

ELECTRICAL SYMBOLS

	CIRCUIT BREAKER
	EARTH LEAKAGE CIRCUIT BREAKER
	REQUIRE CIRCUIT RATING xxx A = MAXIMUM REQUIRED SETTABLE CIRCUIT RATING
	ON LOAD ISOLATOR
	EMERGENCY LIGHTING TEST FACILITY
	KILOWATT HOUR METER
	SINGLE PHASE CONDUCTOR
	THREE PHASE CONDUCTOR
	SPARE SPACE (SINGLE PHASE)
	SPARE SPACE (THREE PHASE)
	SPARE SPACE (NON)
	SURGE DIVERTER
	CABLE TAKE OFF BOX
	CURRENT TRANSFORMER
	LINK
	TRANSFORMER - GENERIC
	PHOTO ELECTRIC CELL WITH TIMER SHUTOFF

	SWITCHBOARD		ELECTRICAL PIT (SQUARE)
	SWITCHBOARD BY OTHERS		CORE HOLE/S FOR SUBMAIN RETICULATION
	ELECTRICAL EQUIPMENT GENERAL		INVERTER (GENERAL ARRANGEMENT)
	INVERTER		SECURITY FIELD PANEL
	POLE TOP LUMINAIRE		CENTRAL BATTERY SYSTEM

COMMUNICATIONS SYMBOLS

	COMMUNICATIONS PIT (SQUARE)
	SECURITY PIT (SQUARE)
	COMMUNICATIONS RACK, 45 RU, ALL METAL CONSTRUCTION, LOCKABLE MESH DOORS, LOCKABLE SIDE PANELS
	TELECOMMUNICATIONS OUTLETS FOR BUILDING SERVICES
	OPTICAL FIBRE
	CAT6A STRUCTURED CABLE
	EXISTING EQUIPMENT/ SERVICE TO BE RETAINED IN CURRENT LOCATION.
	SLAB PENETRATION FOR STRUCTURED CABLING RETICULATION
	CONDUIT EMBEDDED IN BUILDING FABRIC FOR STRUCTURED CABLING

PHASING

CONTAINMENT	FIXTURES / FITTINGS	
		DENOTES EXISTING ELECTRICAL SERVICES TO REMAIN
		DENOTES EXISTING ELECTRICAL SERVICES TO BE DEMOLISHED OR RELOCATED
		DENOTES EXISTING ELECTRICAL SERVICES RELOCATED POSITION
LINETYPE FOR RELOCATED OR NEW CABLETRAY/CONDUIT DETERMINED BY SYSTEM TYPE.		

CONDUIT

	1/E	LOW VOLTAGE ELECTRICAL CONDUIT
	1/C	COMMUNICATION CONDUIT
	1/S	SECURITY CONDUIT

CONDUIT, SIZE AS INDICATE
1: INDICATES NUMBER OF CONDUITS
E: INDICATES ELECTRICAL CONDUIT
C: INDICATES COMMUNICATIONS CONDUIT
S: INDICATES SECURITY CONDUIT

COLOURS ABOVE ARE INDICATIVE OF NEW SERVICE CONDUIT, WHERE CONDUIT IS EXISTING AND TO REMAIN, EXISTING AND TO BE DEMOLISHED OR EXISTING AND TO BE RELOCATED, COLOURS ARE AS PER PHASING SECTION OF LEGEND.

CABLE TRAY

	300 ECT	POWER CABLE TRAY
	300 CCT	COMMUNICATIONS CABLE TRAY
		POWER VERTICAL CABLE TRAY
		COMMUNICATIONS VERTICAL CABLE TRAY

EXAMPLE - 300ECT
- 300 DENOTES WIDTH
- E DENOTES SERVICE
E = POWER
C = COMMUNICATIONS
S = SECURITY
B = BMS
- CT DENOTES CABLE CONTAINMENT TYPE
CT = CABLE TRAY
CL = CABLE LADDERS
CB = CABLE BASKET

GENERAL NOTES

- ALL DIMENSIONS ARE IN MILLIMETERS.
- ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE SERVICES SPECIFICATIONS.
- DO NOT SCALE FOR SIZING. REFER TO ARCHITECTURAL, MANUFACTURERS DOCUMENTATION AND SPECIFICATION FOR EXACT MEASUREMENTS.
- CONTRACTOR TO CONDUCT FULL SITE SURVEY TO CONFIRM EXACT LOCATIONS OF ALL EXISTING ELECTRICAL SERVICES AND EQUIPMENT.
- ALL WORKS ARE NEW UNLESS NOTED OTHERWISE.
- EACH CAPTIVE SCREW OUT SHALL BE ON A DEDICATED CIRCUIT. EACH PAIR OF OUTLETS PROVIDED TO A RACK SHALL BE ON THE SAME PHASE.
- THE CONTRACTOR IS TO REFER TO THE SSU BRIEF FOR THE SECURITY SCOPE AND TECHNICAL REQUIREMENTS.
- ALL NEW DATA CABLING IS TO MEET THE DoE STRUCTURED CABLING SYSTEM SPECIFICATION v1.4
- THE CONTRACTOR IS TO REFER TO THE NSW PUBLIC SCHOOLS - AUDIO-VISUAL STANDARDS FOR SCHOOL LEARNING DISPLAYS FOR AV SCOPE AND TECHNICAL REQUIREMENTS.

ABBREVIATIONS

DBPO	DOUBLE GENERAL POWER OUTLET
DTO	DOUBLE TELECOMMUNICATIONS OUTLET
GPO	GENERAL POWER OUTLET (SINGLE)
LED	LIGHT EMITTING DIODE
RU	RACK UNIT
STO	SINGLE TELECOMMUNICATIONS OUTLETS
TO	TELECOMMUNICATIONS OUTLET
WP	WEATHER PROOF

GENERAL NOTES

- NEW PA SYSTEM CURRENTLY IN PLANNING STAGE FOR EXISTING SITE. ASSUME NEW PA SYSTEM INSTALLED AND APPROPRIATE FOR EXPANSION TO INCLUDE NEW BUILDING.

CONDUIT TAG LEGEND

- A** MINIMUM 2x100MM DIA HD-UPVC UNDERGROUND CONDUIT
- B** MINIMUM 1x50MM DIA HD-UPVC UNDERGROUND CONDUIT

DISTRIBUTION BOARDS (DB)
(PROPOSED NEW)
SEE BLOCK Y POWER AND COMMUNICATIONS ARRANGEMENT FOR DETAILS. TO BE SUPPLIED FROM NEW MSB WITH SUBMAINS RETICULATED THROUGH INGROUND CONDUIT WITH CABLE PITS EVERY 30M OR WHEN CHANGE IN DIRECTION OCCURS.

BUILDING COMMUNICATIONS ROOM (BCR)
(PROPOSED NEW)
SEE BLOCK Y LEVEL 1 POWER AND COMMUNICATIONS ARRANGEMENT FOR DETAILS.

