



MINUTES OF MEETING

MANLY TRAMWAY LOOP FEASIBILITY WORKING GROUP

HELD 20TH APRIL 2011

NOTE: All minutes are subject to confirmation at a subsequent Council or Planning and Strategy Committee meeting.

PRESENT:

Councillors

Cllr Jean Hay, Mayor	Manly Council
Cllr Hugh Burns	Manly Council (Chair)
Cllr Barbara Aird	Manly Council

Council Staff

Anneli Karlsson	Manly Council
Christina Femia	Manly Council
Andrew Kandelas	Manly Council
Ian Abbottsmith	Manly Council
Jennie Minifie	Manly Council
Ted Williams	Manly Council
John Gilroy	Manly Council
Param Rajah	Manly Council
Helen Lever	Manly Council
Anthony Hewton	Manly Council
Anna Nikolov	Manly Council

TO THE MAYOR AND COUNCILLORS OF THE COUNCIL

The **Manly Tramway Loop Feasibility Working Group** met on 20th April, 2011, to consider the matters referred to it and now provides the following advice to Council.

OPEN The meeting commenced at 2.00pm.

ITEM 1 APOLOGIES AND LEAVE OF ABSENCE

Michael Giddey has sent an apology. Maryann Novakovic has resigned.

ACTION
All to note

ITEM 2 DECLARATION OF INTEREST

None recorded.

ITEM 3 CONFIRMATION OF MINUTES

The minutes from the meeting on 30 March, 2011 were confirmed.

Moved: Param Rajah

Seconded: Anthony Hewton

	The minutes of the Manly Tramway Loop Feasibility Working Group meeting of 30 March 2011 were adopted at Council's P&S on 2 May 2011. Recommendation Council to note the Minutes from the first meeting of Manly Tramway Loop Feasibility Working Party held on 30th March 2011.	ACTION
ITEM 4	Election of Chairperson It was agreed by those Councillors and committee members present that Cllr Hugh Burns be nominated for Chairperson of the Working Group. Recommendation That Cllr Hugh Burns be endorsed as Chairperson of the Manly Tramway Loop Feasibility Working Group.	Secretariat
ITEM 5	Terms of Reference This item was deferred to the next meeting. Recommendation That the information be noted.	Secretariat
ITEM 6	Task Analysis • Study of the proposed track layout: Param Rajah, Divisional Manager Civic and Urban Services (see paper presented "Proposed Manly Tramway Route Services Map and Illustrative Track Cross Sections") The preliminary investigation first included 3 options for track construction methods (presented in the cross sections and based on Melbourne practice). Critical Issues: - Risk of underground services (utilities) and cost of relocation - Radius at corners No impediments in terms of services relocation were found. Possible mechanical damage of the tracks from heavy lorries. Contact with 2 Melbourne contractors was established. Cost of rails and associated steelwork for track construction was estimated at \$163 per meter excluding transport. Running – average speed 12 km/hr. Overall cost estimated as \$1000/m. Ted Williams suggested to further investigate Option 5 (LR55 track) for tracks. • Options for track laying and power supply systems - Cllr Burns	For notation

(Papers tabled were "Embedded LR55 Track", "New Overhead Line System", "Trampower Brochure on LR55 Track and Overhead", and "Trampower System Brochure")

ACTION

LR55 rail track system

- Uses modern conventional design
- The track system hasn't been trailed in asphalt – to seek expert advice from Melbourne
- Investigate durability and maintenance cost
- Potential for water entry to pavement structure at the concrete/asphalt boundaries was considered a risk this system
- Most preferred options are 2 & 3 (refer to handout)

Power Supply – 3 basic options (from the circulated "Look—no wires!" paper):

- Overhead catenary line – with the UK revised design lower cost; estimated at \$100/m
- Ground supply - for example the Alstom APS system - probably the most advanced of those currently available (cost estimate still being sought);
- Some sort of battery/storage power supply charged at each stop.

Major issues with adopting some form of ground level power supply is the increased system construction cost and the need for good road surface drainage. The consideration of ground level power supply was driven by the route generally being tree lined and sections being adjacent the harbour and ocean beaches and their associated reserves.

