

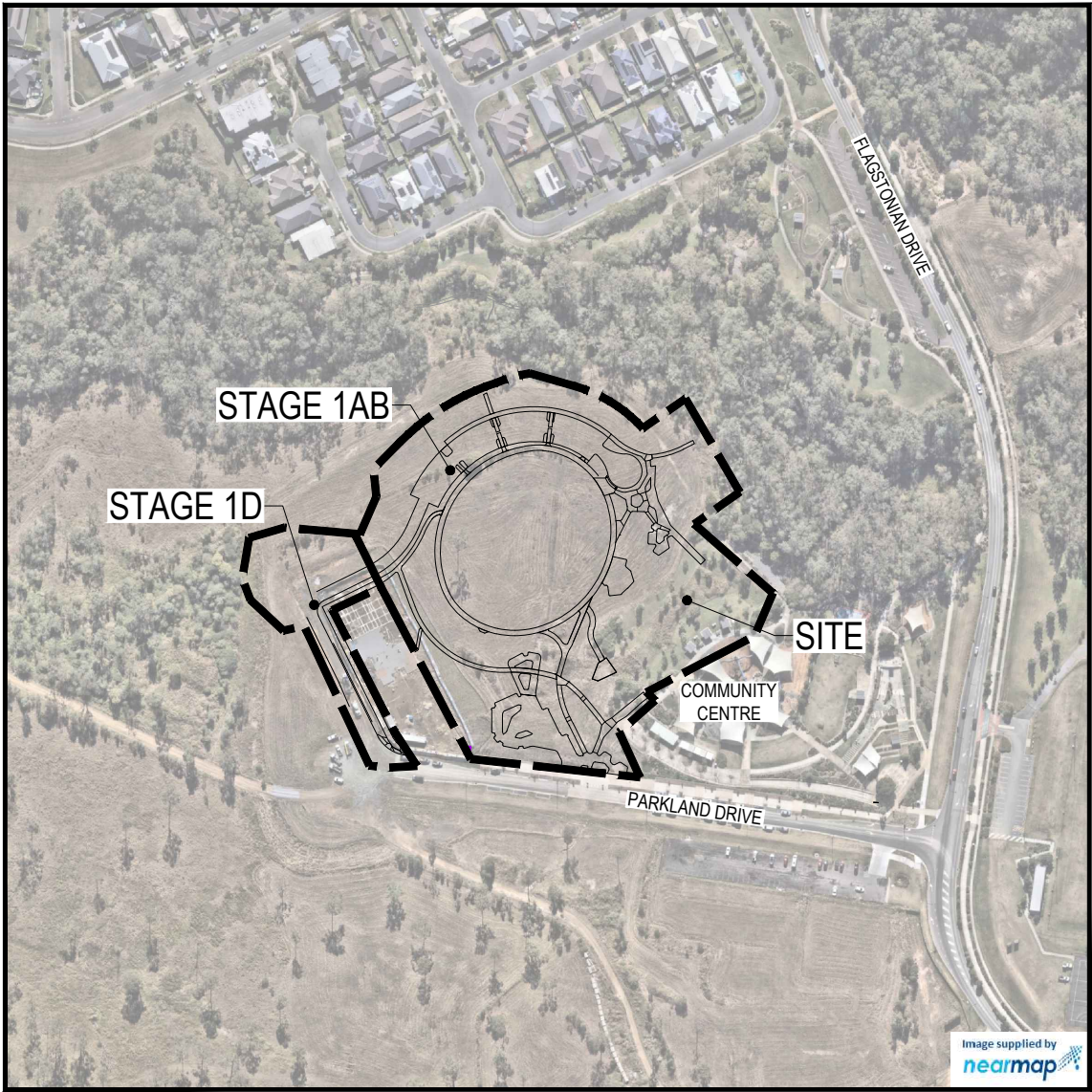
PROPOSED REGIONAL RECREATION PARK

PARKLAND DRIVE, FLAGSTONE

FOR 'PEET FLAGSTONE CITY Pty Ltd'

DRAWING LIST

21-0008-700	COVER PLAN
21-0008-701	GENERAL NOTES
21-0008-710	BULK EARTHWORKS LAYOUT PLAN
21-0008-720	ROADWORKS AND DRAINAGE LAYOUT PLAN
21-0008-721	ROADWORKS CROSS SECTIONS
21-0008-730	SURVEY SETOUT AND KERB TYPES LAYOUT PLAN
21-0008-731	INTERSECTION DETAILS LAYOUT PLAN
21-0008-735	ROAD 01 LONGITUDINAL SECTION
21-0008-736	CUL DE SAC 01 LONGITUDINAL SECTION
21-0008-740	SIGNAGE AND LINEMARKING LAYOUT PLAN
21-0008-750	OVERALL CATCHMENT LAYOUT PLAN
21-0008-751	DRAINAGE CATCHMENT LAYOUT PLAN
21-0008-760	STORMWATER DRAINAGE LONGITUDINAL SECTIONS SHEET 1 OF 2
21-0008-761	STORMWATER DRAINAGE LONGITUDINAL SECTIONS SHEET 2 OF 2
21-0008-762	STORMWATER DRAINAGE STRUCTURE DETAILS SHEET 1 OF 2
21-0008-763	STORMWATER DRAINAGE STRUCTURE DETAILS SHEET 2 OF 2
21-0008-764	STORMWATER DRAINAGE CALCULATION TABLE
21-0008-800	BIO RETENTION BASIN LAYOUT PLAN
21-0008-801	BIO RETENTION BASIN TYPICAL SECTIONS
21-0008-802	BIO RETENTION BASIN TYPICAL NOTES AND DETAILS
21-0008-803	BASIN ACCESS LONGITUDINAL AND CROSS SECTIONS
21-0008-900	WATER RETICULATION COVER PLAN
21-0008-901	WATER RETICULATION LAYOUT PLAN
21-0008-910	TRUNK SEWER COVER PLAN
21-0008-911	TRUNK SEWER GENERAL NOTES
21-0008-912	TRUNK SEWER MANHOLE CONSTRUCTION NOTES SHEET 1 OF 2
21-0008-913	TRUNK SEWER MANHOLE CONSTRUCTION NOTES SHEET 2 OF 2
21-0008-920	TRUNK SEWER MAIN LAYOUT PLAN
21-0008-921	TRUNK SEWER LONGITUDINAL SECTIONS



LOCALITY PLAN
SCALE 1:2000 (A1)
SCALE 1:4000 (A3)

PROJECT INFORMATION SUMMARY:
AREA OF SITE = 3.50 ha
RP DESCRIPTION LOT 908 ON SP311419, LOT 90013 ON SP315400 & LOT 90011 SP307980
DATUM LEVEL AND LOCATION P.S.M. 107142 RL 39.075 AHD MGA
LOCAL AUTHORITY: LOGAN CITY COUNCIL
COUNCIL REFERENCE NUMBER: STAGE 1D DEV2022/1313 STAGE 1AB DEV2012/402

NOTE:
THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH:
- VEGETATION MANAGEMENT PLAN
- LANDSCAPE ARCHITECT'S PLANS
- SEDIMENT AND EROSION REPORT
- SAFETY IN DESIGN REPORT
- 21-0008 DISTRICT COMMUNITY CENTRE & ENTRY ROAD
- 21-0008-PNP01 SEWER AND WATER NETWORK PLAN
- QC4012_002-REP-003-3 STORMWATER MANAGEMENT PLAN
- P2300.003 TOWN CENTRE MASTER PLAN TRAFFIC ASSESSMENT

QC4012-002-REP-003-3 STORMWATER MANAGEMENT PLAN

REV	DATE	DESIGN	DRAWN	REVISION DETAILS	DRAWN	STATUS
0	24.07.26	BC	BC	ISSUED FOR CONSTRUCTION		ISSUED FOR CONSTRUCTION
					DESIGN	APPROVED DANIEL COLLINS
						FOR AND ON BEHALF OF COLLIER'S INTERNATIONAL ENGINEERING & DESIGN PTY LTD



SCALE
1:2000 20 0 20 40 60 80 100 A1
1:4000 A3

CLIENT
PEET FLAGSTONE CITY Pty Ltd
ASSOCIATED CONSULTANT

PROJECT NAME
FLAGSTONE CITY - REGIONAL RECREATION PARK
FLAGSTONIAN DRIVE FLAGSTONE

DRAWING TITLE
COVER PLAN
PROJECT No. 21-0008
DRAWING No. 700
REVISION 0

GENERAL NOTES:

1.

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.
2.

THE EXISTING SERVICES THAT ARE SHOWN ON THE DRAWINGS ARE PROVIDED FOR INFORMATION PURPOSES ONLY. NO RESPONSIBILITY IS TAKEN BY THE SUPERINTENDENT OR THE PRINCIPAL FOR INFORMATION THAT HAS BEEN SUPPLIED BY OTHERS, OR ANY EXISTING SERVICES THAT MAY BE PRESENT NOT SHOWN ON THE DRAWINGS. 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.
3.

ALL CONSTRUCTION ACTIVITIES UNDERTAKEN SHALL COMPLY WITH CURRENT WORKPLACE HEALTH AND SAFETY REQUIREMENTS AND LEGISLATION.
4.

PRIOR TO COMMENCING WORK, THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL RELEVANT LOCAL AUTHORITY PERMITS.
5.

THE CONTRACTOR SHALL NOT COMMENCE THE DEMOLITION OF ANY EXISTING BUILDINGS AND/OR STRUCTURES WITHOUT APPROVAL FROM THE SUPERINTENDENT.
6.

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.
7.

THE CONTRACTOR SHALL VERIFY LEVELS OF EXISTING SERVICE CROSSINGS AND CONNECTION POINTS PRIOR TO COMMENCEMENT OF WORKS AND NOTIFY SUPERINTENDENT OF ANY DISCREPANCIES BETWEEN ACTUAL AND PROPOSED DESIGN LEVELS.
8.

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.
9.

HOLD POINT: ONCE THE BASE OF MANHOLES, INSPECTION PITS, GULLIES AND FIELD INLETS FOR STORMWATER DRAINAGE AND SEWER RETICULATION HAVE BEEN POURED, CONSTRUCTION SHALL ONLY RE-COMMENCE ONCE THE SUPERINTENDENT AND/OR ENGINEER HAVE INSPECTED THE WORKS.
10.

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 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.
11.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A SAFE MOVEMENT OF TRAFFIC AND THE PROTECTION OF PERSON AND PROPERTY THROUGH AND AROUND THE SITE. THE CONTRACTOR IS RESPONSIBLE FOR ALL TRAFFIC MANAGEMENT INCLUDING THE DESIGN, CONSTRUCTION, MAINTENANCE AND REMOVAL OF TEMPORARY ROADWAYS, DETOURS, SIGNS, LIGHTS AND BARRIER AS REQUIRED STRICTLY IN ACCORDANCE WITH THE RELEVANT AUTHORITY REQUIREMENTS.

BULK EARTHWORKS NOTES

1.

NOTWITHSTANDING THE EXTENTS OF CUTTING AND FILLING SHOWN ON DRAWINGS, THE SUPERINTENDENT RESERVES THE RIGHT TO ADJUST THE FINISHED SURFACE LEVELS AND EARTHWORKS EXTENTS THROUGH WRITTEN DIRECTION.
2.

THE CONTRACTOR SHALL UNDERTAKE ALL CLEARING USING INDUSTRY BEST PRACTICE INCLUDING CONSIDERATION OF FAUNA RELOCATION.
3.

THE CONTRACTOR SHALL UNDERTAKE ALL EARTHWORKS IN ACCORDANCE WITH AS3798-2007 AND LOCAL AUTHORITY REQUIREMENTS. LEVEL 1 SUPERVISION IS REQUIRED.
4.

THE CONTRACTOR SHALL CONSIDER LOADS GENERATED BY THE EARTHWORKS OPERATIONS SO AS TO AVOID DAMAGE TO ALL PIPES, SERVICES AND STRUCTURES.
5.

THE EARTHWORKS DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE PROJECT'S SEDIMENT AND EROSION CONTROL PLAN, WHERE APPLICABLE.
6.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PLANNING, DESIGN, CERTIFICATION, IMPLEMENTATION AND MAINTENANCE OF AN EROSION AND SEDIMENT CONTROL PLAN THAT IS COMPLIANT WITH THE INTERNATIONAL EROSION CONTROL ASSOCIATION (IECA) GUIDELINE 'BEST PRACTICE EROSION AND SEDIMENT CONTROL' AND RELEVANT COUNCIL POLICIES.
7.

ALLOTMENT FINISHED SURFACE LEVELS, SHOWN ON THE LAYOUT PLAN, INDICATE THE FINISHED SURFACE LEVEL AFTER TOPSOIL PLACEMENT.

ROADWORKS AND DRAINAGE NOTES

1.

ALL WORKS SHALL BE IN ACCORDANCE WITH THE RELEVANT AUTHORITY'S STANDARD DRAWINGS, METHODS AND SPECIFICATIONS.
2.

NOTWITHSTANDING THE EXTENTS OF CUTTING AND FILLING SHOWN ON DRAWINGS, THE SUPERINTENDENT RESERVES THE RIGHT TO ADJUST THE FINISHED SURFACE LEVELS AND EARTHWORKS EXTENTS THROUGH WRITTEN DIRECTION.
3.

