



LHO GROUP

LHO GROUP PTY LIMITED

HYDRAULIC, FIRE PROTECTION & CIVIL ENGINEERS

Crown Project Services Pty Ltd
L 15, 3 Spring Street
SYDNEY NSW 2000

Our Ref: 1108-0047 L01

Wednesday, 16 May 2012

Attention: Mr Josh Malin

RE: NETBALL CENTRAL
Lot 201 DP 1041756 Olympic Boulevard, Sydney Olympic Park
Director General's Environmental Assessment Requirements
HYDRAULIC SERVICES UTILITIES

Dear Josh,

The hydraulic services requires water supply for potable, fire fighting and non potable purposes sanitary drainage connection for sanitary waste discharges and natural gas for heating and cooking applications.

Existing capacity of utilities

<u>Service</u>	<u>Requirements</u>	<u>Service Available</u>	<u>Capacity</u>
Potable Water	5 litres/ second at 250 kPa for ablutions	150 diameter water main on east side of Olympic Boulevard	Maximum permissible flow 38 litres/ second at 270 kPa
Potable Water	10 litres/ second at 250 kPa for fire fighting	150 diameter water main on east side of Olympic Boulevard	Available flow 10 litres/ second at 390 kPa
Non Potable Water	5 litres/ second at 250 kPa for sanitary flushing & landscape watering	250 diameter recycled water main on east side of Olympic Boulevard	Maximum permissible flow 100 litres/ second at 250 kPa
Sanitary Drainage	500 fixture units	225 diameter sewer main on south boundary of site.	Maximum permissible flow 4,500 fixture units
Natural Gas	3,000 MJ/hour	50 diameter SOPA common main on south boundary of site.	Maximum permissible flow 8,000 MJ/hour at 200 kPa

There is no intention at this stage to provide augmentation of the existing above utilities.

The existing 150mm diameter sewer on the southeast corner of the building may be affected by the building structure and it is proposed to protect the sewer in accordance with the Sydney Water Corporation Building Over Sewer requirements to SWC's approval. This is expected to require concrete encasement of the sewer or simply designing the building structural footings so that they do not impose any bearing pressure on the existing sewer pipe. Arrangements to protect or relocate easements should be identified

Trusting the above provides sufficient clear advice regarding the services available. Should you require any clarification or further advice please contact the undersigned.

Yours faithfully,

L H O G R O U P P T Y L T D

A handwritten signature in black ink that reads "Michael Armitage". The signature is fluid and cursive, with the first name "Michael" and the last name "Armitage" clearly legible.

Michael Armitage
Director

Statement of Available Pressure and Flow

LHO GROUP
PO Box 114
ST LEONARDS, 1590

WMS No: 181949
Contact No: 88493531
Fax No: 88493113

Attention: Don

Date: 21/02/2012

Pressure & Flow Application Number: 8075052

Your Pressure Inquiry Dated: Fri February 17 2012

Property Address: Golf Driving Range Olympic Boulevard Sydney Olympic Park

The expected maximum and minimum pressures available in the water main given below relate to modelled existing demand conditions, either with or without extra flows for emergency fire fighting, and are not to be construed as availability for normal domestic supply for any proposed development.

ASSUMED CONNECTION DETAILS

Street Name: Olympic Boulevard	Side of Street: East
Distance & Direction from Nearest Cross Street	200 metres North from Shirley Strickland Ave
Approximate Ground Level (AHD):	7 metres
Nominal Size of Water Main (DN):	150 mm

EXPECTED WATER MAIN PRESSURES AT CONNECTION POINT

Normal Supply Conditions	
Maximum Pressure	68 metre head
Minimum Pressure	33 metre head

WITH PROPERTY FIRE PREVENTION SYSTEM DEMANDS	Flow l/s	Pressure head m
Fire Hose Reel Installations (Two hose reels simultaneously)	0.66	33
Fire Hydrant / Sprinkler Installations (Pressure expected to be maintained for 95% of the time)	5	40
	10	39
	15	39
	20	38
	30	37
	35	36
Fire Installations based on peak demand (Pressure expected to be maintained with flows combined with peak demand in the water main)	5	33
	10	32
	15	31
	20	31
	30	29
	35	28
Maximum Permissible Flow	38	27

(Please refer to reverse side for Notes)



Robert Wickham
Principal Planner
Urban Growth - Asset Services

Statement of Available Pressure and Flow

LHO GROUP
PO Box 114
ST LEONARDS, 1590

WMS No: 181968
Contact No: 88493531
Fax No: 88493113

Attention: Don

Date: 21/02/2012

Pressure & Flow Application Number: 8075062

Your Pressure Inquiry Dated: Fri February 17 2012

Property Address: Golf Driving Range Olympic Bvd Sydney Olympic Park

The expected maximum and minimum pressures available in the water main given below relate to modelled existing demand conditions, either with or without extra flows for emergency fire fighting, and are not to be construed as availability for normal domestic supply for any proposed development.

