# 302 HUGHES STREET CARPARK

34-40 HUGHES STREET, CABRAMATTA, NSW 2166

# HYDRAULIC SERWICES

DRAWING LIST		
H-00	COVER SHEET & DRAWING LIST	
H-01	LEGEND, GENERAL NOTES, SCOPE OF WORKS & SPECIFICATIONS	
H-02	SPECIFICATION NOTES (CONTINUED) & DETAIL	
H-03	GROUND FLOOR - HYDRAULIC SERVICES LAYOUT	
H-04	LEVEL 1 - HYDRAULIC SERVICES LAYOUT	
H-05	LEVEL 2 - HYDRAULIC SERVICES LAYOUT	

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- THIS PROJECT IS A DESIGN AND CONSTRUCT PROJECT HYDRAULIC CONTRACTOR IS RESPONSIBLE FOR THE
- SHOWN & IS SUBJECT TO FINAL DESIGN BY **HYDRAULIC CONTRACTOR AS OF DESIGN &**

DESIGN AND CONSTRUCTION DOCUMEN

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 GOLD COAST

302 HUGHES STREET CARPARK 34-40 HUGHES STREET CABRAMATTA. NSW

HYDRAULIC SERVICES

Drawing No: **COVER SHEET & DRAWING LIST** 

Issue:

19.5475 PM

		LEGEND
DH-		DETAIL NUMBER REFERENCE DETAIL DRAWING NUMBER REFERENCE
<u> </u>	N N	INDICATES SERVICE FLOWING UP INDICATES SERVICE TYPE INDICATES SERVICE SIZE INDICATES SERVICE FLOWING DOWN
	<del></del> >	SERVICES PIPE DROPPER
	<del>-</del> 0	SERVICES PIPE RISER
	<del></del> 5	SERVICES PIPE CONTINUES
	<del></del> ]	CAPPED SERVICE
		SERVICES DIRECTION OF FLOW
-		SANITARY DRAINAGE
		COLD WATER SERVICE
	- —	HOT WATER FLOW SERVICE
ww	ww	TEMPERED HOT WATER FLOW SERVICE
0	FW	FLOORWASTE
•	CO	CLEAR OUT
$\bowtie$	1	STOP VALVE (ISOLATION VALVE)
ð	НТ	HOSE TAP
•	TMV	THERMOSTATIC MIXING VALVE
8	) AAV	AIR ADMITTANCE VALVE
□ TD  PRV  ††  WM		TUNDISH
		PRESSURE REDUCTION VALVE
		TAP SET
		WATER METER
KK	A RPZD	REDUCED PRESSURE ZONE DEVICE
	ABBI	REVIATIONS
AAV CO		FANCE VALVE

**COLD WATER** 

DISHWASHER

FIRE HYDRANT

FIRE HOSE REEL

FIRE SERVICE GRATED DRAIN

HIGH LEVEL

HOT WATER

TUNDISH

HOT WATER UNIT

INSPECTION OPENING

SEWER DRAINAGE

TRAPPED TUNDISH

WARM WATER

SANITARY DRAINAGE

HIGH DENSITY POLYETHYLENE

PRESSURE REDUCTION VALVE REDUCED PRESSURE ZONE DEVICE

TEMPERATURE AND PRESSURE RELIEF VALVE

DOWNPIPE

**EXISTING** 

HDPE

# **GENERAL CONDITIONS**

- ALL WORK TO BE INSTALLED FULLY IN ACCORDANCE WITH BCA 2019, AS 2419.1:2005, AS 2441:2005, AS/NZS 3500.1:2015, AS/NZS 3500.2:2018, AS/NZS 3500.3:2018, AS/NZS 3500.4:2018, AS 5601:2013, USING COMPONENTS APPROVED UNDER THE FOLLOWING AS APPLICABLE: WATER EFFICIENCY LABELLING SCHEME (WELS); AND / OR WATERMARK: AND / OR
- AUSTRALIAN GAS ASSOCIATION; AND / OR
- CSIRO ACTIVFIRE SCHEME.
- THE SCOPE OF WORKS FOR THE PROJECT COMPRISES THE FOLLOWING: COLD WATER, SANITARY DRAINAGE / PLUMBING, STORMWATER / RAINWATER DRAINAGE / PLUMBING, NATURAL GAS, FIRE HOSE REEL SERVICES.
- ALL SERVICES, BOTH NEW AND EXISTING SERVICE ROUTES, DEPTHS AND MATERIALS INDICATED ON DESIGN AND DOCUMENTATION, ARE TAKEN FROM PRE- EXISTING DRAWINGS AND CANNOT BE VERIFIED FOR CORRECTNESS. IT IS THEREFORE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND ASCERTAIN ALL SERVICES DETAILS PRIOR TO COMMENCEMENT OF THE WORKS.
- TENDERERS SHALL INSPECT THE SITE, EXAMINE CONSTRUCTION AND ARCHITECTURAL DRAWINGS, MAKE ANY FIELD SURVEY NECESSARY TO PROVIDE A DETAILED AND COMPREHENSIVE TENDER AND FOR PROPER PLANNING AND EXECUTION OF THE WORK. NO PRICE VARIATION OR EXTENSION OF TIME WILL BE ALLOWED ON THE GROUNDS OF LACK OF SITE KNOWLEDGE, UNFORESEEN DIFFICULTIES OR PROVISION OF INSUFFICIENT INFORMATION DURING THE TENDER PERIOD.
- TENDERER PAY ALL COSTS ASSOCIATED WITH OBTAINING LOCAL AUTHORITY SUBMISSIONS AND
- THE ACCOMPANYING DRAWINGS INDICATE THE APPROXIMATE POSITIONS AND NUMBER OF VALVES, RISERS, PIPEWORK, FIXTURES AND ALL OTHER ITEMS REQUIRING CONNECTION TO THE RESPECTIVE HYDRAULIC SYSTEMS. ALLOW FOR ALL NECESSARY DIVERSIONS AND MINOR ADJUSTMENTS OF PIPEWORK AND EQUIPMENT AS MAY BE NECESSARY TO CARRY OUT AND COMPLETE THE WORK AS REQUIRED. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF EQUIPMENT AND CO-ORDINATE WITH OTHER SERVICES WHERE APPLICABLE.
- A SET OF DRAWINGS SHALL BE KEPT ON SITE AND PROGRESSIVELY MARKED UP BY CONTRACTOR AS THE WORK PROCEEDS TO RECORD LOCATIONS, INVERTS AND DETAILS OF ALL INSTALLED SERVICES, EQUIPMENT AND VALVES.
- ALLOW FOR THE COST OF CARRYING OUT ALL TESTS SET OUT ON DRAWINGS OR IN THE SPECIFICATION OR AS REQUIRED BY THE RESPECTIVE AUTHORITIES. SUPPLY ALL PLUG. APPARATUS AND OTHER MATERIALS NECESSARY FOR THE TESTS. ENCLOSED WORKS SHALL NOT BE COVERED OR CONCEALED FROM VIEW UNTIL INSPECTED, TESTED AND WITNESSED BY CONTRACT ADMINISTRATOR AND APPROVED BY THE AUTHORITY CONCERNED.
- UPON COMPLETION OF THE PROJECT, SUBMIT FOUR (4) COPIES OF MAINTENANCE MANUALS CONTAINING 'AS INSTALLED' DRAWINGS (ALSO SUBMIT IN ELECTRONIC DWG FORMAT).
- 10. IF FOR ANY REASON DOUBT EXISTS ON WHETHER A PARTICULAR PORTION OF WORK IS REQUIRED THE HYDRAULIC CONTRACTOR SHALL INCLUDE THIS AS A SEPARATE QUOTATION IN
- THE HYDRAULIC CONTRACTOR SHALL INCLUDE A FULL SCHEDULE OF RATES TO COVER THE WORKS AND ANY VARIATION WITH THE TENDER.
- 12. LIABILITY OF DEFECTS SHALL BE 12 MONTHS.
- 13. THE TENDER PRICE SHALL BE SUBMITTED AS A FIXED LUMP SUM NOT SUBJECT TO ADJUSTMENT DUE TO VARIATIONS IN COSTS.
- TENDERS SUBMITTED SHALL INCLUDE FOR ALL WORK, INCIDENTAL OR OTHERWISE NECESSARY, SUCH THAT THE COMPLETED WORK IS TO THE ENTIRE SATISFACTION OF THE PROPRIETOR, ARCHITECT, ENGINEER AND PROJECT MANAGER.
- TENDERERS SHALL INCLUDE PRIME COSTS SUMS, CONTINGENCY SUMS, GOODS AND SERVICES TAX (WHERE APPLICABLE), CUSTOMS AND OTHER DUTIES, STAMP DUTY, PAYMENTS FOR ROYALTIES, PATENT RIGHTS AND ALL OTHER FEES APPLICABLE TO THE WORK.
- 16. EACH TENDER SUBMITTED SHALL REMAIN VALID AND THE TENDERER BOUND BY IT FOR A PERIOD OF THIRTY (30) DAYS AFTER THE DATE OF SUBMISSION.

