1
BYOD devices, e.g. laptop	Group 3
Fly leads for BYOD devices	Group 1
Portable Lectern	Group 4
AV rack	Group 1
AV switching equipment	Group 1
AV control equipment	Group 1









Appendix C: Hydraulics Services Site Plan

HYDRAULIC SCHEMATIC & LAYOUT PIPEWORK

PIPEWORK SYSTEM COLOURS & ABBREVIATIONS






CW	COLD WATER
GTW	GREASE TRADE WASTE DRAIN
HW	HOT WATER
NG	NATURAL GAS
NPCW	NON-POTABLE COLD WATER
S	SANITARY DRAIN
VP	SANITARY VENT PIPE
THW	TEMPERED HOT WATER


















PHASING

PIPEWORK	EQUIPMENT / FIXTURES	
————	 	DENOTES EXISTING HYDRAULIC SERVICES TO REMAIN
- - - - -	 	DENOTES EXISTING HYDRAULIC SERVICES TO BE DEMOLISHED OR RELOCATED
————	 	DENOTES EXISTING HYDRAULIC SERVICES RELOCATED POSITION
LINETYPE FOR RELOCATED OR NEW PIPEWORK DETERMINED BY SYSTEM TYPE. REFER TO PIPE SYSTEMS LEGEND.		

HYDRAULIC SCHEMATIC SYMBOLS





GENERAL

	SERVICE TO ABOVE / FROM ABOVE
	SERVICE TO BELOW / FROM BELOW
	SERVICE FROM BELOW TO ABOVE / FROM ABOVE TO BELOW
	CONTROL PANEL
	ACCESS PANEL



	GAS METER
	GENERIC VALVE (NORMALLY OPEN)
	GENERIC VALVE (NORMALLY CLOSED)
	HOT WATER UNIT
	THERMOSTATIC MIXING VALVE
	WATER METER
	PUMP
	REDUCED PRESSURE ZONE DEVICE ASSEMBLY
	THERMOSTATIC MIXING VALVE
	WATER METER
	FILTRATION UNIT
	CHECK VALVE
	DOUBLE CHECK VALVE
	HOSE COCK
	HOT WATER UNIT
	INSTANTANEOUS HOT WATER UNIT
	PRESSURE REDUCING VALVE

HYDRAULIC LAYOUT ELEMENTS

SEWER

	TUNDISH
	FLOOR WASTE GULLY (FWG)
	BUCKET TRAP / SILT TRAP
	OVERFLOW RELIEF GULLY

STORMWATER

	RAINWATER OVERFLOW
	RAINWATER SPREADER

HYDRAULIC ABBREVIATIONS

GENERAL & MATERIALS

Ø	DIAMETER (NOMINAL BORE)
A/P	ACCESS PANEL
AFFL	ABOVE FINISHED FLOOR LEVEL
AS	AUSTRALIAN STANDARD
e	EXISTING (PREFIX)
FFL	FINISHED FLOOR LEVEL
F/A	FROM ABOVE
F/B	FROM BELOW
FU	FIXTURE UNITS
HL	HIGH LEVEL
IL	INVERT LEVEL
JU	JUMP UP
LL	LOW LEVEL
PCIB	PIPE CAST IN BEAM
PVC	POLYVINYL CHLORIDE
RL	REDUCED LEVEL
T/A	TO ABOVE
T/B	TO BELOW
US	UNDER SIDE
UG	UNDERGROUND
UPVC	UNPLASTICISED POLYVINYL CHLORIDE