NEW CONSTRUCTION SHALL BE NEATLY JOINED TO EXISTING FORMATION. WHERE REQUIRED, THE EXISTING FORMATION SHALL BE SAW CUT IN ACCORDANCE WITH IPWEAQ STD DRG RS-170. LEVELS AND GRADIENTS AT CONNECTIONS WITH EXISTING WORKS MAY BE VARIED AS REQUIRED TO ACHIEVE A SMOOTH CONNECTION.
4.

THE CONTRACTOR SHALL UNDERTAKE ALL EARTHWORKS IN ACCORDANCE WITH AS3798-2007 AND LOCAL AUTHORITY REQUIREMENTS. LEVEL 1 SUPERVISION IS REQUIRED.
5.

THE CONTRACTOR SHALL SUPPLY THE SUPERINTENDENT WITH THE SUBGRADE TEST RESULTS NECESSARY FOR ALL PAVEMENT DESIGN.
6.

THE CONTRACTOR SHALL ENSURE A MINIMUM OF 75mm TOPSOIL TO ALL VERGE AND BATTER AREAS (AND STABILISATION AS ORDERED)
7.

THE CONTRACTOR SHALL INSTALL ALL FOOTPATH AND PRAM RAMPS IN COMPLIANCE WITH THE AUTHORITY'S STANDARD DRAWINGS. PRAM RAMPS ARE TO BE LOCATED CLEAR OF DRAINAGE GULLY PITS AND FUTURE DRIVEWAY POSITIONS INDICATED ON THE LAYOUT PLANS.
8.

THE CONTRACTOR SHALL INSTALL SUBSOIL DRAINS UNDER ALL KERBS AS REQUIRED BY THE LOCAL AUTHORITY'S STANDARDS.
9.

THE CONTRACTOR SHALL ENSURE THAT ALL RETAINING WALL SUBSOIL DRAINS ARE TO CONNECT TO EITHER KERB ADAPTORS, KERB SUBSOIL DRAINS OR STORMWATER DRAINAGE STRUCTURES. CONTRACTOR TO DEMONSTRATE TO SUPERINTENDENT THAT SUITABLE CONNECTIONS HAVE BEEN PROVIDED FOR ALL WALLS.
10.

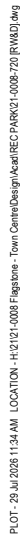
ALL STORMWATER DRAINAGE MATERIALS, BEDDING, JOINTING AND STEP IRON REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE RELEVANT AUTHORITIES STANDARD DRAWINGS, METHODS AND SPECIFICATIONS.
11.

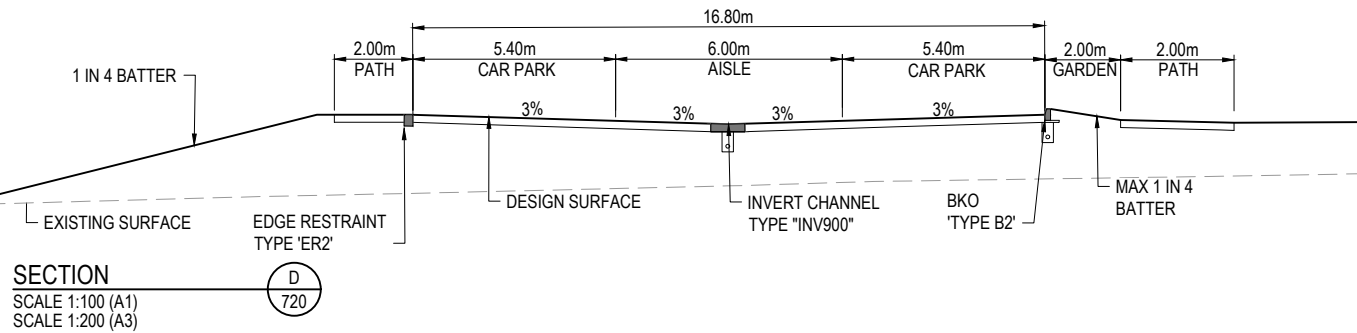
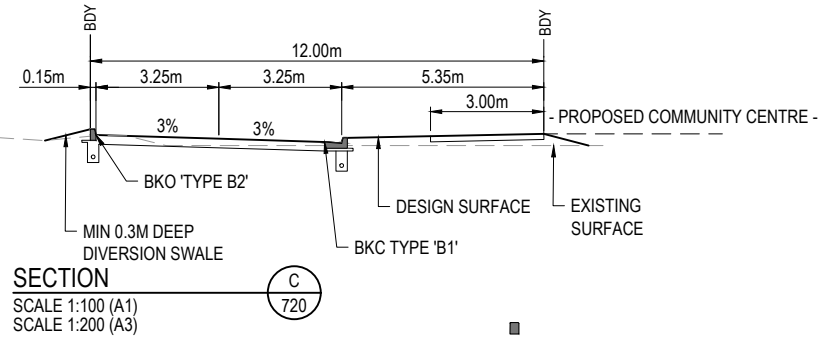
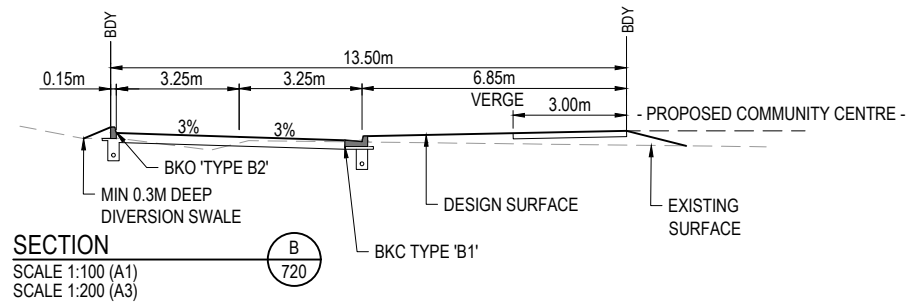
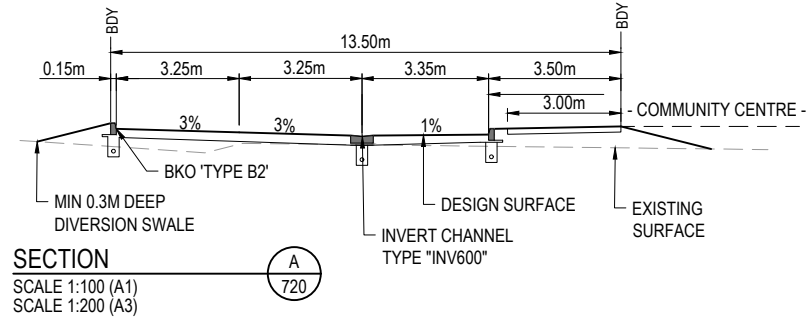
THE STORMWATER PIPE CLASSES HAVE BEEN DESIGNED FOR SERVICE LOADS ONLY. THE CONTRACTOR SHALL ASSESS THE SUITABILITY OF MACHINERY USED ON SITE AND THE ANTICIPATED CONSTRUCTION LOADS, AND UPGRADE THE PIPE CLASSES IF NECESSARY IN ACCORDANCE WITH AS3725-2007.
12.

THE TERM D₅₀ DOCUMENTED ON THE DRAWINGS, IN RELATION TO ROCK ARMORING, CORRESPONDS TO THE REQUIRED MEDIAN DIAMETER OF THE PLACED ROCKS. THE ROCKS USED SHALL NOT VARY IN SIZE BY +/- 30% OF THE PROPOSED D₅₀ SIZE.

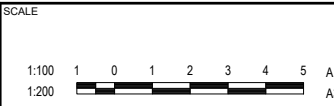
COA101 - H2121-0008 Flagstone - Town CentreDesign\Acad\REC PARK01-0008-701 [COVER PLAN].dwg
PLOT:

REV	DATE	DESIGN	DRAWN	REVISION DETAILS		DRAWN	STATUS		SCALE	CLIENT	PROJECT NAME	DRAWING TITLE									
0	24.07.26	BC	BC	ISSUED FOR CONSTRUCTION			ISSUED FOR CONSTRUCTION					GENERAL NOTES									
						DESIGN	APPROVED DANIEL COLLINS														
															FOR AND ON BEHALF OF COLLIER'S INTERNATIONAL ENGINEERING & DESIGN PTY LTD						
										ASSOCIATED CONSULTANT		FLAGSTONIAN DRIVE FLAGSTONE									
												PROJECT No. 21-0008	DRAWING No. 701	REVISION 0							





DRAFT ONLY



CLIENT
PEET FLAGSTONE CITY Pty Ltd

ASSOCIATED CONSULTANT

PROJECT NAME
FLAGSTONE CITY - REGIONAL RECREATION PARK

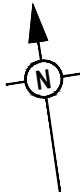
FLAGSTONIAN DRIVE
FLAGSTONE

DRAWING TITLE
ROADWORKS CROSS SECTIONS

PROJECT No. **21-0008**

DRAWING No. **721**

REVISION **0**

[illegible]

KERB TYPES NOTE:

WARNING! - EXISTING SERVICES

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

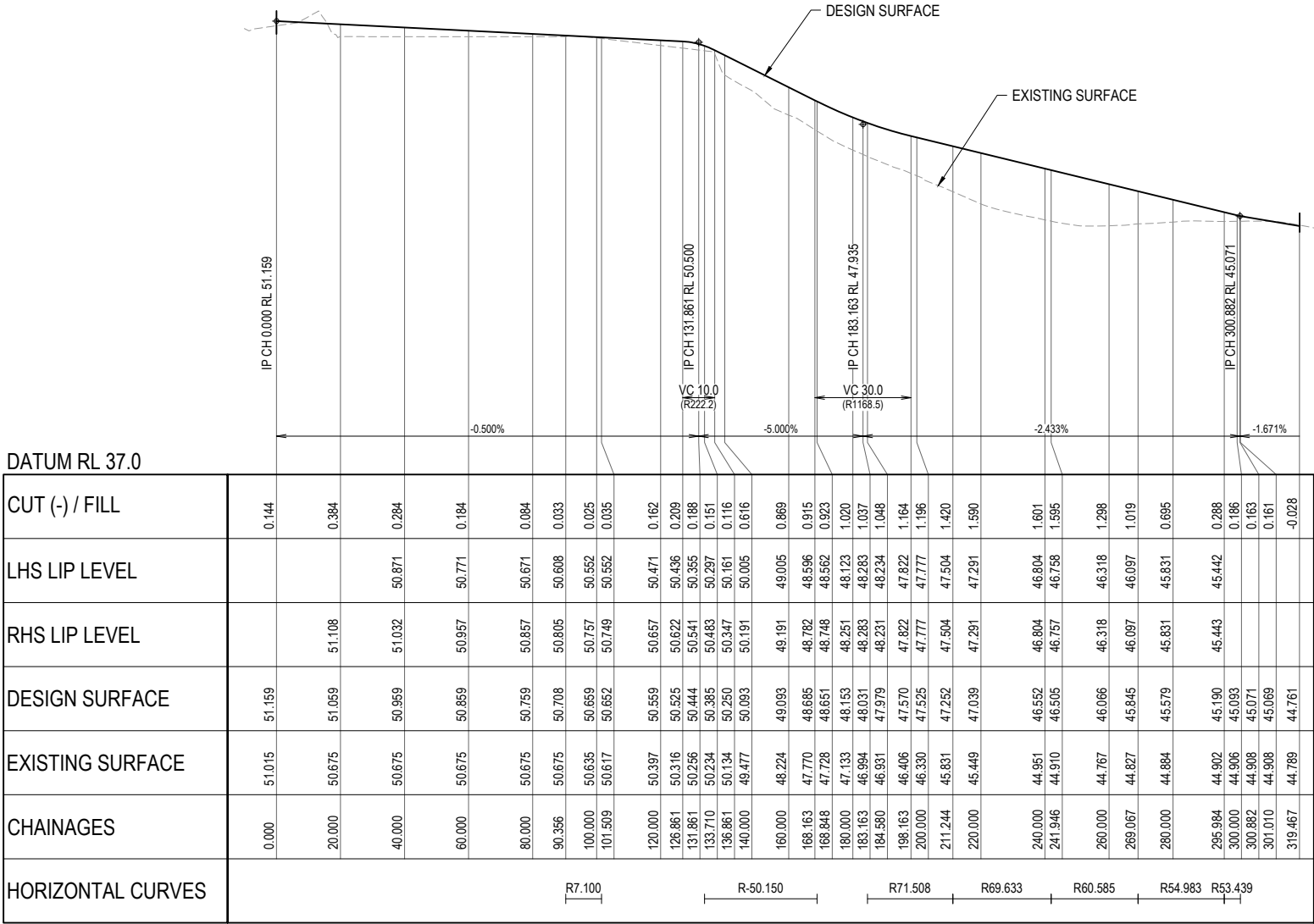
[**DRAFT ONLY**]

PILOT - 29 Jul 2026 11:41 AM LOCATION - H:\21\21-0008 Flanstone - Town Centre\Design\Acad\REC PARK\21-0008-0731 INT.DETA\1.dwg

ASSUMED PAVEMENT DETAILS (SUBJECT TO CBR TESTING)							
ROAD	DESIGN ESAs	ASSUMED CBR	SURFACING	BASE	SUB BASE	LOWER SUB BASE	TOTAL DEPTH
CAR PARK	1 x 10 ⁵	3	25mm	125mm	100mm	120mm	370mm