ASSUMED CONNECTION DETAILS

Street Name: Olympic Boulevard	Side of Street: East
Distance & Direction from Nearest Cross Street	200 metres North from Shirley Strickland Ave
Approximate Ground Level (AHD):	7 metres
Nominal Size of Water Main (DN):	250 mm - Recycled

EXPECTED WATER MAIN PRESSURES AT CONNECTION POINT

Normal Supply Conditions	
Maximum Pressure	38 metre head
Minimum Pressure	34 metre head

WITH PROPERTY FIRE PREVENTION SYSTEM DEMANDS	Flow l/s	Pressure head m
Fire Hose Reel Installations (Two hose reels simultaneously)	0.66	34
Fire Hydrant / Sprinkler Installations (Pressure expected to be maintained for 95% of the time)	5	37
	10	37
	15	36
	20	36
	30	36
	35	36
	40	35
	45	35
Fire Installations based on peak demand (Pressure expected to be maintained with flows combined with peak demand in the water main)	5	34
	10	33
	15	33
	20	33
	30	32
	35	32
	40	31
	45	31
Maximum Permissible Flow	100	25

(Please refer to reverse side for Notes)



Robert Wickham
Principal Planner
Urban Growth - Asset Services

Michael Armitage

From: Akinpetide, Joshua [Joshua.Akinpetide@jemena.com.au]
Sent: Tuesday, 24 January 2012 9:26 AM
To: Michael Armitage
Subject: Jemena DBYD Response :DBYD JOB:5217553 SEQ:23996776 - Olympic Bvd Sydney Olympic Park NSW 2127
Attachments: High Pressure Jemena 2011.pdf; P9C_HIGH_PRESSURE_PRIMARY_SECONDARY.pdf; RP2B_HIGH_PRESSURE_PRIMARY_SECONDARY.pdf; RP3A_HIGH_PRESSURE_PRIMARY_SECONDARY.pdf; P8D_HIGH_PRESSURE_SECONDARY.pdf

REF : DBYD JOB:5217553 SEQ:23996776 - Olympic Bvd Sydney Olympic Park NSW 2127

Mains Map id :

With regards to your DBYD inquiry, please refer to the attached document(s).

Prior to commencing works near or over the High Pressure Gas Main you must supply Jemena with your proposal of works including design plans. You must allow two weeks for Jemena to review your works. Once you receive Jemena's approval you may organise for a Pipeline Technician to be on Stand-by during your works.

Please Mail Your Proposed Works Details to : Jemena Asset Management Pty Ltd, Land Services Dept , P O Box 6507 , Silverwater 2128

To arrange a Pipeline Technician please call the High Pressure Coordinator two working days prior to the works commencing.

High Pressure Coordinator 1300 665 380

Please note that a duty of care exists to ensure that this gas main is not compromised or damaged during any future development or construction work.

Joshua

Customer Service Administration

Jemena

100 Bennelong Parkway, Sydney Olympic Park. NSW 2140

PO Box 6507 Silverwater 2128

T: (02) 9397 9103

F: (02) 9397 9992

E: joshua.akinpetide@jemena.com.au



THIS MAP UPDATED ON 07/11/11
THIS PLAN IS DIAGRAMATIC ONLY. DISTANCES
SCALING FROM THIS PLAN MAY NOT BE ACCURATE.
DATE ALTERED: 07/11/11 BY: [signature]

