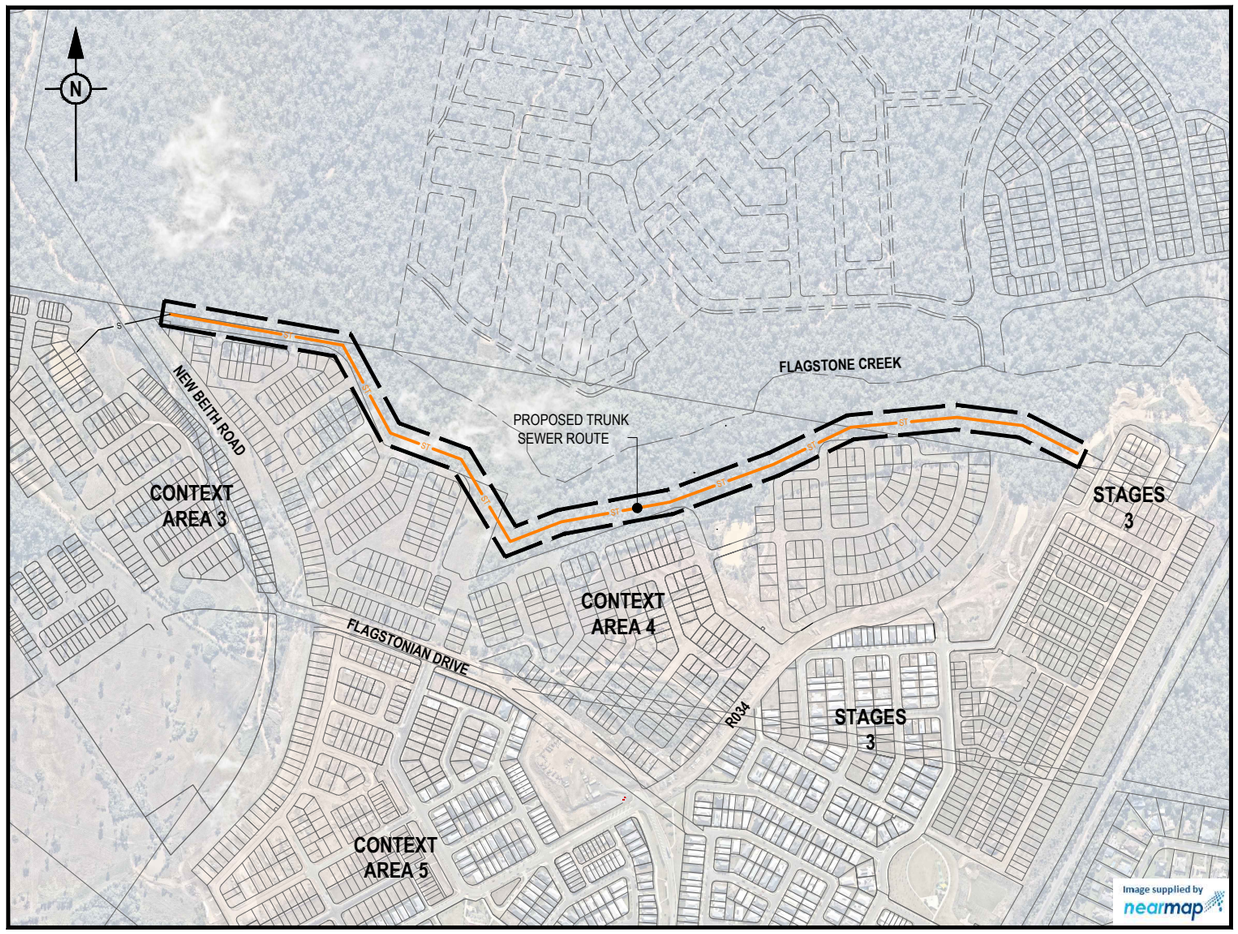
FLAGSTONE CITY
TRUNK SEWER CONTEXT AREA 4
NEW BEITH ROAD, FLAGSTONE
FOR 'PEET FLAGSTONE CITY Pty. Ltd.'

DRAWING LIST



LOCALITY PLAN
SCALE 1:5000 (A1)
SCALE 1:10000 (A3)

PROJECT INFORMATION SUMMARY:
RP DESCRIPTION LOT 910 ON SP339534
DATUM LEVEL AND LOCATION P.S.M. 107142 RL 39.078 AHD LOCAL
LOCAL AUTHORITY: LOGAN CITY COUNCIL
COUNCIL REFERENCE NUMBER: XX/XX

PLANS AND DOCUMENTS referred to in the PDA DEVELOPMENT APPROVAL

Approval no: DEV2024/1491

Date: 7 May 2025

Queensland Government

REV	DATE	DESIGN	DRAWN	REVISION DETAILS	LEVEL	STATUS
A	22.08.24	TR	JR	ORIGINAL ISSUE		

[DRAFT ONLY] NOT FOR CONSTRUCTION

DESIGN APPROVED

FOR AND ON BEHALF OF COLLIERS INTERNATIONAL ENGINEERING & DESIGN PTY LTD

Colliers

SCALE
1:5000 100 50 0 100 200 A1
1:10000 A3

CLIENT: PEET FLAGSTONE CITY Pty. Ltd.

ASSOCIATED CONSULTANT: VERIS
PHONE: (07) 3666 4700

PROJECT NAME: FLAGSTONE CITY TRUNK SEWER CONTEXT AREA 3
FLAGSTONIAN DRIVE
FLAGSTONE

DRAWING TITLE: TRUNK SEWER COVER PLAN

PROJECT No.	DRAWING No.	REVISION
23-0202	1700	

PLOT: 22 Aug 2024 12:03 PM LOCATION: H:\23\23-0202 Flagstone - Stage 4A & 4B\Design\Acad\4A\23-0202-1700 [TRUNK SEWER COVER].dwg

GENERAL NOTES:

1. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH CURRENT SOUTH EAST QUEENSLAND WATER AND SEWERAGE CODE SPECIFICATIONS AND STANDARDS.
2. UNLESS SPECIFIED OTHERWISE ALL MATERIALS AND WORK SHALL COMPLY WITH THE RELEVANT AUSTRALIAN STANDARDS.
3. THE CONSTRUCTION OF THE WORK SHOWN ON THIS DRAWING SHALL BE SUPERVISED BY AN ENGINEER WHO HAS RPEQ REGISTRATION. WORKS NOT COMPLYING WITH THIS REQUIREMENT WILL NOT BE PERMITTED TO CONNECT INTO THE SEQ SERVICE PROVIDER.
4. ALL DESIGN AND CONSTRUCTION ACTIVITIES UNDERTAKEN SHALL COMPLY WITH CURRENT WORKPLACE HEA;TH AND SAFETY REQUIREMENTS AND LEGISLATION/
5. ALL PIPES AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE "ACCEPTED PRODUCTS AND MATERIALS" LIST.
6. WHERE PIPES ARE LAID IN FILL, THE FILLING SHALL BE TESTED BY A NATA CERTIFIED TEST LABORATORY IN ACCORDANCE WITH THIS CODE. IN ALL SUCH CASES APPROVAL OF CONSTRUCTED WORKS WILL NOT BE ISSUED BY THE SEQ SERVICE PROVIDER UNLESS CERTIFICATES ARE PRODUCED CERTIFYING THAT THE REQUIRED COMPACTION HAS BEEN ACHIEVED.
7. WHERE PIPES HAVE A GRADE OF 1 IN 20 OR STEEPER, BULKHEADS OR TRENCHSTOPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SEQ-SEW-1206-1 OR SEQ-WAT-1209-1 AS APPROPRIATE.
8. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF EXISTING SERVICES WITH RELEVANT AUTHORITIES BEFORE COMMENCING WORKS.
9. EXISTING MAINS SHALL BE DISUSED /ABANDONED IN ACCORDANCE WITH PROCEDURES SET OUT IN THE SEQ CODE.
10. HOLD POINT: ONCE THE BASE OF MANHOLES HAVE BEEN POURED, CONSTRUCTION SHALL ONLY RE-COMMENCE ONCE THE SUPERINTENDENT AND/OR ENGINEER HAVE INSPECTED THE WORKS
11. BENCH MARK AND LEVELS TO AHD.
12. THE CONTRACTOR SHALL SUPPLY ALL LABOR, MATERIALS, PLANT AND EQUIPMENT TO CONSTRUCT THE WORKS AS DOCUMENTED AND STRICTLY IN ACCORDANCE WITH THE RELEVANT AUTHORITY STANDARDS, SPECIFICATIONS AND REQUIREMENTS.
13. EXISTING SERVICES RELEVANT TO THE PROJECT HAVE BEEN CONSIDERED THROUGHOUT DESIGN AND IS BASED ON SURVEY INFORMATION PROVIDED BY THE SURVEYOR AND THE CONTRACTOR. THE RPEQ WHO CERTIFIED THE DESIGN OR THE PRINCIPAL'S CONSTRUCTION RPEQ HAVE RELIED UPON THIS INFORMATION TO INFORM THE DESIGN. THE CONTRACTOR SHALL VERIFY THE POSITION OF ANY UNDERGROUND SERVICES WITHIN THE AREAS OF WORKS AND SHALL BE RESPONSIBLE FOR MAKING GOOD ANY DAMAGE THERETO. ANY ALTERATION WORKS TO SERVICES WILL BE CARRIED OUT ONLY BY THE SERVICE OWNER AUTHORITY UNLESS APPROVED OTHERWISE.
14. PRIOR TO COMMENCING WORK, THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL RELEVANT LOCAL AUTHORITY PERMITS.
15. THE CONTRACTOR SHALL NOT COMMENCE THE DEMOLITION OF ANY EXISTING BUILDINGS AND/OR STRUCTURES WITHOUT APPROVAL FROM THE SUPERINTENDENT.
16. THE CONTRACTOR SHALL APPLY INDUSTRY BEST PRACTICE SO WORKS SHALL NOT DISTURB OR AFFECT NEARBY RESIDENTS EITHER BY DUST, NOISE, FLOODING OR DISCONNECTION OF SERVICES. CONTRACTOR TO ENSURE THAT ACCESS AND SERVICES TO EXISTING PROPERTIES ARE AVAILABLE AT ALL TIMES.
17. THE CERTIFICATION OF THIS DESIGN IS BASED ON SURVEY AND POTHOLE INFORMATION PROVIDED BY THE SURVEYOR AND/OR CONTRACTOR AT THE TIME OF DESIGN. PRIOR TO COMMENCEMENT OF WORKS, THE CONTRACTOR SHALL VERIFY LEVELS OF EXISTING SERVICE CROSSINGS AND CONNECTION POINTS AND NOTIFY THE RPEQ WHO CERTIFIED THE DESIGN OR THE PRINCIPAL'S CONSTRUCTION RPEQ OF ANY DISCREPANCIES BETWEEN ACTUAL AND PROPOSED DESIGN LEVELS. THE CERTIFICATION OF THIS DESIGN IS BASED ON SURVEY AND POTHOLE INFORMATION PROVIDED BY THE SURVEYOR AND CONTRACTOR AT THE TIME OF DESIGN.
18. THESE ENGINEERING DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE APPROVED VEGETATION MANAGEMENT PLAN, WHERE APPLICABLE. WHEN IN DOUBT, ALL EXISTING TREES ARE TO REMAIN UNLESS DIRECTED OTHERWISE.
19. THE CONTRACTOR SHALL NOTE DURING THE COURSE OF THE WORKS WHEN JOINT INSPECTIONS WITH THE AUTHORITY AND THE SUPERINTENDENT ARE REQUIRED. THESE INCLUDE PRE-STARTS, SUBGRADES, PRE-SEALS, CLEARING, AND OTHER SUCH INSPECTIONS AS NOMINATED DURING THE PRE-START, IN THE APPROVAL AND THE SPECIFICATIONS. THE CONTRACTOR SHALL ENSURE NO WORKS PROCEED PAST THE INSPECTION POINT UNTIL THE JOINT INSPECTION HAS BEEN SUCCESSFULLY COMPLETED.
20. ALL EXISTING ROADS THAT ARE DISTURBED DURING THE WORKS ARE TO BE REINSTATED