NOTE: THIS PAVEMENT DESIGN IS PRELIMINARY ONLY BASED ON AN ASSUMED CBR. THE CONTRACTOR SHALL
SUPPLY THE SUPERINTENDENT WITH SUBGRADE TEST RESULTS NECESSARY FOR FINAL PAVEMENT DESIGN

CONTROL LINE SETOUT - ROAD 01							
PT	CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	34407.049	73045.801	333°43'11.99"			
IP 2	12.882	34401.346	73057.352				
IP 3	90.354	34367.044	73126.816				
TC	90.356	34367.043	73126.818	333°43'10.59"			
IP 4	95.932	34363.899	73133.184		R = 7.100	11.153	90°00'14.40"
CT	101.509	34370.266	73136.328	63°43'24.99"			
IP 5	101.510	34370.267	73136.328				
IP 6	133.710	34399.143	73150.579				
IP 7	151.279	34415.575	73158.689		R = -50.150	35.138	40°08'39.27"
CT	168.848	34422.908	73175.482	23°35'17.77"			
IP 8	184.580	34429.203	73189.900				
IP 9	197.912	34434.715	73202.211		R = 71.508	26.664	21°21'52.26"
IP 10	211.244	34444.333	73211.669				
IP 11	226.595	34455.480	73222.589		R = 69.633	30.702	25°15'44.92"
IP 12	241.946	34470.221	73227.708				
IP 13	255.507	34483.268	73232.176		R = 60.585	27.121	25°38'53.27"
IP 14	269.067	34496.964	73230.557				
IP 15	282.525	34510.604	73228.950		R = 54.983	26.917	28°02'56.40"
IP 16	295.984	34521.885	73221.118				
IP 17	298.497	34523.956	73219.691		R = 53.439	5.026	5°23'19.73"
CT	301.010	34525.884	73218.077	129°56'34.82"			
IP 18	319.467	34540.035	73206.227	129°56'34.82"			



ROAD 01

PLOT: 29 JUL 2025 11:42 AM LOCATION: H:\2121-0008 Flagstone - Town Centre\Design\Asat\REC PARK\21-0008-735 1 SEC AND X SEC\2.dwg

REV
1

DATE
24.07.26

DESIGN
BC

DRAWN
BC

ISSUED FOR CONSTRUCTION

REVISION DETAILS

1	ISSUED FOR CONSTRUCTION
---	-------------------------

DRAWN

STATUS

APPROVED
ANIEL COLLINS

Colliers

SCALE

1:1000 10 0 10 20 30 40 50 A1
1:2000 HORIZONTAL A3

1:100 2 1 0 2 4 A1
1:200 VERTICAL A3

CLIENT

PEET FLAGSTONE CITY Pty Ltd

ASSOCIATED CONSULTANT

PROJECT NAME

FLAGSTONE CITY - REGIONAL RECREATION PARK

FLAGSTONIAN DRIVE
FLAGSTONE

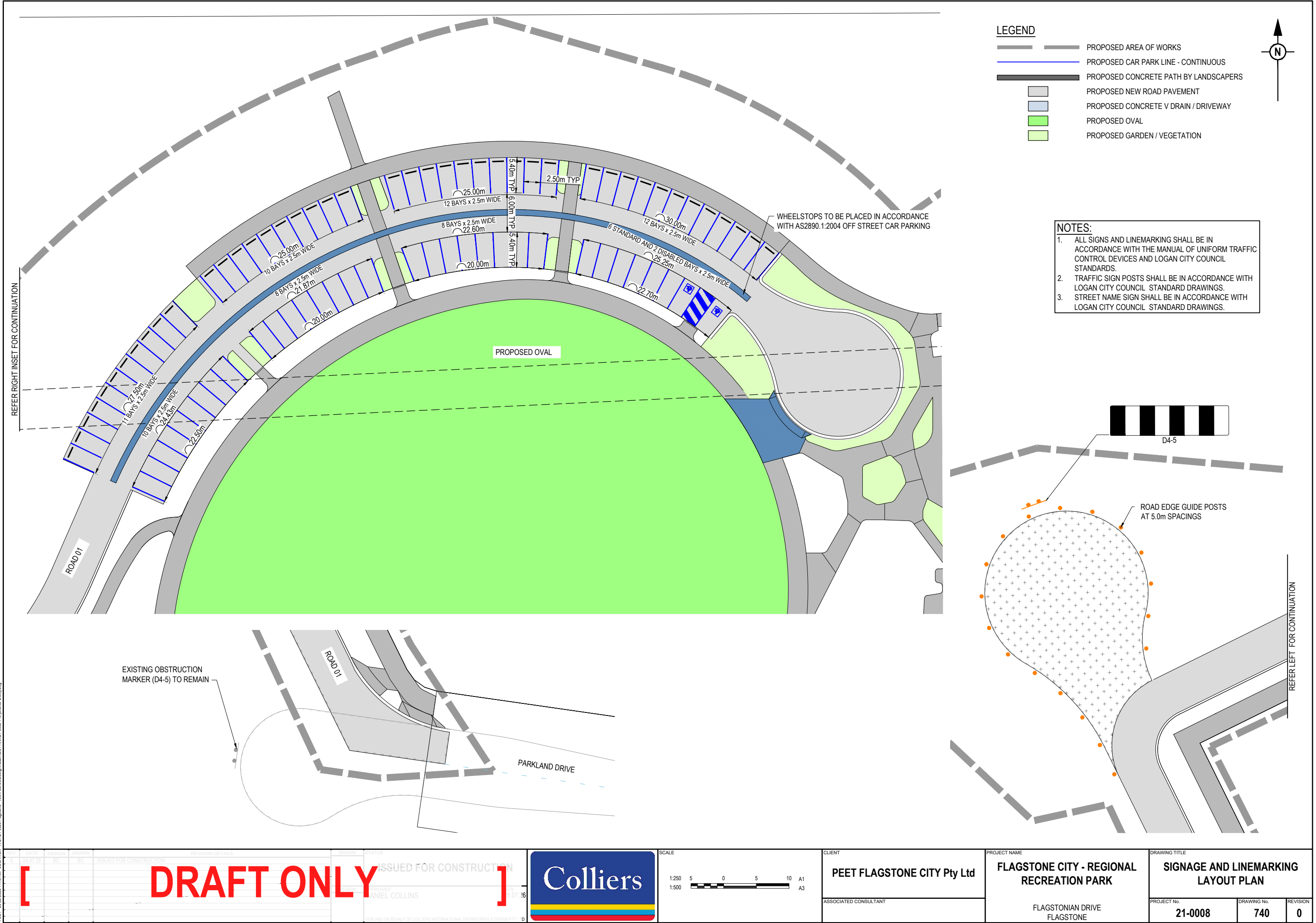
DRAWING TITLE

ROAD 01 LONGITUDINAL SECTIONS

PROJECT No.
21-0008

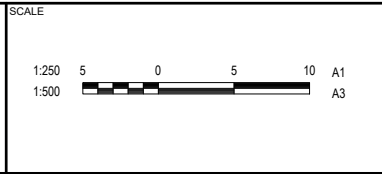
DRAWING No.
735

REVISION
0



PLOT: 29 JUL 2025 11:46 AM LOCATION: H:\2121-0008 Flagstone - Town Centre Design\Acad\REC PARK\21-0008-740 SIGNS & LHM.dwg

REV	DATE	DESIGN	DRAWN	ISSUED FOR CONSTRUCTION	REVISION DETAILS	DRAWN	STATUS
1	24.07.25	BC	BC	ISSUED FOR CONSTRUCTION			
[DRAFT ONLY]							
ISSUED FOR CONSTRUCTION							
APPROVED DANIEL COLLINS							
24.07.26							
FOR AND ON BEHALF OF COLLIERS INTERNATIONAL, ENGINEERING & DESIGN PTY LTD							



CLIENT

PEET FLAGSTONE CITY Pty Ltd

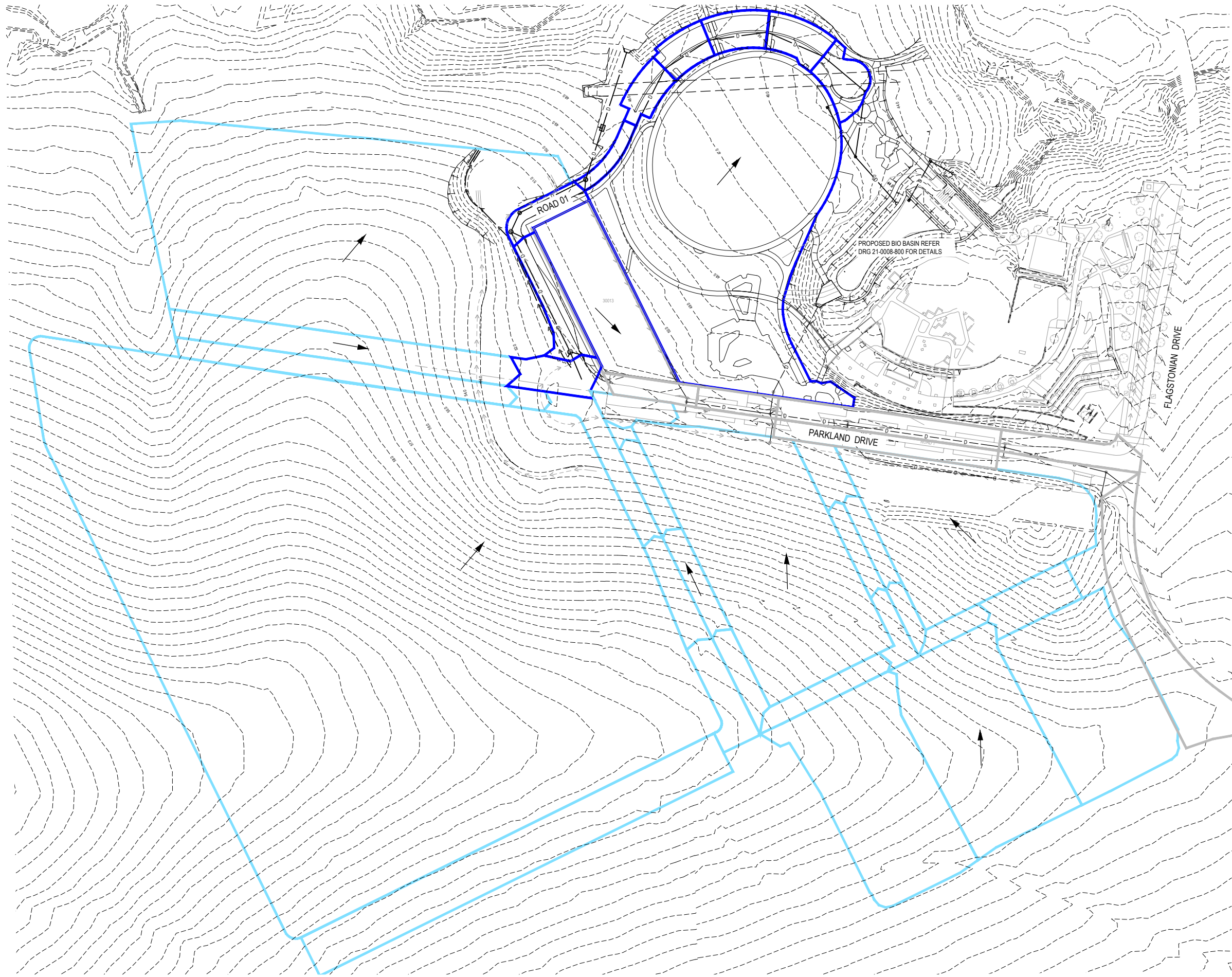
ASSOCIATED CONSULTANT

PROJECT NAME

FLAGSTONE CITY - REGIONAL RECREATION PARK

FLAGSTONIAN DRIVE
FLAGSTONE

DRAWING TITLE		
SIGNAGE AND LINEMARKING LAYOUT PLAN		
PROJECT No.	DRAWING No.	REVISION
21-0008	740	0



LEGEND

1

CATCHMENT NAME

PROPOSED CATCHMENT BOUNDARY

FUTURE CATCHMENT BOUNDARY

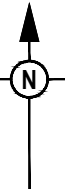
EXISTING CATCHMENT BOUNDARY

PROPOSED STORMWATER DRAINAGE PIPE

EXISTING STORMWATER DRAINAGE PIPE

FINISHED SURFACE CONTOUR

CATCHMENT FLOW DIRECTION ARROW



PLOT: 29 JUL 2025 11:59 AM LOCATION: H:\2101-0008 Flagstone - Town Centre Design\Acad\REC PARK\21-0008-750 CATCHMENT.dwg

REV	DATE	DESIGN	DRAWN	REVISION DETAILS	DRAWN	STATUS
1	24.07.25	BC	BC	ISSUED FOR CONSTRUCTION		ISSUED FOR CONSTRUCTION
[DRAFT ONLY]						
APPROVED: DANIEL COLLINS						
FOR AND ON BEHALF OF COLLIERS INTERNATIONAL, ENGINEERING & CONSULTING PTY LTD						