COMMUNICATIONS CABLE PIT ADJACENT TO PROPOSED NEW BLOCK BLOCK TO BE P5 TYPE. COMMUNICATIONS CONDUIT IS TO CONSIST OF MINIMUM 2x 100mm DIAMETER. OTHER COMMUNICATIONS PITS ALONG CONDUIT RETICULATION PATH TO BE P6 TYPE. ALL COMMUNICATION CABLE PITS USED ARE TO HAVE CONCRETE LIDS

COMMUNICATION AND SECURITY CABLE RETICULATION - OPTION 2
RETICULATION FROM MCR TO PROPOSED BUILDING BCR. TO BE USED WHERE EXISTING CONDUIT PATHWAY DOES NOT HAVE SUFFICIENT SPARE CAPACITY FOR ADDITIONAL REQUIRED CABLING. NEW CABLE SHALL TRAVERSE BLOCK V THROUGH THE CEILING VOID AND EXIT AT HIGH LEVEL INTO VERTICAL CONDUIT ON BUILDING EXTERIOR BEFORE ENTERING IN-GROUND CONDUIT. COMMUNICATIONS CABLE PIT ADJACENT TO BLOCK V TO BE P8 TYPE. COMMUNICATIONS CABLE PIT ADJACENT TO PROPOSED NEW BLOCK BLOCK TO BE P5 TYPE. COMMUNICATIONS CONDUIT IS TO CONSIST OF MINIMUM 2x 100mm DIAMETER. OTHER COMMUNICATIONS PITS ALONG CONDUIT RETICULATION PATH TO BE P6 TYPE. ALL COMMUNICATION CABLE PITS USED ARE TO HAVE CONCRETE LIDS.

INDICATIVE LOCATION OF EXISTING MAIN COMMUNICATIONS ROOM.

MAIN SWITCHBOARD (MSB)
(EXISTING)
EXISTING MAIN SWITCHBOARD TO REMAIN AND BE BACK FED FROM NEW MAIN SWITCHBOARD.



INDICATIVE LOCATION OF EXISTING COMMUNICATIONS SERVICES. TO BE USED FOR RUN OF ADDITIONAL FIBRE OPTIC CABLE WHERE COMMUNICATION CABLE RETICULATION OPTION 1 IS USED.

EXISTING INTEGRITY SECURITY HEADEND AND CCTV NETWORK VIDEO RECORDER LOCATED IN BLOCK A STORE ROOM.

COMMUNICATION AND SECURITY CABLE RETICULATION - OPTION 1 - PREFERRED
PROPOSED IN-GROUND COMMUNICATIONS AND SECURITY CONDUITS FOR CABLE RETICULATION FROM MCR TO PROPOSED BUILDING BCR. EXISTING CONDUIT TO BE INVESTIGATED FOR SPARE CAPACITY AND REUSED FOR NEW CABLE RUN IF SPARE CAPACITY IS AVAILABLE. NEW CONDUIT IS TO BE INSTALLED FROM MARKED PITS FOR FINAL SEGMENT OF THE CABLE RETICULATION. ELECTRICAL CONTRACTOR IS TO INVESTIGATE PRIOR TO TENDER

EXISTING CONSUMER MAINS TO BE REMOVED AND CONDUIT INVESTIGATED BY ELECTRICAL CONTRACTOR FOR REUSE IN RETICULATION OF NEW SUBMAIN FEEDER. NEW SUBMAIN FEEDER TO BE INSTALLED BETWEEN NEW MSB AND NEW MDB REUSING EXISTING IN-GROUND CONDUIT FOR A PORTION OF THE RUN IF POSSIBLE OR INSTALLING NEW CONDUIT FOR ENTIRE LENGTH IS EXISTING CONDUIT IS FOUND TO BE NOT FIT FOR PURPOSE. ELECTRICAL CONTRACTOR TO PRICE BASED ON NEW CONDUIT AND ALLOW FOR ADJUSTMENT BASED ON THE INVESTIGATION OUTCOME.

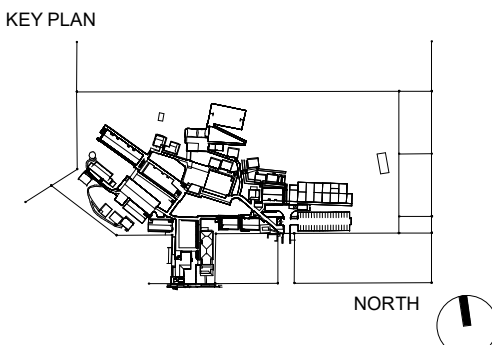
SUBSTATION (500kVA)
(EXISTING - TO BE RETAINED)
INDICATIVE LOCATION. CONNECTION OFFER FOR NEW RESTRICTED SUPPLY CAPACITY OF 642A HAS BEEN RECEIVED FROM ENDEAVOUR ENERGY.

MAIN SWITCHBOARD (MSB)
(PROPOSED NEW)
A NEW EXTERNAL MSB IS TO BE INSTALLED IN THE INDICATED LOCATION WITH FRONT FACING AWAY FROM PEDESTRIAN PATHWAY. NEW CONSUMER MAINS TO CONNECT TO PROPOSED NEW SUBSTATION. CONCRETE SLAB TO BE INSTALLED TO PROVIDE FLAT SURFACE FOR MSB AND 1400 mm IN FRONT OF MSB.

COVERED WALKWAY LIGHTING
(PROPOSED NEW)
LIGHTING TO BE PROVIDED ALONG THE ENTIRE LENGTH OF THE NEW EXTERNAL WALKWAY

INDICATIVE IN-GROUND CONDUIT PATHWAYS TO SUPPORT EXTERNAL PATHWAY LIGHTING. LOCATION AND QUANTITIES OF EXTERNAL POLE TOP LUMINAIRES IS INDICATIVE AND SHALL BE DEVELOPED FURTHER IN DETAILED DESIGN PHASE. LUMINAIRE ARRANGEMENT IS TO COMPLY WITH AS/NZS 4292 AND AS/NZS 1158.

NEW SECURITY CONDUIT IS TO CONSIST OF MINIMUM 2x 50mm CONDUIT. SECURITY CABLE PITS TO BE SIZED BASED ON SITE CONDITIONS, MANUFACTURER REQUIREMENTS AND RELEVANT STANDARDS.



REV	BY	DATE	DESCRIPTION
1	PS	11/10/2024	CONCEPT DESIGN
2	PS	28/10/2024	CONCEPT DESIGN
3	PS	29/10/2024	CONCEPT DESIGN
4	PS	12/11/2024	CONCEPT DESIGN
5	PS	06/12/2024	SCHEMATIC DESIGN
6	PS	17/01/2025	SCHEMATIC DESIGN
7	PS	13/02/2025	SCHEMATIC DESIGN
8	PS	28/02/2025	SCHEMATIC DESIGN

PROJECT NAME
SINSW - MILTON PUBLIC SCHOOL UPGRADE
9 THOMAS ST, MILTON NSW 2538
SITE

DRAWING TITLE
ELECTRICAL SERVICES
SITE PLAN

PROJECT NO.
758-0120.0041156.0001

STATUS
SCHEMATIC DESIGN

DRW	CHK	APP	DATE	SCALE
ICE	PD	PL	28/02/2025	1 : 500 @A1

DRAWING NO.
MPS-NDY-00-00-DR-E-001011

REV
8

EXISTING INGROUND AUTHORITY
SEWER MAIN PIPEWORK (APPROX)

EXISTING INGROUND SITE SEWER
MAIN PIPEWORK (APPROX)

INGROUND SITE SEWER MAIN
PIPEWORK

INGROUND WATER SUPPLY MAIN
PIPEWORK

EXISTING INGROUND AUTHORITY
SEWER MAIN PIPEWORK (APPROX)

EXISTING INGROUND SITE SEWER
MAIN PIPEWORK (APPROX)