GENERAL NOTES – SEWER

1. ALL WORK ASSOCIATED WITH LIVE SEWERS OR MAINTENANCE HOLES SHALL BE CARRIED OUT BY THE SEQ SERVICE PROVIDER AT THE DEVELOPER'S COST.
2. PROPERTY CONNECTIONS SHALL BE LOCATED WITHIN THE PROPERTY AS SHOWN IN THE DRAWINGS.
3. EACH ALLOTMENT SHALL BE SERVED BY A DN110 PE (OR DN100 PVC) PROPERTY CONNECTION. FOR ALLOTMENTS OTHER THAN SINGLE RESIDENTIAL, A DN160 PE (OR DN150 PVC) PROPERTY CONNECTION SHALL BE PROVIDED.
4. EXISTING ALLOTMENTS REQUIRING A PROPERTY CONNECTION FROM EXISTING SEWERS SHALL BE PROVIDED BY THE SEQ SERVICE PROVIDER AT THE DEVELOPERS COST.
5. PROPERTY CONNECTION BRANCHES SHALL EXTEND INTO THE PROPERTY A MINIMUM OF 300 mm AND A MAXIMUM OF 750 mm. CoGC, LCC, RCC AND UW REQUIRE MINIMUM EXTENSION OF 500 mm AND MAXIMUM OF 1000mm INTO PROPERTY.
6. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT WSAA GRAVITY SEWERAGE CODE OF AUSTRALIA SPECIFICATIONS AND STANDARD - SOUTH EAST QUEENSLAND SERVICE PROVIDERS EDITION.
7. UNLESS SPECIFIED OTHERWISE ALL MATERIALS AND WORK SHALL COMPLY WITH THE RELEVANT AUSTRALIAN STANDARDS.
8. THE CONSTRUCTION OF THE SEWERAGE WORK SHOWN ON THIS DRAWING SHALL BE SUPERVISED BY AN ENGINEER WHO HAS RPEQ REGISTRATION. SEWERAGE WORKS NOT COMPLYING WITH THIS REQUIREMENT WILL NOT BE PERMITTED TO CONNECT INTO THE SEQ SERVICE PROVIDER SEWERAGE SYSTEM.
9. ALL WORKS ON EXISTING SEWER MAINS ARE TO BE CARRIED OUT BY LOGAN WATER AT THE DEVELOPER'S EXPENSE OR AS DIRECTED BY LOGAN WATER.
10. ALL PIPES AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE "ACCEPTED PRODUCTS AND MATERIALS" LIST, UNLESS APPROVED BY THE WATER AUTHORITY.
11. BENCH MARK AND LEVELS TO AHD.
12. WHERE PIPES ARE LAID IN FILL, THE FILLING SHALL BE CARRIED OUT IN LAYERS NOT EXCEEDING 300MM (LOOSE) IN DEPTH AND SHALL BE COMPACTED UNTIL THE COMPACTION IS NOT LESS THAN 95% OF THE MATERIALS MAXIMUM COMPACTION WHEN TESTED IN ACCORDANCE WITH A.S.1289 (MODIFIED COMPACTION). TESTING SHALL BE CARRIED OUT AFTER EACH ALTERNATE LAYER. IN ALL SUCH CASES APPROVAL OF CONSTRUCTED SEWERS WILL NOT BE ISSUED BY THE SEQ SERVICE PROVIDER UNLESS CERTIFICATES ARE PRODUCED CERTIFYING THAT THE REQUIRED COMPACTION HAS BEEN ACHIEVED.
13. WHERE SEWERS HAVE A GRADE OF 1 IN 20 OR STEEPER, BULKHEADS, TRENCH STOPS AND TRENCH DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CLAUSE 9.10 OF THE SEQ SEWER CODE AND DRG'S SEQ-SEW-1206-1 AND 1207-1.
14. SEWERS SHALL BE DISUSED/ABANDONED IN ACCORDANCE WITH PROCEDURE SET OUT IN THE GRAVITY SEWER CODE.
15. DETECTABLE MARKER TAPE SHALL BE USED FOR ALL SEWER PIPES (EXPECT FOR PIPE IN A STEEL ENVELOPER PIPE) IN ACCORDANCE WITH SEQ STANDARD DRAWING SEQ-SEW-1200 SERIES AND SEQ CODE STANDARDS.
16. CONCRETE FOR MH CONSTRUCTION SHALL BE SPECIAL CLASS TO WSA PS-358 WITH REQUIREMENT OF CALCAREOUS AGGREGATES.
17. CONSTRUCTION OF THE ENTIRE LENGTH OF SEWER MAIN TO COMPLY WITH THE FOLLOWING LOGAN WATER STANDARD STANDARDS:
13. CONSTRUCTION OF PAVEMENT IN UNSEALED ROAD SHOULDERS SHALL BE IN ACCORDANCE WITH SEQ STANDARD DRAWING SEQ-SEW-1205-1.
14. FOR CAST-IN-SITU MAINTENANCE HOLES, COPING AND ANCHOR BRACKETS TO BE AS PER SEQ-SEW-1301-1, WITH AMENDMENTS AS SHOWN ON DETAIL DRAWING 21-0095-728 FOR PE LINED MANHOLES NECKS
    - TOP SLAB REINFORCEMENT TO BE AS PER SEQ-SEW-1301-26-A
15. FOR POLYETHYLENE LINER (PE LINER) MAINTENANCE HOLES REFER TO SEQ-SEW-1101-6 A FOR INSTALLATION REQUIREMENTS

PIPEWORK

1. WHERE CONNECTING TO EXISTING PIPEWORK, THE LEVEL AND DIAMETER OF THE EXISTING PIPEWORK, SHALL BE CONFIRMED BY THE CONTRACTOR, PRIOR TO CONNECTION.
2. ALL FLANGES SHALL BE IN ACCORDANCE WITH AS 4087, CLASS 14 FOR CAST IRON AND, CLASS 16 FOR DUCTILE IRON AND STEEL, UNO.
3. ALL BACKING PLATES, NUTS, BOLTS AND WASHERS TO BE A MINIMUM GRADE 316 STAINLESS STEEL. COAT THE THREADED SECTIONS OF ALL STAINLESS STEEL BOLTS WITH AN ANTI-SEIZE LUBRICANT
4. INSTALL VALVE IDENTIFICATION CAP ON ALL SPINDLES.
5. GASKET MATERIAL TO COMPLY WITH AS4087 AND IN ACCORDANCE WITH WSA 109.
6. ALL FLANGE BOLT HOLE ORIENTATIONS SHALL BE OFF-CENTRE UNO.
7. ALL FLANGE BOLT SETS SHALL BE GRADE 316 STAINLESS STEEL. REFER AS 4087 - TABLE C1 FOR CLASS.
8. FLANGE GASKET MATERIAL AND THICKNESS SHALL BE IN ACCORDANCE WITH AS 4087 - TABLE C1.
9. THRUST AND PUDDLE FLANGES SHALL BE CAST CENTRALLY WITHIN WALLS UNLESS SHOWN OTHERWISE.
10. ALL SPIGOT AND SOCKET DICL PIPEWORK SHALL BE CLASS PN35.
11. ALL GATE AND REFLUX VALVES SHALL BE INTERNALLY AND EXTERNALLY COATED WITH A POLYMERIC COATING. ALL GATE VALVES SHALL BE RESILIENT SEATED. ALL REFLUX VALVES SHALL BE RESILIENT SEATED SWING FLEX CHECK VALVE OR SIMILAR APPROVED TOP OPENING VALVE.
12. DUCTILE IRON FITTINGS MAY BE USED WITH DI & PVC PIPE. FITTINGS SHALL BE FBE COATED AND LINED. CEMENT LINED WITH A BITUMINOUS EXTERNAL COATING MAY BE USED WITH APPROVAL. DO NOT USE PVC FITTINGS.
13. PE SLEEVING, COLOURED FOR THE PRODUCT IS REQUIRED ON ALL DI PIPE AND FITTINGS APPLIED IN ACCORDANCE WITH AS 3681. TWO THICKNESS REQUIRED BETWEEN FITTINGS AND THRUST BLOCK. REINSTATE ANY DAMAGED SLEEVING AS PER MANUFACTURER'S SPECIFICATIONS.
14. DI SPIGOTS SHALL NOT BE FITTED INTO PVC SOCKETS.

PVC PIPE

1. PVC PIPE SHALL NOT BE IN CONTACT WITH THRUST BLOCK CONCRETE.
2. MAXIMUM SIZE OF DRILLED HOLES FOR SERVICE CONNECTIONS IN PVC PIPE TO BE 30% OF DN OR 50 (LOWER VALUE TO BE USED).
3. PVC PIPE SHALL NOT BE BENT OR CURVED

EMBEDMENT MATERIAL AND DESIGN

1. PLACEMENT OF EMBEDMENT, TRENCHFILL & COMPACTION TO MEET THE REQUIREMENTS OF THE SEQ CODE AND DESIGN DRAWINGS.
2. EXCAVATE OR COMPACT TRENCH FLOOR TO PROVIDE A FLAT FIRM BASE TO SUPPORT BEDDING MATERIAL AND MINIMISE PIPELINE SETTLEMENT. WHEN EXCAVATED, REPLACE WITH GRANULAR MATERIAL AS SPECIFIED FOR BEDDING OR ADOPT SUPPORT AS REQUIRED.
3. WHERE ADDITIONAL SUPPORT IS REQUIRED THIS SHALL BE REFERRED TO GEO-TECHNICAL ENGINEER FOR REVIEW. SUPPORT SHALL BE INSTALLED AT A MINIMUM DEPTH OF 300 WITH A 20mm NOMINAL SIZE CRUSHED ROCK COMPLYING WITH TABLE G2 OR G3 OF AS2566.2. ADDITIONAL BEDDING SHALL BE WRAPPED WITH GEOTEXTILE TO FORM A SEPARATE GEOTEXTILE PILLOW FOUNDATION FOR PIPE EMBEDMENT.
4. ENSURE BEDDING IS DEEP ENOUGH THAT PIPE JOINT PROJECTIONS (SOCKETS, FLANGES) DO NOT TOUCH TRENCH FLOOR.
5. GEOTEXTILE BIDIM A24 OR APPROVED EQUIVALENT TO BE USED WHERE TRENCH FILL IS A MIGRATORY NATIVE SOIL OR SAND OR FINE CLAY MATERIAL, AND WHERE SPECIFIED IN THE DESIGN.
6. LAY GEOTEXTILE FILTER FABRIC AGAINST TRENCH FLOOR AND WALLS SUCH THAT IT FULLY ENCASES THE EMBEDMENT AND SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS REQUIREMENTS.
    - PRESS FABRIC INTO THE VOIDS BEFORE INSTALLING EMBEDMENT TO PREVENT FABRIC TEARING.
    - PROVIDE A MINIMUM OF 250 OVERLAP AT ALL FABRIC JOINTS.
7. PURCHASE SPECIFICATIONS FOR EMBEDMENT MATERIAL ARE DETAILED IN THE SEQ CODE ACCEPTED PRODUCTS AND MATERIALS LIST. TRENCH FILL SHALL COMPLY WITH SEQ-SEW-1200-2. 10. DETECTABLE MARKER TAPE SHALL BE PROVIDED EITHER ABOVE THE EMBEDMENT ZONE OR 1000 BELOW THE F.S.L, WHICHEVER IS CLOSEST TO F.S.L
8. MARKER TAPE SHALL BE DETECTABLE TYPE IN ACCORDANCE WITH IPAM LIST, COLOUR CREAM FOR NON-PRESSURE AND PRESSURE SEWERAGE. THE TAPE SHALL BE MARKED "CAUTION ASSET DESCRIPTION BURIED BELOW"

ENVIRONMENTAL CONDITIONS

VEGETATION PROTECTION

1. TREES LOCATED ALONG THE FOOTPATH SHALL BE, TRANSPLANTED PRIOR TO CONSTRUCTION, OR REPLACED IF DESTROYED.
2. WHEN WORKING WITHIN 4 m OF TREES, RUBBER OR HARDWOOD GIRDLES SHALL BE CONSTRUCTED WITH 1.8 m BATTENS CLOSELY SPACED AND ARRANGED VERTICALLY FROM GROUND LEVEL. GIRDLES SHALL BE STRAPPED TO TREES PRIOR TO CONSTRUCTION AND REMAIN UNTIL COMPLETION.
3. TREE ROOTS SHALL BE TUNNELLED UNDER, RATHER THAN SEVERED. IF ROOTS ARE SEVERED THE DAMAGED AREA SHALL BE TREATED WITH A SUITABLE FUNGICIDE. CONTACT RELEVANT COUNCIL ARBORIST FOR FURTHER ADVICE.
4. ANY TREE LOPPING REQUIRED SHOULD BE UNDERTAKEN BY AN APPROVED ARBORIST.

SOIL

1. TOPSOIL AND SUBSOIL SHALL BE STOCKPILED SEPARATELY.
2. CARE SHALL BE TAKEN TO PREVENT SEDIMENT FROM ENTERING THE STORMWATER SYSTEM. THIS MAY INVOLVE PLACING APPROPRIATE SEDIMENT CONTROLS AROUND STOCKPILES.
3. ACID SULPHATE SOILS EXIST IN THE WORKS AREA. THE OUTPUTS FROM THE RISK ASSESSMENT BASED ON THE QUEENSLAND ACID SULPHATE SOIL TECHNICAL MANUAL REQUIRES THAT ACID SULPHATE SOILS BE MANAGED AS FOLLOWS: (DELETE IF NO ACID SULPHATE SOILS)
4. THE CONTRACTOR SHALL HAVE READ THE GEOTECHNICAL REPORT (DOUGLAS PARTNERS' REPORT ON ADDITIONAL GEOTECHNICAL INVESTIGATION, CABOOLTURE WEST TRUNK INFRASTRUCTURE, CABOOLTURE RIVER ROAD, UPPER CABOOLTURE, PROJECT 205221.00 NOVEMBER 2021).

CREEK CROSSINGS

1. SILTATION CONTROL MEASURES SHALL BE PLACED DOWNSTREAM OF ANY EXCAVATION WORK.
2. APPROPRIATE SEDIMENT CONTROLS SHALL BE USED TO PREVENT SEDIMENT FROM ENTERING THE CREEK.
3. NO SOIL SHALL BE STOCKPILED WITHIN 5 m OF THE CREEK OR WATER WAY.

REHABILITATION

1. PREDISTURBANCE SOIL PROFILES AND COMPACTION LEVELS SHALL BE REINSTATED.
2. PREDISTURBANCE VEGETATION PATTERNS SHALL BE RESTORED.

SAFETY

1. THE DESIGN AND CONSTRUCTION OF THE WORKS SHALL COMPLY WITH ALL QUEENSLAND LEGISLATION.
2. THE SAFETY IN DESIGN, DESIGN AND RISK MITIGATION MEASURES FOR THESE DRAWINGS DO NOT NECESSARILY ACCOUNT FOR ALL DESIGN, CONSTRUCTION, OPERATION, MAINTENANCE AND DEMOLITION ASSESSMENTS. IT DOES NOT REDUCE OR LIMIT THE OBLIGATIONS OF THE CONSTRUCTOR, USER, OPERATOR, MAINTAINER AND DEMOLISHER TO PERFORM THEIR OWN SAFETY IN DESIGN RISK ASSESSMENT.
3. DEVELOP CONSTRUCTION AND INSTALLATION SAFE WORK METHOD STATEMENTS TO ELIMINATE AND MINIMISE INSTALLATION RISKS. THE SAFE METHOD STATEMENT SHALL BE REVIEWED AND APPROVED BY A SUITABLY QUALIFIED STRUCTURAL ENGINEER

NAME OF ESTATE		FLAGSTONE CITY - CONTEXT AREA 3
SUBDIVIDER		LOGAN WATER
SP APPLICATION No.		***
SP APPROVAL DATE		***
DRAWING/PLAN No.		23-0202 (1700-1722)
AREA		6.95 ha
LENGTH OF SEWERS	Ø225 uPVC SN8	1630m
	Ø150 uPVC SN8	170m

PLANS AND DOCUMENTS referred to in the PDA DEVELOPMENT APPROVAL

Approval no: DEV2024/1491

Date: 7 May 2025

Queensland Government

ALL ENVIRONMENTAL PROTECTION MEASURES SHALL BE IMPLEMENTED PRIOR TO ANY CONSTRUCTION WORK COMMENCING, INCLUDING CLEARING

ALL WATER AND SEWERAGE CONSTRUCTION SHALL COMPLY WITH ALL QUEENSLAND LEGISLATION

REV	DATE	DESIGN	DRAWN	REVISION DETAILS	DRAWN	STATUS
A	22.08.24	TR	JR	ORIGINAL ISSUE		

[DRAFT ONLY NOT FOR CONSTRUCTION]

APPROVED

FOR AND ON BEHALF OF COLLIERS INTERNATIONAL ENGINEERING & DESIGN (QLD) PTY LTD

D

Colliers

SCALE

CLIENT: PEET FLAGSTONE CITY Pty. Ltd.

