OWENCONSULTING
ENGINEERING AND DEVELOPMENT

MCU ENGINEERING STATEMENT

Proposed Multi-unit Residential Development

Lot 8 on M97357

11 Forrest Drive, Moranbah

Prepared for Nimble Pty and Seld Pty Ltd

May 2012

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PROPOSED MULTI-UNIT RESIDENTIAL DEVELOPMENT
11 FORREST DRIVE, MORANBAH
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Document Control

Issue	Date	Checked by	Issued by	Distribution – No. Of Copies		
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1.0 INTRODUCTION

1.1 Background

Owen Consulting has been engaged to prepare an Engineering Statement in support of a Material Change of Use application to be submitted to the Urban Land Development Authority (ULDA) for the proposed multi-unit residential development at 11 Forrest Drive, Moranbah.

This Engineering Statement provides the following:

- An assessment of roadworks, vehicular access required for development of the subject site;
- Recommendations regarding water, sewerage reticulation and stormwater drainage;

2.0 VEHICLE ACCESS AND TURNING PATH ANALYSIS

2.1 Vehicular Access and Turning Path Analysis

As shown on the *Contour and Detail Survey* (Appendix A) an existing concrete strip type driveway provides access and egress to Forrest Drive for the existing dwelling. It is proposed to remove the driveway and construct a new 5.5m wide vehicle crossing and driveway in accordance with the Institute of Municipal Engineering Australia (IMEAQ) standard drawing R-0050.

The new driveway shall ensure that any stormwater runoff falls back toward the existing kerb and channel whilst the maximum and minimum longitudinal grades are within the acceptable limits as per IMEAQ standard drawing R-0050. The levels at the invert of the existing kerb & channel and the property boundary at the location of the proposed boundary will satisfy the required direction of stormwater runoff and also minimum and maximum grades as specified within the IMEA standard drawing No.R-0050. Driveways are to be matched into the existing kerb and channel in accordance with standard practices. Placement of the proposed driveway will not require excessive excavation due to the levels currently grading back toward the kerb and channel. The proposed development will not be altering the existing road alignment, structure, material or the infrastructure layout provisions therefore only minor reinstatement works are required.

As shown on the attached B99 vehicle Turning Path Analysis drawings (Appendix B) prepared by Owen Consulting the internal driveway garage / carport layout satisfies the requirements of AS/NZ2890.1:2004.

3.0 STORMWATER MANAGEMENT

3.1 Stormwater Management

The subject site falls towards the allotment frontage. It is proposed that new field inlets will be constructed in the internal driveway and smaller field inlets in the proposed courtyards allowing for roofwater / rainwater tank overflow connection points for the proposed dwelling units and 'nuisance water' drainage. 90-100mm diameter uPVC pipes shall connect the field inlets and the legal and practical point of discharge shall be the existing Forrest Drive kerb and channel.

The proposed development is not classified as 'high risk' and therefore the impact of the proposed development on the quality of stormwater runoff is considered to be minor.

Suitably sized, 3kL minimum, rainwater reuse tanks to each dwelling will be provided in accordance with the Building Code of Australia requirements. As there is no Council flood data available for the site the minimum habitable floor level of the proposed dwellings shall be the higher of 300mm above the crown of road, 300mm above the top of kerb or 225mm above ground level or a level that allows connections of all sanitary fixtures to the designated sewer connection point by means of sanitary drainage which complies with AS3500. The habitable finished floor levels (FFL's) proposed by the project architect satisfies the aforementioned.

4.0 SEWERAGE RETICULATION

4.1 Proposed Sewerage Connection

A 150mm diameter sewerage reticulation main that is part of a local gravity network traverses the subject site as shown on the Contour and *Detail Survey* (Appendix A). The invert level of the existing sewerage manhole is 1.65m deep which will be effective in servicing the entire proposed allotment whilst maintaining a 1 in 60 minimum grade through the sanitary drain in accordance with AS3500 "Plumbing and Drainage Code".