# APPLICABLE STANDARDS

HYDRAULIC SERVICES	STANDARD OF PERFORMANCE
COLD WATER SANITARY DRAINAGE / PLUMBING STORMWATER HOT WATER NATURAL GAS FIRE HOSE REELS FIRE HYDRANTS	AS/NZS 3500.1:2018 AS/NZS 3500.2:2018 AS/NZS 3500.3:2018 AS/NZS 3500.4:2018 AS 5601.1:2013 BCA 2019 PART E1.4; AS 2441 :2005 BCA 2019 PART E1.3; AS 2419.1:2005

# **AUTHORITIES HAVING JURISDICTION**

ALL WORKS MUST BE CARRIED OUT IN CONFORMITY WITH THE REGULATION OF THE FOLLOWING

- RELEVANT AUTHORITIES HAVING JURISDICTION OVER SUCH WORKS:
- ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979; ENVIRONMENTAL PLANNING AND ASSESSMENT REGUALTION 2000;
- PRINCIPAL CERTIFYING ALITHORITY WORK COVER AUTHORITY:
- NSW DEPARTMENT OF INFRASTRUCTURE, PLANNING AND NATURAL RESOURCES; NSW ENVIRONMENTAL PROTECTION AUTHORITY;
- NSW DEPARTMENT OF FAIR TRADING;
- NSW PLUMBING AND DRAINAGE ACT 201 NSW PLUMBING AND DRAINAGE REGULATION 2017
- WATER AUTHORITY (SYDNEY WATER);
- NATURAL GAS AUTHORITY (JEMENA LIMITED);
- BUILDING CODE OF AUSTRALIA / NATIONAL CONSTRUCTION CODE: AND ALL RELEVANT AUSTRALIAN STANDARDS. INCLUDING ALL AMENDMENTS TO THOSE STANDARDS.
- LOCAL COUNCIL.

# SPECIFICATION

- ALL DESIGN. SUPPLY AND INSTALLATION WORK SHALL BE CARRIED OUT BY AND UNDER THE SUPERVISION OF A SUITABLY EXPERIENCED AND FULLY LICENSED PLUMBER AND THEIR OWN HYDRAULIC CONSULTANT IN STRICT CONFORMITY WITH THE ARCHITECTURAL PLANS AND HYDRAULIC SERVICES AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE BUILDING CODE OF AUSTRALIA, LOCAL AUTHORITIES, ALL RELEVANT AUSTRALIAN STANDARDS, LOCAL FIRE BRIGADE REQUIREMENTS AND APPLICABLE FIRE ENGINEERED REPORT.
- WORK IS TO BE CARRIED OUT TO THE SATISFACTION OF THE SUPERINTENDENT.
- SCOPE OF WORKS: PROVIDE ALL MATERIALS AND LABOUR NECESSARY TO PROVIDE A COMPLETE. WORKING AND SERVICEABLE INSTALLATION BASED ON THE DRAWINGS AND SPECIFICATION FOR HYDRAULIC
- SUPPLY AND INSTALLATION DUAL COLD WATER PUMP 1.5kW 10 AMP 240 V. 2 L / SEC @ 20M/ HEAD (EACH PUMP) WITH CONTROL PANEL.
- SUPPLY AND INSTALLATION OF 2 OFF REUSE WATER PUMPS 1.5 kW 10 AMP 240V EACH SUBMERSIBLE PUMP FOR EACH DUAL STORAGE TANK (2L/ SEC @ 35m/ HEAD)
- RAINWATER TANKS: UNDERGROUND CONCRETE RAINWATER TANKS 2 OFF 11,500 LITRES MANUFACTURED BY SYDNEY WATER TANKS WITH EXTENDED TANK ENTRY CHAMBER HEIGHT TO SUIT
- STORMWATER DRAINAGE PIPE CONNECTIONS. (UNDERGROUND CHAMBER TO BE INSTALLED TO MANUFACTURERS AND FAIRFIELD COUNCIL RECOMMENDATIONS.) PROVIDE ALTERNATIVE COLD WATER SUPPLY DAVEY RAINBANK UNIT WITH REDUCED
- PRESSURE ZONE DEVICES WHEN REUSE WATER LEVELS ARE NOT ADEQUATE. SUPPLY AND INSTALL PREPACKAGED FILTRATION UNIT TO SUIT LANDSCAPE CONSULTANT CRITERIA FOR APPROPRIATE STANDARD ALTERNATIVELY PROVIDE A RECOMMENDED PRE PACKAGE APPROVED PRODUCT WITH TENDER SUBMISSION.
- GRATED DRAINS (STAINLESS STEEL): GRATED DRAINS WHERE NOMINATED WITH ACCESS BY PUBLIC ON THE HYDRAULIC DRAWING SHALL WITH LOCKABLE GRATES (DRAINS RECESSED) STORMTECH - 300mm WIDE CUSTOM -
- 316 GRADE WITH FANS TO OUTLET
- PLANTER CHANNEL DRAINS (STAINLESS STEEL): UNDER PLANTER BOXES ON LEVELS 1 AND 2 PROVIDE STAINLESS STEEL CHANNELS TO PICK
- UP PLANTER DRAINAGE. STORMTECH 158 WIDE CUSTOM 316 GRADE WITH FANS TO OUTLETS.

THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL BUILDING

SERVICES, ARCHITECTURAL AND STRUCTURAL DOCUMENTATION.