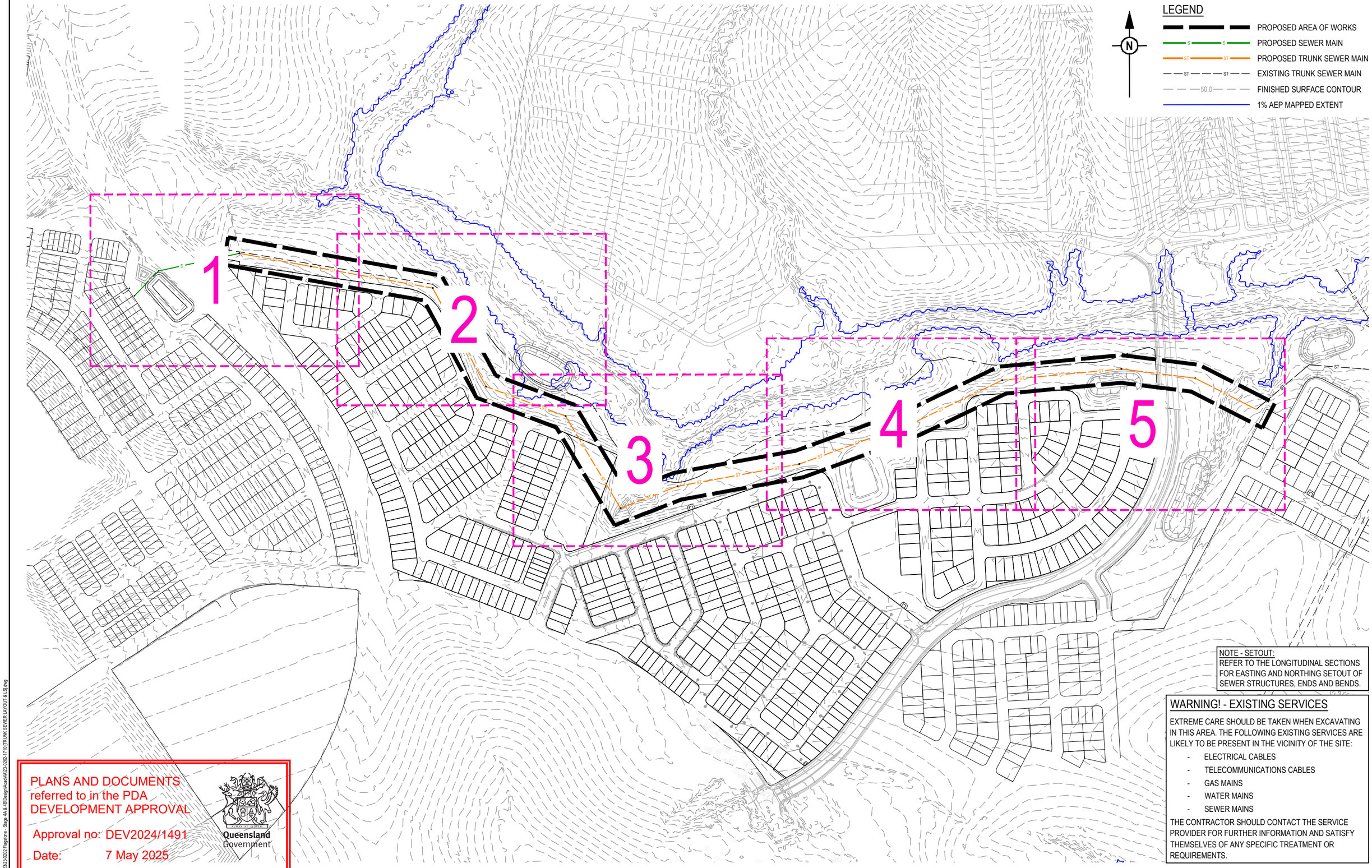
ASSOCIATED CONSULTANT: VERIS
PHONE: (07) 3666 4700

PROJECT NAME: FLAGSTONE CITY TRUNK SEWER CONTEXT AREA 3
FLAGSTONIAN DRIVE
FLAGSTONE

DRAWING TITLE: GENERAL NOTES

PROJECT No.	DRAWING No.	REVISION
23-0202	1701	

PLOT - 22 Aug 2024 12:03 PM LOCATION - H:\23\23-0202 Flagstone - Stage 4A & 4B\Design\Aaa\4A\23-0202-1700 [TRUNK SEWER COVER].dwg



NOTE - SETOUT:
REFER TO THE LONGITUDINAL SECTIONS FOR EASTING AND NORTHING SETOUT OF SEWER STRUCTURES, ENDS AND BENDS.

WARNING! - EXISTING SERVICES

EXTREME CARE SHOULD BE TAKEN WHEN EXCAVATING IN THIS AREA. THE FOLLOWING EXISTING SERVICES ARE LIKELY TO BE PRESENT IN THE VICINITY OF THE SITE:

- ELECTRICAL CABLES
- TELECOMMUNICATIONS CABLES
- GAS MAINS
- WATER MAINS
- SEWER MAINS

THE CONTRACTOR SHOULD CONTACT THE SERVICE PROVIDER FOR FURTHER INFORMATION AND SATISFY THEMSELVES OF ANY SPECIFIC TREATMENT OR REQUIREMENTS.

PLANS AND DOCUMENTS
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DEVELOPMENT APPROVAL

Approval no: DEV2024/1491

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DESIGN APPROVED

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Colliers

SCALE
1:2500 50 0 50 100 A1
1:5000 A3

CLIENT
PEET FLAGSTONE CITY Pty. Ltd.

ASSOCIATED CONSULTANT
VERIS
PHONE: (07) 3666 4700

PROJECT NAME
FLAGSTONE CITY TRUNK SEWER CONTEXT AREA 4
FLAGSTONIAN DRIVE
FLAGSTONE

DRAWING TITLE
TRUNK SEWER OVERALL LAYOUT PLAN

PROJECT No.	DRAWING No.	REVISION
23-0202	1710	

PLOT: 22 Aug 2024 12:03 PM LOCATION: H:\23\23-0202 Flagstone - Stage 4A & 4B\Design\Acad\4a423-0202-1710 [TRUNK SEWER LAYOUT & LS].dwg

PLANS AND DOCUMENTS
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DEVELOPMENT APPROVAL

Approval no: DEV2024/1491

Date: 7 May 2025

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NOTE - SETOUT:
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N

LEGEND

- PROPOSED AREA OF WORKS
- PROPOSED TRUNK SEWER MAIN
- PROPOSED SEWER MAIN
- EXISTING TRUNK SEWER MAIN
- EXISTING SEWER MAIN
- FINISHED SURFACE CONTOUR
- EXISTING STORMWATER DRAINAGE PIPE
- EXISTING WATER MAIN
- 1% AEP MAPPED EXTENT
- TREE TO BE RETAINED
- TREE SUBJECT TO LANDSCAPERS
- TREE TO REMOVE

FUTURE CONTEXT AREA 3

FUTURE STAGE 4L

REFER SHEET 2 FOR CONTINUATION

SHEET 1

KEY PLAN
SCALE 1:10000 (A1)
SCALE 1:20000 (A3)

PLOT - 22 Aug 2024 12:03 PM LOCATION - H:\23\23-0202 Flagstone - Stage 4A & 4B\Design\Asset\4A\23-0202-1710 [TRUNK SEWER LAYOUT & LS].dwg

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SCALE
1:500 1:1000 10 5 0 10 20 A1 A3

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PHONE: (07) 3666 4700

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FLAGSTONE CITY
TRUNK SEWER
CONTEXT AREA 4
FLAGSTONIAN DRIVE
FLAGSTONE

DRAWING TITLE
TRUNK SEWER LAYOUT PLAN
SHEET 1 OF 5

PROJECT No.	DRAWING No.	REVISION
23-0202	1711	

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2024/1491

Date: 7 May 2025

Queensland Government

FOR LEGEND REFER DRAWING 23-202-1711

REFER SHEET 1 FOR CONTINUATION

FLAGSTONIAN CREEK

FUTURE
STAGE 4K

14
6

13
6

SHEET 2

KEY PLAN
SCALE 1:10000 (A1)
SCALE 1:20000 (A3)

NOTE - SETOUT:
REFER TO THE LONGITUDINAL SECTIONS FOR EASTING AND NORTHING SETOUT OF SEWER STRUCTURES, ENDS AND BENDS.

REFER SHEET 3 FOR CONTINUATION

REV	DATE	DESIGN	DRAWN	REVISION DETAILS
A	27.06.24	TR	JR	ORIGINAL ISSUE

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FOR AND ON BEHALF OF COLLIERS INTERNATIONAL ENGINEERING & DESIGN PTY LTD

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SCALE
1:500 1:1000
10 5 0 10 20
A1 A3

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PHONE: (07) 3666 4700

PROJECT NAME
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CONTEXT AREA 4
FLAGSTONIAN DRIVE
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DRAWING TITLE
TRUNK SEWER LAYOUT PLAN
SHEET 2 OF 5

PROJECT No.	DRAWING No.	REVISION
23-0202	1712	

PLOT: 22 Aug 2024 12:03 PM LOCATION: H:\23\23-0202 Flagstone - Stage 4A & 4B\Design\Acad\4A\23-0202-1710 [TRUNK SEWER LAYOUT & LS].dwg

REFER SHEET 2 FOR CONTINUATION

FOR LEGEND REFER DRAWING 23-202-1711

PLANS AND DOCUMENTS
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FLAGSTONIAN CREEK

FUTURE STAGE 4J

FUTURE STAGE 4C

FUTURE STAGE 4D

1862 1863 1864 1865 1866 1867 1868 1869 1870 1871 1872 1873 1874 1875 1876 1738 1739 1740 1741 1737 1744 1745 1746 1747 1748 1749 1750 1784 1785

12/6 11/6 10/6

PMT

REFER SHEET 4 FOR CONTINUATION

SHEET 3

KEY PLAN
SCALE 1:10000 (A1)
SCALE 1:20000 (A3)

NOTE - SETOUT:
REFER TO THE LONGITUDINAL SECTIONS FOR EASTING AND NORTHING SETOUT OF SEWER STRUCTURES, ENDS AND BENDS.

PLOT - 22 Aug 2024 12:03 PM LOCATION - H:\23\23-0202 Flagstone - Stage 4A & 4B\Design\Asset\4A\23-0202-1710 [TRUNK SEWER LAYOUT & LS].dwg

NO.	DATE	DESIGN	DRAWN	REVISION DETAILS	CHECKED	STATUS
A	22.08.24	TR	JR	ORIGINAL ISSUE		

[DRAFT ONLY NOT FOR CONSTRUCTION]

FOR AND ON BEHALF OF COLLIERS INTERNATIONAL ENGINEERING & DESIGN PTY LTD

Colliers

SCALE
1:500 10 5 0 10 20 A1
1:1000 A3

CLIENT
PEET FLAGSTONE CITY Pty. Ltd.

ASSOCIATED CONSULTANT
VERIS
PHONE: (07) 3666 4700

PROJECT NAME
FLAGSTONE CITY
TRUNK SEWER
CONTEXT AREA 4
FLAGSTONIAN DRIVE
FLAGSTONE

DRAWING TITLE
TRUNK SEWER LAYOUT PLAN
SHEET 3 OF 5

PROJECT No.	DRAWING No.	REVISION
23-0202	1713	

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2024/1491

Date: 7 May 2025

Queensland Government

FOR LEGEND REFER DRAWING 23-202-1711

REFER SHEET 5 FOR CONTINUATION

REFER SHEET 3 FOR CONTINUATION

FLAGSTONIAN CREEK

BASIN DWY

FUTURE STAGE 4C

FUTURE STAGE 4F

FUTURE STAGE 4H

1640 1641 2537 2538 1743 1744

2543 2544 1613

1617 1618 1619 1620 1621 1622 1623 1624 1615 1616

1631 1632 1633 1634 1635 1636 1637 1638 1639 1630 1629 1628

NOTE - SETOUT:
REFER TO THE LONGITUDINAL SECTIONS FOR EASTING AND NORTHING SETOUT OF SEWER STRUCTURES, ENDS AND BENDS.

SHEET 4

KEY PLAN
SCALE 1:10000 (A1)
SCALE 1:20000 (A3)

[DRAFT ONLY]

NOT FOR CONSTRUCTION

REV	DATE	DESIGN	DRAWN	REVISION DETAILS	DRAWN	STATUS
A	22.08.24	TR	JR	ORIGINAL ISSUE		

APPROVED

FOR AND ON BEHALF OF COLLIERS INTERNATIONAL ENGINEERING & DESIGN PTY LTD

SCALE
1:500 1:1000 10 5 0 10 20 A1 A3

CLIENT
PEET FLAGSTONE CITY Pty. Ltd.