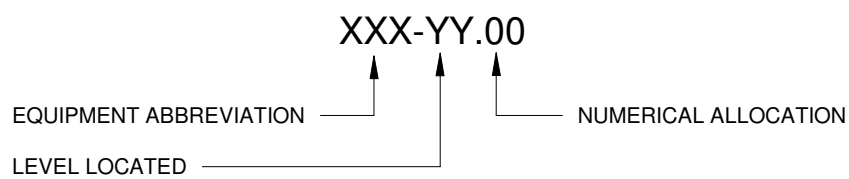
EQUIPMENT & VALVES

AAV	AIR ADMITTANCE VALVE
B	BASIN
BT/GV	BOUNDARY TRAP / GROUND VENT
BWU	BOILING WATER UNIT
BCHWU	BOILING & CHILLED WATER UNIT
CSK	CLEANER SINK
DF	DRINKING FOUNTAIN
DP	DOWNPIPE
DT	DRINKING TROUGH
PW	FLOOR WASTE
FWG	FLOOR WASTE GULLY
GIT	GREASE INTERCEPTOR TRAP
RH	RAINHEAD
SHR	SHOWER
SK	SINK
TMV	THERMOSTATIC MIXING VALVE
UR	URINAL
WC	WATER CLOSET
WT	WASH TROUGH
TR	TROUGH - LAUNDRY
SPOP	SEWER PUMP OUT PIT
PA	PLASTER ARRESTOR
FB	FUME CUPBOARD

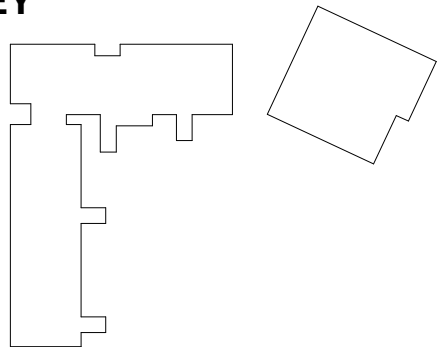
GENERAL NOTES

- READ ALL DRAWINGS IN CONJUNCTION WITH THE ACCOMPANYING HYDRAULIC SERVICES SPECIFICATION.
- UNDERTAKE ALL WORKS IN ACCORDANCE WITH THE LATEST REGULATIONS, CONSTRUCTION CODES AND STANDARDS.
- ADVISE THE ENGINEER OF ANY DISCREPANCIES BETWEEN CONSULTANTS' AND ARCHITECTURAL DRAWINGS AND SPECIFICATIONS PRIOR TO PROCEEDING WITH THE WORK.
- OBTAIN ALL AUTHORITY APPROVALS AND PAY ALL FEES.
- PRIOR TO TENDER SUBMISSION, INSPECT AND BE FAMILIAR WITH THE SITE.
- REVIEW THE EXISTING CONDITIONS AND MAKE ANY NECESSARY ALLOWANCES AND ALTERATIONS TO PERMIT THE INSTALLATION OF NEW SERVICES.
- COORDINATE WITH ALL SERVICES AND STRUCTURE INCLUDING THAT WHICH MAY BE INDICATED IN THESE DOCUMENTS.
- LOCATE AND COORDINATE ALL ACCESS PANEL REQUIRED FOR COMMISSIONING AND MAINTENANCE OF ALL EQUIPMENT.
- PROVIDE MINI STOP VALVES FOR ALL SINKS AND APPLIANCES. PROVIDE COLD WATER BYPASS WITH ISOLATION VALVE ADJACENT THERMOSTATIC MIXING VALVES. PROVIDE ISOLATION VALVES FOR TEMPERING VALVES.
- REFER TO THE ARCHITECTURAL DRAWINGS FOR FINAL FIXTURE AND EQUIPMENT SELECTIONS.
- THESE DRAWINGS ARE PROVIDED FOR TENDERING PURPOSES ONLY AND ARE NOT TO BE USED FOR MANUFACTURE OF OR ORDERING OF EQUIPMENT. PREPARE SHOP DRAWINGS AND SUBMIT FOR APPROVAL PRIOR TO COMMENCEMENT OF WORKS ON SITE.
- DRAINS AND WASTE PIPEWORK ARE LOCATED BELOW SLAB (GLASS FLOOR), IN WALL CAVITIES, DUCTS AND UNDER JOINERY UNLESS NOTED OTHERWISE.
- VENTS ARE LOCATED IN CEILING SPACES, IN WALL CAVITIES AND DUCTS UNLESS NOTED OTHERWISE.
- WATER AND GAS PIPEWORK ARE LOCATED IN-GROUND, IN CEILING SPACES, IN WALL CAVITIES, DUCTS AND UNDER JOINERY UNLESS NOTED OTHERWISE.
- ALL DIMENSIONS ARE IN MILLIMETERS.
- DO NOT SCALE THE DRAWING. REFER TO ARCHITECTURAL DRAWINGS, MANUFACTURERS' DOCUMENTATION AND SPECIFICATION FOR EXACT MEASUREMENTS.
- THE DRAWINGS ARE DIAGRAMMATIC AND SYMBOLS ARE INDICATIVE.
- ALL PIPE SIZES ARE MINIMUM INTERNAL DIAMETER UNLESS NOTED OTHERWISE. CONVERT TO ACTUAL SIZES TO SUIT THE MATERIAL USED.