- THIS SET OF DRAWINGS IS DIAGRAMMATICAL ONLY. THE HYDRAULIC CONTRACTOR SHALL CO-ORDINATE WITH OTHER TRADES AND SET OUT THE WORKS TO SUIT THE ACTUAL ON-SITE
- THIS SET OF DRAWINGS IS ISSUED FOR TENDER STATUS FOR THE WORKS AND DOES NOT CONSTITUTE AS INSTALLATION OR 'WORKSHOP' DRAWINGS. THE CONTRACTOR IS TO DEVELOP THE INFORMATION CONTAINED WITHIN THIS SET OF DRAWINGS INTO A FULLY DETAILED AND
- COORDINATED SET OF INSTALLATION DRAWINGS FOR CONSTRUCTION. THE HYDRAULIC CONTRACTOR SHALL BE DEEMED TO HAVE INSPECTED THE SITE PRIOR TO TENDER AND BE SATISFIED THAT THE WORKS, AS DOCUMENTED, ARE COMPLETE AND ALL

EXISTING SERVICES AND LEVELS SHOWN FOR CONNECTION ARE SUITABLE.

- ALLOW TO CO-ORDINATE AND CONFIRM ALL DIMENSIONS, EXISTING LEVELS, EXISTING SERVICES AND STRUCTURE ON SITE PRIOR TO TENDER. ALLOWING FOR ANY ADDITIONAL WORKS THAT MAY BE REQUIRED TO CO-ORDINATE WITH THESE SERVICES. ALL WORK IS TO BE CO-ORDINATED WITH PROJECT MANAGER & BUILDING MANAGER'S SCHEDULE / APPROVAL SYSTEM.

THE DRAWINGS ARE INDICATIVE ONLY. ALL DIMENSIONS MUST BE CONFIRMED ON SITE BEFORE ANY SITEWORK OR OFF-SITE FABRICATION TAKES PLACE.

- CONTRACTOR TO PROVIDE WORKSHOP DRAWINGS AND DOCUMENTATION TO THE CONSULTING ENGINEER FOR REVIEW PRIOR TO COMMENCING WORKS ON SITE. THESE DOCUMENTS ARE TO BE PROVIDED IN WORD, DWG, RVT OR PORTABLE DOCUMENT FORMAT (PDF) FORMAT AS
- REQUIRED, AND ARE TO INCORPORATE: LEGEND AND DESIGN CRITERIA.
- COORDINATED LAYOUTS WITH ALL OTHER BUILDING SERVICES, ARCHITECTURAL AND STRUCTURAL ELEMENTS, INCULDING INVERT LEVELS ON ALL PIPEWORK.
- LATEST ARCHITECTURAL BACKGROUND. LATEST BUILDING SERVICES AND STRUCTURE DETAILED DESIGN DRAWINGS.
- EXACT LOCATIONS OF PIPEWORK, FIXTURES, RISERS, VALVES ETC.
- IN HIGH PROFILE AREAS, PROVIDE 1:50 DETAILS OF THE INSTALLATIONS. HYDRAULIC CALCULATIONS.
- DIMENSIONED DRAWINGS OF CORE HOLES PROPOSED
- DETAILED DRAWINGS OF MAINS PRESSURE HOT WATER HEATERS, BOILING CHILLED UNITS ETC
- DIAGRAMMATIC DRAWINGS OF ELECTRIC POWER AND CONTROL WIRING FOR ALL HYDRAULIC SERVICES EQUIPMENT FIXING/HANGING DETAILS.
- THE HYDRAULIC CONTRACTOR SHALL MAINTAIN A COMPLETE SET OF THIS DOCUMENTATION ON-SITE AND NOTE ALL DEVIATIONS AND CHANGES AS THEY OCCUR.
- THESE DOCUMENTS AND THE INFORMATION LISTED ABOVE SHALL BE MADE INTO AS-BUILT DRAWINGS PRIOR TO PRACTICAL COMPLETION. THE CONTRACTOR IS RESPONSIBLE TO
- ENSURE AS-BUILT DOCUMENTATION ACCURATELY REFLECTS THE INSTALLATION. FAILURE TO COMPLY WITH THE ABOVE REQUIREMENTS MAY RESULT IN THE DOCUMENTATION BEING REJECTED AND REQUIRE RESUBMISSION UNTIL SATISFACTORY.
- MAKE ALL NECESSARY APPLICATIONS TO THE LOCAL AUTHORITIES. PAY ALL FEES AND OBTAIN
- ALL NECESSARY PERMITS AND APPROVALS AS REQUIRED BY THE AUTHORITIES.
- PERFORM WORK OUT OF HOURS WHERE REQUIRED TO ENABLE MINIMUM DOWN TIME OF EXISTING SERVICES AND TO MAINTAIN UNINTERRUPTED USE OF THE EXISTING DEVELOPMENT.
- . STAGING OF WORKS: STAGE THE WORKS IN ACCORDANCE WITH THE REQUIREMENTS OF THE SUPERINTENDENT AND THE MAIN CONTRACTOR.
- INTERUPTIONS: SHOULD INTERRUPTION TO SERVICES OR USE OF THE EXISTING DEVELOPMENT BE NECESSARY PROVIDE THE SUPERINTENDENT WITH 48 HOURS ADVANCE NOTICE PRIOR TO THE REQUIRED
- MATERIALS: ALL MATERIALS USED IN THE WORK SHALL BE NEW AND OF THE BEST QUALITY AND TYPE AVAILABLE TO CONFORM TO THE RELEVANT AUSTRALIAN STANDARDS AND BEAR THE REQUIRED STANDARDS MARK
- MANUFACTURERS REQUIREMENTS: ALL EQUIPMENT ITEMS SHALL BE INSTALLED IN ACCORDANCE WITH SPECIFIC RECOMMENDATION
- OF THE MANUFACTURER. INCLUDING THE PROVISION OF ANCILLARY SAFETY DEVICES DEEMED
- THE SITE AND PRECINCTS SHALL BE KEPT CLEAN AND TIDY THROUGHOUT THE COURSE OF WORK AND ALL RUBBISH SHALL BE REMOVED REGULARLY PRIOR TO PRACTICAL COMPLETION AND AT THE CONCLUSION OF THE WORK. ALL DEBRIS AND RUBBISH SHALL BE CLEARED AWAY AND REMOVED FROM THE SITE AND THE COMPLETED INSTALLATION SHALL BE LEFT THOROUGHLY CLEAN.

ENSURE THAT ALL TOOLS AND EQUIPMENT ARE MAINTAINED IN A SOUND CONDITION AND ARE SAFE FOR USE AND OPERATED IN A SAFE MANNER. PLANT AND EQUIPMENT ARE TO BE LOCATED SO AS NOT TO IMPEDE THE PASSAGE OF VEHICLES OR PEDESTRIAN TRAFFIC. THE CONTRACTOR SHALL NOT AT ANY TIME LEAVE THE WORKS IN AN UNSAFE CONDITION OR IN A CONDITION THAT MAY CAUSE DAMAGE TO OTHER EXISTING WORK.

# SPECIFICATION

- COORDINATION: COORDINATE SERVICES WITH ALL OTHER TRADES AND WORKS ON THE SITE. REVIEW ALL AVAILABLE EXISTING SERVICES DOCUMENTATION.
- 20 PIPEWORK AND FITTINGS: ALLOW FOR ALL NECESSARY CHANGES IN PIPE RUNS TO SUIT THE FINALISED LAYOUT. PIPEWORK SHALL BE HIDDEN FROM VIEW BY INSTALLATION IN WALLS, CEILINGS OR BURYING IN GROUND. WHERE PIPEWORK CANNOT BE HIDDEN FROM VIEW, OBTAIN THE APPROVAL OF
- IDENTIFICATION OF PIPEWORK: EXPOSED PIPEWORK SHALL BE PAINTED AND LABELLED WITH PIPE MARKERS IN ACCORDANCE WITH AS 1345 & AS 3500.