ASSOCIATED CONSULTANT
VERIS
PHONE: (07) 3666 4700

PROJECT NAME
FLAGSTONE CITY
TRUNK SEWER
CONTEXT AREA 4
FLAGSTONIAN DRIVE
FLAGSTONE

DRAWING TITLE
TRUNK SEWER LAYOUT PLAN
SHEET 4 OF 5

PROJECT No.	DRAWING No.	REVISION
23-0202	1714	

PLOT: 22 Aug 2024 12:04 PM LOCATION: H:\23\23-0202 Flagstone - Stage 4A & 4B\Design\Acad\4423-0202-1710 [TRUNK SEWER LAYOUT & LS].dwg

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2024/1491

Date: 7 May 2025

Queensland Government

FOR LEGEND REFER DRAWING 23-202-1711

REFER SHEET 4 FOR CONTINUATION

FUTURE ROAD R03

FUTURE ROAD R034

FUTURE STAGE 4G

EXISTING 225 DIA TRUNK SEWER

LIVE CONNECTION : REFER LIVE WORKS TABLE FOR DETAILS

EXISTING STAGE 3G

EXISTING STAGE 3F

ROAD 13

SHEET 5

KEY PLAN
SCALE 1:10000 (A1)
SCALE 1:20000 (A3)

NOTE - SETOUT:
REFER TO THE LONGITUDINAL SECTIONS FOR EASTING AND NORTHING SETOUT OF SEWER STRUCTURES, ENDS AND BENDS.

LIVE SEWER WORKS

No.	DESCRIPTION	DIA. SEWER	EXISTING ASSET ID AT CONNECTION	MH/MS TYPE	COVER TYPE	LOT & PLAN No.	F.S.L.	E.S.L.	CONNECTION I.L.	CONNECTION DEPTH TO INVERT	ALTERATION TO EXISTING MH BENCHING REQUIRED (Y/N)
1 (A)	0.50m FROM EXISTING STUB, CONSTRUCTOR,TO LAY NEW SEWERS. AFTER CLEANSING, TESTING AND INSPECTION, NOTIFY AGENCY.	Ø225	4/6	MH	-	DRG.1715	43.466	43.466	36.545	6.921	N
1 (B)	AGENCY TO REMOVE TEMPORARY END CAP ON EXISTING STUB AND MAKE LIVE CONNECTION AFTER SUCCESSFUL 'ON MAINTENANCE' INSPECTION.										

REV	DATE	DESIGN	DRAWN	REVISION DETAILS	DESIGN	STATUS
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APPROVED

FOR AND ON BEHALF OF COLLIERS INTERNATIONAL ENGINEERING & DESIGN PTY LTD

Colliers

SCALE
1:500 10 5 0 10 20 A1
1:1000 A3

CLIENT
PEET FLAGSTONE CITY Pty. Ltd.

ASSOCIATED CONSULTANT
VERIS
PHONE: (07) 3666 4700

PROJECT NAME
FLAGSTONE CITY
TRUNK SEWER
CONTEXT AREA 4
FLAGSTONIAN DRIVE
FLAGSTONE

DRAWING TITLE
TRUNK SEWER LAYOUT PLAN
SHEET 5 OF 5

PROJECT No.	DRAWING No.	REVISION
23-0202	1715	

PLOT - 22 Aug 2024 12:04 PM LOCATION - H:\23\23-0202 Flagstone - Stage 4A & 4B\Design\Acad\4A\23-0202-1710 [TRUNK SEWER LAYOUT & LS].dwg

STRUC/ BEND/ END NAME	3/6	4/6	5/6	6/6	7/6	8/6
STRUCTURE TYPE	B	C	C	C	B	C
STRUCTURE LID TYPE	D	D	D	D	D	D
STRUCTURE DROP TYPE	V	V	V	V	V	V
JUNCTION LINE						
DEPTH TO HC						
HC INVERT LEVEL						
HC TYPE						
HC LOT No						
CH. FROM D/S STRUC/ BEND						

SEWER STRUCTURE TYPES:

- A 1050mm DIA. CAST-INSITU. REFER TO SEQ-SEW-1307-1.
- B 1200mm DIA. CAST-INSITU.
- C 1500mm DIA. CAST-INSITU. REFER TO SEQ-SEW-1307-1. INTERNAL SURFACES SHALL BE COATED WITH A PE LINING SYSTEM IN ACCORDANCE WITH THE SEQ CODE AND SEQ-SPS-1407 DRAWING SET. DESIGN AND CONSTRUCT BY CONTRACTOR FOR DEPTHS THAN 6m.
- MS TYPE 'J'1 MAINTENANCE SHAFT WITH DN300 RISER. REFER TO SEQ-SEW-1314-1 & 1314-2

SEWER STRUCTURE DROPS:

- V STRAIGHT THROUGH SEWER TYPE 'V'. REFER TO SEQ-SEW-1303-1
- X INTERNAL DROP TYPE 'X' . REFER TO SEQ-SEW-1303-1
- MS-A 20mm DROP THROUGH BULB
- MS-B >750mm DROP INTO RISER

SEWER STRUCTURE LIDS:

- B NON-TRAFFICABLE. REFER TO SEQ-SEW-1308-1
- D TRAFFICABLE. REFER TO SEQ-SEW-1308-1

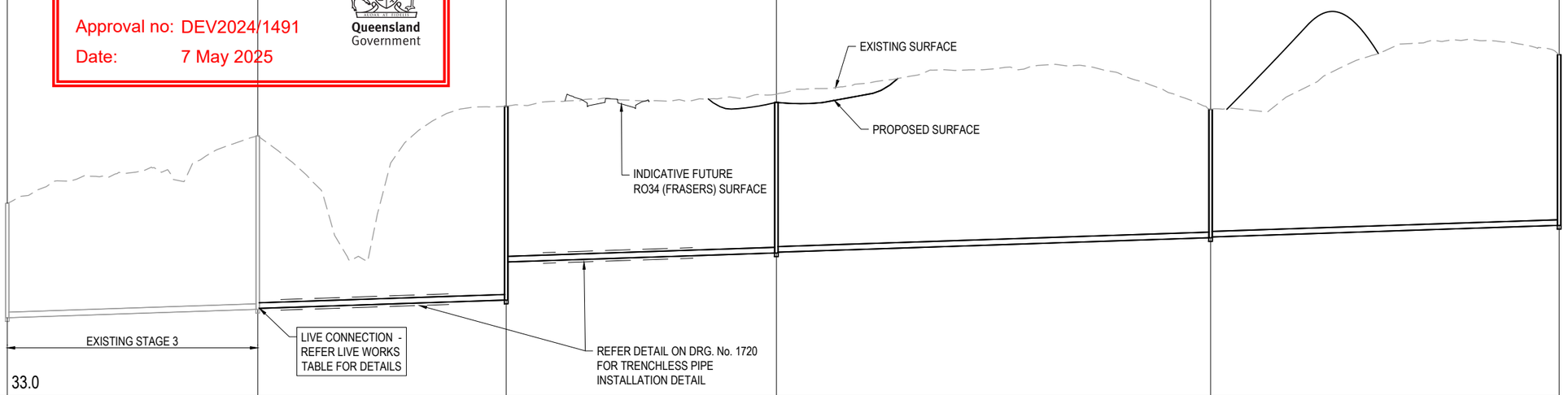
EMBEDMENT NOTE:
PIPE EMBEDMENT & TRENCHFILL SHALL BE IN ACCORDANCE WITH SEQ-SEW-1200-2, 1201-1 TO 1201-5. TYPE 3 SUPPORT IS PROPOSED UNTIL FINAL GEOTECHNICAL INVESTIGATIONS ARE COMPLETED PRIOR TO CONSTRUCTION.

PLANS AND DOCUMENTS referred to in the PDA DEVELOPMENT APPROVAL

Approval no: DEV2024/1491

Date: 7 May 2025

Queensland Government



DATUM R.L.	33.0					
LAND USE						
DIAMETER	Ø225PVC	Ø225PVC	Ø225PVC	Ø225PVC	Ø225PVC	
GRADE	1 in 300	1 in 300	1 in 300	1 in 300	1 in 300	
EMBEDMENT TYPE						
DEPTH TO INVERT	4.593 / 4.593 / 6.961	6.921 / 7.773	6.243 / 6.045	6.015 / 5.150	5.120 / 6.845	
JUNCTION INVERT LEVEL						
SEWER INVERT LEVEL	36.170 / 36.170 / 36.505	36.545 / 36.877	38.407 / 38.768	38.798 / 39.378	39.408 / 39.874	
DESIGN SURFACE LEVEL	40.764	43.466	44.650	44.813	44.528	46.720
SETOUT	35465.373 / 74625.962 / 35588.628	74761.247 / 35299.876	74806.518 / 35192.406	74819.953 / 35019.117	74803.677 / 34893.157	74743.172
RUNNING CHAINAGE	-100.382 / 100.382	0.000 / 99.631	99.631 / 108.306	207.937 / 174.053	381.990 / 139.738	521.728
LINE	LINE 6					

NO.	DATE	DESIGN	DRAWN	REVISION DETAILS	DRAWN	STATUS
A	22.08.24	TR	JR	ORIGINAL ISSUE	DESIGN	APPROVED

[DRAFT ONLY NOT FOR CONSTRUCTION]

FOR AND ON BEHALF OF COLLIERS INTERNATIONAL ENGINEERING & DESIGN PTY LTD

Colliers

SCALE
1:500 1:1000 10 5 0 10 20 A1 A3

CLIENT
PEET FLAGSTONE CITY Pty. Ltd.

ASSOCIATED CONSULTANT
VERIS
PHONE: (07) 3666 4700

PROJECT NAME
FLAGSTONE CITY TRUNK SEWER CONTEXT AREA 4
FLAGSTONIAN DRIVE
FLAGSTONE

DRAWING TITLE
TRUNK SEWER LONGITUDINAL SECTIONS SHEET 1 OF 4

PROJECT No.	DRAWING No.	REVISION
23-0202	1716	

PLOT: 22 Aug 2024 12:04 PM LOCATION - H:\23\23-0202 Flagstone - Stage 4A & 4B\Design\Acad\4A\23-0202-1710 [TRUNK SEWER LAYOUT & LS].dwg

STRUC/ BEND/ END NAME	8/6	9/6	10/6	11/6	12/6
STRUCTURE TYPE	C	C	B	B	B
STRUCTURE LID TYPE	D	D	D	D	D
STRUCTURE DROP TYPE	V	V	V	V	V
JUNCTION LINE					
DEPTH TO HC					
HC INVERT LEVEL					
HC TYPE					
HC LOT No					
CH. FROM D/S STRUC/ BEND					

SEWER STRUCTURE TYPES:

A	1050mm DIA. CAST-INSITU. REFER TO SEQ-SEW-1307-1.
B	1200mm DIA. CAST-INSITU.
C	1500mm DIA. CAST-INSITU. REFER TO SEQ-SEW-1307-1. INTERNAL SURFACES SHALL BE COATED WITH A PE LINING SYSTEM IN ACCORDANCE WITH THE SEQ CODE AND SEQ-SPS-1407 DRAWING SET. DESIGN AND CONSTRUCT BY CONTRACTOR FOR DEPTHS THAN 6m.
MS	TYPE 'J'1 MAINTENANCE SHAFT WITH DN300 RISER. REFER TO SEQ-SEW-1314-1 & 1314-2

SEWER STRUCTURE DROPS:

V	STRAIGHT THROUGH SEWER TYPE 'V'. REFER TO SEQ-SEW-1303-1
X	INTERNAL DROP TYPE 'X' . REFER TO SEQ-SEW-1303-1
MS-A	20mm DROP THROUGH BULB
MS-B	>750mm DROP INTO RISER

SEWER STRUCTURE LIDS:

B	NON-TRAFFICABLE. REFER TO SEQ-SEW-1308-1
D	TRAFFICABLE. REFER TO SEQ-SEW-1308-1

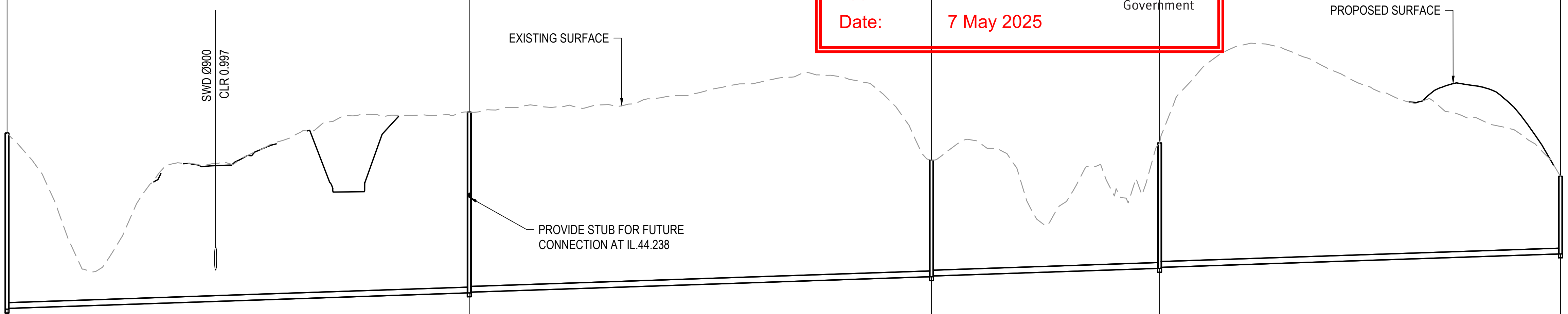
EMBEDMENT NOTE:
PIPE EMBEDMENT & TRENCHFILL SHALL BE IN ACCORDANCE WITH SEQ-SEW-1200-2, 1201-1 TO 1201-5. TYPE 3 SUPPORT IS PROPOSED UNTIL FINAL GEOTECHNICAL INVESTIGATIONS ARE COMPLETED PRIOR TO CONSTRUCTION.

