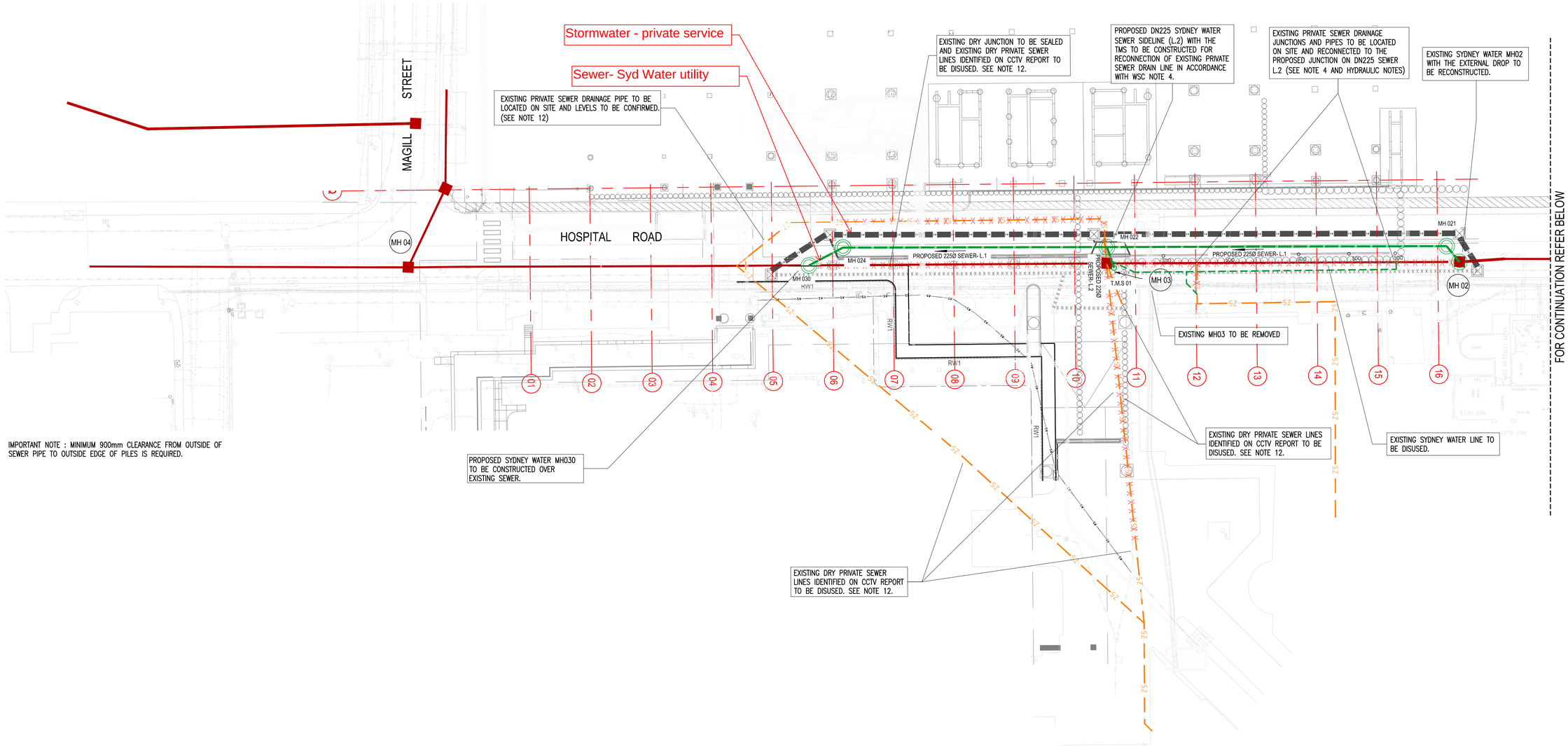

IMPORTANT NOTE : MINIMUM 900mm CLEARANCE FROM OUTSIDE OF SEWER PIPE TO OUTSIDE EDGE OF PILES IS REQUIRED.

CONFIDENTIAL & COMMERCIAL-IN-CONFIDENCE

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NOTE
CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF WORK OR PREPARATION OF SHOP DRAWINGS. DO NOT SCALE THIS DRAWING

ISSUE	DATE	FOR
P1	02.11.18	PRELIMINARY
A	23.11.18	SCHEMATIC DESIGN
B	20.12.18	ISSUED FOR PRICING
C	15.05.19	DRAFT SSDA
D	05.07.19	SSDA ISSUE
E	11.09.19	FOR COORDINATION
F	18.10.19	FOR TENDER