EXISTING INGROUND FIRE
HYDRANT PIPEWORK

EXISTING FIXED ON-SITE FIRE
HYDRANT PUMP ROOM

EXISTING ON-SITE FIRE HYDRANT
WATER STORAGE TANKS.
EFFECTIVE VOL UNKNOWN

LOCATION OF RELOCATED EXISTING
LPG TANK. (LIAISE WITH HAINES GAS
FOR ALL NECESSARY REQUIREMENTS
FOR THE RELOCATION). MUST BE 6m
CLEAR OF BUILDINGS. MUST BE 1m
CLEAR OF SITE BOUNDARY. MUST BE
4m CLEAR OF NEIGHBOURING
HOUSES / BUILDINGS

LOCATION OF EXISTING LPG TANK.
DISCONNECT EXISTING SUPPLY
LINES AND RELOCATE INGROUND
TO NEW LOCATION. (LIAISE WITH
HAINES GAS FOR ALL NECESSARY
REQUIREMENTS FOR THE
RELOCATION)

INGROUND LPG MAIN

LOCATION OF EXISTING DUAL
PILLAR FIRE HYDRANT

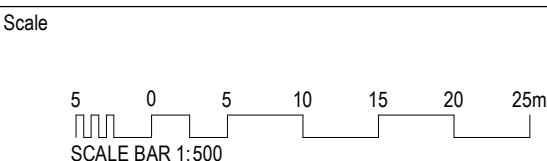
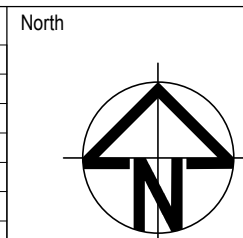
LOCATION OF EXISTING DUAL
PILLAR FIRE HYDRANT

EXISTING COLD WATER METER FOR
SITE

INGROUND LPG MAIN

EXISTING COLD WATER
METER FOR

Issue	Description	Date	Drawn	Approved
D	ISSUED FOR TENDER	06.03.25	GB	RE
C	100% SCHEME DESIGN (PHASE 3)	11.02.25	JW	RE
B	80% SCHEME DESIGN (PHASE 3)	13.12.24	GPM	RE
A	50% SCHEME DESIGN (PHASE 3)	29.11.24	GPM	RE



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Client

Architect
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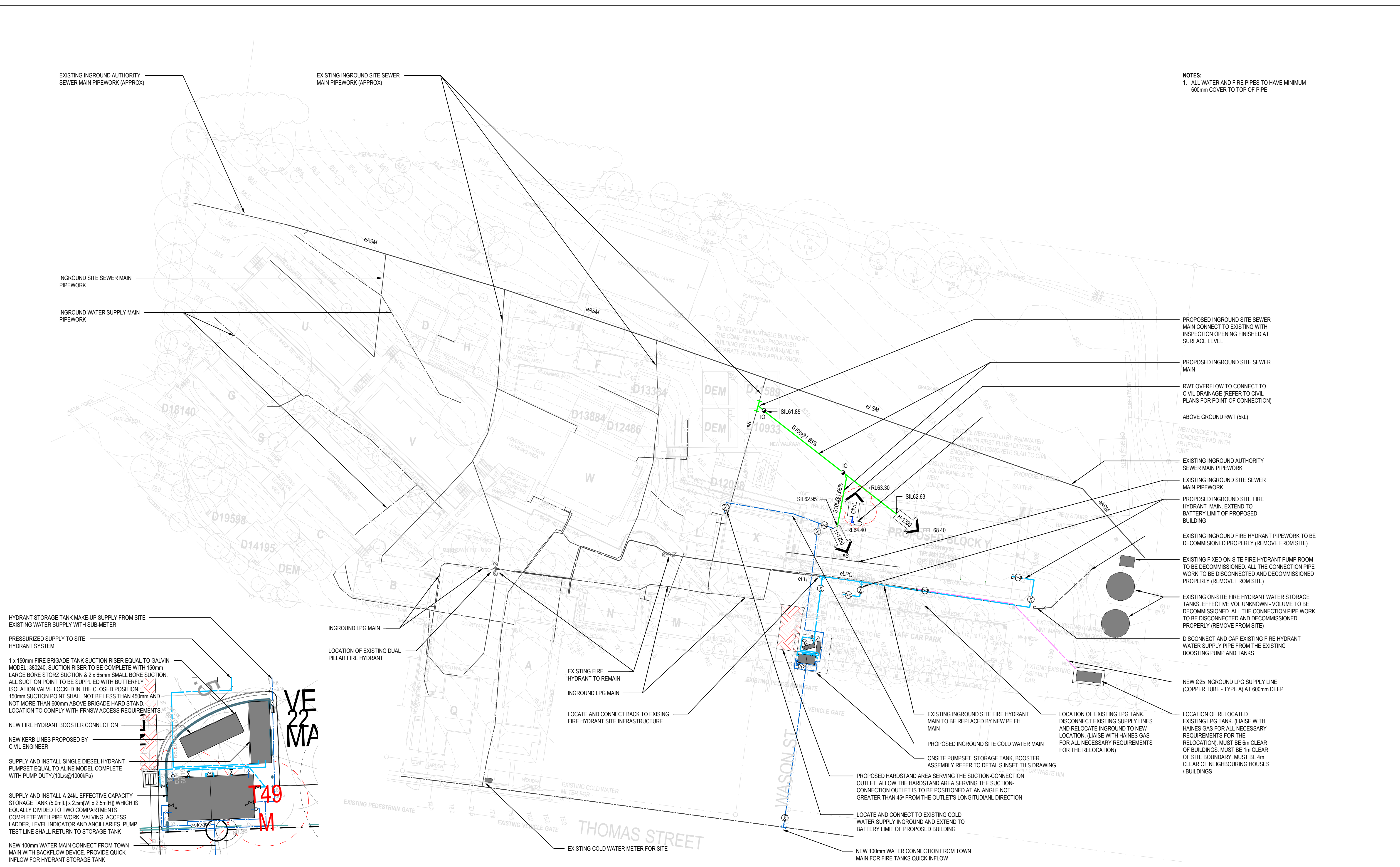


Project
SCHOOL INFRASTRUCTURE NSW
MILTON PUBLIC SCHOOL
9 THOMAS STREET, MILTON NSW

TENDER ISSUE
NOT FOR CONSTRUCTION

Drawing Title
HYDRAULIC SERVICES
EXISTING SITE PLAN & DEMOLITION

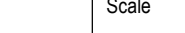
Drawn	Designed	Q.A. Check	Q.A. Date	Scale @ A1
GB	RE	RE	05.03.25	1 : 500
Project No.	Drawing No.	Issue		
NA232021	MPS-ACOR-00-00-DR-H-1100	D		