PLANS AND DOCUMENTS referred to in the PDA DEVELOPMENT APPROVAL

Approval no: DEV2024/1491

Date: 7 May 2025

Queensland Government



DATUM R.L. 35.0

	8/6	8/6		9/6	9/6		10/6	10/6		11/6	11/6		12/6	12/6
LAND USE														
DIAMETER			Ø225PVC			Ø225PVC			Ø225PVC			Ø225PVC		
GRADE			1 in 300			1 in 300			1 in 300			1 in 300		
EMBEDMENT TYPE														
DEPTH TO INVERT	6.845	6.815		7.032	7.002		4.530	4.500		4.876	4.836		3.015	
JUNCTION INVERT LEVEL														
SEWER INVERT LEVEL	39.874	39.904		40.504	40.534		41.134	41.164		41.460	41.500		42.021	
DESIGN SURFACE LEVEL		46.720			47.536			45.665			46.336			45.036
SETOUT	34893.157	74743.172		34723.972	74681.718		34546.888	74649.450		34464.012	74617.444		34383.993	74751.511
RUNNING CHAINAGE		521.728	180.000		701.728	180.000		881.728	88.841		970.569	156.131		1126.701

LINE LINE 6

PLOT - 22 Aug 2024 12:04 PM LOCATION - H:\23\23-0202 Flagstone - Stage 4A & 4B\Design\Acad\4A\23-0202-1710 [TRUNK SEWER LAYOUT & LS].dwg

REV	DATE	DESIGN	DRAWN	REVISION DETAILS
A	22.08.24	TR	JR	ORIGINAL ISSUE

[DRAFT ONLY]

DRAWN
DESIGN
STATUS
NOT FOR CONSTRUCTION
APPROVED
FOR AND ON BEHALF OF COLLIERS INTERNATIONAL ENGINEERING & DESIGN PTY LTD

SCALE
1:500 10 5 0 10 20 A1
1:1000 A3

CLIENT
PEET FLAGSTONE CITY Pty. Ltd.

ASSOCIATED CONSULTANT
VERIS
PHONE: (07) 3666 4700

PROJECT NAME
FLAGSTONE CITY
TRUNK SEWER
CONTEXT AREA 4
FLAGSTONIAN DRIVE
FLAGSTONE

DRAWING TITLE
TRUNK SEWER LONGITUDINAL SECTIONS SHEET 2 OF 4

PROJECT No. **23-0202**
DRAWING No. **1717**
REVISION

STRUC/ BEND/ END NAME	12/6		13/6		14/6		15/6		16/6
STRUCTURE TYPE	B		B		B		B		B
STRUCTURE LID TYPE	D		D		D		D		D
STRUCTURE DROP TYPE	V		V		V		V		V
JUNCTION LINE									
DEPTH TO HC									
HC INVERT LEVEL									
HC TYPE									
HC LOT No									
CH. FROM D/S STRUC/ BEND									

SEWER STRUCTURE TYPES:
- A 1050mm DIA. CAST-INSITU. REFER TO SEQ-SEW-1307-1.
- B 1200mm DIA. CAST-INSITU.
- C 1500mm DIA. CAST-INSITU. REFER TO SEQ-SEW-1307-1. INTERNAL SURFACES SHALL BE COATED WITH A PE LINING SYSTEM IN ACCORDANCE WITH THE SEQ CODE AND SEQ-SPS-1407 DRAWING SET. DESIGN AND CONSTRUCT BY CONTRACTOR FOR DEPTHS THAN 6m.
- MS TYPE 'J'1 MAINTENANCE SHAFT WITH DN300 RISER. REFER TO SEQ-SEW-1314-1 & 1314-2

SEWER STRUCTURE DROPS:
- V STRAIGHT THROUGH SEWER TYPE 'V'. REFER TO SEQ-SEW-1303-1
- X INTERNAL DROP TYPE 'X' . REFER TO SEQ-SEW-1303-1
- MS-A 20mm DROP THROUGH BULB
- MS-B >750mm DROP INTO RISER

SEWER STRUCTURE LIDS:
- B NON-TRAFFICABLE. REFER TO SEQ-SEW-1308-1
- D TRAFFICABLE. REFER TO SEQ-SEW-1308-1

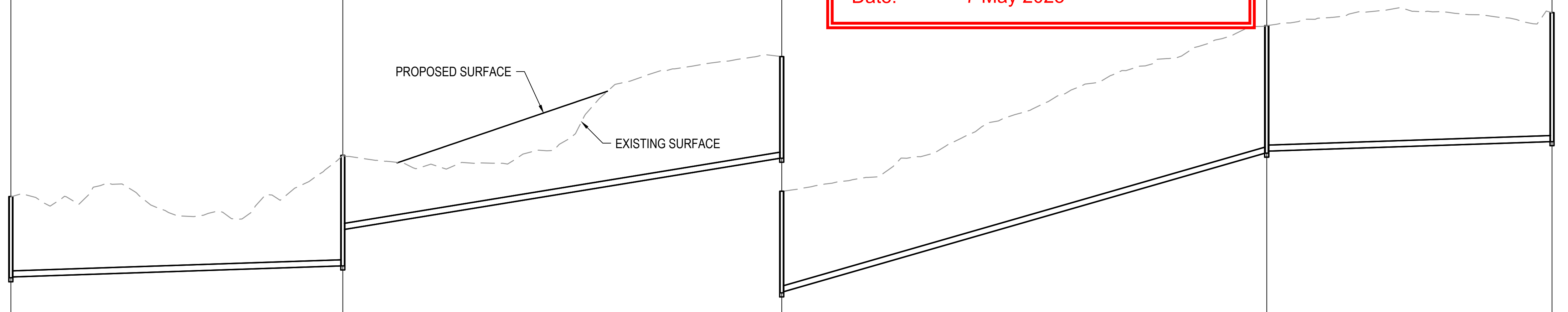
EMBEDMENT NOTE:
PIPE EMBEDMENT & TRENCHFILL SHALL BE IN ACCORDANCE WITH SEQ-SEW-1200-2, 1201-1 TO 1201-5. TYPE 3 SUPPORT IS PROPOSED UNTIL FINAL GEOTECHNICAL INVESTIGATIONS ARE COMPLETED PRIOR TO CONSTRUCTION.

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2024/1491

Date: 7 May 2025

Queensland Government



DATUM R.L. 36.0 | 41.0

STRUC/ BEND/ END NAME	12/6		13/6		14/6		15/6		16/6
LAND USE									
DIAMETER		Ø225PVC		Ø225PVC		Ø225PVC		Ø225PVC	
GRADE		1 in 300		1 IN 61.622		1 IN 35		1 in 300	
EMBEDMENT TYPE									
DEPTH TO INVERT	3.015 2.985		4.104 2.749		3.775 3.735		4.734 4.661		4.791
JUNCTION INVERT LEVEL									
SEWER INVERT LEVEL	42.021 42.051		42.461 43.816		46.460 46.500		51.649 51.723		52.076
DESIGN SURFACE LEVEL	45.036		46.565		50.235		56.384		56.866
SETOUT	34383.993 74751.511		34268.484 74794.338		34190.886 74937.569		34013.657 74969.036		33909.501 74988.025
RUNNING CHAINAGE	1126.701	123.193	1249.894	162.901	1412.795	180.000	1592.795	105.874	1698.668
LINE	LINE 6								

PLOT - 22 Aug 2024 12:04 PM LOCATION - H:\23\23-0202 Flagstone - Stage 4A & 4B\Design\Acad\4A\23-0202-1710 [TRUNK SEWER LAYOUT & LS].dwg

REV	DATE	DESIGN	DRAWN	REVISION DETAILS
A	22.08.24	TR	JR	ORIGINAL ISSUE

[DRAFT ONLY]

DRAWN
DESIGN
STATUS
NOT FOR CONSTRUCTION
APPROVED
FOR AND ON BEHALF OF COLLIERS INTERNATIONAL ENGINEERING & DESIGN PTY LTD

Colliers

SCALE
1:500 10 5 0 10 20 A1
1:1000 A3

CLIENT
PEET FLAGSTONE CITY Pty. Ltd.

ASSOCIATED CONSULTANT
VERIS
PHONE: (07) 3666 4700

PROJECT NAME
FLAGSTONE CITY
TRUNK SEWER
CONTEXT AREA 4
FLAGSTONIAN DRIVE
FLAGSTONE

DRAWING TITLE
TRUNK SEWER LONGITUDINAL SECTIONS SHEET 3 OF 4

PROJECT No.	DRAWING No.	REVISION
23-0202	1718	

STRUC/ BEND/ END NAME		16/6		17/6		18/6	
STRUCTURE TYPE		B		C		B	
STRUCTURE LID TYPE		D		D		D	
STRUCTURE DROP TYPE		V		V		V	
JUNCTION LINE							
DEPTH TO HC							
HC INVERT LEVEL							
HC TYPE							
HC LOT No							
CH. FROM D/S STRUC/ BEND							

SEWER STRUCTURE TYPES:

A	1050mm DIA. CAST-INSITU. REFER TO SEQ-SEW-1307-1.
B	1200mm DIA. CAST-INSITU.
C	1500mm DIA. CAST-INSITU. REFER TO SEQ-SEW-1307-1. INTERNAL SURFACES SHALL BE COATED WITH A PE LINING SYSTEM IN ACCORDANCE WITH THE SEQ CODE AND SEQ-SPS-1407 DRAWING SET. DESIGN AND CONSTRUCT BY CONTRACTOR FOR DEPTHS THAN 6m.
MS	TYPE 'J'1 MAINTENANCE SHAFT WITH DN300 RISER. REFER TO SEQ-SEW-1314-1 & 1314-2

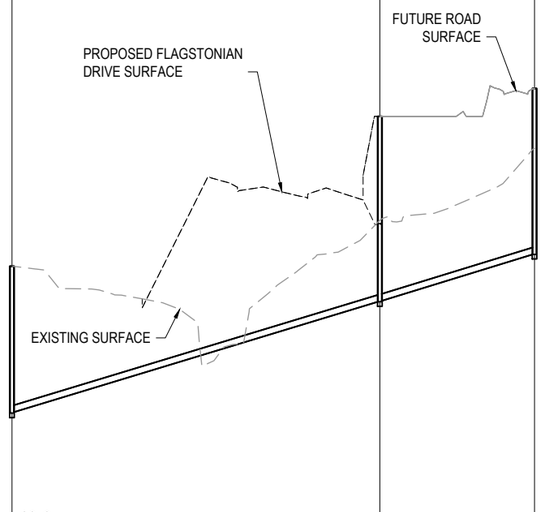
SEWER STRUCTURE DROPS:

V	STRAIGHT THROUGH SEWER TYPE 'V'. REFER TO SEQ-SEW-1303-1
X	INTERNAL DROP TYPE 'X' . REFER TO SEQ-SEW-1303-1
MS-A	20mm DROP THROUGH BULB
MS-B	>750mm DROP INTO RISER

SEWER STRUCTURE LIDS:

B	NON-TRAFFICABLE. REFER TO SEQ-SEW-1308-1
D	TRAFFICABLE. REFER TO SEQ-SEW-1308-1

EMBEDMENT NOTE:
PIPE EMBEDMENT & TRENCHFILL SHALL BE IN ACCORDANCE WITH SEQ-SEW-1200-2, 1201-1 TO 1201-5. TYPE 3 SUPPORT IS PROPOSED UNTIL FINAL GEOTECHNICAL INVESTIGATIONS ARE COMPLETED PRIOR TO CONSTRUCTION.



DATUM R.L.		48.0						
LAND USE								
DIAMETER		Ø225PVC				Ø225PVC		
GRADE		1 in 33.33				1 in 33.33		
EMBEDMENT TYPE								
DEPTH TO INVERT	4.791	4.761			6.044	6.014		5.412
JUNCTION INVERT LEVEL								
SEWER INVERT LEVEL	52.076	52.106			55.706	55.736		57.249
DESIGN SURFACE LEVEL		56.866				61.750		62.661
SETOUT	33909.501	74998.025			33792.250	74962.485		33757.029 74926.362
RUNNING CHAINAGE	1698.668		120.000			1818.668	50.452	1869.120
LINE		LINE 6						

PLANS AND DOCUMENTS referred to in the PDA DEVELOPMENT APPROVAL

Approval no: DEV2024/1491

Date: 7 May 2025

Queensland Government

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Colliers

SCALE 1:500 1:1000 — 10 5 0 10 20 — A1 A3

CLIENT: PEET FLAGSTONE CITY Pty. Ltd.

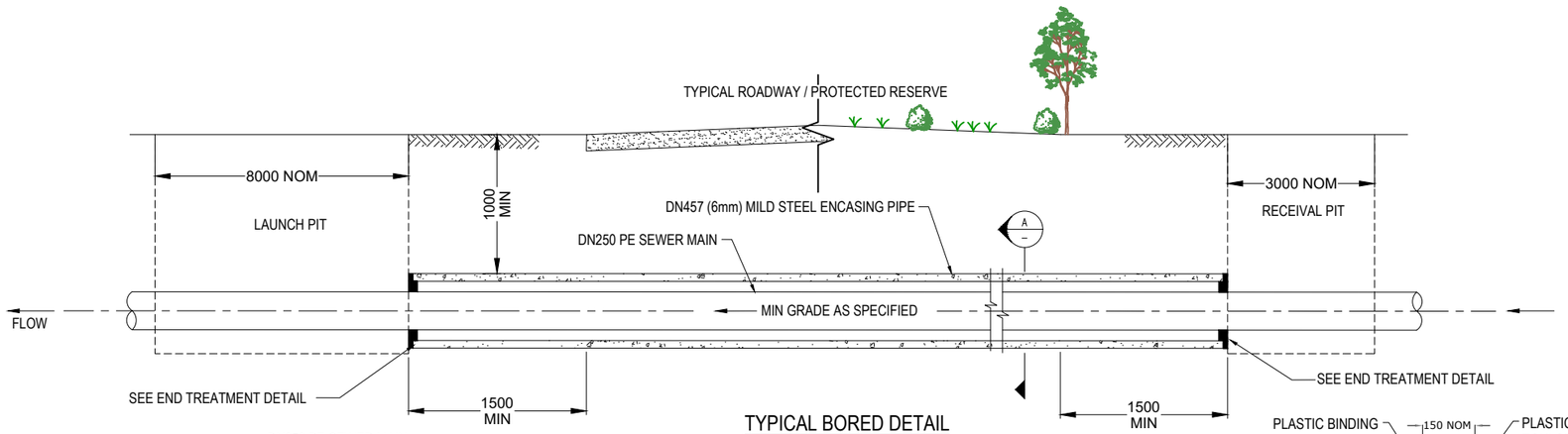
ASSOCIATED CONSULTANT: VERIS
PHONE: (07) 3666 4700