The concept of ground power supply is not new. The technical paper "Description of Schuckert Stud Contact System" was circulated to a few attendees (and is available for download). This is probably the most technically elegant ground level solution that was tested in 1905 in Munich, but not adopted at that time due to the lower cost of overhead supply.

A briefing paper entitled "Manly Tramway History" (covering the period between 1903 and 1939 closure) was also circulated for background/reference but not discussed.

Carriages – retrofit old style heritage trams proposed.

- **Land Use considerations - Jennie Minifie, Manager Strategic Land Use Planning**

Opportunities:

- The proposal has initial focus on Stage 1 of Manly 2015 – Town Centre triangle. Potential exists for subsequent extension to Pittwater Road and Ocean Beach, and then to Brookvale and beyond.
- Trams are flexible and can operate on the road or on open space, on land such as the Manly Wharf forecourt to maximise convenience of passengers and ease of transfer
- Opportunity to integrate existing public transport modes such as ferry and bus

Land Use considerations:

- Protection of the proposed alignment from further development

such as new buildings being approved.

- Conditioning DAs to ensure that deliveries and provision of service areas are not on the alignment
- Identifying and including the tramway reservation in the new Manly LEP and DCP is important to ensure that it is protected for the future
- Location for the trams stops - the LEP land use zonings and DCP provisions will need to be reviewed as the stops will generate additional pressure for development – can be managed with DCP controls on height, parking and access.
- It is possible to be developed as transport corridor without development consent

Critical issues:

- Seek specialist technical advice early in the conceptual stages as part of a feasibility study
- Investigate that, in terms of patronage, the proposal is desirable – appealing destinations and convenience will be critical to success
- Identify constraints – seek advice from operational transport providers and traffic bodies such as RTA, Sydney Busses and Sydney Ferries
- Other modes such as taxis and bicycles and the needs of disabled people must be addressed early in the process
- Consider priority at intersections over other traffic

Funding for the feasibility study as well as construction – Council need to obtain sources from every level of Government.

Investigate option for joint council project – eg, both Manly and City of Sydney have high volumes of tourists and are seeking sustainable transport options for residents and tourists alike.

Previous similar proposals included City of Sydney project for Hickson Road, Pitt Street and the Opera House and the Hoxton Park Corridor from Liverpool to Parramatta to Castle Hill (T-way).

A statutory document was prepared to identify the reservation for T-way (Rapid Bus Corridor) REP 18 - Public Transport Corridors. It can be adapted for the Manly LEP but will require advice on the legal drafting, heritage advice, strategic land use planning, and urban design input once the reservation is agreed. The reservation will require to be mapped by the GIS/LIS unit. All of these inputs can be provided from in-house resources subject to priorities when the project is approved.

Action:

- Seek copies of technical documents from the DOP.
- Obtain advice on issues associated with implementation of the T-way, and also the City Of Sydney Light Rail project.
- Discuss opportunities for joint funding applications with City of Sydney for feasibility studies and construction.

• Traffic issues – Anneli Karlsson, Traffic Planner

Traffic modelling – performance at intersections

Loop Issue – the proposed tramway does not transfer people from tram to bus – can create queues

Manage pedestrian and cyclist flow
Belgrave Street is critical.

ACTION

Recommendation

- a) That Council carry out an investigation of service and road pavement strength on nominated route at an estimated cost of \$35,000.
- b) Augment the current traffic study with a further study and to examine the impact of further traffic.

Recommendation

Working Group members to note tasks assigned to follow up. Report back next meeting.