THE SUPERINTENDENT PRIOR TO INSTALLATION.

- THE CONTRACTOR TO PROVIDE ALL STRUCTURAL PENETRATIONS. INCLUDING SCANS OF STRUCTURAL SLAB TO ALLOW STRUCTURAL APPROVAL.
- PIPEWORK THROUGH FIRE RATED STRUCTURE: WHERE PLASTIC PIPEWORK PASSES THROUGH STRUCTURE WHICH IS TO BE FIRE RATED, PROVIDE APPROVED FIRE COLLARS. WHERE METAL PIPEWORK PASSES THROUGH STRUCTURE WHICH IS TO BE FIRE RATED. MINIMISE PENETRATION SIZE AND PACK AROUND PIPEWORK WITH APPROVED INTUMESCENT
- ENCLOSED WORK SHALL NOT BE COVERED OR CONCEALED FROM VIEW UNTIL IT HAS BEEN TESTED AND INSPECTED BY THE RESPECTIVE AUTHORITIES INSPECTORS AND HAS BEEN APPROVED FOR SUPERINTENDENT.

SEALANT IN ACCORDANCE WITH BCA AND ALL RELEVANT AUSTRALIAN STANDARDS.

- CONCEALMENT BY THE RESTORATION OF DISTURBED AREAS: THE HYDRAULIC CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING GOOD OF DISTURBED GROUND AND WALL SURFACES, CEILINGS AFTER RETICULATION OF NEW PIPEWORK TO
- MATCH EXISTING 26. THE HYDRAULIC CONTRACTOR TO LIAISE WITH THE BUILDER, ARCHITECT, AND ALL OTHER CONTRACTORS TO CO-ORDINATE ALL BUILDERS WORKS, FINISHES, SIGNAGE, ARCHITECTURAL DETAILING AND INTERFACING WITH OTHER SERVICES REQUIRED UNDER
- NEW EQUIPMENT SHALL BE PROTECTED AGAINST DAMAGE DURING THE CONSTRUCTION PERIOD. SCRATCHED OR DAMAGED EQUIPMENT WILL NOT BE ACCEPTED AND SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- TEST ALL SYSTEMS AS REQUIRED BY THE LOCAL AUTHORITIES AND RELEVANT AUSTRALIAN STANDARDS.
- 29. THE HYDRAULIC CONTRACTOR SHALL BE ENTIRELY RESPONSIBLE FOR THE ELIMINATION OF SYSTEM NOISE, VIBRATION AND WATER HAMMER.
- 30. COMPLIANCE CERTIFICATE ISSUE A CERTIFICATE OF COMPLIANCE BEFORE PRACTICAL COMPLETION. THE CERTIFICATE SHALL STATE THAT THE COMPLETE INSTALLATION COMPLIES WITH ALL THE REQUIREMENTS OF THIS SPECIFICATION AS WELL AS RELEVANT AUSTRALIAN STANDARDS AND REGULATIONS WHICH APPLY TO THE INSTALLATION PROVIDE CERTIFICATION IN ACCORDANCE WITH ALL LEGISLATIVE REQUIREMENTS FOR THE COLD WATER, SANITARY DRAINAGE / PLUMBING, STORMWATER / RAINWATER DRAINAGE / PLUMBING, NATURAL GAS, FIRE HOSE REEL SERVICES.
- MAINTENANCE: THE HYDRAULIC CONTRACTOR SHALL ALLOW TO MAINTAIN ALL INSTALLED HYDRAULIC SERVICES INSTALLED AS PART OF THIS CONTRACT FOR A PERIOD OF TWELVE (12) MONTHS IN ACCORDANCE WITH ALL RELEVANT AUSTRALIAN STANDARDS AND THE EQUIPMENT
- MANUFACTURERS RECOMMENDATIONS FOLLOWING PRACTICAL COMPLETION. THE COMPLETE WORKS SHALL BE WARRANTED AGAINST DEFECTIVE. WORKMANSHIP AND MATERIALS (FAIR WEAR AND TEAR EXCEPTED) AND AGAINST NON-COMPLIANCE OF SYSTEMS OR EQUIPMENT DURING THE ENTIRE WARRANTY PERIOD TWELVE (12) MONTHS
- OPERATING AND MAINTENANCE MANUAL:
- TWO WEEKS PRIOR TO APPLICATION FOR PRACTICAL COMPLETION, THE HYDRAULIC CONTRACTOR SHALL PROVIDE A FULLY COMPREHENSIVE SET OF OPERATING AND MAINTENANCE MANUALS IN PLAIN ENGLISH TO THE CONSULTANT FOR REVIEW. THE DOCUMENT SHALL MINIMALLY COMPRISE OF THE FOLLOWING:
- INDEX OF CONTENTS. AN INTRODUCTION DESCRIBING:

AFTER PRACTICAL COMPLETION.

- THE SCOPE OF WORK AND APPLICABLE CODE OR STANDARDS. • DATES OF INSTALLATION, COMPLETION, AND END OF DEFECTS LIABILITY PERIOD.
- ASSETS REGISTER INCLUDING MANUFACTURER TECHNICAL DATA SHEETS AND BROCHURES PROVIDING VISUAL RECOGNITION OF EACH COMPONENT AS WELL AS THE NAME OF EACH MANUFACTURER AND CONTACT DETAILS FOR PROCUREMENT.
- MAINTENANCE SCHEDULES AS RECOMMENDED BY AUSTRALIAN STANDARD AND THE MANUFACTURER.
- OPERATING INSTRUCTIONS FOR EQUIPMENT. COPIES OF WARRANTY REGISTRATION CERTIFICATE FOR EACH ITEM OF EQUIPMENT. INSTALLATION CERTIFICATES.
- AUTHORITIES' CERTIFICATES OF NOTICE OF WORK AND CERTIFICATE OF COMPLIANCE. COMMISSIONING INFORMATION AND TEST DATA. HELP AND CONTACT INFORMATION.
- AS-BUILT DRAWINGS.

INSPECTION MAY HAVE IDENTIFIED THEM.

- PRACTICAL COMPLETION: MAY BE WITHHELD UNTIL THE O&M MANUAL HAS BEEN APPROVED.
- 34. COMPLETION OF CONSTRUCTION: AT COMPLETION OF CONSTRUCTION FURNISH CERTIFICATES OF COMPLIANCE FROM ALL RELEVANT GOVERNING AUTHORITIES

# **DUTY OF CARE**

VOS GROUP ARE NOT RESPONSIBLE FOR ANY EXISTING HYDRAULIC SERVICES NON- COMPLIANCES WITHIN DRAINAGE SYSTEMS COLD WATER HOT WATER NATURAL GAS FIRE HYDRANT AND FIRE HOSE REEL SYSTEMS WHICH ARE EVIDENT WITHIN THIS TENANCY AND THE BLIII DING WHERE AN

THE BUILDING OWNER AND THEIR INSURERS, IRREVOCABLY DISCHARGE US FROM OUR DUTY OF CARE IN RELATION TO THESE NON-COMPLIANCES, WHICH ARE REQUIRED TO BE IDENTIFIED BY THE TESTING AND MAINTENANCE CONTRACTOR WITHIN AS1851 (2012).