PROJECT NAME: FLAGSTONE CITY TRUNK SEWER CONTEXT AREA 4
FLAGSTONIAN DRIVE
FLAGSTONE

DRAWING TITLE: TRUNK SEWER LONGITUDINAL SECTIONS SHEET 4 OF 4

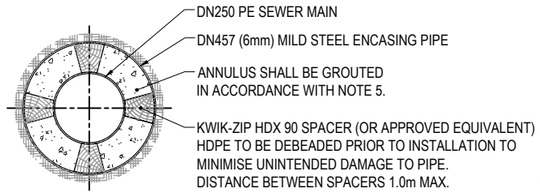
PROJECT No.	DRAWING No.	REVISION
23-0202	1719	

PLOT: 22 Aug 2024 12:04 PM LOCATION - H:\23\23-0202 Flagstone - Stage 4A & 4B\Design\Acad\4A\23-0202-1710[TRUNK SEWER LAYOUT & LS].dwg



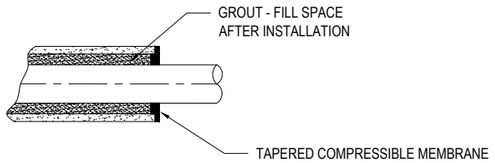
TYPICAL BORED DETAIL (ENCASING PIPE METHOD)

(NTS)



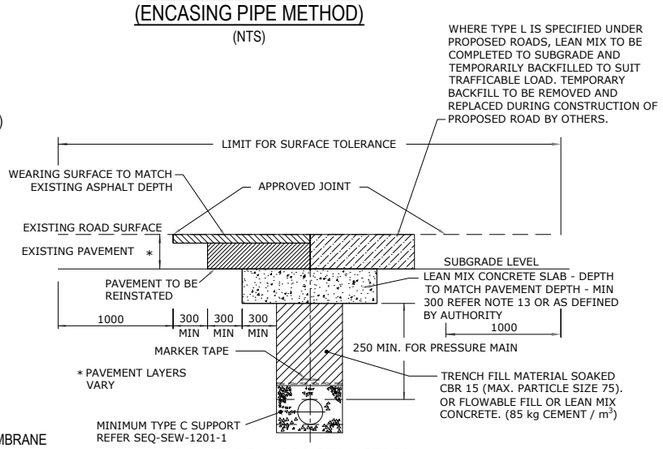
TYPICAL SECTION ENCASING PIPE AND SEWER ARRANGEMENTS

(NTS)



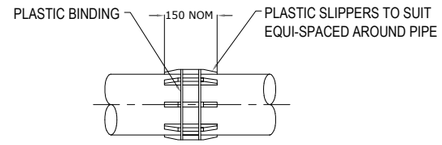
END TREATMENT DETAIL

(NTS)



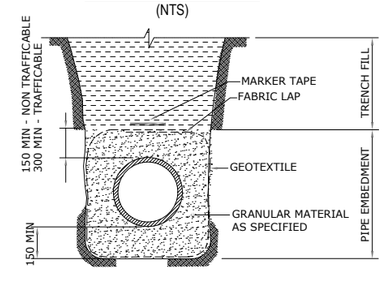
TYPE L CONSTRUCTION CROSSING SEALED ROADS

(NTS)



PIPE SUPPORTS DETAIL

(NTS)



TYPE D SUPPORT - WITH GEOTEXTILE

(NTS)

BORED ENCASING PIPE NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES UNO.
2. ENCASING PIPE - WELDED MILD STREET.
3. STEEL PIPE JOINTS TO BE EITHER PLAIN OR PLAIN ENDS WITHWELDED COLLAR OR BUTT WELDED OR SLIP-IN TYPE WELDED JOINT. EXTERNAL COATING REQUIRED (SEE SEQ-WAT-1400-1).
4. FILL VOIDS OUTSIDE OF ENCASING PIPE WITH PRESSURE GROUT DURING INSTALLATION.
5. BORED HOLE TO ENCASING PIPE GROUT MIX BY WEIGHT IS 0.67 WATER : 1.0 CEMENT : 1.0 SAND WITH THE SAND TO BE WELL ROUNDED SAND AND SEQ-SP APPROVED PLASTICISERS MAY BE USED.
6. ENCASING PIPE TO WATER PIPE GROUT MIX IS A FLOWABLE 1MPa MINIMUM GROUT WITH A LOW HEAT OF HYDRATION WITH AGGREGATE BEING A FINE WELL ROUNDED SAND AND PLASTICISERS MAY BE USED. THE MIX DESIGN SHALL BE APPROPRIATE FOR THE SPECIFIC PIPE MATERIALS AND SITE CONDITIONS AND SHALL BE APPROVED BY THE SUPERINTENDENT.
7. FOR DICL MAINS, PROTECT ALL PIPES AND FITTINGS WITH PE SLEEVING. FULLY WRAP PE COATED SCL PIPE USING BITUMASTIC WRAPPING TAPE SYSTEM THAT EXTENDS AT LEAST 300mm WITHIN CONCRETE ENCASEMENT TO AT LEAST 300mm BEYOND CONCRETE ENCASEMENT AND ENSURING TAPE OVERLAPS THE UNDAMAGED PE COATING BY AT LEAST 150 mm.
8. PLACE MARKERS ABOVE BURIED PIPELINE AT THE POINTS WHERE IT ENTERS AND LEAVES THE PROPERTY.
9. FINAL DESIGN TO BE IN ACCORDANCE WITH AS 4799.
10. SEE SEQ-WAT-1214-1 FOR DETAILS OF ENCASING AND SEWER MAIN INSTALLATION.
11. THE CONTRACTOR SHALL ENSURE THAT THE PE CARRIER PIPE IS NOT IMPACTED BY FLOATATION OR THERMAL REVERSION DURING THE GROUTING PROCESS. A METHODOLOGY SHALL BE SUBMITTED TO THE SUPERINTENDENT FOR APPROVAL PRIOR TO PROCEEDING WITH WORKS.
12. DETAILS SHOWN ARE TYPICAL. THE CONTRACTOR SHALL PREPARE A SPECIFIC DESIGN FOR THE INSTALLATION AND OBTAIN APPROVAL FROM THE RELEVANT AUTHORITY FOR THE DESIGN. PRIOR TO CONSTRUCTION, THE CONTRACTOR MUST OBTAIN APPROVAL FROM THE RELEVANT AUTHORITY TO ACCESS THE SITE. THE DESIGN SHALL COMPLY WITH LOGAN WATER SPECIFICATION PR9787 - SPECIFICATION FOR MICROTUNNELLING AND PIPEJACKING.
13. THE SLAB USED IN CONSTRUCTION SHALL BE GRADE N15 CONCRETE WITH ZERO SLUMP AND PLACED AND COMPACTED IN 100 THICK LAYERS.

EMBEDMENT MATERIAL DESIGN NOTES

1. ALL DIMENSIONS IN MILLIMETERS.
2. PLACEMENT OF EMBEDMENT, TRENCHFILL & COMPACTION TO MEET THE REQUIREMENTS OF THE SEQ CODE AND DESIGN DRAWINGS.
3. EXCAVATE OR COMPACT TRENCH FLOOR TO PROVIDE A FLAT FIRM BASE TO SUPPORT BEDDING MATERIAL AND MIMIMISE PIPELINE SETTLEMENT. WHEN EXCAVATED, REPLACE WITH GRANULAR MATERIAL AS SPECIFIED FOR BEDDING OR ADOPT SUPPORT AS REQUIRED.
4. WHERE ADDITIONAL SUPPORT IS REQUIRED THIS SHALL BE REFERRED TO GEO-TECHNICAL ENGINEER FOR REVIEW. SUPPORT SHALL BE INSTALLED AT A MINIMUM DEPTH OF 300 WITH A 20mm NOMINAL SIZE CRUSHED ROCK COMPLYING WITH TABLE G2 OR G3 OF AS2566.2. ADDITIONAL BEDDING SHALL BE WRAPPED WITH GEOTEXTILE TO FORM A SEPARATE GEOTEXTILE PILLOW FOUNDATION FOR PIPE EMBEDMENT.
5. ENSURE BEDDING IS DEEP ENOUGH THAT PIPE JOINT PROJECTIONS (SOCKETS, FLANGES) DO NOT TOUCH TRENCH FLOOR.
6. GEOTEXTILE BIDIM A24 OR APPROVED EQUIVALENT TO BE USED WHERE TRENCH FILL IS A MIGRATORY NATIVE SOIL OR SAND OR FINE CLAY MATERIAL, AND WHERE SPECIFIED IN THE DESIGN.
7. LAY GEOTEXTILE FILTER FABRIC AGAINST TRENCH FLOOR AND WALLS SUCH THAT IT FULLY ENCASES THE EMBEDMENT AND SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS REQUIREMENTS.
   - PRESS FABRIC INTO THE VOIDS BEFORE INSTALLING EMBEDMENT TO PREVENT FABRIC TEARING.
   - PROVIDE A MINIMUM OF 250 OVERLAP AT ALL FABRIC JOINTS.
8. PURCHASE SPECIFICATIONS FOR EMBEDMENT MATERIAL ARE DETAILED IN THE SEQ CODE ACCEPTED PRODUCTS AND MATERIALS LIST. TRENCH FILL SHALL COMPLY WITH SEQ-SEW-1200-2. 10. DETECTABLE MARKER TAPE SHALL BE PROVIDED EITHER ABOVE THE EMBEDMENT ZONE OR 1000 BELOW THE F.S.L, WHICHEVER IS CLOSEST TO F.S.L.

ASSET DESCRIPTION	COLOUR
SEWER MAIN	CREAM
POTABLE WATER	BLUE
RECYCLED WATER	LILAC

9. MARKER TAPE SHALL BE DETECTABLE TYPE IN ACCORDANCE WITH IPAM LIST, COLOUR CREAM FOR NON-PRESSURE AND PRESSURE SEWERAGE. THE TAPE SHALL BE MARKED "CAUTION ASSET DESCRIPTION BURIED BELOW"
10. BEDDING MATERIAL SHALL BE A SINGLE SIZED 5mm OR 7mm NOMINAL SIZE CRUSHED ROCK COMPLYING WITH TABLE G2 OF AS2566.2.
11. IMPORTED BACKFILL MATERIAL SHALL HAVE A SOAKED CBR VALUE OF NOT LESS THAN 15% AND A MAXIMUM PARTICLE SIZE OF 75mm.
12. FLOWABLE FILL OR LEAN MIX CONCRETE SHALL BE THOROUGLY MIXED PRIOR TO PLACEMENT WITH A CEMENT CONTENT OF 5%. SHALL CONSIST OF A GRADED SAND AND GRAVEL AGGREGATE OF 40mm MAXIMUM SIZE AND SUFFICIENT WATER TO ENSURE SLUMP OF LESS THAN 12mm.

EMBEDMENT MATERIAL CONSTRUCTION

1. FOR EACH BEDDING ZONE, BEDDING MATERIAL SHALL BE PLACED IN THE TRENCH TO THE DEPTH SHOWN ON THE DRAWINGS AND COMPACTED IN 150mm LAYERS FOR THE FULL WIDTH OF THE TRENCH BY TWO PASSES OF A VIBRATING PLATE.
2. TRENCH BACKFILL ABOVE BEDDING ZONE SHALL BE COMPACTED IN ACCORDANCE WITH THE BELOW TABLE U.N.O.

MATERIAL TYPE	TRAFFICABLE AREA	NON-TRAFFICABLE AREA
COHESIONLESS (DENSITY INDEX)	70	60
COHESIVE (STD COMPACTION)	95	90

3. SINGLE SIZE COARSE AGGREGATES OF SIZES 7, 10, AND 14 mm ARE DEEMED "SELF COMPACTING" AND DO NOT REQUIRE COMPACTION TESTING WHEN USED AS EMBEDMENT U.N.O.
4. EXCAVATE AND COMPACT TRENCH FLOOR TO PROVIDE FLAT FIRM BASE TO SUPPORT BEDDING MATERIAL AND MINIMISE PIPELINE SETTLEMENT.
5. THE INSTALLED MAIN AND STRUCTURES SHALL CONFORM WITH THE CONSTRUCTION TOLERANCES NOMINATED WITHIN SEQ-CODE.

SPRING LINE CLEARANCE

NOMINAL DIAMETER (DN)	MINIMUM CLEARANCE "Lc" TO AS/NZ 2566.1
≤300	150

PLANS AND DOCUMENTS referred to in the PDA DEVELOPMENT APPROVAL

Approval no: DEV2024/1491

Date: 7 May 2025

Queensland Government

NO.	DATE	DESIGN	DRAWN	REVISION DETAILS	CHECKED	APPROVED
A	22.08.24	TR	JR	ORIGINAL ISSUE		

[DRAFT ONLY NOT FOR CONSTRUCTION]

FOR AND ON BEHALF OF COLLIERS INTERNATIONAL ENGINEERING & DESIGN PTY LTD

SCALE 1:500 1:1000 10 5 0 10 20 A1 A3

CLIENT: PEET FLAGSTONE CITY Pty. Ltd.