SCALE

1:1000 10 0 10 20 30 40 50 A1

1:2000

CLIENT

PEET FLAGSTONE CITY Pty Ltd

ASSOCIATED CONSULTANT

PROJECT NAME

FLAGSTONE CITY - REGIONAL RECREATION PARK

FLAGSTONIAN DRIVE
FLAGSTONE

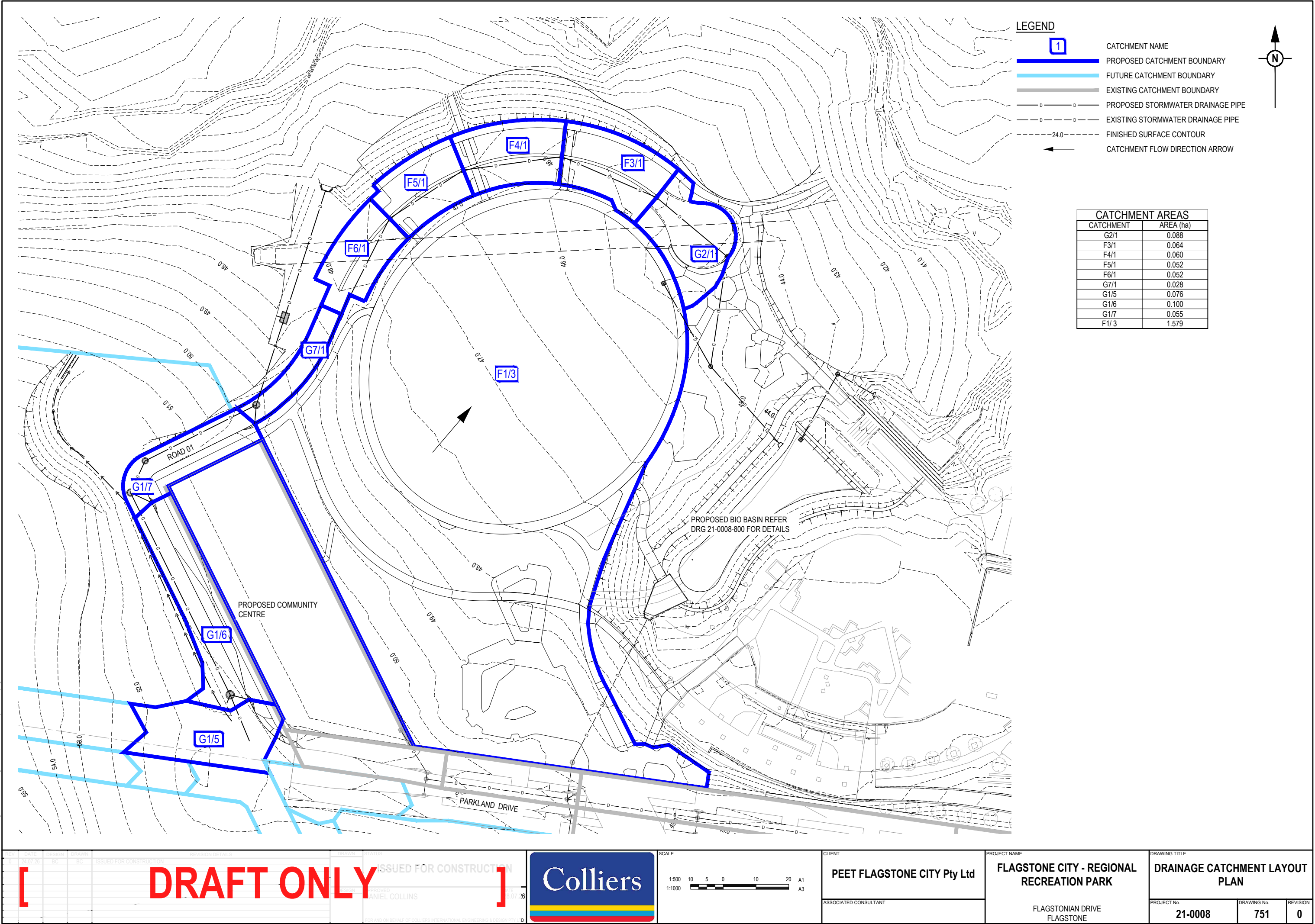
DRAWING TITLE

OVERALL CATCHMENT LAYOUT PLAN

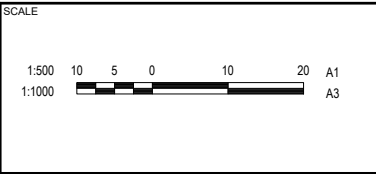
PROJECT No. 21-0008

DRAWING No. 750

REVISION 0



DRAFT ONLY



CLIENT

PEET FLAGSTONE CITY Pty Ltd

ASSOCIATED CONSULTANT

PROJECT NAME

FLAGSTONE CITY - REGIONAL RECREATION PARK

FLAGSTONIAN DRIVE
FLAGSTONE

DRAWING TITLE		
DRAINAGE CATCHMENT LAYOUT PLAN		
PROJECT No.	DRAWING No.	REVISION
21-0008	751	0

PLOT: 29 JUL 2025 12:19 PM LOCATION: H:\2101-0008 Flagstone - Town Centre\Design\AsBuilt\REC PARK\21-0008-760 SWD\LONG SECTION CALLS AND STRUCTURE DETAILS.dwg

STRUCTURE NAME	G7/1		F6/1		F5/1		F4/1		F3/1		G2/1		1/1		OUT/1	
STRUCTURE DESCRIPTION	STD TYPE A GULLY L.I.L.: 2.4m Linet; TYPE B K&C		STD FIELD INLET TYPE 1 900x900 V GRATE		STD FIELD INLET TYPE 1 900x900 V GRATE		STD FIELD INLET TYPE 1 900x900 V GRATE		STD FIELD INLET TYPE 1 900x900 V GRATE		STD TYPE A GULLY (SAG) L.I.L.: 2.4m Linet; TYPE B K&C		STD MANHOLE 1050mm DIA REFER STRUCTURE DETAILS		HEADWALL	
PIPE SIZE (mm)	375 3		375 3		375 3		450 3		375 3		450 3		750 3			
PIPE CLASS																
PIPE GRADE (%)	2.50%		2.20%		2.50%		2.94%		1.39%		0.71%		0.15%			
PIPE SLOPE (1 in X)	40.00		45.45		40.00		34.05		71.76		140.60		666.67			
FULL PIPE VELOCITY (m/s)	0.10		0.27		0.45		0.45		0.87		0.76		0.51			
PART FULL VELOCITY (m/s)	1.22		1.57		1.90		2.20		1.84		1.51		0.98			
DATUM RL	32.0															
H.G.L IN PIPE & W.S.E IN STRUCTURE	46.779	46.775	45.996 45.997	45.984	45.425 45.431	45.406	44.670 44.673	44.650	43.810 43.824	43.746	43.423 43.428	43.352	43.231 43.234	43.207	43.086 43.086	
PIPE FLOW (Cumecs)	0.011		0.030		0.050		0.072		0.096		0.120		0.224			
PIPE CAPACITY AT GRADE (Cumecs)	0.277		0.260		0.277		0.489		0.207		0.241		0.433			
DEPTH TO INVERT	1.411		1.372		1.392		1.326		1.548		1.274		2.427		0.750	
INVERT LEVEL OF DRAIN	46.700		45.880		45.860		45.265		43.539		43.130		42.867		42.800	
DESIGN SURFACE LEVEL	48.111		47.252		46.591		45.845		45.068		44.383		45.274			
SETOUT COORDINATES	E 34429.500 N 73182.458	E 34444.333 N 73211.669	E 34466.901 N 73226.459	E 34496.964 N 73230.557	E 34525.884 N 73218.077	E 34547.318 N 73200.127	E 34563.375 N 73166.434									
RUNNING CHAINAGE	0.000	32.820	32.820	27.026	59.846	30.406	90.252	31.522	121.774	27.958	149.732	34.104	183.835	31.518		

STRUCTURE NAME
STRUCTURE DESCRIPTION

STORMWATER STRUCTURE NOTE:
STANDARD ROUND MANHOLES LESS THAN 3.0m DEEP:
CONSTRUCT IN ACCORDANCE WITH THE LOCAL AUTHORITY STANDARDS.
STANDARD ROUND MANHOLES 3.0m > 5.3m DEEP:
CONSTRUCT IN ACCORDANCE WITH TMR STD DRAWINGS 1307 AND 1308.
STANDARD ROUND MANHOLES GREATER THAN 5.3m DEEP:
SHALL BE STRUCTURALLY DESIGNED (CERTIFIED) AND CONSTRUCTED BY CONTRACTOR ON A CASE BY CASE BASIS.
ROUND EXTENDED (900mm MAX) MANHOLES:
CONSTRUCT IN ACCORDANCE WITH COLLIER'S STD DRAWINGS S-101 & S-102.
NON-STANDARD STRUCTURE (SPECIAL):
SHALL BE STRUCTURALLY DESIGNED (CERTIFIED) AND CONSTRUCTED BY CONTRACTOR ON A CASE BY CASE BASIS.

PIPE SIZE (mm)	
PIPE CLASS	375 3
PIPE GRADE (%)	3.00% 33.34
PIPE SLOPE (1 in X)	
FULL PIPE VELOCITY (m/s)	0.35 1.89
PART FULL VELOCITY (m/s)	
DATUM RL	
H.G.L IN PIPE & W.S.E IN STRUCTURE	50.596 50.577 50.574 50.598 50.307
PIPE FLOW (Cumecs)	0.039
PIPE CAPACITY AT GRADE (Cumecs)	0.304
DEPTH TO INVERT	1.382 1.744 3.017
INVERT LEVEL OF DRAIN	49.216 48.998 47.726
DESIGN SURFACE LEVEL	50.598 50.742
SETOUT COORDINATES	E 34371.644 N 73124.841 E 34365.165 N 73121.893
RUNNING CHAINAGE	0.000 7.271 7.271

LINE 6

STRUCTURE NAME
STRUCTURE DESCRIPTION

STORMWATER STRUCTURE NOTE:
STANDARD ROUND MANHOLES LESS THAN 3.0m DEEP:
CONSTRUCT IN ACCORDANCE WITH THE LOCAL AUTHORITY STANDARDS.
STANDARD ROUND MANHOLES 3.0m > 5.3m DEEP:
CONSTRUCT IN ACCORDANCE WITH TMR STD DRAWINGS 1307 AND 1308.
STANDARD ROUND MANHOLES GREATER THAN 5.3m DEEP:
SHALL BE STRUCTURALLY DESIGNED (CERTIFIED) AND CONSTRUCTED BY CONTRACTOR ON A CASE BY CASE BASIS.
ROUND EXTENDED (900mm MAX) MANHOLES:
CONSTRUCT IN ACCORDANCE WITH COLLIER'S STD DRAWINGS S-101 & S-102.
NON-STANDARD STRUCTURE (SPECIAL):
SHALL BE STRUCTURALLY DESIGNED (CERTIFIED) AND CONSTRUCTED BY CONTRACTOR ON A CASE BY CASE BASIS.

PIPE SIZE (mm)	
PIPE CLASS	375 3
PIPE GRADE (%)	5.00% 20.00
PIPE SLOPE (1 in X)	
FULL PIPE VELOCITY (m/s)	0.19 1.90
PART FULL VELOCITY (m/s)	
DATUM RL	
H.G.L IN PIPE & W.S.E IN STRUCTURE	49.043 49.025 49.025 49.103 47.953
PIPE FLOW (Cumecs)	0.021
PIPE CAPACITY AT GRADE (Cumecs)	0.392
DEPTH TO INVERT	1.450 1.743 3.242
INVERT LEVEL OF DRAIN	48.693 48.405 46.906
DESIGN SURFACE LEVEL	50.143 50.148
SETOUT COORDINATES	E 34403.131 N 73149.015 E 34403.625 N 73154.683
RUNNING CHAINAGE	0.000 5.769 5.769

LINE 7

STRUCTURE NAME
STRUCTURE DESCRIPTION

STORMWATER STRUCTURE NOTE:
STANDARD ROUND MANHOLES LESS THAN 3.0m DEEP:
CONSTRUCT IN ACCORDANCE WITH THE LOCAL AUTHORITY STANDARDS.
STANDARD ROUND MANHOLES 3.0m > 5.3m DEEP:
CONSTRUCT IN ACCORDANCE WITH TMR STD DRAWINGS 1307 AND 1308.
STANDARD ROUND MANHOLES GREATER THAN 5.3m DEEP:
SHALL BE STRUCTURALLY DESIGNED (CERTIFIED) AND CONSTRUCTED BY CONTRACTOR ON A CASE BY CASE BASIS.
ROUND EXTENDED (900mm MAX) MANHOLES:
CONSTRUCT IN ACCORDANCE WITH COLLIER'S STD DRAWINGS S-101 & S-102.
NON-STANDARD STRUCTURE (SPECIAL):
SHALL BE STRUCTURALLY DESIGNED (CERTIFIED) AND CONSTRUCTED BY CONTRACTOR ON A CASE BY CASE BASIS.