P8B	P9A	P9B
P8D	P9C	P9D
RP2B	RP3A	RP3B

ADJOINING MAPS



NETWORK AREA MUNICIPALITY AREA

Jamena

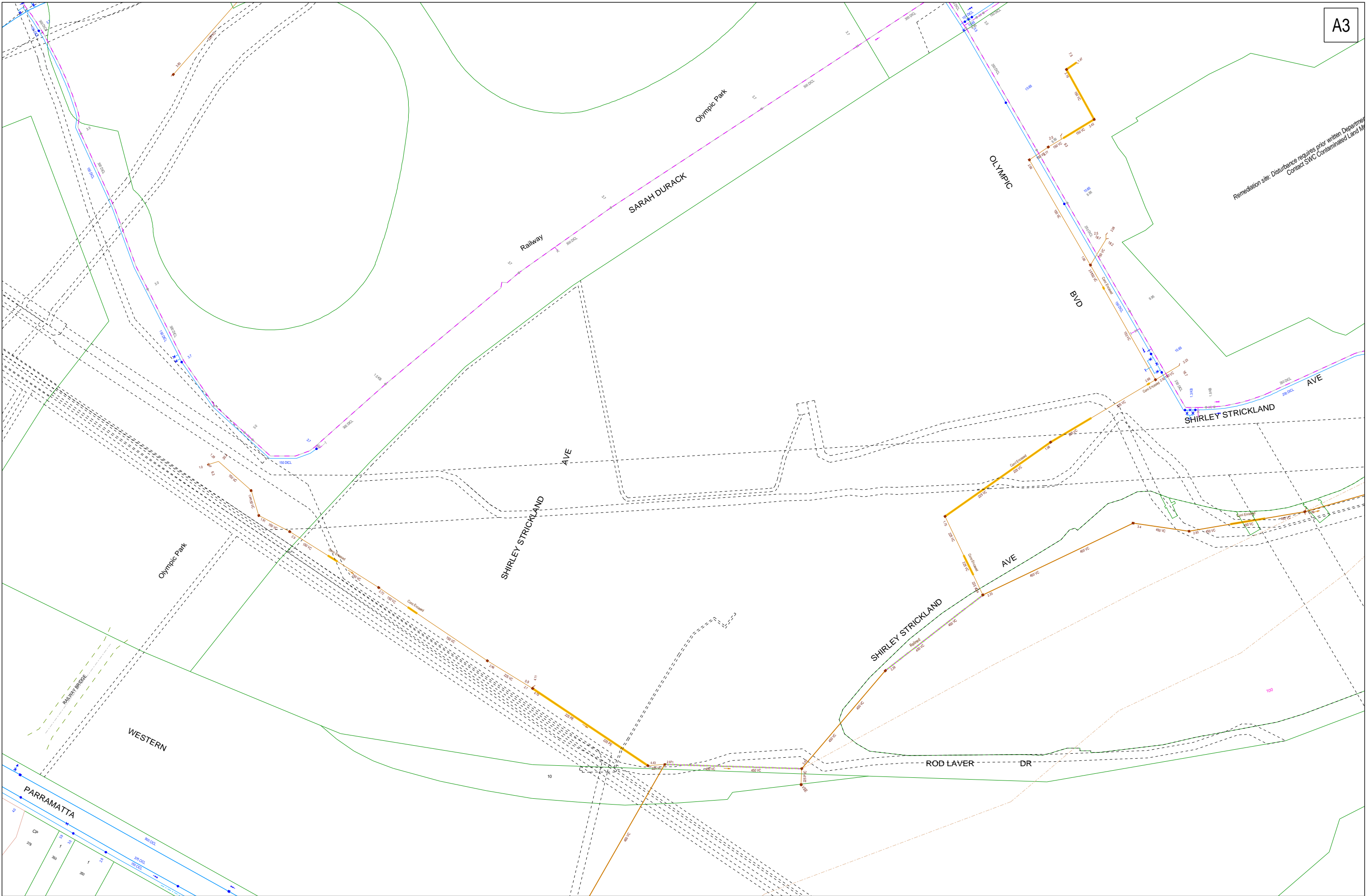
KEY

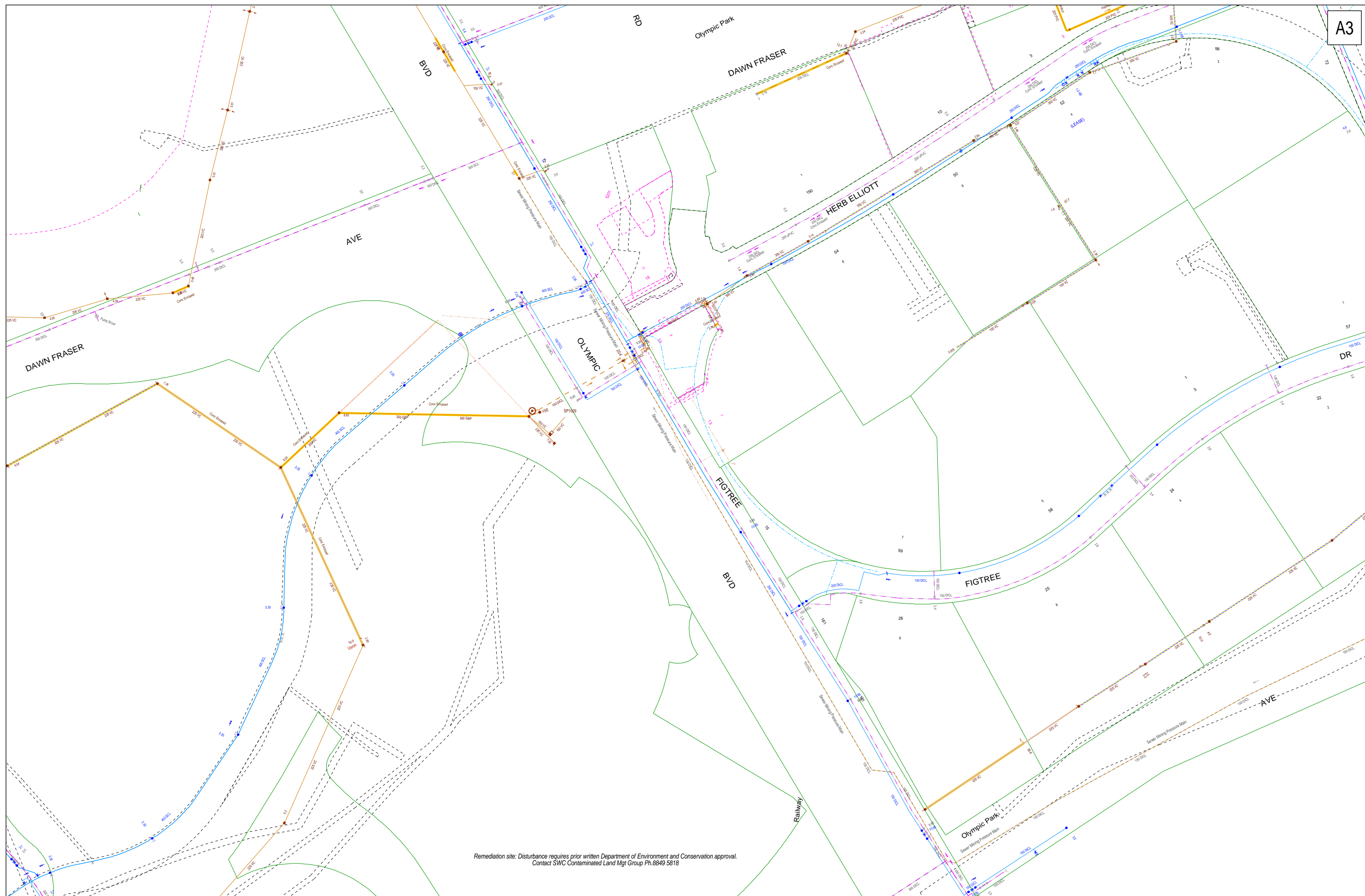
MAX ALLOWABLE OPERATING PRESSURE
TRUNK MAIN 7000 kPa
PRIMARY MAIN 5500 kPa
SECONDARY MAIN 1050 kPa
200 kPa
7 kPa
400 kPa
100 kPa
2 kPa

PROPOSED MAINS

STEEL MAIN PROJECT NUMBER
PRESSURE MONITORING STATION
VALVE
SYSTEM PRESSURE REGULATOR
SPRINKLER
NETWORK NODES
ITEM DETAIL SKETCH AVAILABLE
VALVE NUMBER (OLD NUMBERING)
6 INCH CAST IRON MAIN
150MM STEEL MAIN
100MM POLYETHYLENE/NYLON MAIN
50MM NYLON INSERTED INTO
60MM MAIN CAST IRON MAIN
BUILDING LINE (TOLERANCE OF 0.1M)
YEAR LAID
195/7
MUNICIPALITY BOUNDARY
HOUSE NUMBER
PARRAMATTA 9C







DBYD Address:
n/a Olympic Bvd
Sydney Olympic Park NSW 2127

DBYD Job No: 11543

DBYD Sequence No: 23996777

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SYDNEY WATER CORPORATION

Scale: 1:2000

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