PROJECT SPECIFIC NAMING CONVENTION

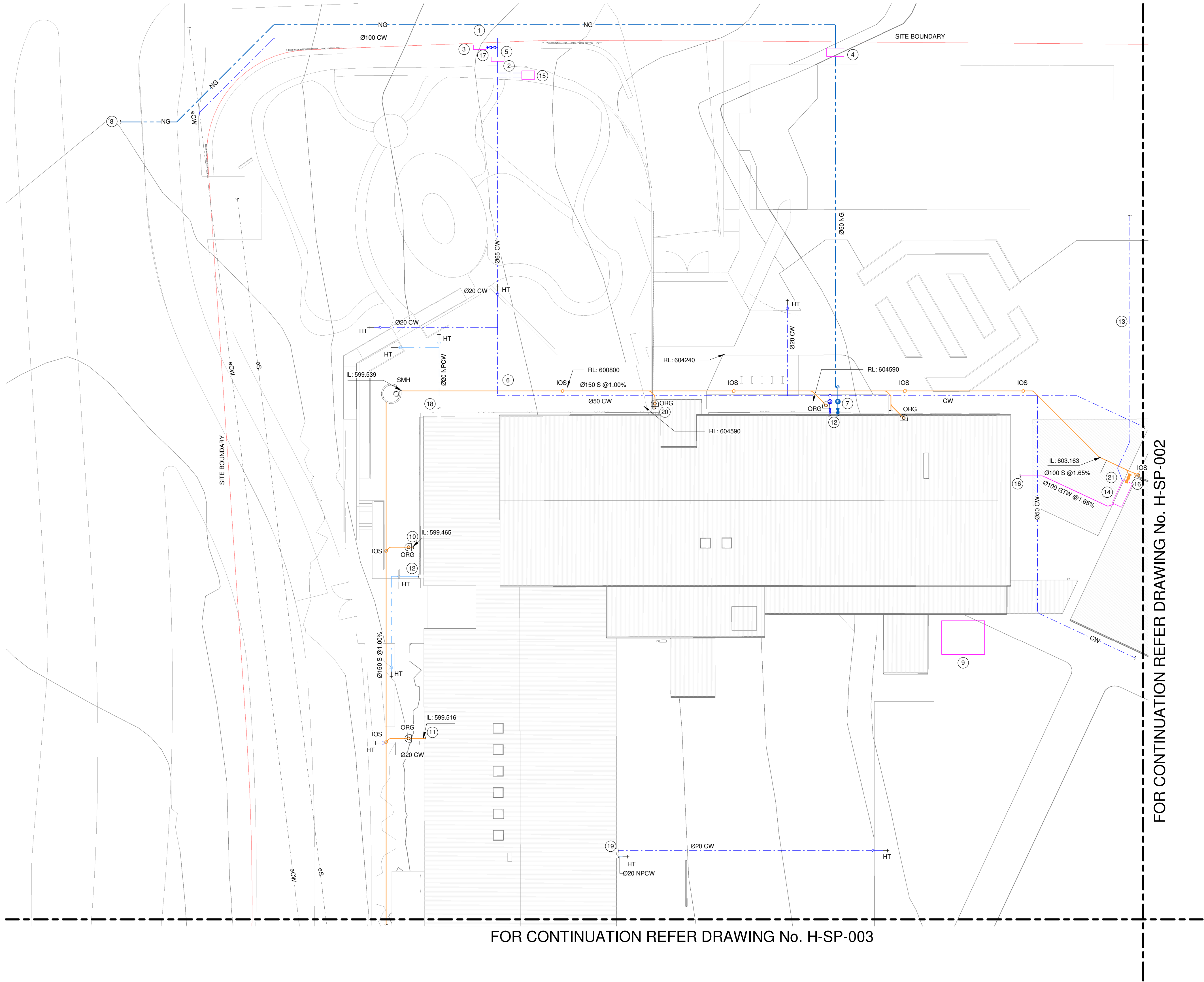


KEY



No. DESCRIPTION

- 1 PROPOSED WATER MAIN TO BE EXTENDED BY OTHERS. AT THE TIME OF DOCUMENTATION THE EXTENSION OF WATER MAIN WAS NOT COMPLETED AND HENCE AVAILABLE PRESSURE AND FLOW WAS UNKNOWN. CONTRACTOR TO ALLOW FOR A SEPARATE PC SUM TO PROVIDE PRESSURE BOOSTING COLD WATER PUMP
- 2 INDICATIVE LOCATION MASTER WATER METER AND BACKFLOW PREVENTION ASSEMBLY. SIZE: 4000(L) X 500(D) X 1000(H). CONTRACTOR TO ALLOW FOR ALL AUTHORITY APPLICATIONS AND PAY ALL ASSOCIATED COSTS. PENDING COMPLETION OF WATER MAIN AND APPLICATION FOR PRESSURE AND FLOW STATEMENT, POTABLE COLD WATER BOOSTER PUMPS MAY BE REQUIRED.
- 3 INDICATIVE LOCATION OF Ø100 FIRE HYDRANT BOOSTER ASSEMBLY SHOWN FOR COORDINATION PURPOSE. FOR DETAILS REFER TO FIRE SERVICES DOCUMENTATION.
- 4 INDICATIVE LOCATION AUTHORITY GAS METER ASSEMBLY. SIZE: 2000(W) X 500(D) X 1000(H). DUE TO THE UNAVAILABILITY OF THE SIZE AND CAPACITY OF THE GAS MAIN, IT HAS BEEN ASSUMED THAT THE PRESSURE OF THE MAIN IS 210KPA. GAS REGULATOR IS PROVIDE TO MAKE SURE THE PRESSURE IN THE GAS MAIN ENTERING THE SITE IS 2.75Kpa.
- 5 NEW 100MM PCW SUPPLY TO BE EXTENDED TO THE SITE. CONTRACTOR TO MAKE ALL AUTHORITY APPLICATIONS AND PAY ALL ASSOCIATED PAYMENTS.