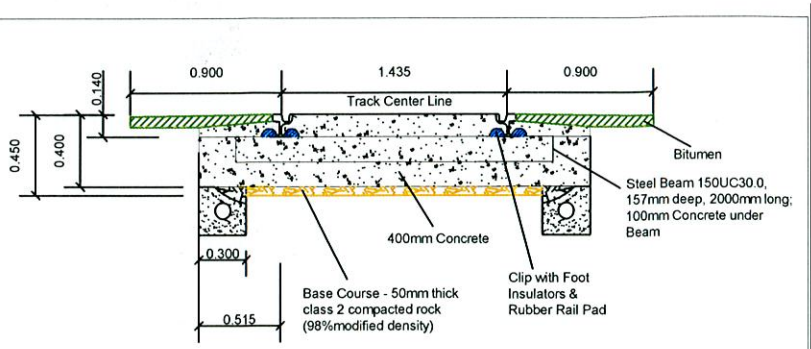
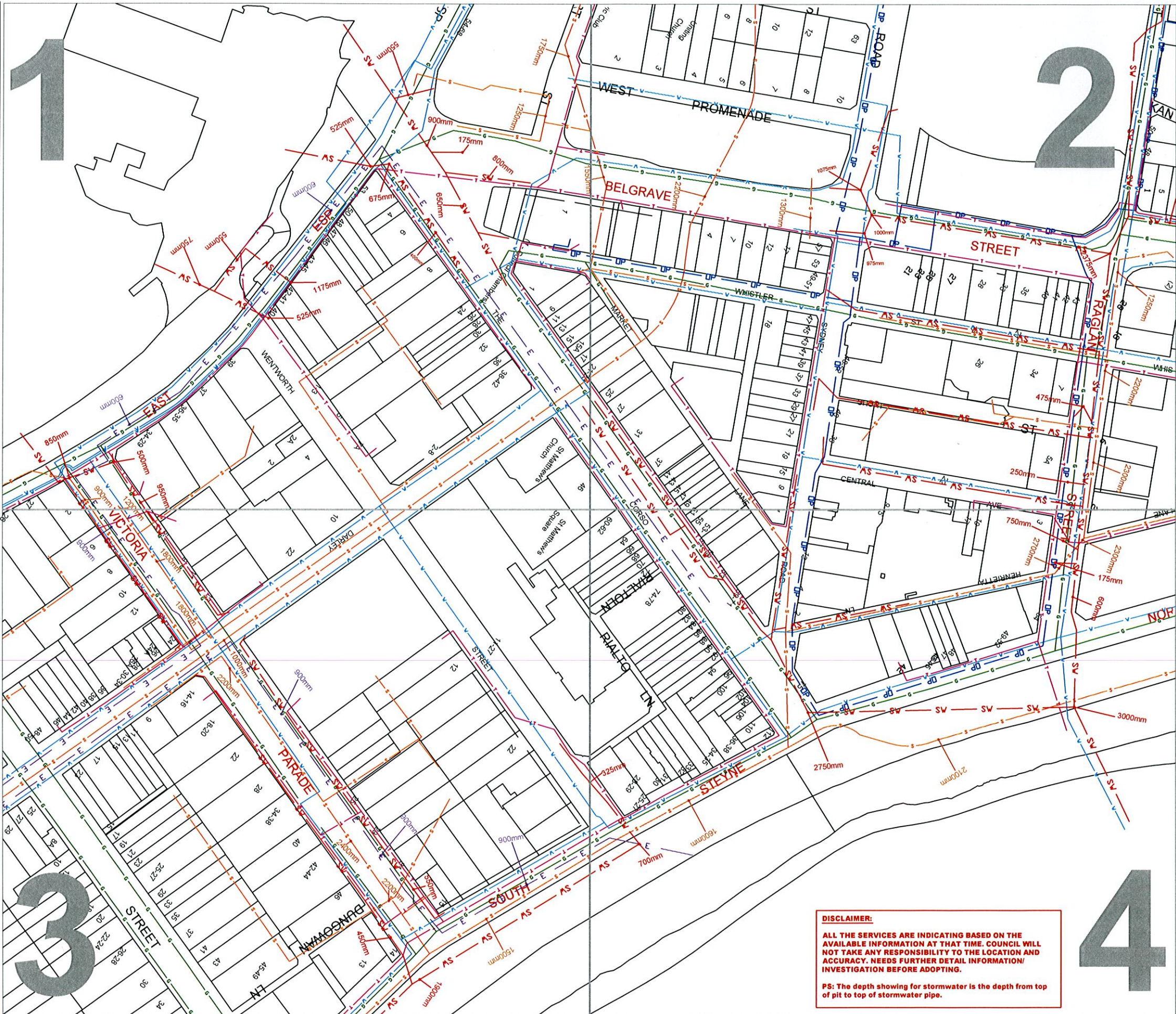
ITEM 7