# COLD WATER

- PROVIDE A FULLY COMPLIANT, FUNCTIONING COLD WATER SERVICE INCORPORATING THE INSTALLATION OF NEW PIPEWORK, FIXTURES AND ANCILLARY ITEMS AS REQUIRED TO COMPLY WITH LOCAL AUTHORITY REQUIREMENTS AND AS/NZS 3500.1:2018.
- CONFIRM LOCATION, SIZE AND AVAILABILITY OF EXISTING COLD WATER SERVICE PRIOR TO COMMENCING WORK.
- PIPEWORK, COMPONENTS AND FIXTURES SHALL BE NEW, LISTED ON THE WELS AND WATERMARK SCHEMES AS APPLICABLE AND COMPLIANT WITH RELEVANT AUSTRALIAN
- ALL COLD WATER PIPEWORK SHALL BE LOCATED IN ACCORDANCE WITH AS/NZS 3500.1:2018 SECTION 5.4 WITH PIPEWORK AND ASSOCIATED HANGERS/BRACKETS, SPACED IN ACCORDANCE WITH AS/NZS 3500.1:2018 SECTION 5.6, ALIGNED IN A UNIFORM MANNER. COORDINATE LOCATION OF PIPEWORK WITH ARCHITECTURE. MECHANICAL DUCTWORK. BUILDING STRUCTURE AND THE LIKE.
- PIPEWORK CHASED IN WALLS SHALL BE LAGGED WITH KEMLAG OR EQUIVALENT MATERIAL.
- EXPOSED PIPEWORK TO BE ELECTRONICALLY BRIGHT CHROMIUM PLATED, INCLUDING ALL VALVES & FITTINGS.
- THE COLD WATER INSTALLATION SHALL SHALL BE TESTED AND COMMISSIONED IN ACCORDANCE WITH AS/NZS 3500.1:2018 SECTION 18.

# WORK BY OTHERS

- PROVISION OF ONE (1) SET OF ARCHITECTURAL, STRUCTURAL, CIVIL, MECHANICAL, ELECTRICAL, FIRE, AND ESD SERVICES DOCUMENTATION:
- GENERAL LIGHTING AND TEMPORARY POWER DURING CONSTRUCTION; REMOVAL AND REPLACEMENT OF CEILING TILES; REMOVAL AND REPLACEMENT THE CEILING AS NECESSARY TO ALLOW FOR
- INSTALLATION/MODIFICATION OF HYDRAULIC SERVICES:
- REMOVAL OF EXISTING WALLS FOR REMOVAL OF EXISTING HYDRAULIC SERVICES AS REQUIRED; CHASING, CORING, CUTTING AND MAKING GOOD OF ALL CONCRETE AND MASONARY SURFACES TO THE DETAIL PROVIDED BY THE HYDRAULIC SERVICES CONTRACTOR:
- REMOVAL AND RE-INSTATEMENT OF ACCESS PANELS AND HATCHES; SEALING OF ALL PENETRATIONS THROUGH FIRE RATED BARRIERS WITH AN APPROVED FIRE COLLAR OR SEALANT
- ACOUSTIC SEALING OF ALL PENETRATIONS THROUGH ACOUSTICALLY RATED BARRIERS; CUPBOARDS, SHAFTS, DUCTS AND BULKHEADS FOR THE ENCLOUSRE OF PIPEWORK, CABLING
- CUTTING HOLES IN FINISHED SURFACES, TIMBER CUPBOARDS, FALSE CEILINGS, VANITY UNITS AND SHELVES AS REQUIRED:

AND EQUIPMENT TO THE DETAIL PROVIDED BY THE HYDRAULIC SERVICES CONTRACTOR;

PROVISION OF ACCESS PANELS AND HATCHES FOR MAINTENANCE OF HYDRAULIC SERVICES AND EQUIPMENT: PAINTING OF PIPEWORK AS REQUIRED; AND

SIGNAGE TO ALL ENCLOSURES CONTAINING HYDRAULIC SERVICES AS REQUIRED.

- MECHANICAL SERVICES CONTRACTOR: EXTENSION OF MECHANICAL CONDENSATE LINES FROM A/C UNIT TO TUNDISH OR FLOOR WASTE PROVIDED BY HYDRAULIC TRADE;
- ELECTRICAL SÉRVICES CONTRACTOR: SUBMAINS TO HYDRAULIC SERVICES FOUIPMENT:
- SUPPLY AND INSTALLATION OF POWER FOR 2 OFF COLD WATER PUMP 1.5kW 10 AMP 240 V EACH. (2 L / SEC @ 20M / HEAD)
- SUPPLY AND INSTALLATION OF POWER FOR 2 OFF REUSE WATER PUMPS 1.5 kW 10 AMP 240 V EACH SUBMERSIBLE PUMP IN EACH STORAGE TANK. LIAISE WITH THE HYDRAULIC SERVICES CONTRACTOR FOR COORDINATION AND
- COMMISSIONING AS REQUIRED SUPPLY AND INSTALL POWER TO REUSE WATER FILTRATION UNIT PROVIDE 2 OFF DOUBLE GPO
- FIRE SERVICES CONTRACTOR: PROVIDE BOOSTER ASSEMBLY INCLUDING FIRE SERVICES PIPEWORKS, PUMP AND FIRE HYDRANT STANDPOINTS
- CIVIL CONSULTANT TO PROVIDE CIVIL STORM WATER DRAINAGE PICKING UP GROUND FLOOR

SUPPLY AND INSTALL FILTERRA (BIOFILTRATION UNIT)

OCEAN WATCH CONTRACTOR:

- CARPARK DRAINAGE DISH DRAINS ETC AND CONNECTION TO COUNCIL INFRASTRUCTURE. LANDSCAPE CONTRACTOR:
- SUPPLY AND INSTALLATION OF LANDSCAPE PLANTER BOXES, PLANTS INCLUDING PLANTER IRRIGATION PIPEWORK.

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 NOT ALL REUSE WATER. COLD WATER. FIRE HOSE REEL, STORMWATER & DOWNPIPES PIPEWORK SHOWN & IS SUBJECT TO FINAL DESIGN BY HYDRAULIC CONTRACTOR AS OF DESIGN & CONSTRUCT PACKAGE.

**DESIGN AND CONSTRUCTION DOCUMENT** 

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HYDRAULIC SERVICES

LEGEND, GENERAL NOTES, **SCOPE OF WORKS &** SPECIFICATION

Scale: Date Set Up: Project Manager: May-19 PM EC

19.5475

Drawing No:

# SANITARY DRAINAGE / PLUMBING

PROVIDE A FULLY COMPLIANT, FUNCTIONING SANITARY DRAINAGE / PLUMBING SERVICE INCORPORATING THE INSTALLATION OF NEW PIPEWORK, FIXTURES AND ANCILLARY ITEMS AS REQUIRED TO COMPLY WITH LOCAL AUTHORITY REQUIREMENTS AND AS/NZS 3500.2:2018.