- 6 APPROXIMATE LOCATION OF THE COLD WATER AND GAS RISER TO THE BUILDING. PIPEWORK TO RETICULATE WITHIN THE BUILDING.
- 7 PROVIDE METER AND PATH VALVE FOR THE SERVICE BEFORE ENTERING THE BUILDING.
- 8 CONTRACTOR TO ALLOW TO LOCATE NATURAL GAS LINE ON THE STREET AND EXTEND NEW SUPPLY TO THE PROPOSED DEVELOPMENT.
- 9 INDICATIVE LOCATION OF 50KL IN-GROUND RAINWATER TANK. ALL IN-GROUND STORMWATER DRAINAGE IS WITHIN CIVIL SCOPE. SIZE: (L)5M X (W)4M X (D)3M
- 10 REFER DRAWING H-LG-005 FOR CONTINUATION.
- 11 REFER DRAWING H-LG-004 FOR CONTINUATION.
- 12 REFER DRAWING H-OG-002 FOR CONTINUATION.
- 13 PROVIDE A SUCTION LINE TO TO SERVE THE GREASE ARRESTOR WITH KAMLOK FITTING AT BOTH ENDS. PIPE SIZE: DN 90 HDPE.
- 14 PROVIDE 2000L GREASE ARRESTOR TO SERVE THE KITCHEN AND THE CANTEEN. L:3000 X W:1200 X D: 1600.
- 15 PROVIDE POTABLE WATER PUMP. FLOW AND HEAD IS PENDING SUBJECT TO THE PRESSURE AND FLOW OF THE WATER MAIN. POTABLE WATER PUMP WILL BE LOCATED WITHIN THE HYDRANT PUMP ROOM. REFER TO THE FIRE PACKAGE FOR THE DETAILS OF THE FIRE HYDRANT PUMP ROOM.
- 16 REFER DRAWING H-OG-006 FOR CONTINUATION.
- 17 PROVIDE DOUBLE DETECTOR CHECK VALVE FOR BACKFLOW PREVENTION BEFORE THE FIRE BOOSTER.
- 18 REFER DRAWING H-LG-002 FOR CONTINUATION.
- 19 REFER DRAWING H-LG-001 FOR CONTINUATION.
- 20 REFER DRAWING H-LG-005 FOR CONTINUATION.
- 21 PROVIDE DUAL CHECK VALVE TO SERVE THE GREASE ARRESTOR.