NEXT MEETING DATE:

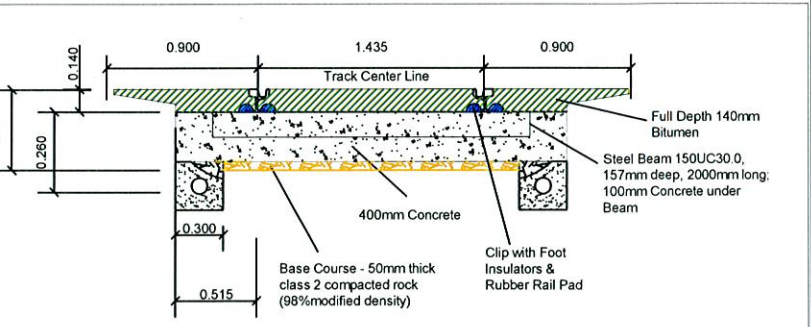
Date: Wednesday 18 May 2011

Time: 2pm

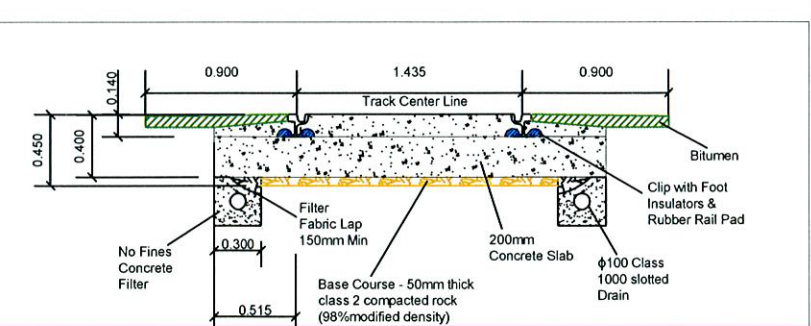
Venue: Councillors' Room



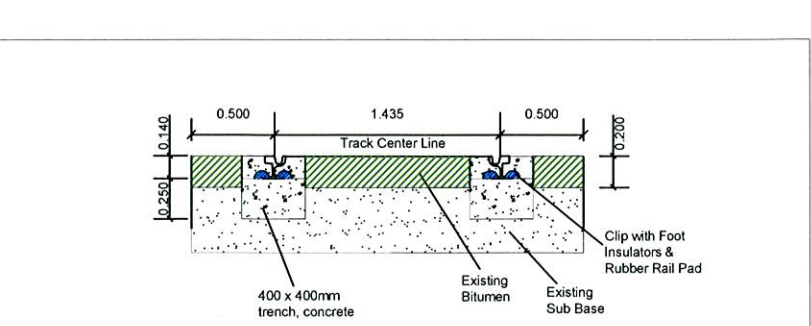
TRACK STRUCTURE - OPTION 1
FULL DEPTH CONCRETE TRACK SLAB WITH STEEL BEAM



TRACK STRUCTURE - OPTION 2
FULL DEPTH BITUMEN - CONCRETE TRACK FOUNDATION WITH STEEL BEAM



TRACK STRUCTURE - OPTION 3
FULL DEPTH CONCRETE TRACK SLAB WITHOUT STEEL BEAM



TRACK STRUCTURE - OPTION 4
FULL DEPTH CONCRETE TRACK TRENCH WITHOUT STEEL BEAM

DISCLAIMER:
ALL THE SERVICES ARE INDICATING BASED ON THE AVAILABLE INFORMATION AT THAT TIME. COUNCIL WILL NOT TAKE ANY RESPONSIBILITY TO THE LOCATION AND ACCURACY. NEEDS FURTHER DETAIL INFORMATION/ INVESTIGATION BEFORE ADOPTING.

PS: The depth showing for stormwater is the depth from top of pit to top of stormwater pipe.