PIPE SIZE (mm)	
PIPE CLASS	(2x)750 3
PIPE GRADE (%)	0.50% 200.00
PIPE SLOPE (1 in X)	
FULL PIPE VELOCITY (m/s)	1.83 2.03
PART FULL VELOCITY (m/s)	
DATUM RL	
H.G.L IN PIPE & W.S.E IN STRUCTURE	46.901 46.901 46.758 46.758 46.758
PIPE FLOW (Cumecs)	1.617
PIPE CAPACITY AT GRADE (Cumecs)	1.575
DEPTH TO INVERT	2.024 0.900 0.900
INVERT LEVEL OF DRAIN	46.287 46.200 46.200
DESIGN SURFACE LEVEL	48.311 47.100
SETOUT COORDINATES	E 34412.134 N 73181.068 E 34395.652 N 73186.778
RUNNING CHAINAGE	0.000 17.433 17.433

LINE 8

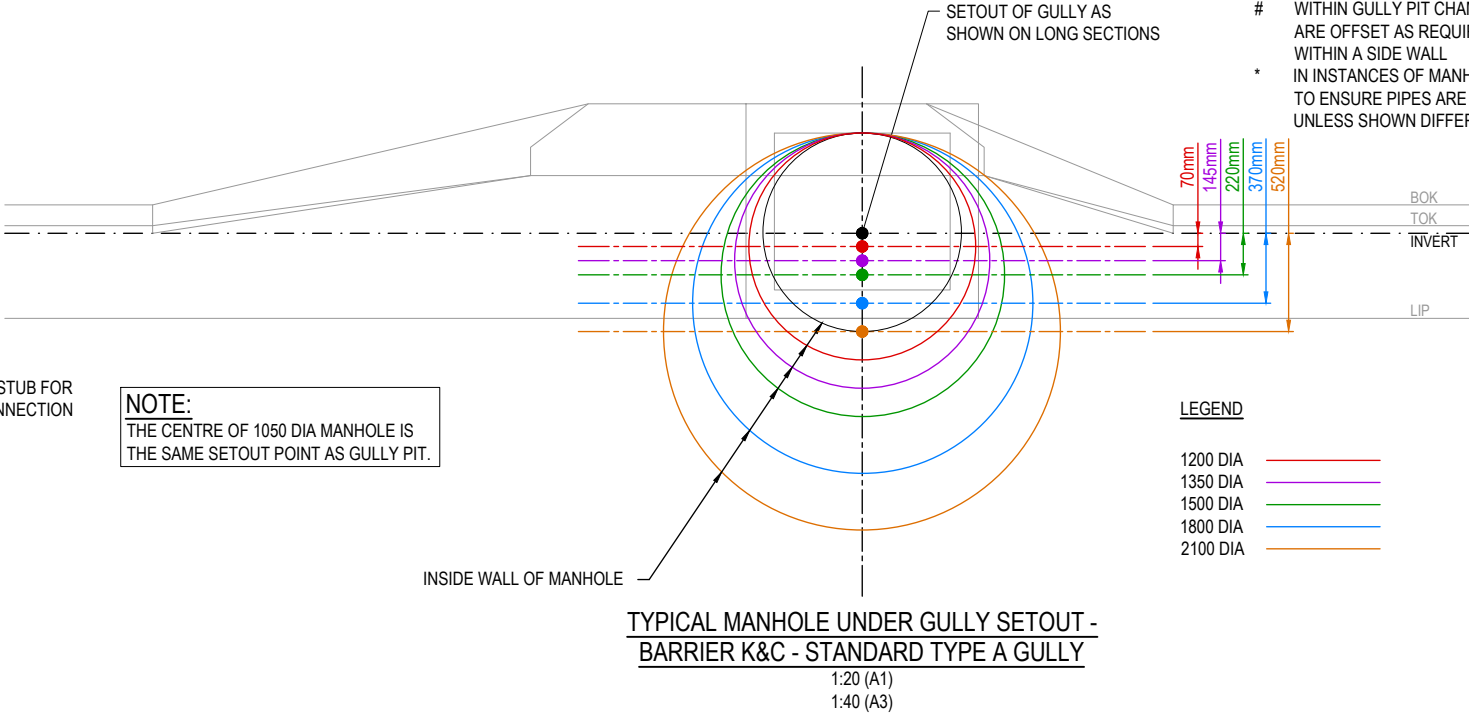
STRUCTURE NAME
STRUCTURE DESCRIPTION

STORMWATER STRUCTURE NOTE:
STANDARD ROUND MANHOLES LESS THAN 3.0m DEEP:
CONSTRUCT IN ACCORDANCE WITH THE LOCAL AUTHORITY STANDARDS.
STANDARD ROUND MANHOLES 3.0m > 5.3m DEEP:
CONSTRUCT IN ACCORDANCE WITH TMR STD DRAWINGS 1307 AND 1308.
STANDARD ROUND MANHOLES GREATER THAN 5.3m DEEP:
SHALL BE STRUCTURALLY DESIGNED (CERTIFIED) AND CONSTRUCTED BY CONTRACTOR ON A CASE BY CASE BASIS.
ROUND EXTENDED (900mm MAX) MANHOLES:
CONSTRUCT IN ACCORDANCE WITH COLLIER'S STD DRAWINGS S-101 & S-102.
NON-STANDARD STRUCTURE (SPECIAL):
SHALL BE STRUCTURALLY DESIGNED (CERTIFIED) AND CONSTRUCTED BY CONTRACTOR ON A CASE BY CASE BASIS.

PIPE SIZE (mm)	
PIPE CLASS	1050 3
PIPE GRADE (%)	2.20% 45.45
PIPE SLOPE (1 in X)	
FULL PIPE VELOCITY (m/s)	3.76 5.20
PART FULL VELOCITY (m/s)	
DATUM RL	
H.G.L IN PIPE & W.S.E IN STRUCTURE	51.101 50.917 50.906 50.934 50.694
PIPE FLOW (Cumecs)	3.260
PIPE CAPACITY AT GRADE (Cumecs)	4.052
DEPTH TO INVERT	2.074 2.094 2.114
INVERT LEVEL OF DRAIN	49.027 48.968 48.948
DESIGN SURFACE LEVEL	51.101 51.062
SETOUT COORDINATES	E 34394.635 N 73063.601 E 34395.636 N 73066.090
RUNNING CHAINAGE	0.000 2.683 2.683

LINE 9

NOTE:
THE CENTRE OF 1050 DIA MANHOLE IS THE SAME SETOUT POINT AS GULLY PIT.



STRUCTURE SETOUT REFERENCE POINT

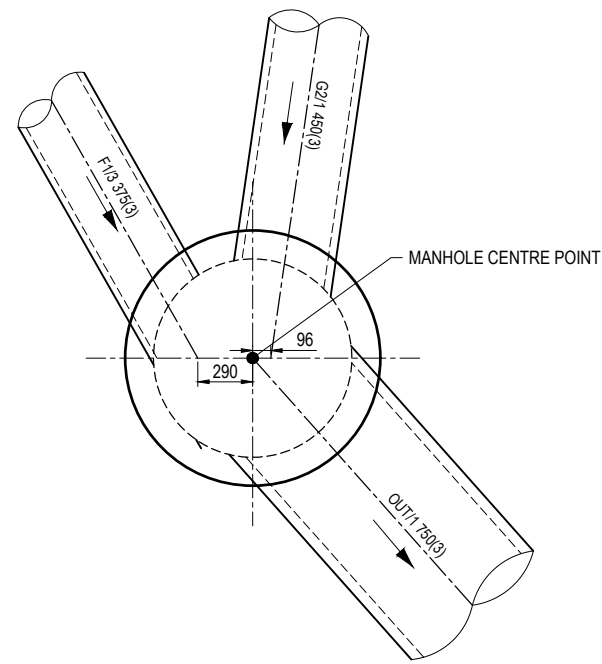
STRUCTURE TYPE	HORIZONTAL	VERTICAL
MANHOLE	MAIN SHAFT	FINISHED SURFACE LEVEL
GULLY PIT	INTERSECTION OF PIT AND KERB INVERT LNE # (INCLUDING MANHOLES UNDER GULLIES)	KERB INVERT LEVEL
HEADWALL	INTERSECTION OF HEADWALL FACE & PIPE CENTRE LINE	TOP OF HEADWALL

NOTE:
WITHIN GULLY PIT CHAMBER, CONTRACTOR TO ENSURE PIPES ARE OFFSET AS REQUIRED SO THAT PIPES ENTER WHOLLY WITHIN A SIDE WALL
* IN INSTANCES OF MANHOLES UNDER GULLIES, CONTRACTOR TO ENSURE PIPES ARE ALIGNED TO CENTRE OF MANHOLE, UNLESS SHOWN DIFFERENTLY IN A STRUCTURE DETAIL

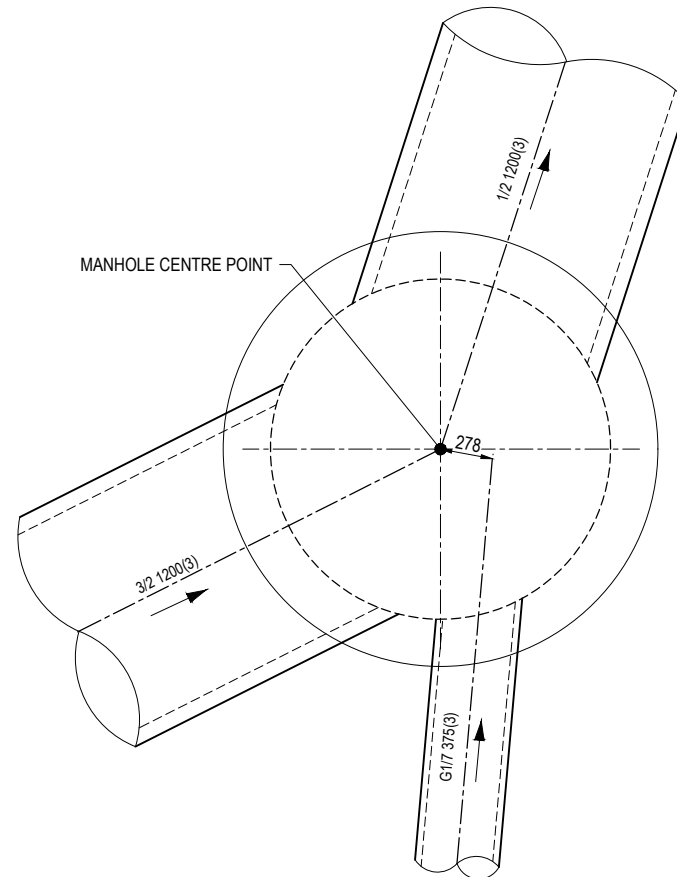
LEGEND	
1200 DIA	
1350 DIA	
1500 DIA	
1800 DIA	
2100 DIA	

REV	DATE	DESIGN	DRAWN	ISSUED FOR CONSTRUCTION	REVISION DETAILS	DRAWN	STATUS
0	24.07.26	BC	BC				
[DRAFT ONLY ISSUED FOR CONSTRUCTION]							
						DESIGN APPROVED	DATE 24.07.26
						DANIEL COLLINS	
FOR AND ON BEHALF OF COLLIER INTERNATIONAL ENGINEERING & DESIGN PTY LTD							

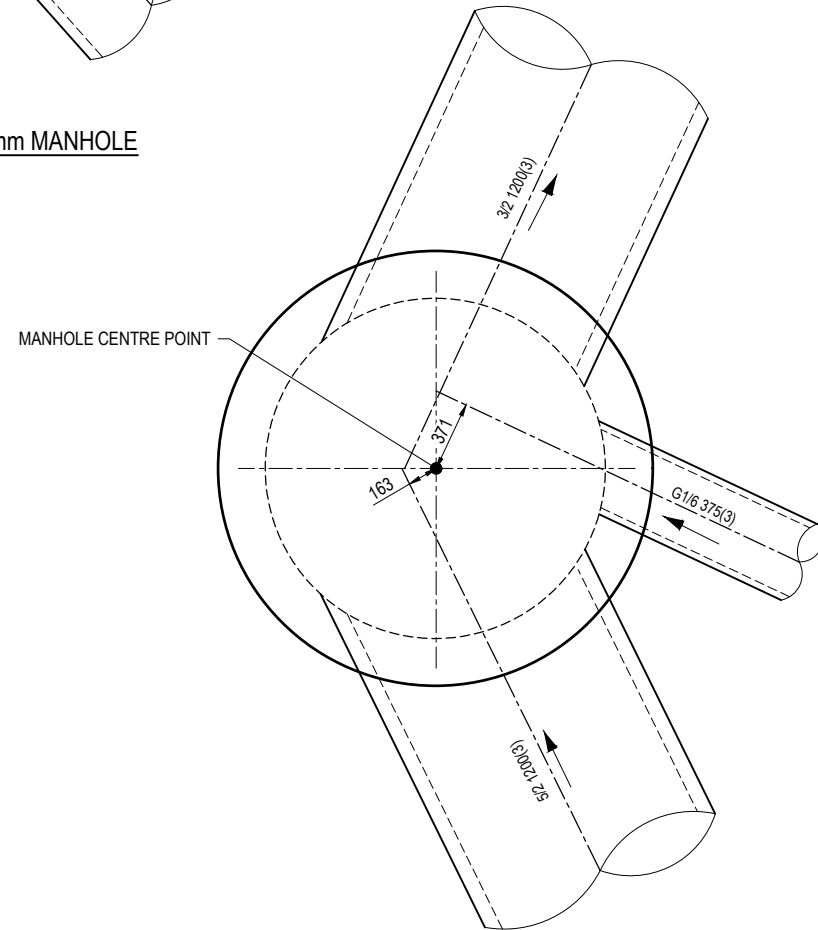
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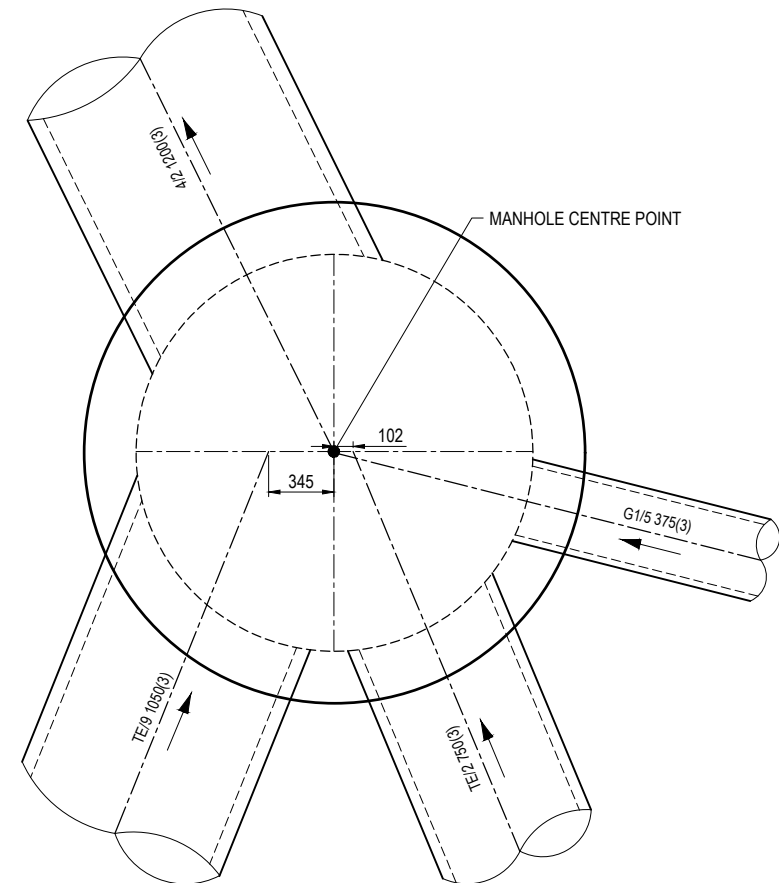
1/1 - STANDARD 1050mm MANHOLE
1:20 (A1)
1:40 (A3)