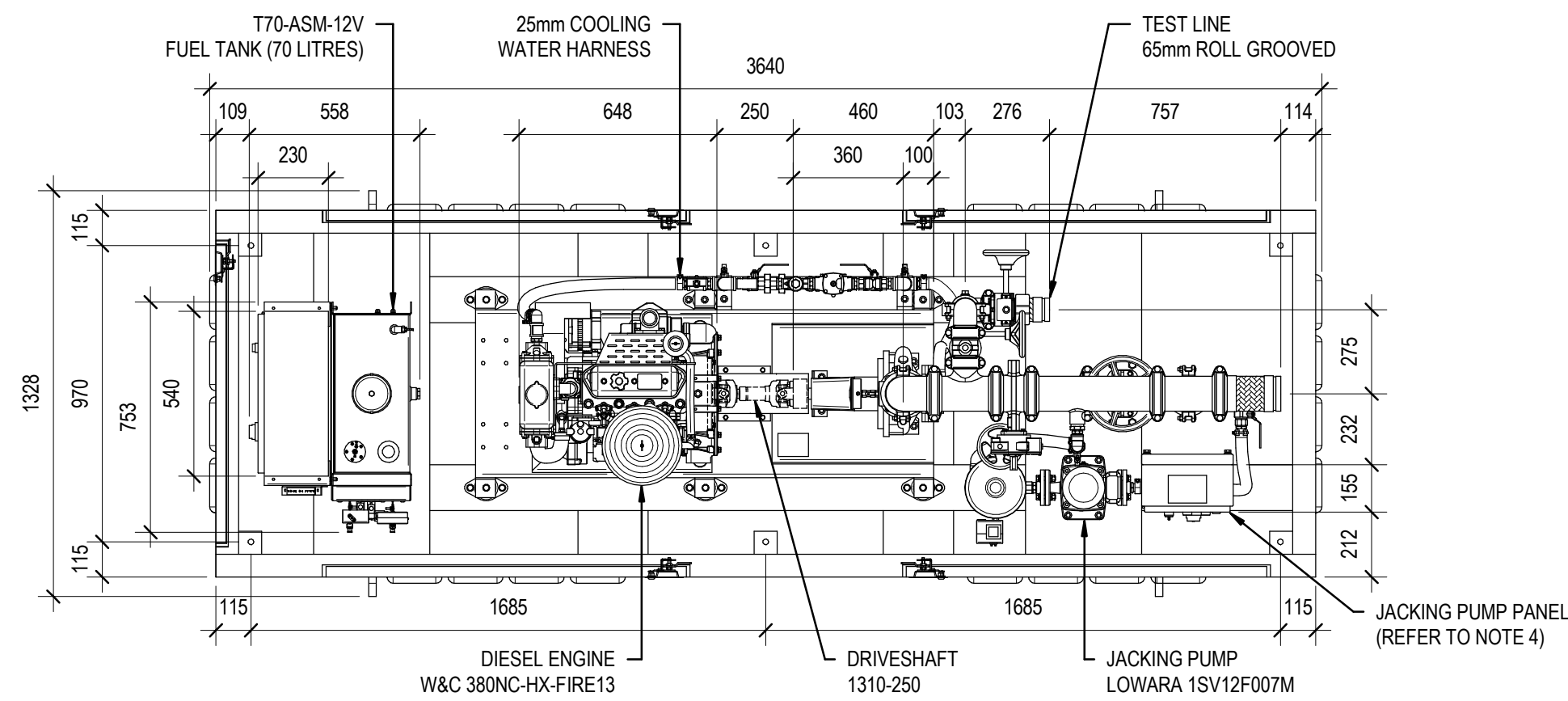


NOTES:
1. ALL WATER AND FIRE PIPES TO HAVE MINIMUM 600mm COVER TO TOP OF PIPE.