- CONFIRM LOCATION, SIZE AND AVAILABILITY OF EXISTING SANITARY PLUMBING/DRAINAGE SERVICE PRIOR TO COMMENCING WORK.
- ALL PIPEWORK, FIXTURES AND ANCILLARY ITEMS SHALL BE NEW, LISTED ON THE WELS AND WATERMARK SCHEMES AS APPLICABLE AND COMPLIANT WITH RELEVANT AUSTRALIAN STANDARDS
- ALL SANITARY DRAINAGE SHALL BE LOCATED IN ACCORDANCE WITH AS/NZS 3500.2:2018 PIPEWORK SHALL BE LAID IN TRENCHES EXCAVATED TO A DEPTH AS PER AS/NZS 3500.2:2018 SECTION 5.2. SANITARY DRAINAGE PIPEWORK SHALL BE SUPPORTED AND BACKFILLED IN ACCORDANCE WITH AS/NZS 3500.2:2018 SECTIONS 5.3, 5.4 AND 5.6. COORDINATE LOCATION OF PIPEWORK WITH OTHER INGROUND SERVICES, NEW AND/OR
- ALL SANITARY PLUMBING SHALL BE LOCATED IN ACCORDANCE WITH AS/NZS 3500.2:2018 SECTIONS 10.2 WITH PIPEWORK AND ASSOCIATED HANGERS/BRACKETS, SPACED IN ACCORDANCE WITH AS/NZS 3500.2:2018 SECTION 10.3, ALIGNED IN A UNIFORM MANNER. COORDINATE LOCATION OF PIPEWORK WITH ARCHITECTURE, MECHANICAL DUCTWORK, BUILDING STRUCTURE AND THE LIKE.
- AIR ADMITTANCE VALVES SHALL COMPLY WITH AS/NZS 4936:2002 AND SIZED IN ACCORDANCE WITH AS/NZS 3500.2 TABLES 6.10.2(A) AND 6.10.2(B).
- EXPOSED PIPEWORK TO BE ELECTRONICALLY BRIGHT CHROMIUM PLATED, INCLUDING ALL VALVES & FITTINGS.
- ON COMPLETION, FLUSH AND REMOVE ALL DEBRIS WITHIN THE SYSTEMS. ALLOW TO ROD AND CCTV ALL SANITARY DRAIN LINES TO THE APPROVAL OF THE PROJECT SUPERINTENDENT.
- THE SANITARY DRAINAGE/PLUMBING INSTALLATION SHALL SHALL BE TESTED AND COMMISSIONED IN ACCORDANCE WITH AS/NZS 3500.2:2018 SECTION 15.

# STORMWATER/RAINWATER DRAINAGE / **PLUMBING**

PROVIDE A FULLY COMPLIANT, FUNCTIONING STORMWATER/RAINWATER DRAINAGE/PLUMBING SERVICE INCORPORATING THE INSTALLATION OF NEW GUTTERS, DOWNPIPES, PIPEWORK, AND ANCILLARY ITEMS AS REQUIRED TO COMPLY WITH LOCAL AUTHORITY REQUIREMENTS AND AS/NZS 3500.3:2018.

- CONFIRM LOCATION, SIZE AND AVAILABILITY OF EXISTING STORMWATER/RAINWATER DRAINAGE/PLUMBING SERVICE PRIOR TO COMMENCING WORK.
- ALL PIPEWORK, FIXTURES AND ANCILLARY ITEMS SHALL BE NEW, LISTED ON THE WATERMARK SCHEME AND COMPLIANT WITH RELEVANT AUSTRALIAN STANDARDS
- GUTTERING AND DOWNPIPES SHALL BE SUPPORTED IN ACCORDANCE WITH AS/NZS 3500.3:2018
- THE CONTRACTOR SHALL ENSURE THE APPROPRIATE MEASURES ARE ACCOMODATED WITHIN THE ROOF DRAINAGE AND ASSOCIATED SUPPORT SYSTEMS TO SAFEGUARD THE SYSTEMS INSTALLED, BUILDING FACADE, BUILDING STRUCTURE AND ARCHITECTURAL FEATURES FROM THE EFFECTS OF THERMAL VARIATION (EXPANSION AND/OR CONTRACTION). PROVISIONS SHALL BE MADE IN ACCORDANCE WITH AS/NZS 3500.3:2018 AND THE MANUFACTURER'S TECHNICAL DATA SHEETS.
- ALL STORMWATER/RAINWATER DRAINAGE RELATION TO CARPARK ROOF DRAINAGE AND AWNING ROOF DRAINAGE GRAVITATION TO REUSE WATER TANK VIA FILTERRA UNIT SHALL BE INSTALLED IN ACCORDANCE WITH AS/NZS 3500.3:2018 SECTION 6.
- IN ACCORDANCE AS PER AS/NZS 3500.3:2018 SECTION 6. COORDINATE LOCATION OF PIPEWORK WITH OTHER INGROUND SERVICES. NEW AND/OR

PIPEWORK SHALL BE LAID IN TRENCHES EXCAVATED TO A DEPTH. SUPPORTED AND BACKFILLED

- ALL STORMWATER/RAINWATER PLUMBING SHALL BE LOCATED IN ACCORDANCE WITH AS/NZS 3500.3:2018 SECTION 4.5 WITH PIPEWORK AND ASSOCIATED HANGERS/BRACKETS, SPACED II ACCORDANCE WITH AS/NZS 3500.3:2018 SECTION 4.9, ALIGNED IN A UNIFORM MANNER. COORDINATE LOCATION OF PIPEWORK WITH ARCHITECTURE, MECHANICAL DUCTWORK,
- ON COMPLETION, FLUSH AND REMOVE ALL DEBRIS WITH THE SYSTEMS. ALLOW TO ROD AND CCTV ALL STORMWATER AND RAINWATER DRAIN LINES TO THE APPROVAL OF THE PROJECT SUPERINTENDENT.
- THE STORMWATER/RAINWATER DRAINAGE/PLUMBING INSTALLATION SHALL SHALL BE TESTED AND COMMISSIONED IN ACCORDANCE WITH AS/NZS 3500.3:2018 SECTION 9.
- REUSE TANK SHALL BE 20KL AND HOLDING CAPACITY WITH REUSE WATER DUAL PUMPOUT UNIT INCLUDING FILTRATION UNIT.
- PROVISION FOR BELOW GROUND FIRST FLUSH UNIT TO ACCOMMODATE FLOWS.

BUILDING STRUCTURE AND THE LIKE.

# FIXTURES AND TAPWARE

SUPPLY AND INSTALL ALL FIRST QUALITY SANITARY FIXTURES AND TAPWARE AS SCHEDULED BY ARCHITECT AND AS SHOWN ON DRAWINGS.

# NATURAL GAS

PROVIDE A FULLY COMPLIANT, FUNCTIONING NATURAL GAS SERVICE INCORPORATING THE INSTALLATION OF NEW PIPEWORK. APPLIANCES AND ANCILLARY ITEMS AS REQUIRED TO COMPLY WITH LOCAL AUTHORITY REQUIREMENTS AND AS 5601.1:2013.