2/2 - STANDARD 1800mm MANHOLE
1:20 (A1)
1:40 (A3)

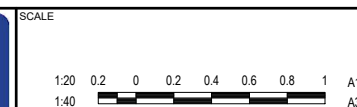


4/2 - STANDARD 1800mm MANHOLE
1:20 (A1)
1:40 (A3)



5/2 - STANDARD 2100mm MANHOLE
1:20 (A1)
1:40 (A3)

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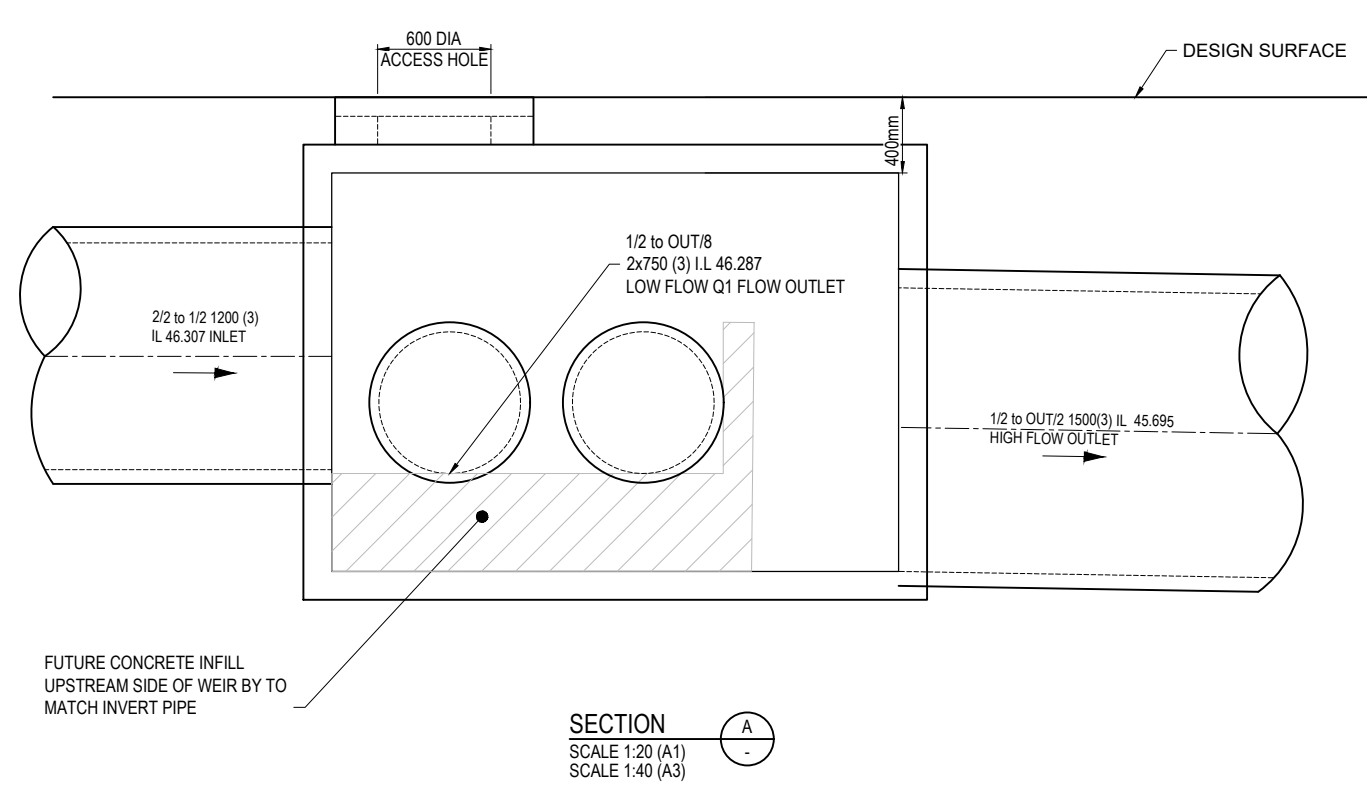
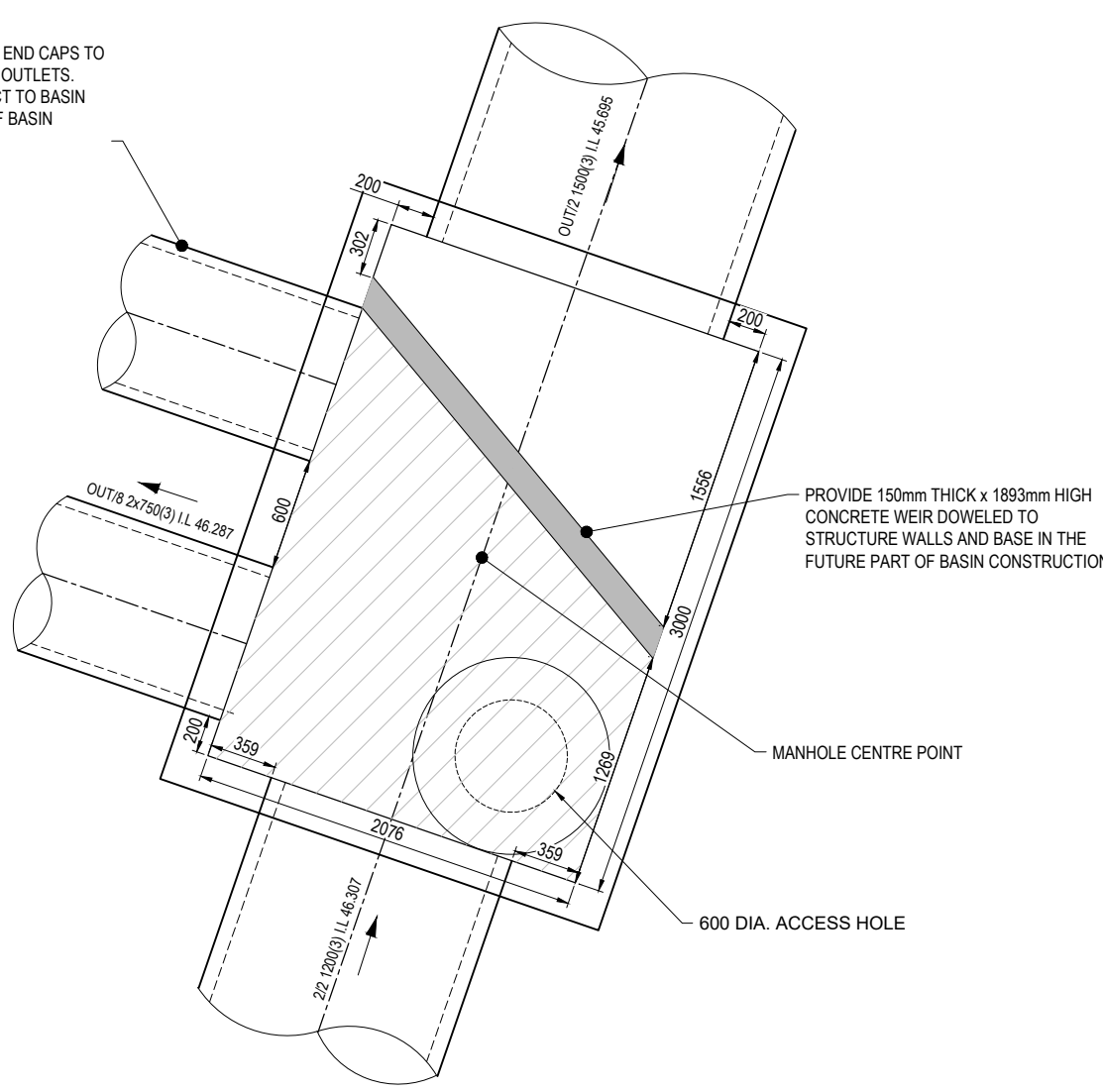
ASSOCIATED CONSULTANT

PROJECT NAME
FLAGSTONE CITY - REGIONAL RECREATION PARK

FLAGSTONIAN DRIVE
FLAGSTONE

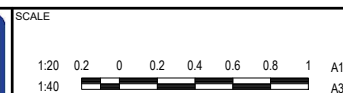
DRAWING TITLE
STORMWATER DRAINAGE STRUCTURE DETAILS SHEET 1 OF 2

PROJECT No. 21-0008	DRAWING No. 762	REVISION 0
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1/2 - CUSTOM SPLITTER MANHOLE
1:20 (A1)
1:40 (A3)

DRAFT ONLY



CLIENT
PEET FLAGSTONE CITY Pty Ltd

ASSOCIATED CONSULTANT

PROJECT NAME
FLAGSTONE CITY - REGIONAL RECREATION PARK

FLAGSTONIAN DRIVE
FLAGSTONE

DRAWING TITLE
STORMWATER DRAINAGE STRUCTURE DETAILS SHEET 2 OF 2

PROJECT No. **21-0008** DRAWING No. **763** REVISION **0**

[illegible]

[DRAFT ONLY]			SCALE CLIENT PEET FLAGSTONE CITY Pty Ltd PROJECT NAME FLAGSTONE CITY - REGIONAL RECREATION PARK DRAWING TITLE STORMWATER DRAINAGE CALCULATION TABLE	ASSOCIATED CONSULTANT FLAGSTONIAN DRIVE FLAGSTONE	PROJECT No. 21-0008 DRAWING No. 764 REVISION 0
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BIO-FILTRATION NOTES:

1. UNLESS NOTED OTHERWISE IN THE STORMWATER MANGEMENT PLAN THE FILTER MEDIA SHALL BE TESTED BY A NATA CERTIFIED LAB AND MEET THE FOLLOWING CRITERIA:

PARAMETER	ACCEPTANCE CRITERIA
ORGANIC MATTER	5.0% MINIMUM; 10% MAXIMUM BY WEIGHT
PH	5.5 - 7.5
ELECTRICITY CONDUCTIVITY	<1.2ds/m
PHOSPHORUS	<50mg/kg
HYDRAULIC CONDUCTIVITY	145mm/hr MINIMUM; 220mm/hr MAXIMUM
PARTICLE SIZE DISTRIBUTION	AS PER TABLE BELOW

COMPONENT	COMPOSTION RANGE (% BY WEIGHT)	PARTICLE SIZE (mm)
CLAY & SLIT	< 3	< 0.05
VERY FINE SAND	5 - 30	0.05 - 0.15
FINE SAND	10 - 30	0.15 - 0.25
MEDIUM TO COARSE SAND	40 - 60	0.25 - 1.0
COARSE SAND	7 - 10	1.0 - 2.0
FINE GRAVEL	< 3	2.0 - 3.4

2. THE HYDRAULIC CONDUCTIVITY OF A POTENTIAL FILTER MEDIA SHALL BE DETERMINED USING ASTM F1815-06 PRIOR TO ACCEPTANCE BY THE SUPERINTENDENT.

TRANSITION & DRAINAGE LAYER:

3. THE TRANSITION LAYER SHALL BE WELL-GRADED SAND / COARSE SAND, CONTAINING LITTLE TO NO FINE PARTICLE SIZE 0.5mm MINIMUM TO 1.4mm MAXIMUM.