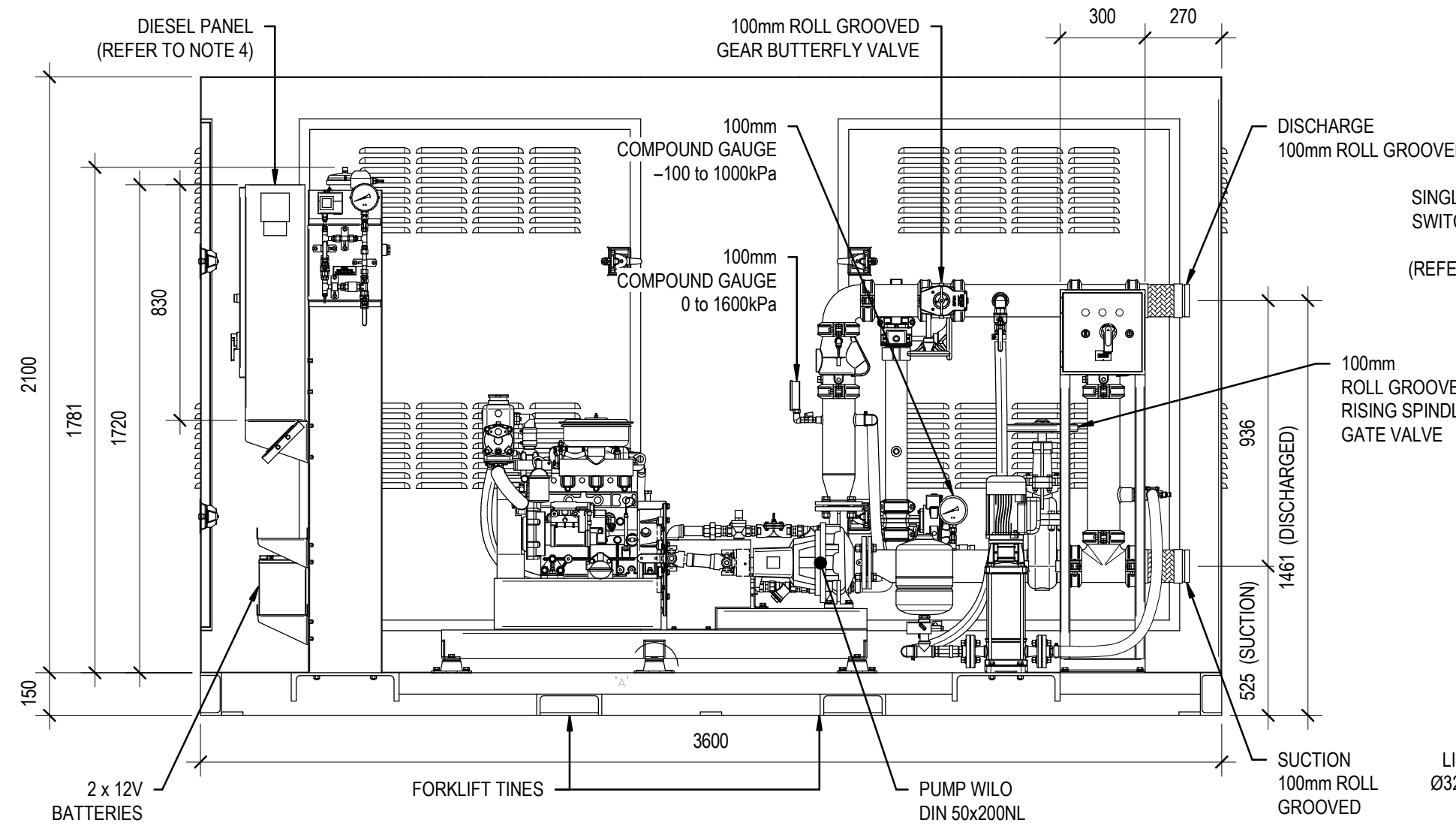
ONSITE PUMPSET, STORAGE TANK AND BOOSTER ASSEMBLY DETAIL
SCALE: 1 : 100

PROPOSED SITE PLAN
SCALE: 1 : 500

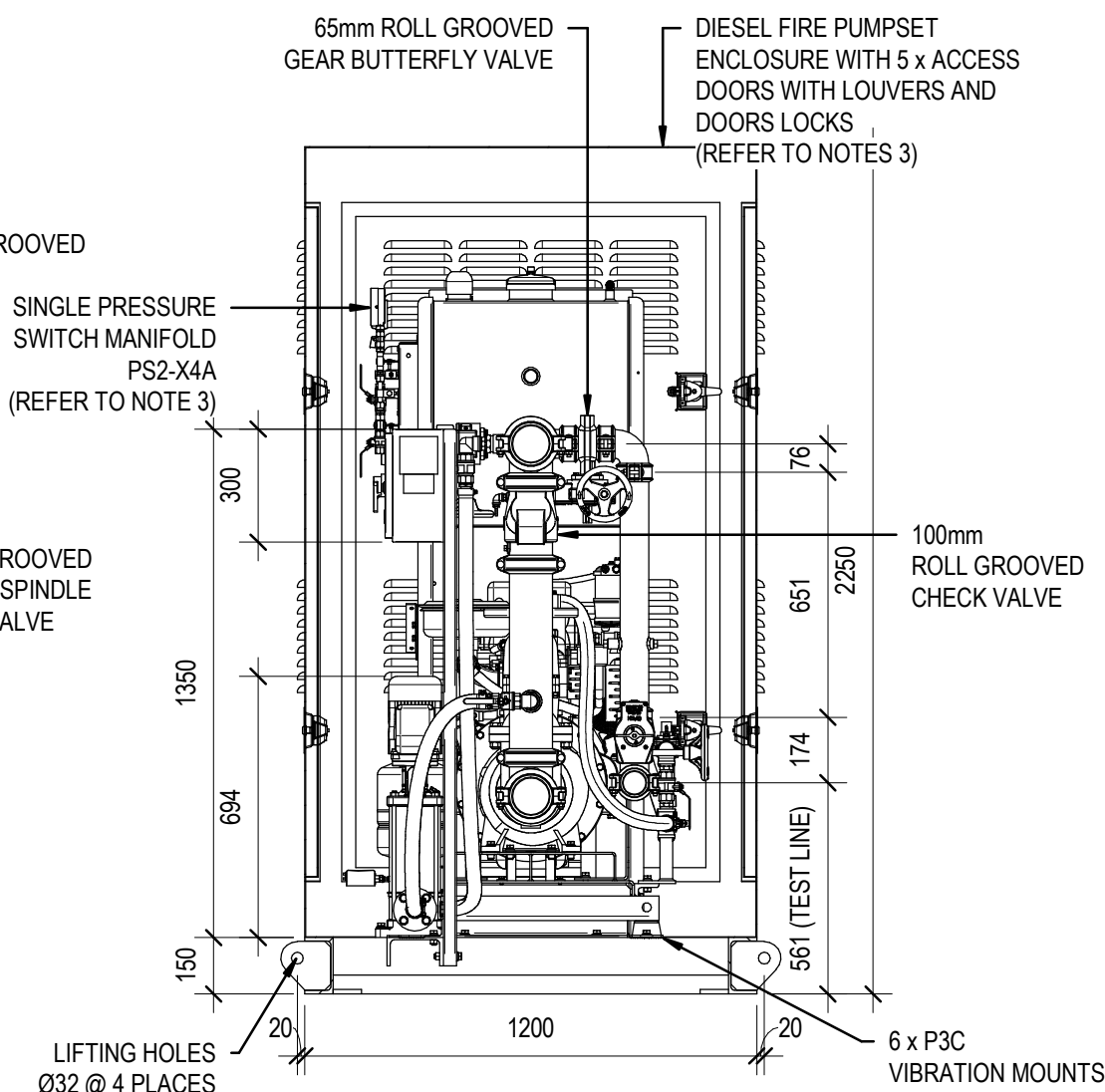
				North		Scale		Client		Architect		ACOR Consultants Pty Ltd		Project		Drawing Title	
						 SCALE BAR 1:500				FULTON TROTTER ARCHITECTS		 CONSULTANTS		SCHOOL INFRASTRUCTURE NSW MILTON PUBLIC SCHOOL		HYDRAULIC SERVICES PROPOSED SITE PLAN	
										SUITE 904, LEVEL 9, 28-36 FOVEAUX STREET SURRY HILLS NSW 2010 T: 02 8383 5151 E: sydney@fultontrotter.com.au		Level 8, 55 Market Street Sydney NSW 2000 T: +61 2 9438 5098		9 THOMAS STREET, MILTON NSW			
						PRINT IN COLOUR								TENDER ISSUE NOT FOR CONSTRUCTION			
														Designed RE		O.A. Check RE	
														O.A. Date 04.04.25		Scale @ A1 As indicated	
														Drawing No. MPS-ACOR-00-00-DR-H-1200		Issue E	
														Project No. NA232021			



PLAN VIEW



SIDE ELEVATION



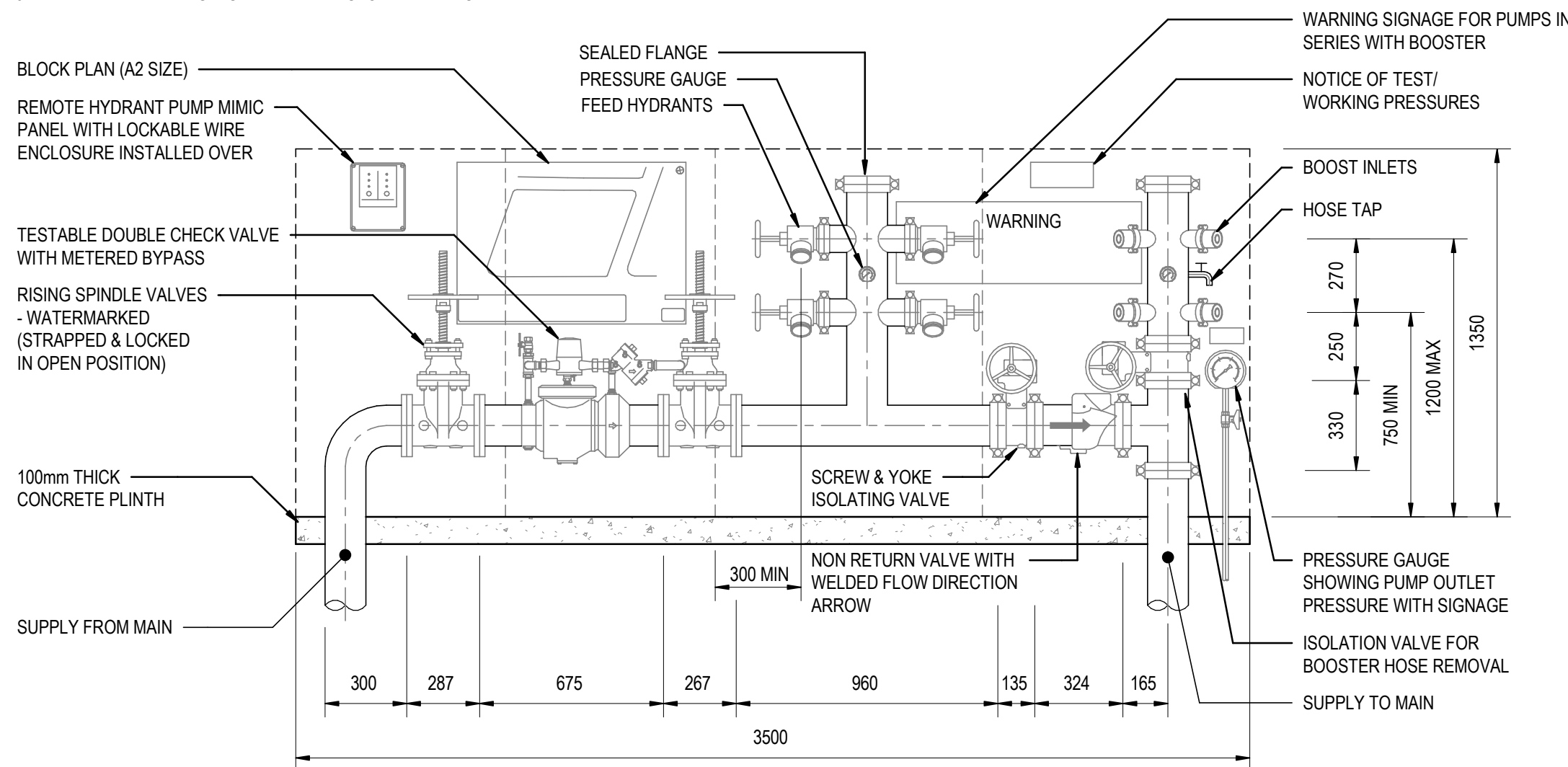
FRONT ELEVATION

FIRE PUMP ENCLOSURE

NOT TO SCALE

NOTES:

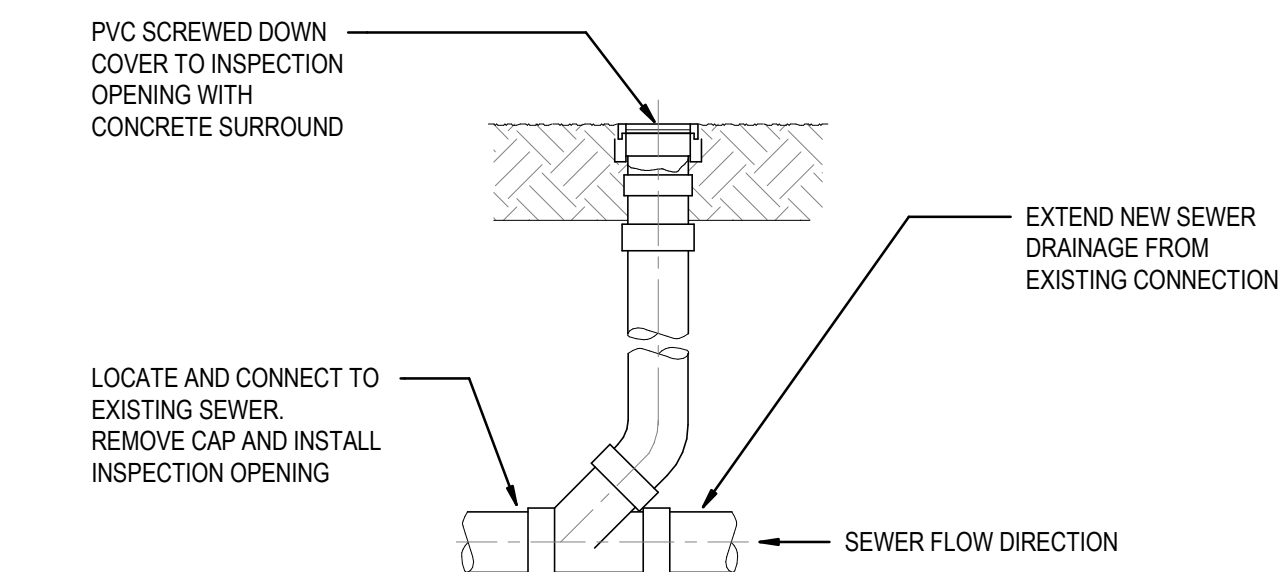
- ENCLOSURE DIMENSIONS:
1350 HIGH x 3500 WIDE x 450mm DEEP
- ENTIRE BOOSTER VALVE ARRANGEMENT IS TO BE
INSTALLED IN ACCORDANCE WITH AS2419.1, AS2419.2 AND AS2419.3
- PROVIDE INSTALLATION DETAILS INCLUDING DIMENSIONS FOR
APPROVAL PRIOR TO CONSTRUCTION
- SUPPORTS NOT SHOWN
- ALL FIRE HYDRANTS INSTALLED WITH STORTZ FITTING