NOTE

- REFER TO DRAWING No. H-OL-001 FOR LEGEND AND GENERAL NOTES

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Landscape Architecture

Context

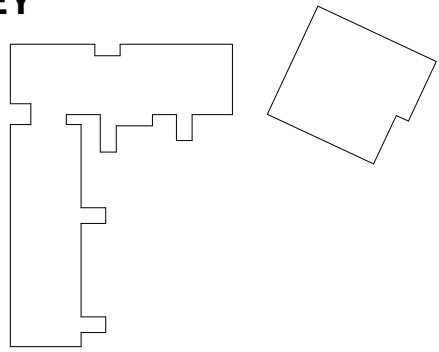
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Acoustic

Acoustic Logic

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KEY



NSW Nominated Architects: Robert Denton Reg. No. 5782, Alex Kibble Reg. No. 6015				
Do not scale drawings. Verify all dimensions on site. Notify architect of all discrepancies				
Rev	Date	Description	Chkd	Auth.
P01	15.10.21	PRELIMINARY ISSUE	GM	GS
P02	12.11.21	PHASE 4 - DETAILED DESIGN	GM	GS

Project

High School in Jerrabomberra

ENVIRONA DRIVE
JERRABOMBERRA

Drawing Title

HYDRAULIC SERVICES - SITE PLAN -
ZONE 1

Proj. Lead	Designer	Drawn	Sheet
GS	CL	ICE	B1
Job No.	Status	Date	Scale
200095	DD	11/12/21	1 : 250
Drawing No.		Revision	
H-SP-001		P02	