4. THE DRAINAGE LAYER SHALL BE CLEAN FINE GRAVEL, WASHED SCREENING PARTICLE SIZE 2.0mm MINIMUM TO 5.0mm MAXIMUM.

FOREBAY

NUMBER	EASTING	NORTHING
01	34522.182	73091.341
02	34525.458	73099.979
03	34529.881	73102.943
04	34535.394	73095.052
05	34525.125	73090.240

FILTER AREA

NUMBER	EASTING	NORTHING
06	34535.856	73109.648
07	34536.921	73110.300
08	34541.142	73113.821
09	34564.248	73139.244
10	34567.351	73143.781
11	34568.740	73146.712
12	34570.512	73149.752
13	34591.450	73128.661
14	34586.488	73128.834
15	34545.188	73101.525

FOREBAY CALCULATION

BIORETENTION TECHNICAL DESIGN GUIDELINES v1.1
 Q^3 MONTH FLOW = 0.326m³/s
 $R = 0.8$
 $V_s = 0.1m/s$
 $n = 0.5$
MINIMUM FOREBAY AREA = 38m²

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

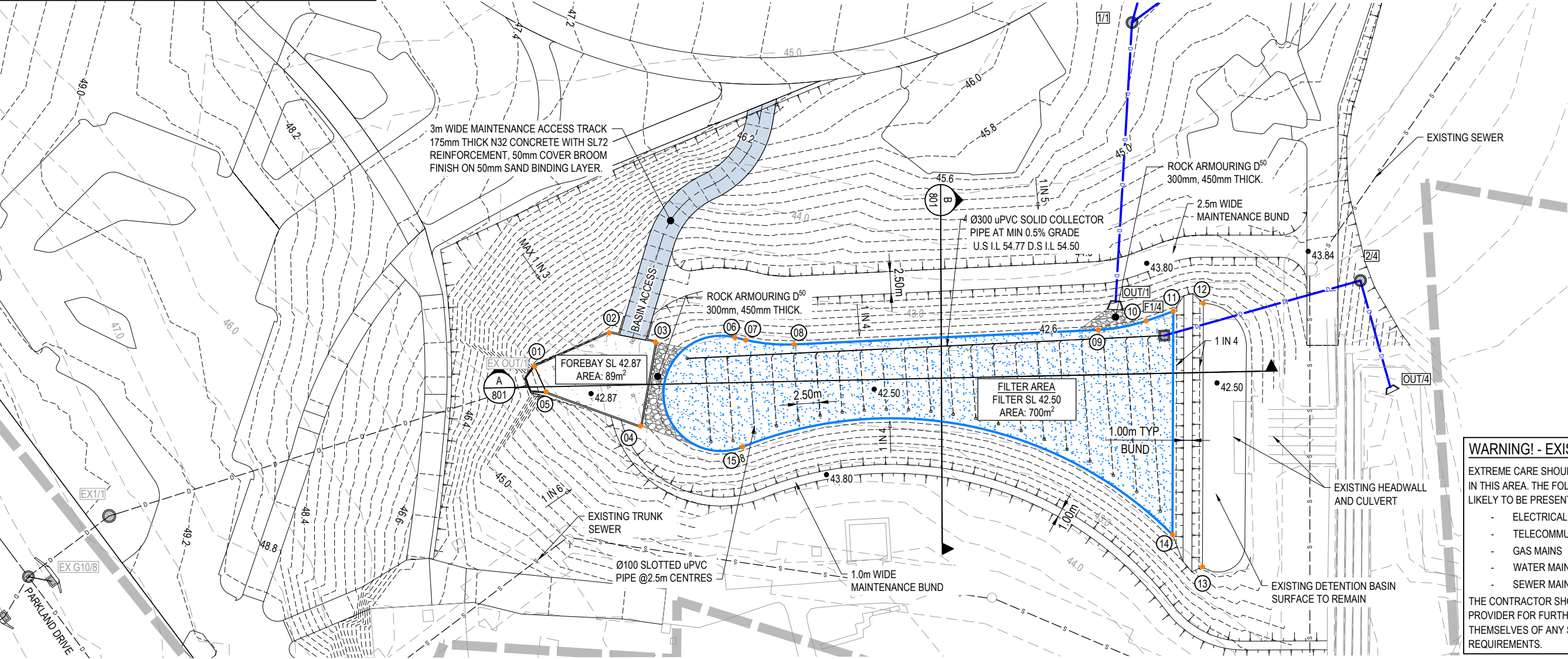
THE CONTRACTOR SHOULD CONTACT THE SERVICE PROVIDER FOR FURTHER INFORMATION AND SATISFY THEMSELVES OF ANY SPECIFIC TREATMENT OR REQUIREMENTS.

NOTE:

THE BASIN DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE LANDSCAPE ARCHITECT'S DRAWINGS AND DOCUMENTATION, SPECIFICALLY RELATING TO RETAINING WALLS, BARRIERS, PLANTING AND VEGETATION.

LEGEND

- PROPOSED BATTER LINE
- PROPOSED SETOUT POINT
- PROPOSED FINISHED SURFACE LEVEL
- PROPOSED STORMWATER DRAINAGE PIPE
- PROPOSED 1000 SLOTTED SUB SOIL DRAINAGE PIPE WITH CLEAN-OUT POINT
- PROPOSED 3000 UN-SLOTTED COLLECTOR PIPE
- PROPOSED BIO RETENTION FILTER AREA
- PROPOSED PLANTED BATTER - BY LANDSCAPERS
- EXISTING WIDE MAINTENANCE BENCH/BUND
- PROPOSED ROCK SCOUR PROTECTION
- FINISHED SURFACE CONTOUR
- EXISTING SURFACE CONTOUR
- EXISTING STORMWATER DRAINAGE PIPE
- EXISTING SEWERAGE MAIN



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:

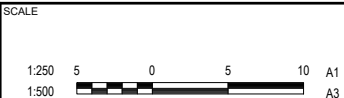
- ELECTRICAL CABLES
- TELECOMMUNICATIONS CABLES
- GAS MAINS
- WATER MAINS
- SEWER MAINS

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

PLOT: 29 JUL 2025 11:53 AM LOCATION: H:\2101-0008 Flagstone - Town Centre\Design\Acad\REC\PAR\21-0008-800 BASIN.dwg

DRAFT ONLY

Colliers

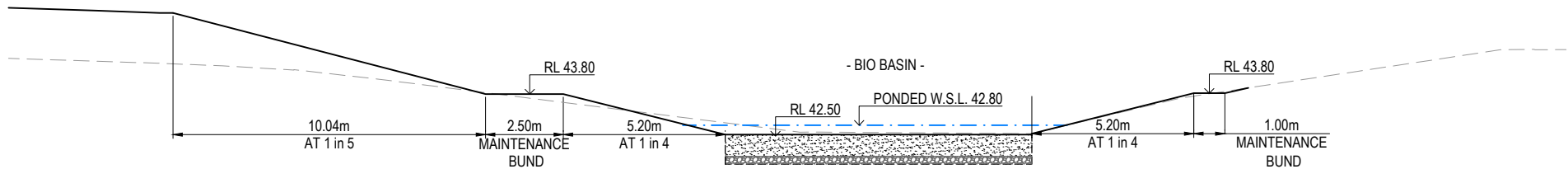


CLIENT
PEET FLAGSTONE CITY Pty Ltd

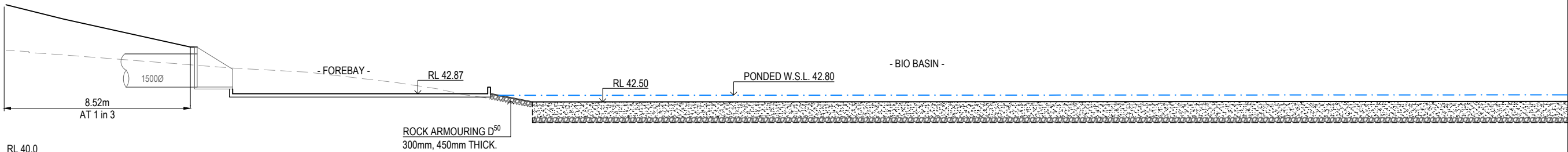
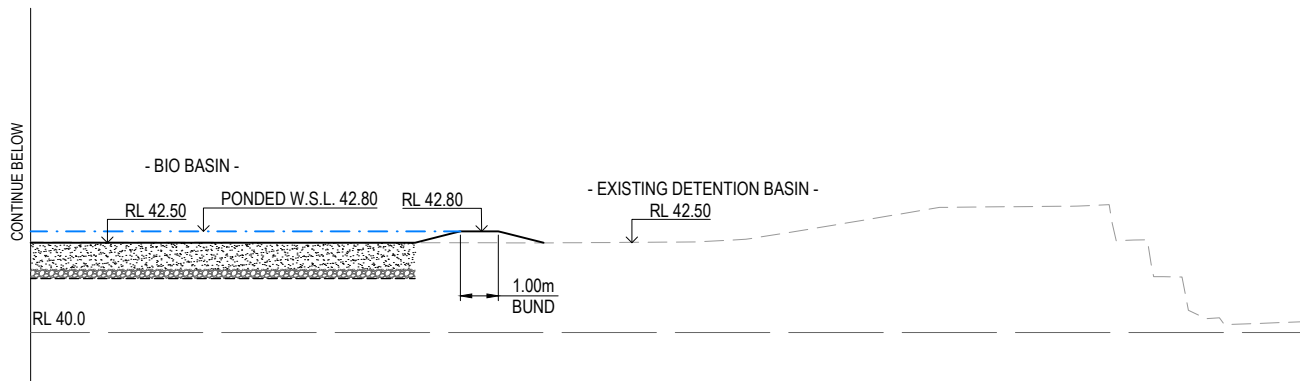
PROJECT NAME
FLAGSTONE CITY - REGIONAL RECREATION PARK

DRAWING TITLE
BIO RETENTION LAYOUT PLAN

PROJECT No. 21-0008
DRAWING No. 800
REVISION 0

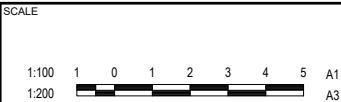


SECTION B
SCALE 1:100 (A1)
SCALE 1:200 (A3)



SECTION A
SCALE 1:100 (A1)
SCALE 1:200 (A3)

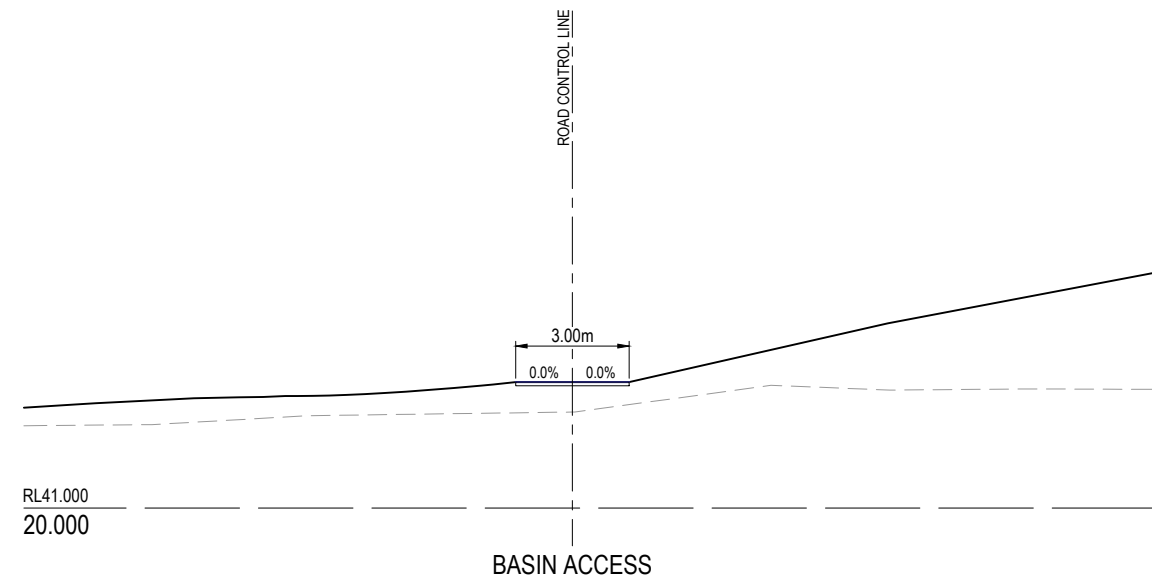
DRAFT ONLY



CLIENT
PEET FLAGSTONE CITY Pty Ltd
ASSOCIATED CONSULTANT

PROJECT NAME
FLAGSTONE CITY - REGIONAL RECREATION PARK
FLAGSTONIAN DRIVE
FLAGSTONE

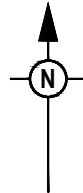
DRAWING TITLE
BIO RETENTION TYPICAL SECTIONS
PROJECT No. **21-0008**
DRAWING No. **801**
REVISION **0**



CUT (-) / FILL	1.824
LHS EDGE OF CONCRETE	46.629 46.474 46.474 1.717 1.088
RHS EDGE OF CONCRETE	46.629 46.474 46.474 45.310 45.310 0.705 0.691 -0.208
DESIGN SURFACE	46.629 46.474 45.310 44.289 44.289 44.230 42.870
EXISTING SURFACE	44.806 44.757 44.222 43.584 43.539 43.146
CHAINAGES	0.000 1.295 10.992 19.505 20.000 30.766
HORIZONTAL CURVES	R10.000R-10.000