It is proposed to retain the existing manhole in it's current location and raise the manhole lid level to suit the proposed driveway levels. The existing manhole lid will be replaced with a Class 'D' heavy duty lid. The location of the proposed internal driveway and carports will allow any maintenance access to the existing sewerage reticulation main by Isaac Regional Council as required. New 100mm diameter sewer house connection branch jump-ups shall be installed as required to provide points of connection for any proposed sanitary drainage.

The total additional EP for the four (4) proposed multiple dwelling units as part of this application, contributing to the downstream 150mm sewer reticulation main within the local gravity sewer catchment is approximately 10.0EP (*2.5EP/dwelling unit for allotments zoned higher density residential as per WSA 02 – 2002).* It not considered that the proposed multiple dwelling unit development would have an adverse effect on the immediate surrounding infrastructure.

Any connection of live sewer is to be completed by Isaac Regional Council at the developer's expense in accordance with AS3500 "Plumbing and Drainage Code" and IRC standards and specifications.

5.0 WATER RETICULATION

5.1 Proposed Water Connection

Reticulated water is available from an existing 100mm diameter water reticulation main within the Forrest Drive verge. A water service property connection including water meter exists on the subject site adjacent to the western property boundary providing service to the existing dwelling. A fire hydrant exists within 80m to the subject site satisfying the requirements of Water Services Association of Australia, Water Supply Code of Australia – WSA 03-2002. The existing water service property connection including water meter are to be removed.

It is proposed to assess the size of the existing water service connection and either retain or replace with a minimum 63mm diameter water service property connection to the subject site pending hydraulic assessment of the normal domestic demands for the development by the hydraulics consultant as part of the Building works / plumbing and drainage works approval. Sub-meters for each dwelling plus one master meter shall be installed which is an acceptable solution in servicing the four (4) proposed dwellings.

Any connection to live infrastructure shall be completed by Isaac Regional Council at the developer's expense in accordance with IRC standards and specifications.

Appendix A

Contour and Detail Survey

Scale 1:200 – Lengths are in Metres.

2 0 2 4 6 8 10 12 14 16 18 20 22 24 26 28

ISSUE	SUBJECT	BY	DATE

AMENDMENTS

NOTES & DISCLAIMERS

1. This plan was prepared for NIMBLE PTY LTD & SELD PTY LTD from a combination of field survey and existing records for the purpose of DESIGN and must not be used for any other purpose, particularly demolition, excavation or construction.
2. The title boundaries shown on this plan were not surveyed as part of this survey and have been compiled from M97357.
3. Services shown on this plan have been located where possible by field survey. Underground services have not been located. Sewer lines have been plotted from the records of the relevant Authority and have been noted accordingly on this plan. They may therefore be incomplete and/or erroneous.
4. Contour Interval = 0.5m.
5. This note is an integral part of this plan.

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PROJECT

CLIENT
NIMBLE PTY LTD & SELD PTY LTD

DRAWING TITLE
PLAN OF DETAIL SURVEY OF LOT 8 ON M97357
11 Forrest Drive, Moranbah

PARISH: MORANBAH		COUNTY: GRDSVENOR
SCALE 1:200@A3	DATE 29/11/2011	DRAWN GJG
LEVEL DATUM AHD Der	LEVEL ORIGIN PSM28317	ORIGIN RL RL248.351
AZIMUTH M97357	CO-ORD SYSTEM LOCAL	CO-ORD ORIGIN
EASTING	NORTHING	SURVEYOR RWB
AUTOCAD FILE 9939-8	GEOCOMP FILE 993941	JOB No. 9939
CHECKED RB	QT QT	DATE IMAGED

SHEET NUMBER 1 of 1

PLAN No. 9939-8 ISSUE

Appendix B

Turning Path Analysis

SP181607 1

M97357 7

A1

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EXISTING SEWER RETICULATION MAIN