Tanner Kibble Denton Architects Pty Ltd

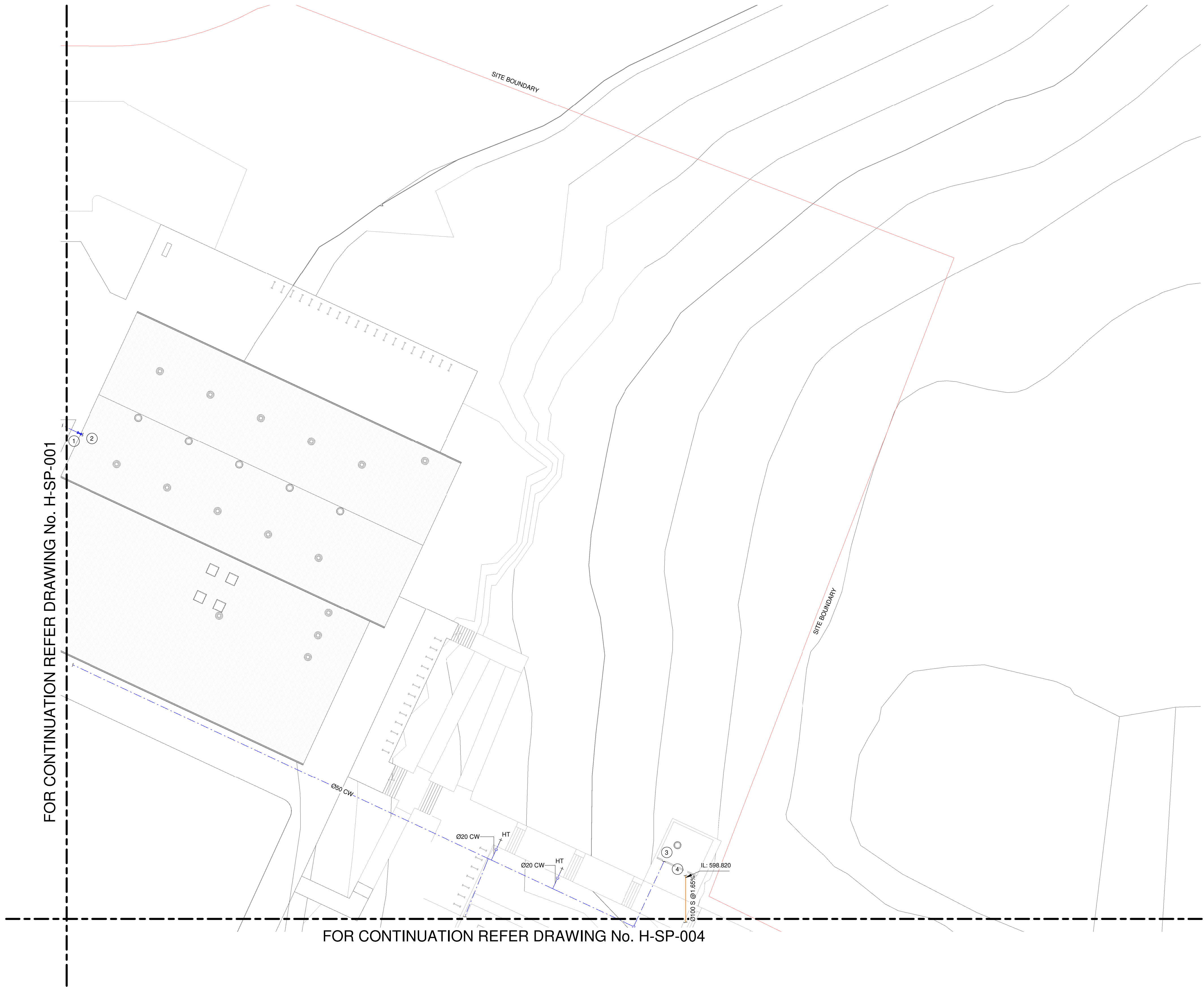
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TKDArchitects

Tanner Kibble Denton

No.	DESCRIPTION
1	PROVIDE METER AND PATH VALVE FOR THE SERVICE BEFORE ENTERING THE BUILDING.
2	REFER DRAWING H-0G-003 FOR CONTINUATION.
3	REFER DRAWING H-LG-003 FOR CONTINUATION.
4	REFER DRAWING H-LG-006 FOR CONTINUATION.



NOTE

- REFER TO DRAWING No. H-0L-001 FOR LEGEND AND GENERAL NOTES

BUILDER



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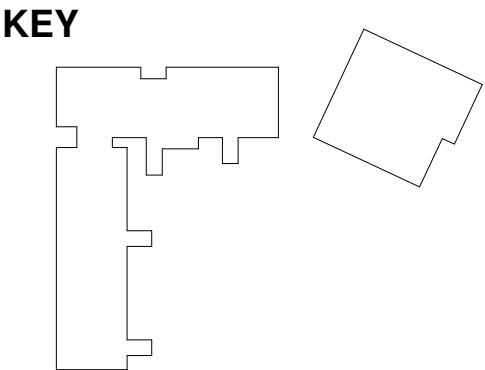
Landscape Architecture

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Project

High School in Jerrabomberra

ENVIRONA DRIVE

JERRABOMBERRA

Drawing Title

HYDRAULIC SERVICES - SITE PLAN - ZONE 2

Proj. Lead

GS

Designer

CL

Drawn

ICE

Sheet

B1

Job No.

200095

Status

DD

Date

11/12/21

Scale

1 : 250

Drawing No.