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The map displays a complex network of proposed drainage services across several urban lots. Key features include:

- Streets:** WENTWORTH, EAST, VICT, CORSO, MARKET, ST MATTHEW'S CHURCH, and ST MATHUR SQUARE.
- Pipe Networks:** Multiple lines in blue, red, orange, and purple represent different service types. Labels indicate diameters such as 500mm, 600mm, 850mm, 900mm, 950mm, 1175mm, 1200mm, 1550mm, and 175mm.
- Properties and Lots:** Numerous individual lots are outlined and numbered, including lots 2, 4, 6, 8, 10, 24, 26, 27, 28, 29, 30, 32, 34-35, 36-37, 38-42, 43, 46, 47, 50, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.
- Infrastructure:** A large rectangular area labeled "ESP" (Electricity Substation) is shown near the center. Other labels include "Council Chambers" and "St Matthew's Church".

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Recommended and Approved By : _____

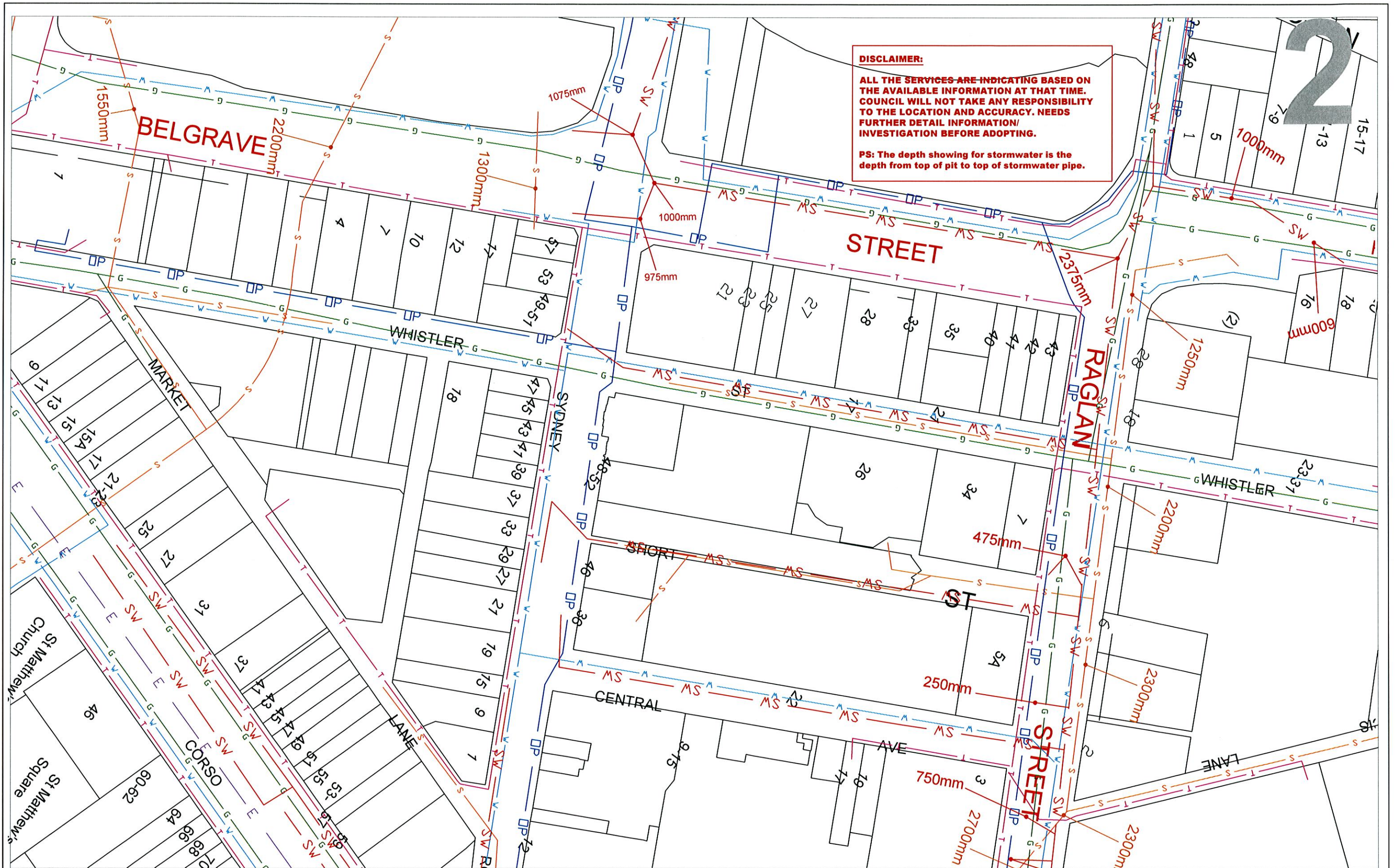
LOCATION : Manly

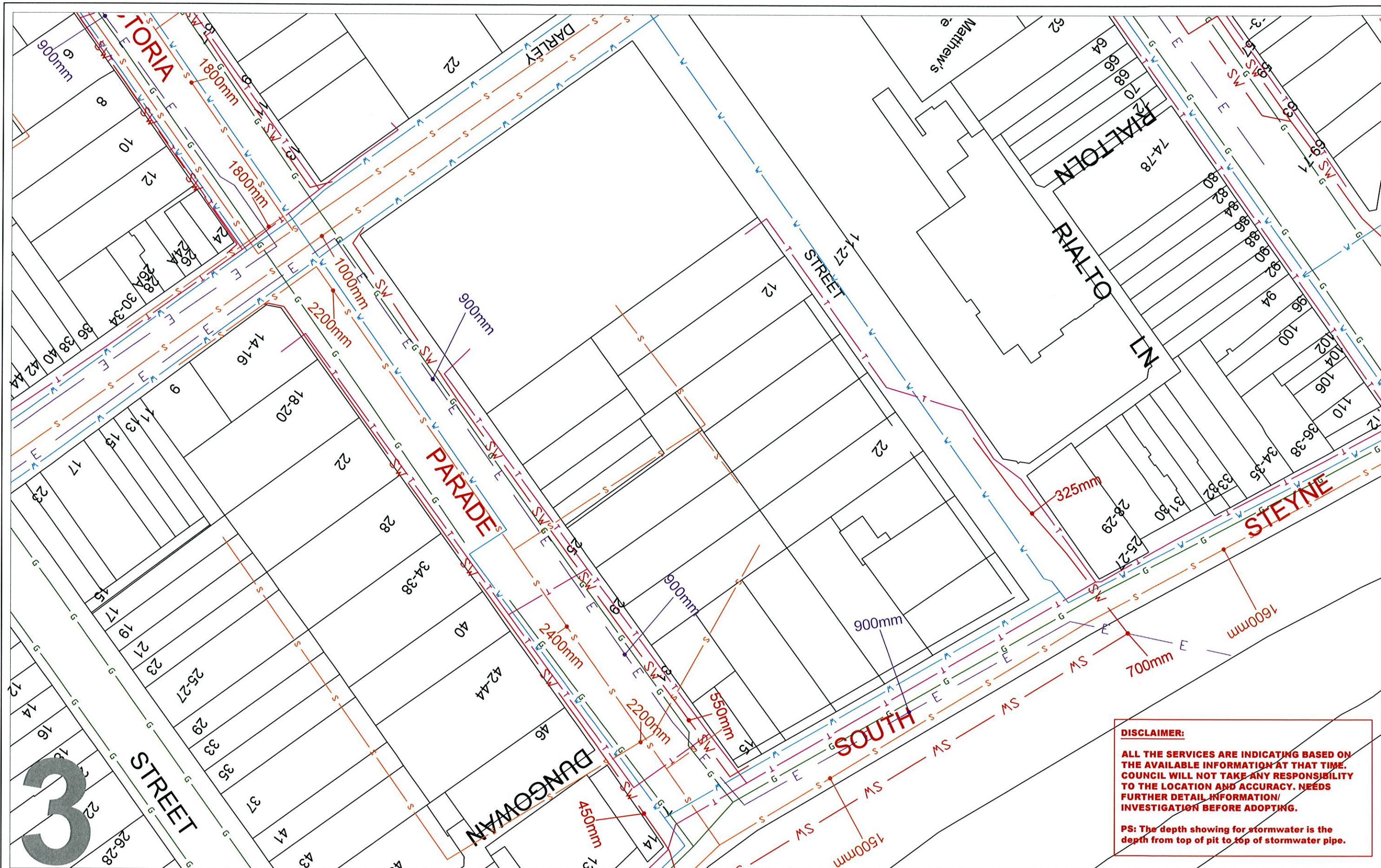
Gas Main		Electricity
Sewer Main		Stormwater
Telstra Cable		Optus Cable
Water Main		Depth of Services