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ADJACENT STRUCTURE

ADJACENT STRUCTURE

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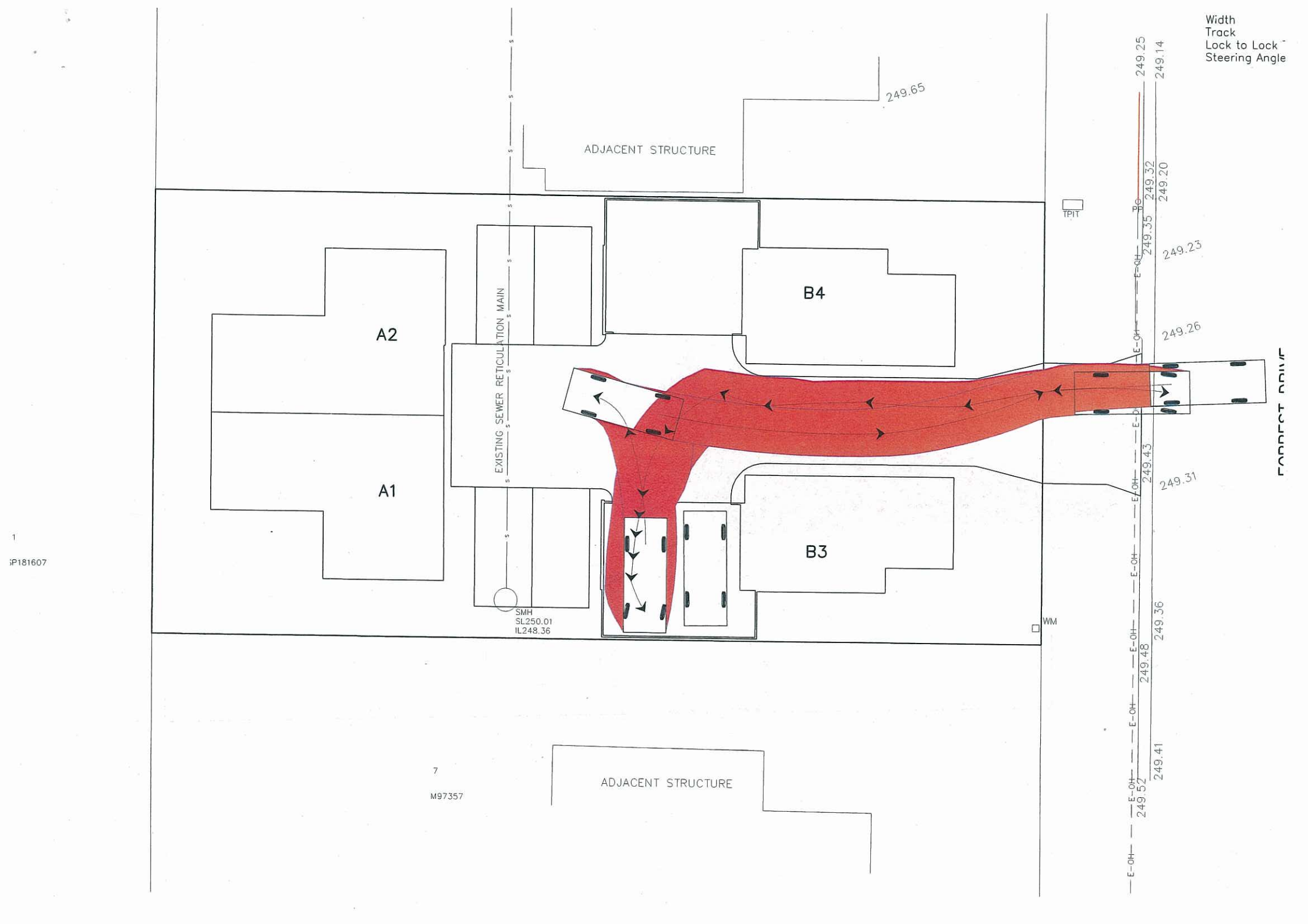
FORREST DRIVE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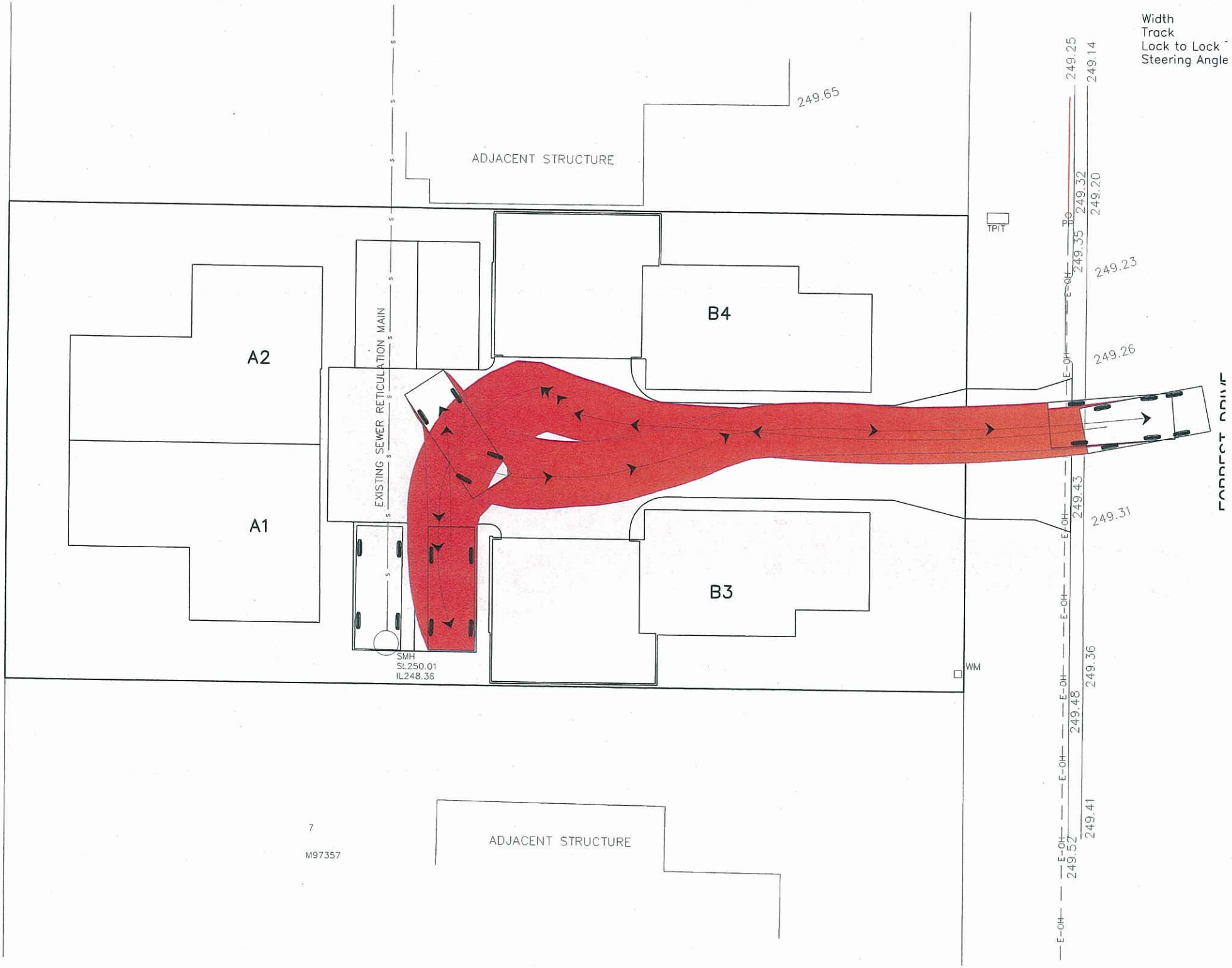