ASSOCIATED CONSULTANT: VERIS PHONE: (07) 3666 4700

PROJECT NAME: FLAGSTONE CITY TRUNK SEWER CONTEXT AREA 4 — FLAGSTONIAN DRIVE FLAGSTONE

DRAWING TITLE: TYPICAL BORED AND EMBEDMENT DETAIL

PROJECT No. 23-0202 | DRAWING No. 1720 | REVISION

PLOT - 22 Aug 2024 12:04 PM LOCATION - H:\23\23-0202 Flagstone - Stage 4A & 4B\Design\Asset\4A\23-0202-1710 (TRUNK SEWER LAYOUT & I.S).dwg

MAINTENANCE HOLES – DESIGN REQUIREMENT

1. DESIGN AND CONSTRUCTION OF ALL SEWERAGE INFRASTRUCTURE SHALL BE RPEQ CERTIFIED.
2. TOP SLABS HAVE BEEN DESIGNED FOR THE FOLLOWING LIVE LOADS AND LOCATIONS

LOCATION	LIVE LOAD	ACCESS COVER TO AS 3996
RESERVES, RESIDENTIAL ALLOTMENTS, FOOTPATHS AND VERGES	25 kN	CLASS RATING B
ROADWAYS AND DRIVEWAYS, COMMERCIAL, INDUSTRIAL AND NON-RESIDENTIAL ALLOTMENTS	80 kN	CLASS RATING D

- DESIGN LIFE 100 YEARS
- DEAD LOAD AS DETERMINED FROM SEQ SEWER CODE STANDARD DRAWINGS.
- LIVE LOADS TO AS 1170.1 AND AS 5100.2

3. DURABILITY CLASSIFICATION

STRUCTURE	COVER LOCATION	EXPOSURE CLASSIFICATION AS3600, AS3735	REINFORCEMENT COVER (mm)
SLABS	TOP	B2 TO AS3600-	40
	BOTTOM	B2 TO AS3735	50 INCLUDING PE LINER THICKNESS

4. SEQ CODE SEWER MH STANDARD DRAWINGS THAT ARE APPLICABLE TO QUU HAVE ASSUMED THAT A MINIMUM SOIL BEARING PRESSURE OF 50 KPA CAN BE ACHIEVED. RESPONSIBILITY FOR ALL ASPECTS OF THE DESIGN AND CONSTRUCTION OF SEWER INFRASTRUCTURE RESTS SOLELY WITH THE CERTIFYING RPEQ.
5. SEQ CODE SEWER MH STANDARD DRAWINGS THAT ARE APPLICABLE TO QUU HAVE ASSUMED THAT A MINIMUM SOIL BEARING PRESSURE OF 50 KPA CAN BE ACHIEVED. RESPONSIBILITY FOR ALL ASPECTS OF THE DESIGN AND CONSTRUCTION OF SEWER INFRASTRUCTURE RESTS SOLELY WITH THE CERTIFYING RPEQ.

MAINTENANCE HOLES - GENERAL

1. THESE NOTES RELATE TO ALL TOP SLABS AND CAST-INSITU MAINTENANCE HOLES FOR QUU AND LOGAN WATER.
2. MAINTENANCE HOLE TOP SLABS SHALL BE PRECAST ELEMENTS.
3. DIMENSIONS IN MILLIMETRES U.N.O.
4. DIMENSIONS NOT TO BE SCALED FROM DRAWINGS.
5. VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCING WORK ON SITE.
6. MATERIALS AND WORKMANSHIP TO COMPLY WITH THE CURRENT STANDARDS AUSTRALIA CODES, BUILDING CODE OF AUSTRALIA, WSAA PRODUCT SPECIFICATIONS, BY-LAWS AND ORDNANCES OF RELEVANT BUILDING AUTHORITIES.
7. EXISTING STRUCTURES TO BE MAINTAINED IN A STABLE CONDITION AND NO PART TO BE OVER-STRESSED DURING CONSTRUCTION.
8. ADDITIONAL SITE EXAVATION SHALL OCCUR UNTIL SUITABLE FOUNDATION MATERIAL IS LOCATED. ALL OVEREXAVATION SHALL BE REPLACED WITH A LEAN MIX CONCRETE OR C.L.S.M.

MAINTENANCE HOLES

1. MAINTENANCE HOLES SHALL BE LOCATED CENTRALLY OVER SEWERS UNLESS SPECIFIED OTHERWISE. REFER DRAWINGS SEQ-SEW-1304-1 AND SEQ-SEW-1305-1
2. OBVERT LEVEL OF THE UPSTREAM SEWER PIPE SHALL ALWAYS BE ABOVE THE OBVERT LEVEL OF THE DOWNSTREAM SEWER PIPE UNLESS APPROVED OTHERWISE.
3. ALL CONSTRUCTION JOINTS SHALL INCLUDE HYDROPHILIC SEALS INSTALLED TO MANUFACTURER'S SPECIFICATIONS.
4. MAINTENANCE HOLE CONNECTORS, INCLUDING HYDROPHILIC SEALS AND PUDDLE FLANGES SHALL BE THE PRE-FABRICATED TYPE UNLESS APPROVED OTHERWISE.
5. ENDS OF SEWER PIPES SHALL FINISH FLUSH WITH THE INSIDE FACE OF MAINTENANCE HOLE WALL.
6. FINISHED BENCHING SHALL PROVIDE A SMOOTH NON-TURBULENT FLOW.
7. SAFETY CHAINS AND ALL CONNECTIONS SHALL BE STAINLESS STEEL GRADE 316.
8. PROPERTY CONNECTION JUNCTIONS SHALL NOT BE CONSTRUCTED ON SHORT PIPES AT MAINTENANCE HOLES OR BULKHEADS.

MAINTENANCE HOLE CIRCULAR ACCESS COVERS

1. CIRCULAR ACCESS COVERS AND FRAMES SHALL BE RATED TO CLASS RATING B OR CLASS RATING D TO AS 3996.
2. PRODUCT CERTIFICATION TO AS 3996 SHALL BE SUPPLIED FOR EACH COVER ASSEMBLY.
3. COVERS, FRAMES AND RISER RINGS, WHERE REQUIRED, SHALL BE SUPPLIED ASSEMBLED.
4. COVERS SHALL BE SOLID TOP. IN QUU AREAS ONLY, CLASS B CONCRETE INFILL COVERS MAY BE USED.
5. COVERS SHALL HAVE IDENTIFICATION TAGS DETAILING, SEWER / VACUUM SEWER / CLASS RATING B, D / SEALED / COVER PATTERN DETAIL /SEQ-SP NAME / WEIGHT.
6. BOLT DOWN COVERS SHALL BE PROVIDED IN FLOOD PRONE AREAS, STORM SURGE AREAS, SURCHARGING SEWERS AND WHERE SPECIFIED IN THE DESIGN.
7. BOLT DOWN COVER FRAMES TO BE FIXED TO THE TOP SLAB WITH 4 M16 STAINLESS STEEL CHEMICAL ANCHORS. EMBEDMENT LENGTH SHALL BE MINIMUM 110 mm UNLESS APPROVED OTHERWISE.

STEP IRONS AND LADDERS (QUU ONLY)

1. STEP IRONS SHALL COMPLY TO AS 1657.
2. STEP IRONS ARE REQUIRED WHERE DEPTHS OF BENCHING FROM TOP SLAB IS GREATER THAN 850 MM BUT DOES NOT EXCEED 4.25 m.
3. STEP IRONS SHALL NOT BE PLACED CLOSER THAN 150 mm FROM THE BENCHING.
4. STEP IRONS SHALL BE PLACED OVER THE DOWNSTREAM OUTLET.
5. STEP IRONS SHALL BE PLACED DIRECTLY UNDER THE LADDER WHERE STEP IRONS ARE USED WITH A LADDER WHEN SHOWN IN THE STANDARD DRAWINGS.
6. LADDERS SHALL COMPLY WITH SEQ-SEW-1301-27.
7. LADDERS SHALL BE USED IN ALL MAINTENANCE HOLES WHERE DEPTH FROM GROUND LEVEL TO INVERT OF SEWER EXCEEDS 4.25 m.
8. LADDERS SHALL BE PLACED OVER DOWNSTREAM OUTLET FOR SEWER PIPES 600 MM OR SMALLER.
9. LADDERS SHALL BE PLACED PERPENDICULAR TO THE DOWNSTREAM OUTLET FOR SEWER PIPES GREATER THAN 600 MM.
10. CAGES, EXTENDABLE HANDRAILS AND PLATFORMS ARE NOT TO BE INSTALLED IN MAINTENANCE HOLES.

CONCRETE

1. CONCRETE WORKMANSHIP AND MATERIALS TO COMPLY WITH AS 3600 AND AS 3610
2. CONCRETE TO COMPLY WITH AS 1379, AS 1478.1, AS 1478.2, AS 3582.1, AS 3582.2, AS 3582.3 AND AS 3972.
3. SLUMP TO BE AS REQUIRED FOR PLACEMENT, COMPACTION AND FINISHING. A SAMPLE OF FRESH CONCRETE SHALL BE TESTED FOR SLUMP AND STRENGTH UPON ARRIVAL ON SITE.
4. WATER NOT TO BE ADDED TO CONCRETE AFTER TRUCK HAS LEFT BATCHING PLANT UNLESS APPROVED OTHERWISE.
5. TEST SLUMP OF EACH BATCH OF CONCRETE DELIVERED.
6. DESIGN, CERTIFICATION, CONSTRUCTION AND PERFORMANCE OF FORMWORK BY CONTRACTOR.
7. CONCRETE CONSTRUCTION TOLERANCES TO AS 3610.
8. CONCRETE SIZES DO NOT INCLUDE FINISHES. SIZES NOT TO BE REDUCED OR PENETRATIONS ADDED.
9. CONDUITS, PIPES, ETC. NOT TO BE PLACED IN CONCRETE COVER TO THE REINFORCEMENT.
10. EXPOSED EDGES AND RE-ENTRANT CORNERS TO HAVE 25 MM CHAMFERS OR FILLETS UNLESS NOTED OTHERWISE.
11. CONSTRUCTION JOINTS AS DETAILED AND LOCATED ON DESIGN DRAWINGS.
12. CONCRETE SURFACE FINISHES TO AS 3610. FORMED EXPOSED SURFACES - CLASS 2
13. CONCRETE TEMPERATURE NOT TO EXCEED TEMPERATURES STATED BELOW.

CONCRETE STRUCTURE	CONCRETE STRENGTH	TEMPERATURE LIMIT
CONCRETE SECTIONS LESS THAN 600mm THICK	EQUAL TO OR MORE THAN 40MPa	35°C
CONCRETE SECTIONS EQUAL TO OR GREATER THAN 600mm THICK	EQUAL TO OR MORE THAN 40 MPa	27°C

14. CONCRETE CURING TO AS3600 AS SOON AS POSSIBLE AFTER PLACING AND FINISHING.
15. CONCRETE GRADE S40.

TYPE OF AGGREGATE	CALCAREOUS
COMPRESSIVE STRENGTH AT 28 DAYS	40 MPa
MIN. CEMENT CONTENT	380 kg/m^3
MAX. CEMENTITIOUS MATERIAL	25%
MAX W/C RATIO	0.5
NOMINAL SLUMB	80 mm±15
DRYING SHRINKAGE AT 21 DAYS	500 x 10^{-6}
MAXIMUM AGGREGATE SIZE	20 mm
MINIMUM AGGREGATE SIZE	10 mm

16. CONCRETE SHALL BE SPECIAL CLASS TO WSA-PS 358 WITH CALCAREOUS AGGREGATE.
17. BENCHING FINISH SHALL CONSIST OF EQUAL PARTS OF CEMENT AND SAND.
18. HOLD POINT: ONCE THE BASE OF MANHOLES HAVE BEEN POURED, CONSTRUCTION SHALL ONLY RE-COMMENCE ONCE THE SUPERINTENDENT AND/OR ENGINEER HAVE INSPECTED THE WORKS

REINFORCEMENT

1. REINFORCEMENT FOR THE TOP SLABS SHALL BE A PREFABRICATED ELEMENT.
2. REINFORCEMENT TO COMPLY WITH AS4671.
3. SYMBOLS ON DRAWINGS FOR GRADE AND TYPE OF REINFORCEMENT ARE:
   - R - STRUCTURAL GRADE 250 PLAIN ROUND BARS
   - N - HOT ROLLED GRADE 500 DEFORMED BAR, DUCTILITY CLASS N
   - L - HOT ROLLED GRADE 500 DEFORMED BAR, DUCTILITY CLASS L
   - SL - HARD DRAWN WIRE GRADE 500 MESH, DUCTILITY CLASS L
   - RL - HARD DRAWN WIRE GRADE 500 MESH, DUCTILITY CLASS L
   - W - STEEL REINFORCING WIRE GRADE 500
4. REINFORCEMENT DESIGNATION AS FOLLOWS (e.g. 14/N16-250 EF)
   - 14 - NUMBER OF BARS
   - N - BAR GRADE AND DUCTILITY CLASS
   - 16 - BAR DIAMETER IN mm
   - 250 - SPACING OF BARS IN mm
   - EF - LOCATION
5. ABBREVIATIONS TO REINFORCEMENT LOCATION:
   - EW - EACH WAY
   - EF - EACH FACE
   - B - BOTTOM
   - T - TOP
   - CP - CENTRALLY PLACED
6. REINFORCEMENT IS SHOWN DIAGRAMMATICALLY ONLY AND NOT NECESSARILYIN TRUE PROJECTION.
7. REINFORCEMENT TO BE FIXED SECURELY AND SUPPORTED ON PROPRIETY CONCRETE, METAL OR PLASTIC SUPPORTS.
8. REINFORCEMENT TO BE SPLICED AS SHOWN ON PROJECT DRAWINGS. LAP LENGTHS TO COMPLY WITH AS 3600 AND TABLE BELOW U.N.O.

BAR SIZE	LAP LENGTH (mm)
N12	350
N16	500
N20	600
N24	700
N28	850
N32	950

9. REINFORCEMENT NOT TO BE WELDED UNLESS SHOWN ON PROJECT DRAWINGS OR APPROVED OTHERWISE.
10. REINFORCEMENT NOT TO BE BENT, CUT OR HEATED ON SITE UNLESS APPROVED OTHERWISE.
11. REINFORCEMENT TO BE CLEAN, FREE OF MILL SCALE, RUST, OIL, GREASE ETC.
12. DOWEL LOCATION TOLERANCE SHALL BE +/- HALF THE DIAMETER OF THE DOWEL. THE ALIGNMENT TOLERANCE SHALL BE 2 mm IN 300 mm.

PLANS AND DOCUMENTS referred to in the PDA DEVELOPMENT APPROVAL

Approval no: DEV2024/1491

Date: 7 May 2025

Queensland Government

REV	DATE	DESIGN	DRAWN	REVISION DETAILS	DRAWN	STATUS
A	22.08.24	TR	JR	ORIGINAL ISSUE		

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SCALE 1:500 1:1000 — 10 5 0 10 20 — A1 A3

CLIENT: PEET FLAGSTONE CITY Pty. Ltd.