- CONFIRM LOCATION, SIZE AND AVAILABILITY OF EXISTING NATURAL GAS SUPPLY PRIOR TO COMMENCING WORK.
- ALL NATURAL GAS APPLIANCES SHALL BE NEW, AN AUSTRALIAN GAS ASSOCIATION CERTIFIED
- PRODUCT AND COMPLIANT WITH RELEVANT AUSTRALIAN STANDARDS. ALL PIPEWORK, FIXTURES AND ANCILLARY ITEMS SHALL BE NEW, LISTED ON THE WATERMARK SCHEME AS APPLICABLE AND COMPLIANT WITH RELEVANT AUSTRALIAN STANDARDS.
- ALL NATURAL GAS PIPEWORK INSTALLED INGROUND SHALL BE LOCATED AND INSTALLED IN ACCORDANCE WITH AS 5601.1:2013 SECTION 4.10. COORDINATE LOCATION OF PIPEWORK WITH OTHER INGROUND SERVICES, NEW AND/OR
- ALL NATURAL GAS PIPEWORK ABOVE GROUND SHALL BE LOCATED IN ACCORDANCE WITH AS 5601.1:2013 SECTION 4.10. WITH PIPEWORK AND ASSOCIATED HANGERS/BRACKETS, SPACED IN ACCORDANCE WITH AS 5601.1:2013 SECTION 4.3. ALIGNED IN A UNIFORM MANNER. COORDINATE LOCATION OF PIPEWORK WITH ARCHITECTURE, MECHANICAL DUCTWORK, BUILDING STRUCTURE AND THE LIKE.
- NATURAL GAS APPLIANCES SHALL BE LOCATED IN ACCORDANCE WITH AS 5601.1:2013 SECTION 5.3 AND PROVIDED WITH AIR SUPPLY IN ACCORDANCE WITH AS 5601.1:2004 SECTION 5.4.
- PIPEWORK CHASED IN WALLS SHALL BE LAGGED WITH KEMLAG OR EQUIVALENT MATERIAL.
- THE NATURAL GAS INSTALLATION SHALL SHALL BE PURGED AND PRESSURE TESTED IN ACCORDANCE WITH AS 5601.1:2013 APPENDIX D AND APPENDIX E RESPECTIVELY. APPLIANCES SHALL BE COMMISSIONED IN ACCORDANCE WITH AS 5601.1:2013 SECTION 9 AND MANUFACTURER'S GUIDE LINES.

# FIRE HOSE REEL

- PROVIDE A NEW, FULLY COMPLIANT, FUNCTIONING FIRE HOSE REEL SYSTEM INCORPORATING THE INSTALLATION OF NEW FIRE HOSE REELS, ASSOCIATED PIPEWORK AND PUMPSETS AS REQUIRED TO COMPLY WITH THE BCA 2019 CLAUSE E1.4, SPECIFICATION E1.4, AS 1221:1991, AS 2441:2005, AS 2941:2013 AND AS/NZS 3500.1:2003.
- FIRE HOSE REEL SYSTEM DESIGN GUIDELINES: THE WATER SUPPLY TO THE FIRE HOSE REEL ASSEMBLY SHALL BE SUFFICIENT TO ENABLE DELIVER 0.33 L/s AT 210 ±10kPa FOR THE TWO MOST HYDRAULICALLY DISADVANTAGED FIRE HOSE REELS OPERATING SIMULTANEOUSLY.
- ALL FIRE HOSE REELS, PIPEWORK AND COMPONENTS SHALL BE NEW, LISTED ON THE WATERMARK AND CSIRO ACTIVFIRE SCHEMES AS APPLICABLE AND COMPLIANT WITH THE RELEVANT AUSTRALIAN STANDARDS.
- FIRE HOSE REELS SHALL HAVE A HOSE LENGTH OF 36m, A NOMINAL HOSE DIAMETER OF 19mm AND COMPLY WITH THE REQUIREMENTS OF AS 1221:1991.
- PIPEWORK AND FITTINGS SHALL COMPLY WITH AS/NZS 3500.1:2018.
- . THE FIRE HOSE REEL PUMPSET SHALL COMPLY WITH THE REQUIREMENTS OF AS 2941:2013. CIF REQUIRED. SUBJECT TO VERIFICATION OF SYDNEY WATER PRESSURE AND FLOW
- ALL FIRE HOSE REEL PIPEWORK AND HANGERS/BRACKETS SHALL BE ALIGNED IN UNIFORM MANNER AND COMPLY WITH AS/NZS 3500.1:2018 SECTION 5.7. COORDINATE LOCATION OF PIPEWORK WITH ARCHITECTURE, MECHANICAL DUCTWORK, BUILDING STRUCTURE AND THE
- . THE FIRE HOSE REEL ASSEMBLY SHALL BE SUITABLY MOUNTED AT A SPINDLE HEIGHT OF BETWEEN 1400mm AND 2400mm ABOVE FINISHED FLOOR LEVEL. THE STOP VALVE SHALL BE MOUNTED AT 1000 ±100mm ABOVE FINISHED FLOOR LEVEL (NOTE: THE RECOMMENDED MOUNTING HEIGHT OF THE CENTRE OF THE FIRE HOSE REEL IS 1500mm ABOVE FINISHED
- WHEN THE FIRE HOSE REEL IS SURFACE MOUNTED OR IN A RECESS, CABINET OR CAVITY, THERE SHALL BE A MINIMUM RADIAL CLEARANCE OF 100mm BETWEEN THE REEL RIM AND ANY OBSTRUCTION TO THE SIDES, ABOVE AND BELOW THAT DOES NOT FORM PART OF THE FIRE
- 11. NON-FIRE EQUIPMENT OR SERVICES SHALL NOT BE INSTALLED WITHIN THE CABINET.
- 1. UNLESS OTHERWISE NOTED, THE SIZE OF PIPEWORK SHALL BE SIZED VIA FULL HYDRAULIC CALCULATIONS UTILISING 'HYENA' SOFTWARE OR AN APPROVED EQUAL. ASSOCIATED ISOMETRIC DIAGRAMS WITH DESIGN NODES SHALL ALSO BE SUBMITTED ALONG WITH THE FULL CALCULATIONS.
- 12. THE FIRE HOSE REEL SYSTEM SHALL BE TESTED AND COMMISSIONED IN ACCORDANCE WITH

## MATERIALS

SHALL BE NOMINATED HEREUNDER AND COMPLY WITH THE STANDARDS AS SPECIFIED.

COPPER TUBE AND FITTINGS, 'TYPE B', MANUFACTURED TO AS 1432:2004 AND AS 3688:2016 AND INSTALLED AND COMMISSIONED IN ACCORDANCE WITH AS 4809:2017, WITH 5% SILVER SOLDERED JOINTS

ALTERNATE = CROSS LINKEDIN POLYETHYLENE (PE-Xa) PIPE AND COMPRESSION SLEEVE JOINTED FITTINGS TO AS/NZS 2492:2007, AS 2537:1994 AND AS/NZS 4020:2018 USED IN ACCORDANCE WITH AS/NZS 3500.1:2018 AND THE MANUFACTURER'S TECHNICAL DATA SHEET (MUST BE EQUAL TO REHAU RAUTITAN).

- PIPE SIZES SHALL BE EQUAL TO COPPER TYPE 'B' TUBE UNLESS NOTED OTHERWISE.

PVC-U (DWV) PIPEWORK AND FITTINGS MANUFACTURED TO AS 1260:2017 WITH SOLVENT CEMENT WELDED JOINTS AND INSTALLED IN ACCORDANCE WITH AS/NZS 2032:2006 AND THE MANUFACTURER'S TECHNICAL DATA SHEET.

PVC-U (PN12) PIPEWORK AND FITTINGS MANUFACTURED TO AS/NZS 1477:2017 WITH HIGH BOND SOLVENT CEMENT WELDED JOINTS AND INSTALLED IN ACCORDANCE WITH AS/NZS 2032:2006 AND THE MANUFACTURER'S TECHNICAL DATA SHEET. PROVIDE LONG RADIUS BENDS.