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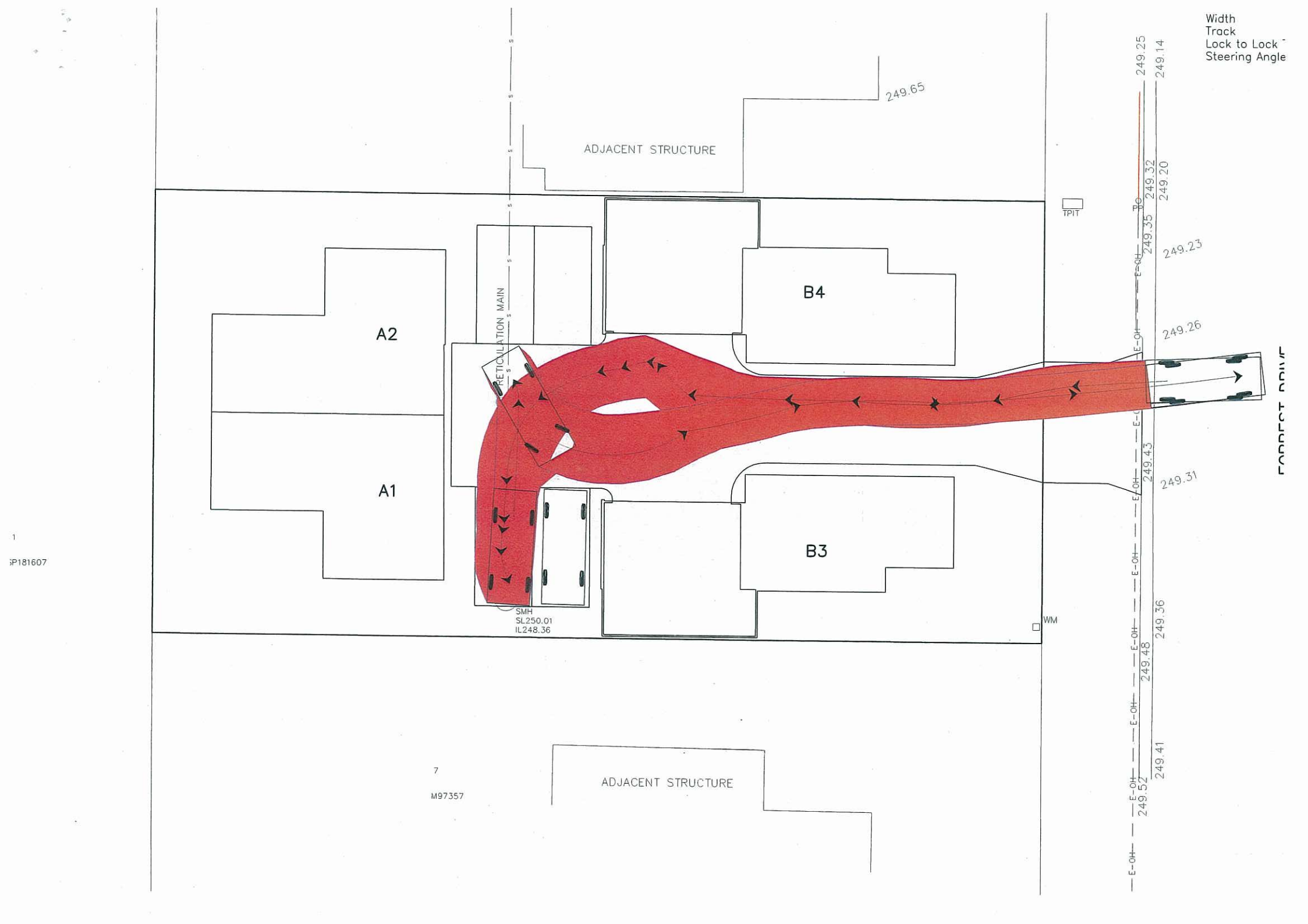
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