ELEVATION

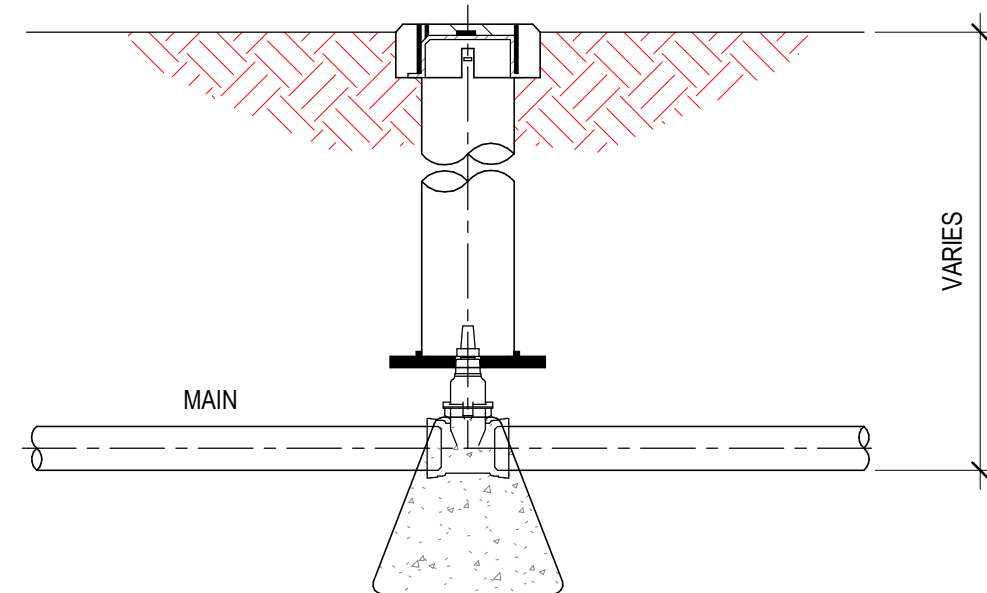
150mm FIRE HYDRANT BOOSTER VALVE WITH HORIZONTAL TESTABLE DOUBLE CHECK VALVE

NOT TO SCALE



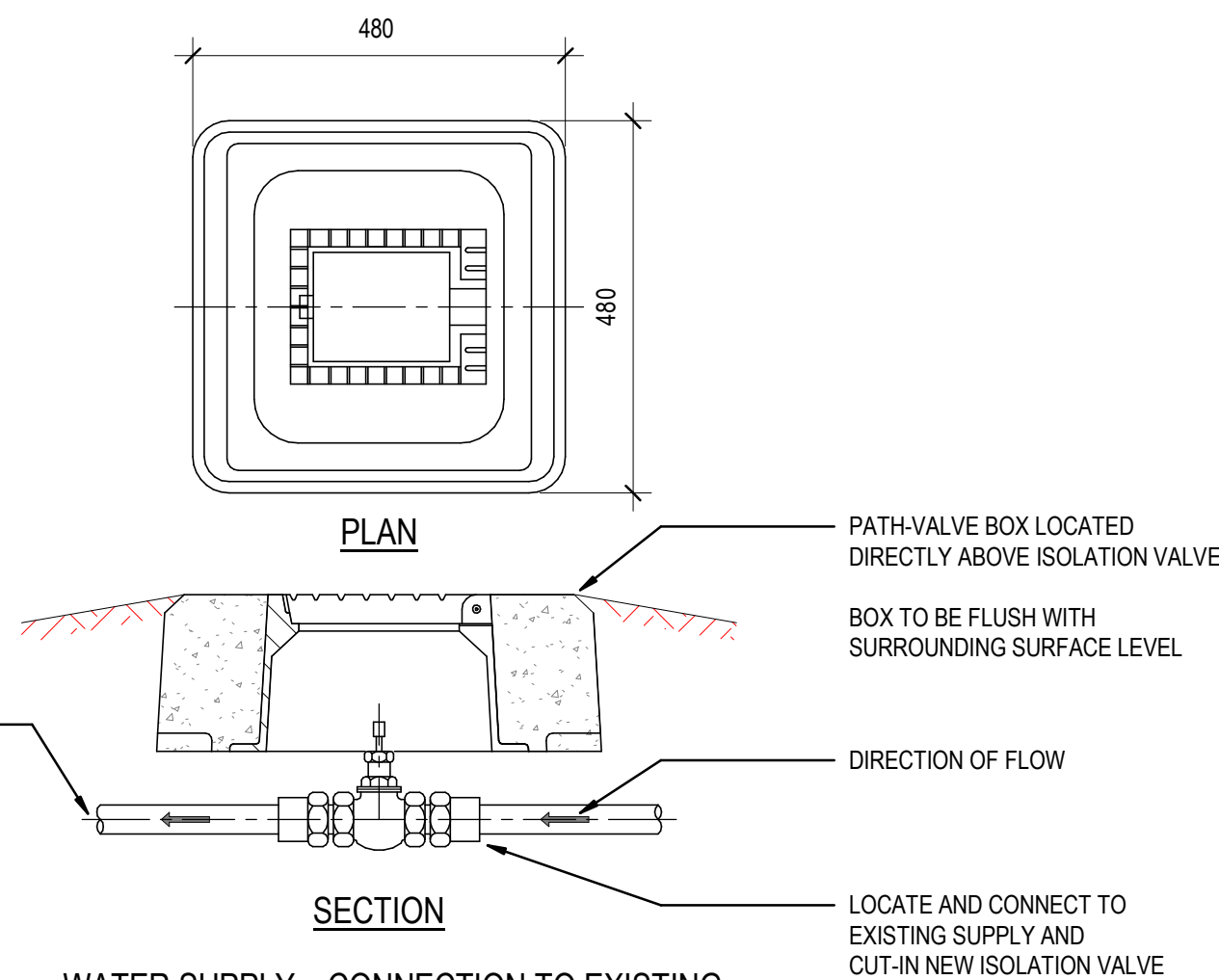
SEWER - CONNECTION TO EXISTING/INSPECTION OPENING

N.T.S.



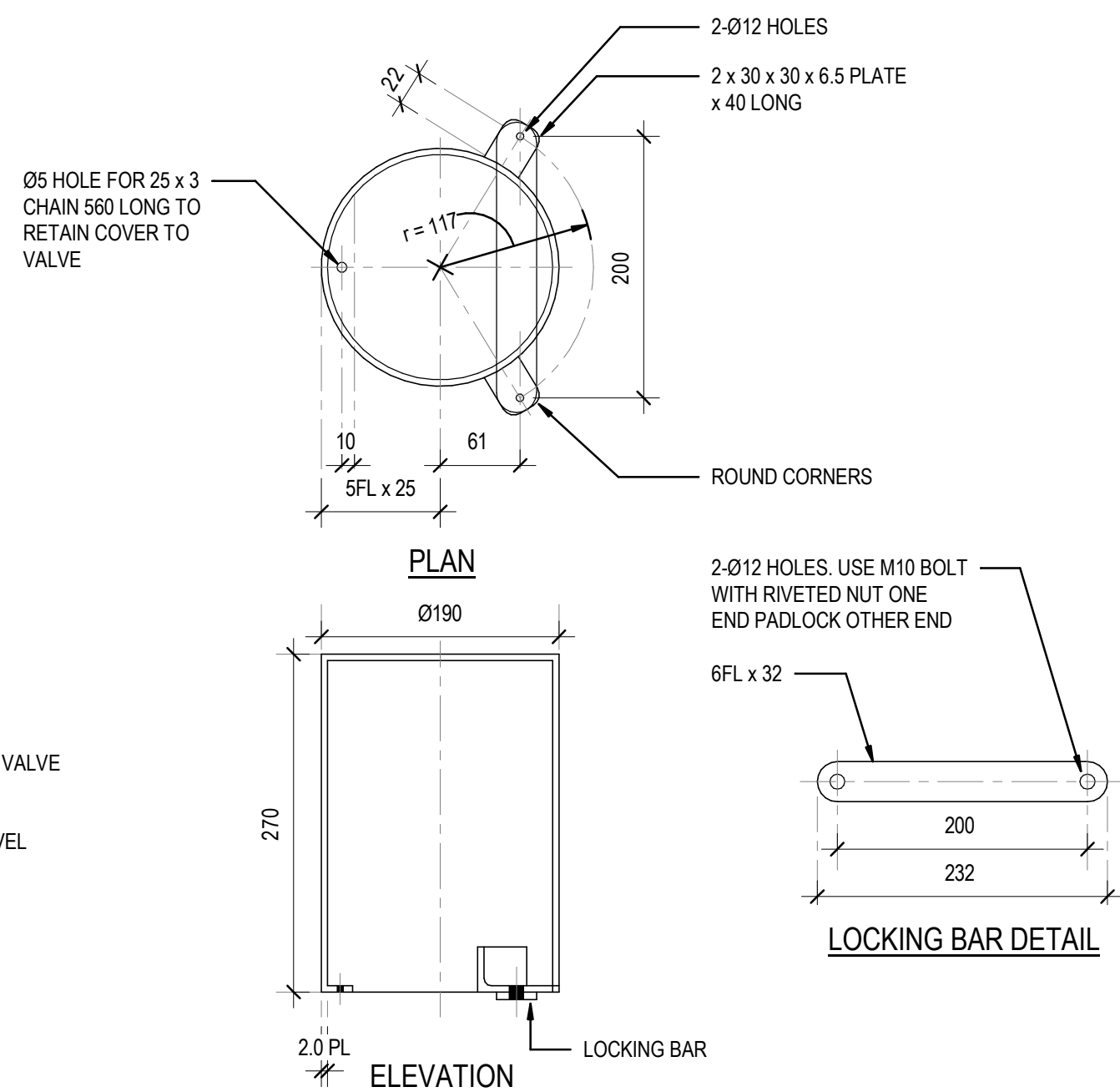
FIRE HYDRANT SUPPLY - CONNECTION TO EXISTING

N.T.S.