WHERE THE EXISTING SANITARY STACK IS COMPRISED OF A PLASTIC OR METALLIC MATERIAL AND PENETRATES A BUILDING ELEMENT REQUIRED TO HAVE A FIRE RESISTANCE LEVEL, ALL NEW DRAINAGE THAT PENETRATES A BUILDING ELEMENT REQUIRED TO HAVE AN FIRE RESISTANCE LEVEL AND CONNECTING TO THAT RISER SHALL BE OF A SIMILAR (I.E. METALLIC OR PLASTIC) MATERIAL IN ACCORDANCE WITH BCA CLAUSE 3.15 AND SPECIFICATION C3.15.

STORMWATER / RAINWATER DRAINAGE / PLUMBING:

BOX/EAVES GUTTER: MATERIAL COMPLYING WITH AS/NZS 2179.1:2014, AS PER ARCHITECT'S SCHEDULE, SIZED IN ACCORDANCE WITH THE HYDRAULIC DOCUMENTATION.

MATERIAL AS PER ARCHITECT'S SCHEDULE, SIZED IN ACCORDANCE WITH THE HYDRAULIC DOCUMENTATION; OR

PVC-U PIPEWORK AND FITTINGS MANUFACTURED TO AS 1260:2017 AND INSTALLED IN ACCORDANCE WITH AS/NZS 2032:2006 AND THE MANUFACTURER'S TECHNICAL DATA SHEET.

ABOVE GROUND STORMWATER/RAINWATER PLUMBING:

PVC-U (DWV) PIPEWORK AND FITTINGS MANFACTURED TO AS 1260:2017 WITH SOLVENT CEMENT WELDED JOINTS AND INSTALLED IN ACCORDANCE WITH AS/NZS 2032:2006 AND THE MANUFACTURER'S TECHNICAL DATA SHEET.

BELOW GROUND STORMWATER/RAINWATER DRAINAGE

PVC-U (DWV) PIPEWORK AND FITTINGS MANUFACTURED TO AS 1260:2017 WITH SOLVENT CEMENT WELDED JOINTS AND INSTALLED IN ACCORDANCE WITH AS/NZS 2032:2006 AND THE MANUFACTURER'S TECHNICAL DATA SHEET.

SUBSOIL DRAINAGE:

SLOTTED PVC-U PIPEWORK AND FITTINGS MANUFACTURED TO AS 1260:2017 WITH SOLVENT CEMENT WELDED JOINTS AND INSTALLED IN ACCORDANCE WITH AS/NZS 2032:2006 AND THE MANUFACTURER'S TECHNICAL DATA SHEET.

PVC-U (PN12) PIPEWORK AND FITTINGS MANUFACTURED TO AS/NZS 1477:2017 WITH HIGH BOND SOLVENT CEMENT WELDED JOINTS AND INSTALLED IN ACCORDANCE WITH AS/NZS 2032:2006 AND THE MANUFACTURER'S TECHNICAL DATA SHEET. PROVIDE LONG RADIUS BENDS.

STORMWATER DRAINAGE CONNECTION TO KERB:

GALVANISED MILD STEEL (GMS) RECTANGULAR HOLLOW SECTION (RHS) MANUFACTURED TO AS/NZS 1163:2016.

WHERE THE EXISTING STORMWATER SERVICE IS COMPRISED OF A PLASTIC OR METALLIC MATERIAL AND PENETRATES A BUILDING ELEMENT REQUIRED TO HAVE A FIRE RESISTANCE LEVEL, ALL NEW DRAINAGE THAT PENETRATES A BUILDING ELEMENT REQUIRED TO HAVE AN FIRE RESISTANCE LEVEL AND CONNECTING TO THAT SERVICE SHALL BE OF A SIMILAR (I.E. METALLIC OR PLASTIC) MATERIAL IN ACCORDANCE WITH BCA CLAUSE 3.15 AND SPECIFICATION C3.15.

NATURAL GAS:

COPPER TUBE AND FITTINGS, 'TYPE B', MANUFACTURED TO AS 1432:2004 AND AS 3688:2016 AND INSTALLED AND COMMISSIONED IN ACCORDANCE WITH AS 4809:2017, WITH 5% SILVER SOLDERED JOINTS.

ALTERNATE = CROSS LINKEDIN POLYETHYLENE (PE-Xa) PIPE AND COMPRESSION SLEEVE JOINTED FITTINGS TO AS/NZS 2492:2007, AS 2537:1994 AND AS/NZS 4020:2018 USED IN ACCORDANCE WITH AS 5601.1:2013 AND THE MANUFACTURER'S TECHNICAL DATA SHEET (MUST BE EQUAL TO REHAU RAUTITAN).

PIPE SIZES SHALL BE EQUAL TO COPPER TYPE 'B' TUBE UNLESS NOTED OTHERWISE.

WHERE THE EXISTING NATURAL GAS SERVICE IS COMPRISED OF A PLASTIC OR METALLIC MATERIAL AND PENETRATES A BUILDING ELEMENT REQUIRED TO HAVE A FIRE RESISTANCE LEVEL. ALL NEW NATURAL GAS PIPEWORK THAT PENETRATES A BUILDING ELEMENT REQUIRE TO HAVE AN FIRE RESISTANCE LEVEL AND CONNECTING TO THAT RISER SHALL BE OF A SIMILAR (I.E. METALLIC OR PLASTIC) MATERIAL IN ACCORDANCE WITH BCA CLAUSE 3.15 AND

SPECIFICATION C3.15. FIRE HOSE REEL:

COPPER TUBE AND FITTINGS, 'TYPE B', MANUFACTURED TO AS 1432:2004 AND AS 3688:2016 AND INSTALLED AND COMMISSIONED IN ACCORDANCE WITH AS 4809:2017, WITH 5% SILVER GALVANISED MEDIUM STEEL TUBE AND FITTINGS IN ACCORDANCE WITH AS 1074:1989 AND AS

CONTROL VALVES TO BE SCREWED BRONZE TO AS 2638 (2011) AND EQUAL TO JOHNS

MANUFACTURE. GENERAL ISOLATION: GATE VALVES

**EQUIPMENT ISOLATION: STOP VALVES** PROVIDE UNIONS EACH SIDE OF VALVE FOR FUTURE REPLACEMENT.

PIPE RUNS (WATER AND DRAINAGE) LOCATED IN NOISE SENSITIVE AREAS (ANY AREA OTHER THAN AMENITIES OR STORE ROOMS) SHALL BE INSULATED WITH AN APPROVED FIRE RATED ACOUSTIC INSULATION HAVING MINIMUM WALL THINNESS OF 25mm AND SHALL BE WRAPPED AND SEALED SO AS TO PROVIDE A CONTINUOUS VAPOUR BARRIER. ACOUSTIC MATERIAL USED FOR SOUNDLAG MUST COVER AN RW RATING - 4525 NOISE COVERAGE.

10. FINISHES:

DRAINAGE, HOT AND COLD WATER PIPEWORK, INCLUDING FITTINGS, SUPPORTS AND THE LIKE IN EXPOSED LOCATIONS. CHROME PLATED TO AS 1192 SERVICE

ENSURE THE FIRE RATING INTEGRITY OF FLOORS AND WALLS ARE MAINTAINED BY PROVIDING THE REQUIRED FIRE RATED COLLARS FOR PLASTIC PIPEWORK AND FIRE RATED SEALANT FOR METAL PIPEWORK IN ACCORDANCE WITH AUSTRALIAN STANDARD.

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DESIGN AND CONSTRUCTION DOCUMENT

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HYDRAULIC SERVICES Drawing No: SPECIFICATION NOTES (CONTINUED) & DETAIL

Scale: Date Set Up: Project Manager: Project No: 19.5475 May-19 PM EC