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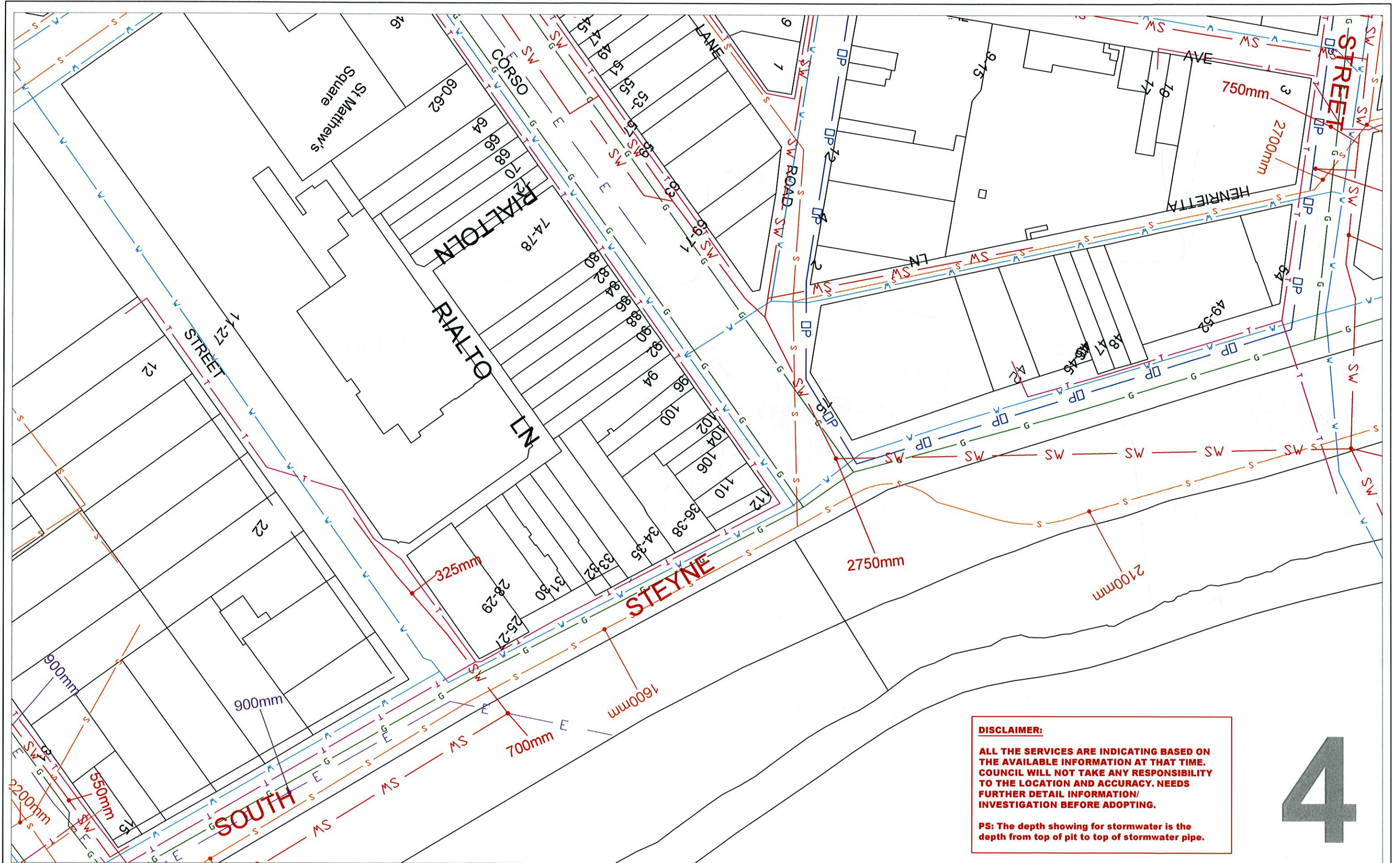




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