H-SP-002

Revision

P02

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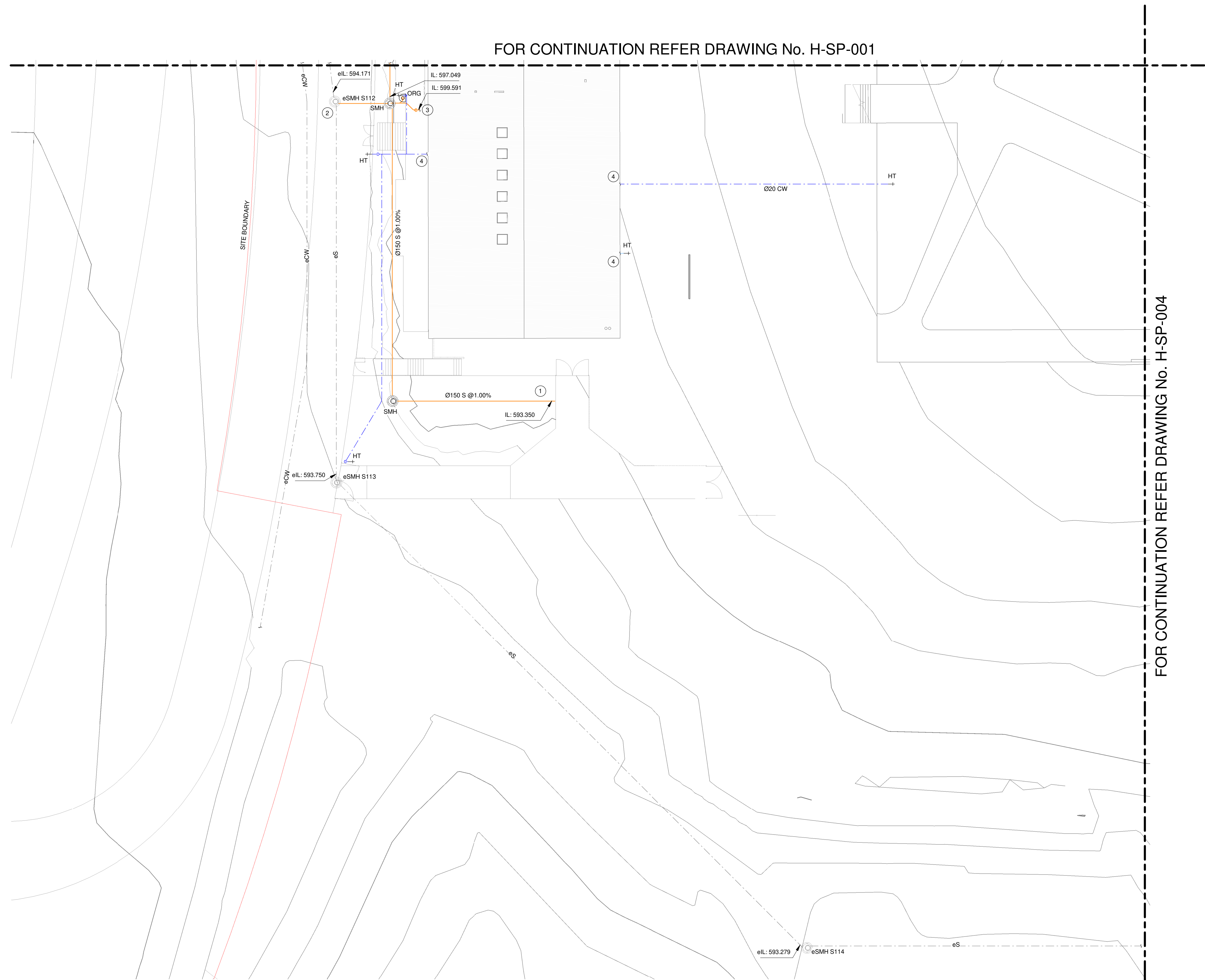
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TKDArchitects

Tanner Kibble Denton

No.	DESCRIPTION
1	PROVIDE CAPPED SEWER PROVISION FOR STAGE 2 DEVELOPMENT AT AN I/L OF 597.30.
2	EXTEND NEW 150MM SEWER DRAINAGE CONNECTION FOR THE PROPOSED NEW SCHOOL. ALLOW TO PROVIDE OVER FLOW RELIEF GULLY TO AUTHORITY'S REQUIREMENT.
3	REFER DRAWING H-LG-004 FOR CONTINUATION.
4	REFER DRAWING H-LG-001 FOR CONTINUATION.



NOTE

- REFER TO DRAWING No. H-0L-001 FOR LEGEND AND GENERAL NOTES

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