PROJECT MANAGEMENT
PWC

STRUCTURAL ENGINEERING
ENSTRUCT GROUP

MECHANICAL ENGINEERING
FREDON AIR

ELECTRICAL ENGINEERING
FREDON

HYDRAULIC ENGINEERING
CP CONSULTANTS

CLIENT
NSW GOVERNMENT Health Infrastructure

PROJECT
POW - REDEVELOPMENT
ACUTE SERVICES BUILDING
RANDWICK NSW AUSTRALIA

ACOR PROJECT NUMBER
SY180053

DRAWING KEY

TRUE NORTH PROJECT NORTH

GRAPHIC SCALE
0 4 10

SCALE
1:250 @ B1 DO NOT SCALE

STATUS
DESIGN

DRAWING
PROPOSED SEWER PLAN

DRAWING NUMBER	ISSUE
RCR-ACR-WSC-00-DWG-00-101	F

ADJOINTS SHEET 21

Scale in Meters 0 1 2 5

NORTH

ADJOINTS SHEET 03

Electronic Sub-surface Utility Information (SUI) detection techniques such as EM & GPR are influenced by Sub-Surface Utility (SSU) type & ground conditions. Best practice detection rates are 80-90% and depth accuracy ranges between +/- 300mm for 90% of readings with significant outliers for the remainder.

Quality levels (as per AS-**5488-2013**) are mentioned for each point. Please note that Quality Levels may vary for different points of a string. Please see the definitions of the Quality Levels for more information.

Co-ordinate System (Utilities and Aerial): MGA: Zone 56 Vertical Datum: AHD

Telstra depths are indicative and to be used for design purposes only.
Telstra Guidelines regarding potholing must be followed prior to any construction works.
Telstra pipes, conduits and banks may contain optical fibers from other asset owners (e.g. Optus).

Storm Water assets are QL-A at SW Pits unless the pipes have not been accessible (pits full of dirt, rusted gatic lids, etc.) and QL-C between pits. Storm Water pipes have been shown where connectivity could be proven using sonde, dye test or CCTV. In some areas, it's impossible to work out the alignments as the sonde/ CCTV Camera get stuck. For full information of Sewer & Drainage Investigation, please refer to D13999-DR-01.

Kerb outlets are not shown in this drawing.

Potholing is recommended to confirm the depth & position of all utilities located.

For QL-Y & QL-Z, Potholing is required to confirm the position and depth.

Not all property connections are shown on this plan.

This utility map has been generated for design purposes only. It needs to be printed in color and at the specific page size noted in the top right of the page. Failure to do this will void all information indicated.

Between the kerb and boundary on the western side of Hospital Rd was inaccessible due to construction site hoarding in place. Utilities shown in this area are from a previous QL-B SUI Survey (D13034-UT-1).

Refer to Sheet 28 for the various Scope of Works carried out.

DURKIN LEGEND

A3

- W — Water Main (WM)
- WH — Water House Connection (WY)
- WR — Water Main - Recycled
- WZ — Water Main - Digitised
- ?P — Unidentified Pipeline (UP)
- EH — Electric House Connection (EY)
- EU — Electric Line Underground (EU)
- EZ — Electric Line Underground - Digitised
- GH — Gas House Connection (DG)
- HG — Gas Main - High Pressure
- LG — Gas Main - Low Pressure
- GZ — Gas Main - Digitised
- Ø? — Ø? — Stormwater Pipe - Unspecified Ø
- Ø225 — Stormwater Pipe - 225 Ø
- DZ — Stormwater Pipe - Digitised
- S — Sewer Main (SM)
- SZ — Sewer Main - Digitised
- T — Telstra - Telephone Line
- TH — Telstra - Telephone Line - House Connection
- TZ — Telstra - Telephone Line - Digitised
- OU — Optical Fibre (OU)
- OZ — Optical Fibre - Digitised
- UTT — Unable To Trace
- UTL — Unable To Lift
- EOT — End Of Trace
- Water Stop Valve
- WH — Water Hydrant
- EMH — Electricity Cable Manhole
- Street Light Pole
- Power & Street Light Pole
- EJB — Electrical Junction Box
- TSC — Traffic Signal Controller
- Gas Marker
- Gully Pit
- SLH — Sewer Manhole/Lamphole
- Telstra Concrete Pit
- TDP — Telstra Distribution Pillar
- OFP — Optic Fibre Pit
- Drainage Flow Direction
- Sewer Flow Direction
- Scope of Works
- Quality Level (as per AS-5488-2018)
- FOD — Full Of Debris
- UTO — Unable To Open

Quality Levels of Sub-Surface Utility Investigation (SUI) AS 5488-2013
(Reproduced with permission from SAI Global under licence number 1610-c097)

Quality Level A (QL-A): Quality level A is the highest quality level and consists of the positive identification of the attribute and location of a subsurface utility at a point to an absolute spatial position in three dimensions. It is the only quality level that defines a subsurface utility as 'validated'. 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. The vertical information for this locating method is to the top or shallowest part of the located service.
Horizontal and Vertical Tolerance: -/+ 50mm