WATER SUPPLY - CONNECTION TO EXISTING (LESS THAN 80mm)

NOT TO SCALE

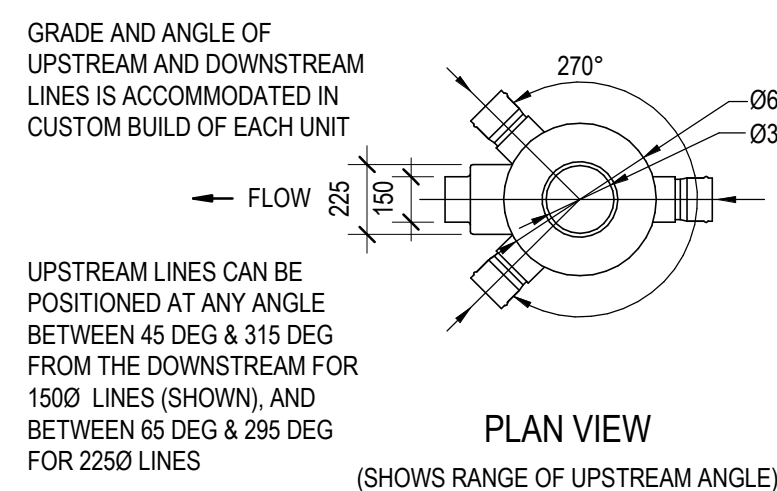


FIRE HYDRANT SECURITY COVER

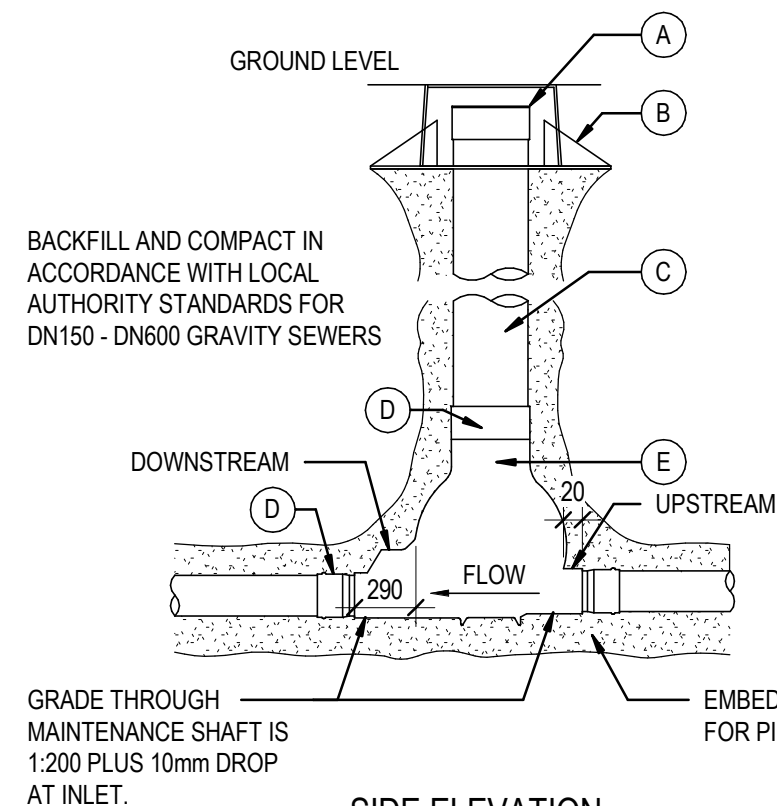
N.T.S.

COMPONENTS		
ITEM	DESCRIPTION	MATERIAL
A	VERTICAL RISER CAP	PVC
B	ACCESS COVER CLASS 'B' 'C' OR 'D'	VARIOUS
C	DN 225Ø PVC OR DN 250Ø PE RISER SHAFT	VARIOUS
D	VARIOUS FITTINGS AVAILABLE	VARIES
E	MAINTENANCE SHAFT BODY	MOPE (POLYETHYLENE)
F	225 - 150 PVC OR 250 - 160 PE DROP JUNCTION	VARIOUS
G	225 - 150 PVC OR 250 - 160 PE DROP JUNCTION	VARIOUS

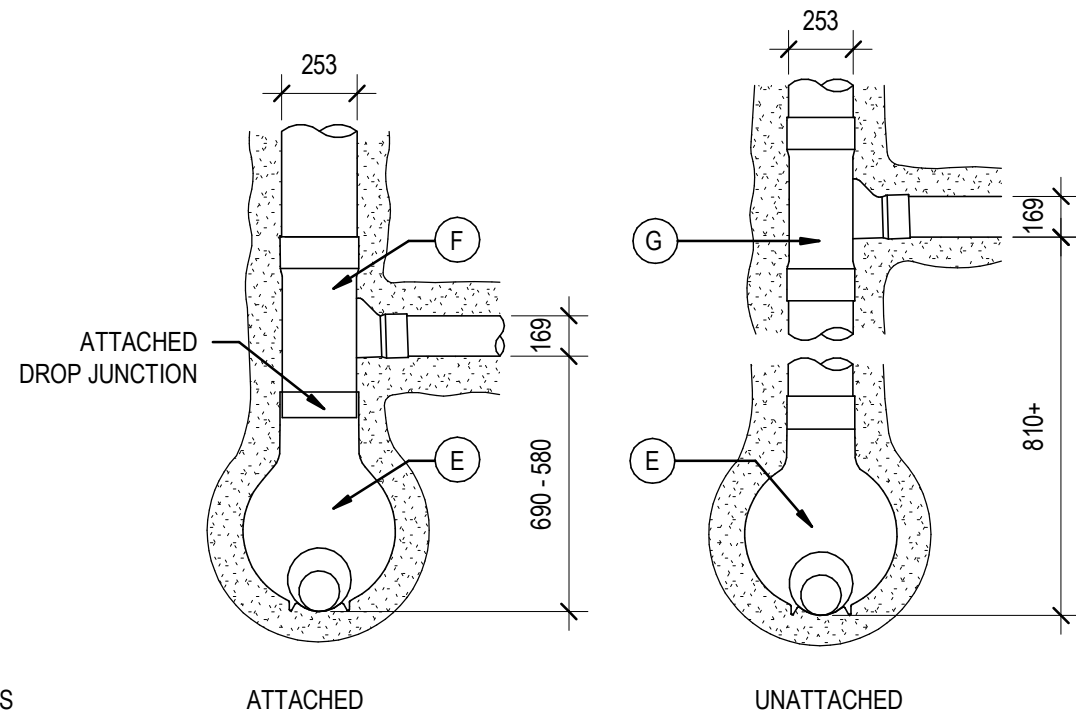
- GENERAL NOTES:
- ALL DIMENSIONS IN mm.
 - MAINTENANCE SHAFTS CAN ACCOMMODATE MOST CONNECTIONS TYPES FOR
100 - 250mm PIPE. REFER TO MANUFACTURER FOR DETAILS.
 - BACKFILL AND COMPACTION IN ACCORDANCE WITH LOCAL AUTHORITY.
 - CONTRACTOR TO SUPPLY PIPE FROM MAINTENANCE SHAFT TO VERTICAL RISER
CAP.
 - CLEARANCE BETWEEN THE VERTICAL RISER CAP AND THE UNDERNEATH OF THE
COVER SHOULD BE 150mm.



PLAN VIEW
(SHOWS RANGE OF UPSTREAM ANGLE)



SIDE ELEVATION



DROP JUNCTION
TYPES

SEWER - POO PIT

N.T.S.

Issue	Description	Date	Drawn	Approved
C	ISSUED FOR TENDER	06.03.25	GB	RE
B	100% SCHEME DESIGN(PHASE 3)	11.02.25	JW	RE
A	80% SCHEME DESIGN (PHASE 3)	13.12.24	GPM	RE

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MILTON PUBLIC SCHOOL
9 THOMAS STREET, MILTON NSW

TENDER ISSUE
NOT FOR CONSTRUCTION

Drawing Title
HYDRAULIC SERVICES
DETAILS

Drawn	Designed	Q.A. Check	Q.A. Date	Scale
GB	RE	RE	05.03.25	@ A1 N.T.S.
Project No.	Drawing No.	Issue		
NA232021	MPS-ACOR-00-00-DR-H-9000	C		