ASSOCIATED CONSULTANT: VERIS, PHONE: (07) 3666 4700

PROJECT NAME: FLAGSTONE CITY TRUNK SEWER CONTEXT AREA 4

FLAGSTONIAN DRIVE FLAGSTONE

DRAWING TITLE: SEWER TRUNK MAIN M.H. CONSTRUCTION NOTES SHEET 1 OF 2

PROJECT No.	DRAWING No.	REVISION
23-0202	1721	

PLOT - 22 Aug 2024 12:04 PM LOCATION - H:\23\23-0202 Flagstone - Stage 4A & 4B\Design\Aust\4A\23-0202-1710 [TRUNK SEWER LAYOUT & LS].dwg

PRECAST CONCRETE - TOP SLABS ONLY

1. PRECAST CONCRETE MEMBERS TO COMPLY WITH AS 3850.1 AND AS 3850.2
2. PRECAST MEMBERS ARE DESIGNED FOR THE FINAL INSTALLED CONDITIONS ONLY. PRECAST MANUFACTURER TO DESIGN THE PRECAST MEMBERS INCLUDING CONNECTIONS,FIXING DETAILS, JOINTS, FIRE RESISTANCE, ETC. FOR STABILITY, SERVICEABILITY AND STRENGTH REQUIREMENTS REQUIRED DURING MANUFACTURE, TRANSPORT, LIFTING, ERECTION AND INSTALLATION.
3. PRECAST MANUFACTURER TO PROVIDE THEIR SHOP DRAWINGS AND RPEQ CERTIFICATION FOR CONSTRUCTION OF THE PRECAST SLAB TO THE DESIGNS PROVIDED IN MAINTENANCE HOLE DRAWINGS INCLUDING DESIGN AND CONSTRUCTION CERTIFICATION FOR CONNECTIONS AND FIXING REQUIRED FOR MANUFACTURE, TRANSPORT, ERECTION AND INSTALLATION. (FORM 16)
4. PRECAST CONCRETE MEMBERS TO BE SUPPLIED AND CONSTRUCTED BY A PRECAST CONCRETE CONSTRUCTOR.
5. ADEQUATELY DESIGNED TEMPORARY BRACING, AS REQUIRED, TO BE PROVIDED DURING ERECTION AND INSTALLATION.
6. MINIMUM CHARACTERISTIC COMPRESSIVE STRENGTH OF CONCRETE AT REMOVAL FROM MOULDS SHALL BE 15MPa.
7. ALL INSERTS IN PRECAST CONCRETE MEMBERS TO BE STAINLESS STEEL.
8. ALL STRUCTURAL STEELWORK CONNECTIONS TO PRECAST CONCRETE MEMBERS TO BE HOT DIP GALVANISED TO AS 4680 SYSTEM DESIGNATION HDG600.
9. PROVIDE 15 MM CHAMFERS OR FILLETS AT EDGES AND CORNERS OF PRECAST MEMBERS EXCEPT AT UNDERSIDE OF MH SLAB ACCESS OPENING UNLESS APPROVED OTHERWISE.
10. PRECAST CONCRETE MEMBERS NOT TO BE ERECTED ON REINFORCED CONCRETE STRUCTURES UNTIL THE REINFORCED CONCRETE STRUCTURES HAVE BEEN CURED TO ACHIEVE 28 DAYS STRENGTH.
11. WEIGHT OF TOP SLAB TO BE STAMPED ON THE SLAB.
12. CONCRETE TO BE SPECIAL CLASS TO WSA PS-358 WITH CALCAREOUS AGGREGATE.
13. APPROVED LIFTING PLAN IS TO BE AVAILABLE ON REQUEST.

FORMWORK

1. DESIGN, CERTIFICATION, CONSTRUCTION, INSPECTION AND PERFORMANCE OF THE FORMWORK AND FALSE WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, EXCEPT TO THE EXTENT THAT FORMWORK DESIGN IS SHOWN ON THE STRUCTURAL DRAWINGS.
2. FORMWORK SHALL NOT BE DESIGNED TO RELY ON RESTRAINT OR SUPPORT FROM THE PERMANENT STRUCTURE WITHOUT PRIOR APPROVAL FROM THE STRUCTURAL ENGINEER.
3. INFORMATION FOR THE FOUNDATIONS UNDER THE FORMWORK SHALL BE DETERMINED FROM THE CONDITIONS EXISTING ON SITE AT THE TIME OF CONSTRUCTION.
4. CONSTRUCTION TOLERANCES AND STRIPPING TIMES SHALL COMPLY WITH AS3610 AND AS3600 FOR THE APPROPRIATE FINISH CLASS UNLESS OTHERWISE APPROVED BY THE STRUCTURAL ENGINEER.
5. CONSTRUCTION, NO MATERIALS ARE TO BE STACKED ON THE VALVE PIT UNTIL THE NOMINATED 28 DAY STRENGTH HAS BEEN ATTAINED, THESE LOADS SHALL NOT EXCEED THE DESIGN SUPERIMPOSED LOADS OF 10 kPa.
6. PERMANENT LOADS ON THE CONCRETE STRUCTURE SHALL NOT BE APPLIED UNTIL AFTER FORMWORK AND FALSEWORK IS REMOVED.
7. APPLY A RELEASE AGENT TO THE FACE OF THE FORMWORK COMPATIBLE WITH THE REQUIRED SURFACE FINISH WHEN PLACING REINFORCEMENT IN THE FORMWORK,.
8. RE-ENTRANT ANGLES AND FILLET AT CORNERS BY 25mm UNO.
9. PRIOR TO PLACING CONCRETE, REMOVE ALL WATER, DUST, AND DEBRIS FROM THE FORMWORK.
10. WHERE HOLES ARE LEFT BY FORM TIE BOLTS THESE SHALL BE FILLED WITH MORTAR MATCHING THE SURFACE COLOUR OF THE FINISHED SURFACE.

STAINLESS STEEL

1. STAINLESS STEEL TO COMPLY TO ASTM A240/A240M AND ASTM A480/ A480M.
2. FABRICATION BY MANUFACTURERS ASSDA ACCREDITED OR APPROVED EQUIVALENT.
3. STAINLESS STEEL TO BE GRADE 316 OR 316L U.N.O.
4. STORAGE, FABRICATION AND WELDING TO BE IN APPROVED DEDICATED AREAS.
5. WELDING, CLEANING, PICKLING AND PASSIVATION TO COMPLY TO AS 1554.6 AND WTIA TECHNICAL NOTE 16 WELDING OR STAINLESS STEEL.
6. SURFACE FINISH TO BE 2B OR BETTER TO ASTM A480.
7. MEMBERS TO BE ACID PASSIVATED AFTER FABRICATION.
8. ANTI GALLING COMPOUND "DURALAC" OR SEQ-SP APPROVED EQUIVALENT REQUIRED ON ALL FASTENERS UNLESS APPROVED OTHERWISE.

STRUCTURAL STEEL

1. STRUCTURAL STEEL WORKMANSHIP AND MATERIALS TO COMPLY WITH AS 4100.
2. STEEL TO COMPLY WITH:
   - AS 1163 GRADE C350 FOR RECTANGULAR AND HOLLOW SECTIONS.
   - AS 3678 FOR PLATES AND FLOOR PLATES.
   - AS 3679.1 GRADE 300 OR BHP GRADE 300 PLUS FOR PARALLEL FLANGE CHANNELS.
   - AS 3679.2 GRADE 300 FOR WELDED BEAMS AND COLUMNS.
   - OTHER SECTIONS TO COMPLY WITH AS 3678 OR AS 3679 GRADE 250.
3. WELDS TO AS 1554.
   - WELD CATEGORY SP.
   - BUTT WELDS TO BE FULL PENETRATION WELDS.
   - WELDS TO BE 6 MM CONTINUOUS FILLET WELDS ALL ROUND INTERFACES.
   - ELECTRODES TO AS 1554 CLASSIFICATION E48XX.
4. BOLTS TO AS 1275. COMMERCIAL GRADE 4.6/S TO AS 1111 AND AS 1112. HIGH STRENGTH STRUCTURAL BOLTS TO AS 1252.
   - BOLTS, NUTS AND WASHERS M16 AND LARGER TO GRADE 8.8/S. M12 TO BE GRADE 4.6/S
   - STRUCTURAL CONNECTIONS TO BE 2 M16 8.8/S WITH 10 mm THICK CLEAT PLATE U.N.O.
   - INSTALL WASHERS UNDER BOLT HEAD AND NUT. INSTALL TAPERED WASHERS AS REQUIRED.
   - BOLT PROJECTION BEYOND NUT TO BE MINIMUM TWO THREADS AND MAXIMUM 10 mm
5. HOLD DOWN BOLTS TO BE GRADE 4.6/S U.N.O. HOLD DOWN BOLTS GROUPS TO BE RIGIDLY
6. TIED FOR CORRECT SET-OUT AND LOCATION.
7. SEAL WELD HOLLOW SECTIONS WITH 3 MM THICK CAP PLATE UNLESS NOTED OTHERWISE.
8. GROUT BASE PLATES WITH HIGH STRENGTH NON-SHRINK PRE-MIXED GROUT BEFORE COLUMNS ARE LOADED.

STEEL WORK PROTECTIVE COATING

1. STEELWORK TO BE HOT DIP GALVANISED TO AS 4680 SYSTEM DESIGNATION HDG600 AND THREADED FASTENERS TO AS 1214.
2. DAMAGED GALVANISED COATING REPAIR:

POWER CLEAN TO AS 1627.2
SOLVENT CLEAN/ DEGREASE TO AS 1627.1
APPLY TIN/ZINC TO PRE-HEATED STEEL OVERLAPPING THE GALVANISING COATING.

REPAIR OF EXPOSED REINFORCEMENT AND CONCRETE AROUND NEW PIPE PENETRATION IN EXISTING CONCRETE

1. EXPOSED REINFORCEMENT AND CONCRETE REPAIRED AS FOLLOWS:
   - CORE HOLES ON EACH CORNER OF AREA TO BE CUT.
   - SAW CUT CONCRETE, PERPENDICULAR TO CONCRETE SURFACE, 15 mm DEEP AROUND PERIMETER OF THE OPENING.
   - BREAKOUT REMAINING CONCRETE AROUND THE OPENING WITHOUT DAMAGING REINFORCEMENT.
   - CUT EXPOSED REINFORCEMENT SO THAT IS 30 mm CLEAR OF THE PIPE.
   - CLEAN CONCRETE SURFACE AND REMOVE ALL LOOSE MATERIAL.
   - ABRASIVE BLAST CLEAN EXPOSED REINFORCEMENT. IF IT IS CORRODED AND APPLY "NITOPRIME" ZINC RICH PRIMER UNLESS APPROVED OTHERWISE.
   - THOROUGHLY SOAK SUBSTRATE WITH CLEAN WATER FOR A MINIMUM OF TWO HOURS.
   - PLACE N12 CIRCULAR TRIMMER ON BOTH SIDES OF THE PIPE FLANGE.
   - INSTALL HYDROTITE CJ-07-25 SEAL ON PIPE 50 mm FROM CONCRETE SURFACE UNLESS APPROVED OTHERWISE.
   - APPLY "NITOBOND HAR" PRIMER TO CONCRETE SURFACE UNLESS APPROVED OTHERWISE.
   - POUR CONCRETE/GROUT UNDER PRESSURE TO FILL OPENING.
   - FILL CONCRETE/GROUT TO SUPPLIER REQUIREMENTS.

REPAIR OF EXPOSED REINFORCEMENT AND ANCHOR AT CONCRETE SURFACE

1. ALL EXPOSED REINFORCEMENT AND MILD STEEL ANCHORED TO BE REPAIRED AS FOLLOWS:
   - SAW CUT OR CHISEL CUT CONCRETE, PERPENDICULAR TO CONCRETE SURFACE, 15 mm DEEP AROUND REINFORCEMENT/ANCHOR.
   - BREAKOUT CONCRETE AROUND REINFORCEMENT/ANCHOR TO A DEPTH OF 60 mm.
   - CUT EXPOSED REINFORCEMENT/ANCHOR AT A MINIMUM DEPTH OF 50 mm FROM CONCRETE SURFACE.
   - CLEAN CONCRETE SURFACE AND REMOVE ALL LOOSE MATERIAL.
   - ABRASIVE BLAST CLEAN EXPOSED REINFORCEMENT/ANCHOR.
   - APPLY "NITOPRIME" ZINC RICH PRIMER TO REINFORCEMENT/ANCHOR UNLESS APPROVED OTHERWISE.
   - THOROUGHLY SOAK SUBSTRATE WITH CLEAN WATER.
   - APPLY "NITOBOND HAR" PRIMER TO CONCRETE UNLESS APPROVED OTHERWISE.
   - APPLY "RENDEROC HB40" TO FILL OPENING UNLESS APPROVED OTHERWISE.

PLANS AND DOCUMENTS referred to in the PDA DEVELOPMENT APPROVAL

Approval no: DEV2024/1491

Date: 7 May 2025

Queensland Government

REV	DATE	DESIGN	DRAWN	REVISION DETAILS	DRAWN	STATUS
A	27-08-24	TR	JR	ORIGINAL ISSUE		

[DRAFT ONLY] NOT FOR CONSTRUCTION

FOR AND ON BEHALF OF COLLIERS INTERNATIONAL ENGINEERING & DESIGN (QLD) PTY LTD

Colliers

SCALE 1:500 1:1000 10 5 0 10 20 A1 A3

CLIENT: PEET FLAGSTONE CITY Pty. Ltd.

ASSOCIATED CONSULTANT: VERIS
PHONE: (07) 3666 4700

PROJECT NAME: FLAGSTONE CITY TRUNK SEWER CONTEXT AREA 4
FLAGSTONIAN DRIVE
FLAGSTONE

DRAWING TITLE: SEWER TRUNK MAIN M.H. CONSTRUCTION NOTES SHEET 2 OF 2

PROJECT No.	DRAWING No.	REVISION
23-0202	1722	

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