Quality Level B (QL-B): Quality level B provides relative subsurface feature location in three dimensions. The minimum requirement for quality level B is relative spatial position.
Information is collected by designating the horizontal and vertical location of underground utilities by using electromagnetic pipe and cable locators, sondes or flexi-trace, ground penetrating radar and acoustic pulse equipment.
Horizontal Tolerance: -/+ 300 mm
Vertical Tolerance: -/+ 500 mm

Quality Level C (QL-C): Quality level C is described as a surface feature correlation or an interpretation of the approximate location and attributes of a subsurface utility asset using a combination of existing records (and/or anecdotal evidence) and a site survey of visible evidence. The minimum requirement for quality level C is relative spatial position.
Information is collected by correlating the survey of visible utility surface features such as marker plates or water hydrants and acquired dial-before-you-dig plans to "draw" a string which shows the approximate position of services.
Horizontal Tolerance of Surface Features: -/+ 300 mm

Quality Level D (QL-D): Quality level D is the lowest of the four quality levels. The attribute information and metadata of a subsurface utility can be compiled from any, or a combination of the following:
(a) Existing records.
(b) Cursory site inspection.
(c) Anecdotal evidence.

Quality Level-X (QL-X) Electronically located with Ground Penetrating Radar or other electronic locating techniques not compliant with AS5488. Estimated positional tolerance is +/-300mm in plan, +/-500mm in depth (high confidence level).

Quality Level Y(QL-Y) Electronically located but with reduced confidence in plan position/depth (medium confidence level).

Quality Level Z (QL-Z) Electronically located with low confidence level in plan position/depth (low confidence level).

DRAWING STATUS

FOR INFORMATION

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CLIENT: LENDLEASE

Project Title: Utility & Drainage Survey at:

RANDWICK REDEVELOPMENT

DRAWING DETAIL: UNDERGROUND SERVICES PLAN

LOCATED BY:	MR/DC	DATE	09-07-2018
SURVEYED BY	GM/KS/GL/GC		
DRAFTED BY:	DRD/LR	SCALE	NTS 1:250
CHECKED BY:	MR/JM/MH		
APPROVED BY:	MH		

DRAWING NUMBER: RCR-CMS-ST-50-DRW-SERVICES.DWG
SHEET NUMBER: 04 / 22
REVISION: 4

1	HOSPITAL ROAD UPDATED	6/11/18

DRAINAGE Asset
750Ø RCP
Dpt. to Invert 2700mm
DRAINAGE Asset
750Ø RCP
Dpt. to Invert 3300mm

SW HR6
UTO

DRAINAGE Asset
Seen in CCTV

SERVICE CAGE

Electricity / COMMS Asset
Ø50 PVC, 2Ø2Ø PVC & Direct Buried
(Apx. Dpt. 470-1000mm)
WATER Connection (Steam)
(Apx. Dpt. 600-900mm)
UNKNOWN Asset
(Apx. Dpt. 800mm)
Pipe Visible behind the wall

BASEMENT WALL
BASEMENT
PLANT
PIPE

Empty, Full of Dirt,Unable to Flexi
COMMS Asset,100Ø PVC
(Apx. Dpt. 470-1000mm)
COMMS Asset,100Ø PVC
(Apx. Dpt. 450-1300mm)
COMMS Asset,100Ø PVC
Empty, EOT, Flexi Stuck
(Apx. Dpt. 550-1000mm)
COMMS Asset,100Ø PVC
Empty, EOT
(Apx. Dpt. 550-1000mm)
ELECTRICITY Asset
(Apx. Dpt. 350mm)

To Gas Hydrant Booster
EOT, Empty, Stuck
GAS Connection
(Apx. Dpt. 300-500mm)
GAS Connection,EOT
(Apx. Dpt. 500-1200mm)
COMMS Asset, Empty
100Ø PVC(Apx. Dpt. 470-1000mm)

DRAINAGE Asset
150Ø VC
Dpt. to Invert 2750mm
DRAINAGE Asset
375Ø RCP
Dpt. to Invert 3550mm
Private WATER MAIN Asset
Steam Pipe (Asbesstos encased)
150Ø CI(Apx. Dpt. 300-800mm)
DRAINAGE Asset
225Ø RCP
Dpt. to Invert 1100mm
ELECTRICITY Asset
1X1 2X1 1X1 50Ø PVC & DB(Apx. Dpt. 300-800mm)

DRAINAGE Asset
225Ø RCP
Apx. Dpt. 1100mm

UTO Parked Car
COMMS Asset, EOT, Flexi Stuck
100Ø PVC(Apx. Dpt. 250-700mm)
Private GAS Asset
(Medical Oxygen Pipe)
80Ø CO(Apx. Dpt. 550-800mm)
COMMS Asset
100Ø PVC(Apx. Dpt. 250-750mm)
ELECTRICITY Asset
100Ø PVC(Apx. Dpt. 250-500mm)
WATER Connection
(Apx. Dpt. 150-180mm)
UNKNOWN Asset
Possible Hydrant Pipe
(Apx. Dpt. 1200-1600mm)
UNKNOWN Asset
(Apx. Dpt. 600-1000mm)
Possible Fire Hydrant, EOT
ELECTRICITY Asset

Med Gas - Private

Empty
Blocked

COMMS Asset
100Ø PVC(Apx. Dpt. 520-900mm)
DRAINAGE Asset
750Ø RCP
Dpt. to Invert 2300-3850mm
UNKNOWN Asset
(Apx. Dpt. 900-1200mm)

SEWER Asset
Flexi stuck full of sludge
SEWER Asset
100Ø PVC (Dpt. to Invert 560mm)
SEWER Asset
150Ø PVC(Dpt. to Invert 560mm)
SEWER Asset
150Ø PVC(Dpt. to Invert 920mm)
Flexi Stuck, EOT
ELECTRICITY Asset
4X1 200 PVC(Apx. Dpt. 350-550mm)
ELECTRICITY Asset
2X1 100Ø PVC(Apx. Dpt. 520-800mm)

DRAINAGE Asset
225Ø PVC
Dpt. to Invert 1350mm

DRAINAGE Asset
375Ø PVC
Dpt. to Invert 1150mm
Private GAS Asset
(Medical Oxygen Pipe)

Fuel Pipe
(Apx. Dpt. 700mm)
GAT
Fuel Tank Lid
SW H11
SW H8
SW H9
DRAINAGE Asset
225Ø PVC(Apx. Dpt. 500-750mm)
DRAINAGE Asset
RCP(Apx. Dpt. 1660-2200mm)

Unkown Asset
Aprx. Dpt. 400mm

Aprx. Inaccessible Area

AUSGRID ELECTRICITY Asset
2x2100Ø PVC Aprx. Dpt. 800-1200mm

Sydney Water SEWER Asset
225Ø VC,Dpt to Invert 4415mm
Sydney Water SEWER Asset
225Ø mDpt to Invert 4375mm
Sydney Water SEWER Asset
225Ø VC,Dpt to Invert 4425mm

SEW H3

DRAINAGE Asset
750Ø RCP
Dpt. to Invert 3850mm
DRAINAGE Asset
750Ø RCP
Dpt. to Invert 3850mm

SW HR7
SW HR7A
Vertical Junction

ELECTRICITY Asset
300Ø PVC(Apx. Dpt. 200-250mm)
Private WATER MAIN Asset
(Potable water Pipe)
(Apx. Dpt. 700-1200mm)
Private WATER MAIN Asset
(Hydrant Pipe)
(Apx. Dpt. 600-1200mm)
Possible buried pit.(150mm)
Scar visible in road

Comms/LV - Private asset

Water mains - Private asset

WATER Connection
(Apx. Dpt. 250-450mm)
GAS Asset
(Apx. Dpt. 500-1000mm)
COMMS Asset
100Ø PVC
(Apx. Dpt. 320mm)
UNKNOWN Asset
Ø80 & 100Ø CI
(Apx. Dpt. 650-900mm)

Hospital Rd

ADJOINTS SHEET 22

Aprx. scope of Utility Investigation (October 2018)
Private WATER MAIN Asset
(Hydrant Pipe)
Aprx. Inaccessible Area
Possible SV, Scar in road
UNKNOWN Asset, Possibly Water
EOT,(Apx. Dpt. 400-450mm)

WATER MAIN Asset
Aprx. Dpt. 500-800mm
Private WATER MAIN Asset
(Hydrant Pipe)
Aprx. Dpt. 700-900mm
Private WATER MAIN Asset
(Potable water Pipe)
Aprx. Dpt. 500-700mm

Vertical Junction

AUSGRID ELECTRICITY Asset
2X100Ø PVC Aprx. Dpt. 900-2000mm
AUSGRID ELECTRICITY Asset
4X100Ø PVC Aprx. Dpt. 900-2000mm
Sydney Water SEWER Asset
225Ø VC ,Dpt. to. IL 3375mm
SEWER Asset (Not on DBYD)
150Ø VC Dpt. to Invert 1450mm
Sydney Water SEWER Asset (Disused Main)
150Ø VC Dpt. to Invert 1050mm
Sydney Water SEWER Asset
225Ø VC Dpt. to Invert 3350mm
Sydney Water SEWER Asset
225Ø VC Dpt. to Invert 3450mm

SEW H1

SW H5

ADJOINTS SHEET 25

ADJOINTS SHEET 06