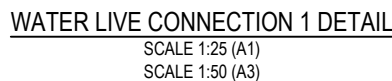
BASIN ACCESS

[	REVDATEDESIGNDRAWNREVISION DETAILS <table><tr><td>1</td><td>21/07/26</td><td>BC</td><td>BC</td><td>ISSUED FOR CONSTRUCTION</td></tr></table>				1	21/07/26	BC	BC	ISSUED FOR CONSTRUCTION	]	DESIGNED BY: DANIEL COLLINS DATE: 21/07/26 FOR AND ON BEHALF OF COLLIERS INTERNATIONAL ENGINEERING & DESIGN PTY LTD		SCALE <table><tr><td>1:100</td><td>1012345</td><td>A1</td></tr><tr><td>1:200</td><td></td><td>A3</td></tr><tr><td>1:1000</td><td>1001020304050</td><td>A1</td></tr><tr><td>1:2000</td><td></td><td>A3</td></tr><tr><td colspan="3">HORIZONTAL</td></tr><tr><td>1:100</td><td>21024</td><td>A1</td></tr><tr><td>1:200</td><td></td><td>A3</td></tr><tr><td colspan="3">VERTICAL</td></tr></table>	1:100	1012345	A1	1:200		A3	1:1000	1001020304050	A1	1:2000		A3	HORIZONTAL			1:100	21024	A1	1:200		A3	VERTICAL			CLIENT PEET FLAGSTONE CITY Pty Ltd		PROJECT NAME FLAGSTONE CITY - REGIONAL RECREATION PARK FLAGSTONIAN DRIVE FLAGSTONE	DRAWING TITLE BASIN ACCESS LONGITUDINAL AND CROSS SECTIONS		
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1:200		A3																																									
1:1000	1001020304050	A1																																									
1:2000		A3																																									
HORIZONTAL																																											
1:100	21024	A1																																									
1:200		A3																																									
VERTICAL																																											
ASSOCIATED CONSULTANT		PROJECT No. 21-0008	DRAWING No. 803	REVISION 0																																							



1:2500 (A1)
1:5000 (A3)

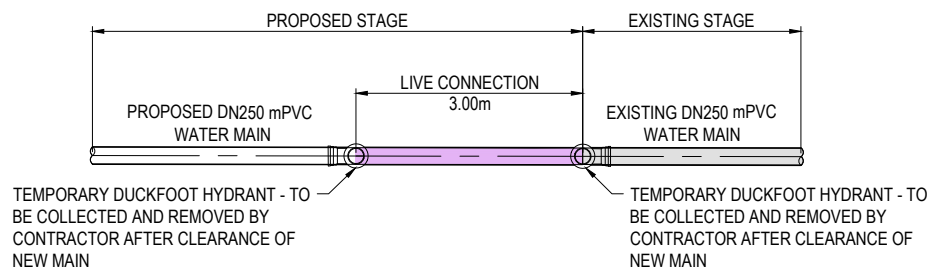
CONNECTION 1				CONNECTION 2			
STREET		PARKLAND DRIVE		STREET		PARKLAND DRIVE	
LOCATION FLAGSTONE REGIONAL RECREATION PARK				LOCATION FLAGSTONE REGIONAL RECREATION PARK			
LENGTH	3.00m	TYPE OF MAIN	DN150mPVC	LENGTH	3.00m	TYPE OF MAIN	DN250mPVC
DATE		DATE		DATE		DATE	
COMMENCED		COMPLETED		COMMENCED		COMPLETED	
SIGNATURE				SIGNATURE			



ITEM	DETAIL 1 SCHEDULE OF FITTINGS	QTY
1	DN250x150 DI SOC-FL TEE	1
2	DN150 FL-FL VALVE	1
3	DN150 FL-SOC WITH CENTRAL THRUST FLANGE 500 LONG	1
4	THRUST BLOCK. REFER SEQ-WAT-1205-1 FOR DETAILS	-

1. 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.
2. EXISTING SERVICES RELEVANT TO THE PROJECT HAVE BEEN CONSIDERED THROUGHOUT DESIGN AND IS BASED ON SURVEY INFORMATION PROVIDED BY THE SURVEYOR AND/OR 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.
3. ALL DESIGN AND CONSTRUCTION ACTIVITIES UNDERTAKEN SHALL COMPLY WITH CURRENT WORKPLACE HEALTH AND SAFETY REQUIREMENTS AND LEGISLATION.
4. PRIOR TO COMMENCING WORK, THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL RELEVANT LOCAL AUTHORITY PERMITS.
5. THE CONTRACTOR SHALL NOT COMMENCE THE DEMOLITION OF ANY EXISTING BUILDINGS AND/OR STRUCTURES WITHOUT APPROVAL FROM THE SUPERINTENDENT.
6. 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.
7. THE CONTRACTOR SHALL VERIFY LEVELS OF EXISTING SERVICE CROSSINGS AND CONNECTION POINTS PRIOR TO COMMENCEMENT OF WORKS 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.
8. 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.
9. 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.

1. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT WSAA WATER SUPPLY CODE OF AUSTRALIA SPECIFICATIONS AND STANDARD - SOUTH EAST QUEENSLAND SERVICE PROVIDERS EDITION.
2. UNLESS SPECIFIED OTHERWISE ALL MATERIALS AND WORK SHALL COMPLY WITH THE RELEVANT AUSTRALIAN STANDARDS.
3. THE CONSTRUCTION OF THE WATER RETICULATION WORK SHOWN ON THIS DRAWING MUST BE SUPERVISED BY AN ENGINEER WHO HAS RPEQ REGISTRATION. WORKS NOT COMPLYING WITH THIS REQUIREMENT WILL NOT BE PERMITTED TO CONNECT TO THE RETICULATION SYSTEM.
4. ALL MATERIALS USED IN THE WORKS SHALL COMPLY WITH THE SEQ-SP'S ACCEPTED PRODUCTS AND MATERIALS LIST OR BE APPROPRIATELY SHOWN, LISTED AND DEFINED IN THE ENGINEERING SUBMISSION SO THAT THE ALTERNATIVE PRODUCT OR MATERIAL CAN BE ASSESSED AND IF APPROPRIATE, APPROVED BY THE SEQ-SP.
5. ADOPT LIP OF KERB OR SHOULDER OF ROAD AS PERMANENT LEVEL.
6. COVER ON MAINS FROM PERMANENT LEVEL TO BE AS SHOWN IN SEQ-WAT-1200-2.
7. CONDUITS TO BE INSTALLED IN ACCORDANCE WITH THE STANDARD DRAWINGS.
8. A WATER METER SUPPLIED AT THE DEVELOPER'S COST, IS TO BE INSTALLED AT THE SERVICE POINT OF EACH LOT IN ACCORDANCE WITH THE STANDARD DRAWING FOR THE SEQ-SP.
9. HYDRANTS TO BE INSTALLED AT THE END OF ALL NEW MAINS WHERE REQUIRED FOR TESTING AND COMMISSIONING PURPOSES.



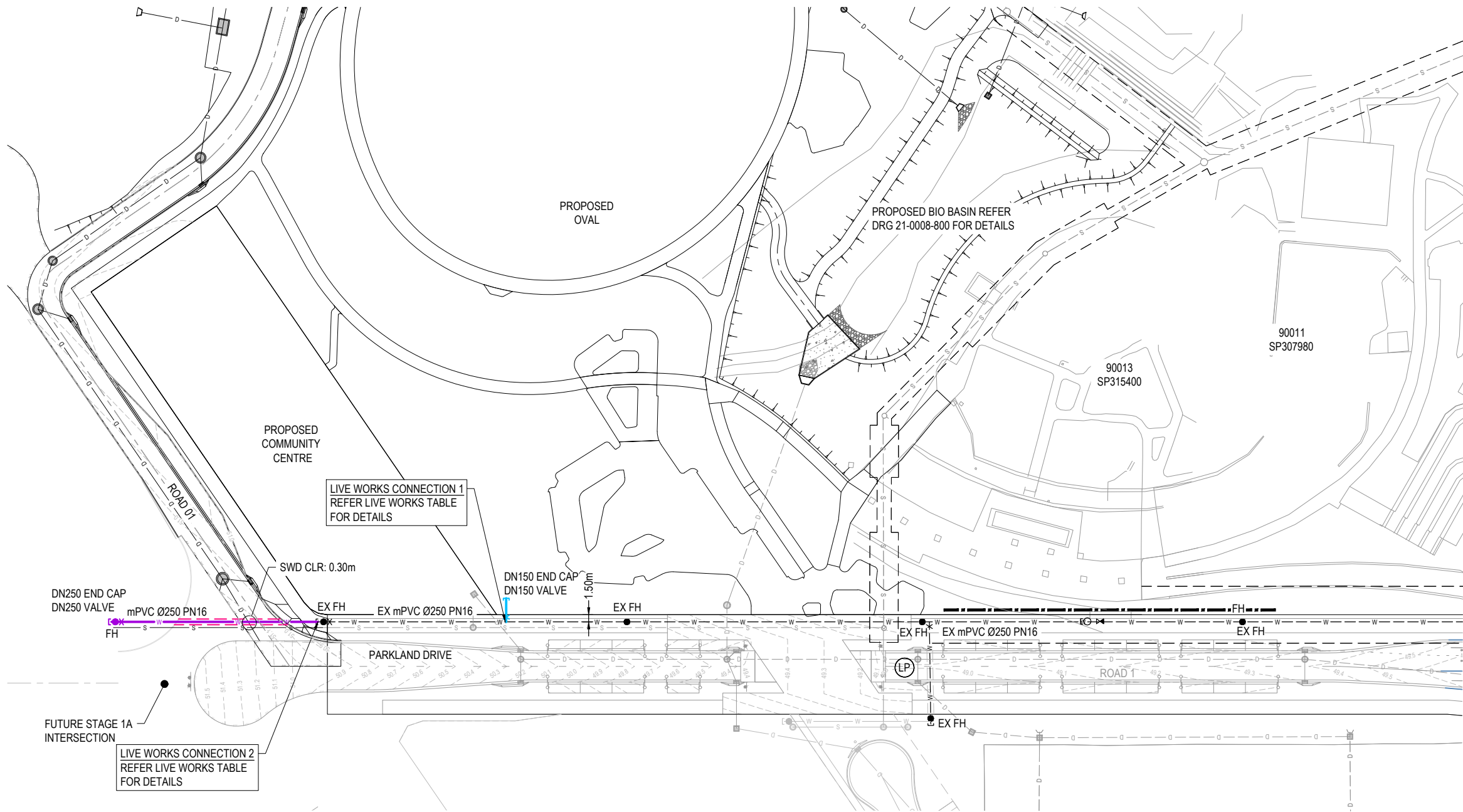
1:50(A1)
1:100(A3)

- A. PREDISTURBANCE SOIL PROFILES AND COMPACTION LEVELS SHALL BE REINSTATED.
- B. PREDISTURBANCE VEGETATION PATTERNS SHALL BE RESTORED.

ALL WATER AND SEWERAGE CONSTRUCTION SHALL COMPLY WITH THE REQUIREMENTS OF THE QUEENSLAND WORK HEALTH AND SAFETY ACT 2011. CONTACT THE DIVISION OF WORKPLACE HEALTH AND SAFETY FOR INFORMATION. PHONE 1300 362 128

1. ALL WORK ON EXISTING WATER TO BE CARRIED OUT BY THE CONTRACTOR (IN ACCORDANCE WITH AN APPROVED NETWORKS ACCESS PERMIT) UNDER URBAN UTILITIES SUPERVISION, AT THE DEVELOPERS EXPENSE.
2. PRE-CHLORINATED FITTINGS SHALL BE USED FOR ALL DRINKING WATER LIVE WORKS CONNECTIONS.

DATE 24.07.26		DESIGN BC	DRAWING BC	ISSUED FOR CONSTRUCTION		REVISION DETAILS		DESIGN BC	STATUS ISSUED FOR CONSTRUCTION	DATE 24.07.26				SCALE	CLIENT	PROJECT NAME	DRAWING TITLE		
[DRAFT ONLY]												1:25 0 0.25 0.5 0.75 1.0 1.25 A1 1:50 1 0.5 0 1 2 A1 1:100 1 0.5 0 1 2 A1 1:2500 50 0 50 100 A1 1:5000 50 0 50 100 A1	PEET FLAGSTONE CITY Pty Ltd ASSOCIATED CONSULTANT	FLAGSTONE CITY - REGIONAL RECREATION PARK FLAGSTONIAN DRIVE FLAGSTONE	WATER RETICULATION COVER PLAN PROJECT No. 21-0008			DRAWING No. 900	REVISION 0



LEGEND

PROPOSED AREA OF WORKS

PROPOSED DN150 WATER MAIN

PROPOSED DN250 WATER MAIN

DICL ROAD CROSSINGS

EXISTING WATER MAIN

LOW POINT

PROPOSED ROAD CONTOUR

PROPOSED STORMWATER DRAINAGE PIPE

EXISTING STORMWATER DRAINAGE PIPE

PROPOSED SEWER MAIN

EXISTING SEWER MAIN

EXISTING ELECTRICAL CABLE U/G

EXISTING ELECTRICAL CABLE O/H

EXISTING TELECOMMUNICATION CABLE U/G

WATER FITTINGS LEGEND

PROPOSED:

FH

FIRE HYDRANT

X

ISOLATION VALVE

DEAD END

EXISTING:

FIRE HYDRANT

ISOLATION VALVE

DEAD END

X

WATER SERVICE POINT

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.

[DRAFT ONLY]

REV	DATE	DESIGN	DRAWN	REVISION DETAILS	DRAWN	STATUS	SCALE	CLIENT	PROJECT NAME	DRAWING TITLE
0	24.07.26	BC	BC	ISSUED FOR CONSTRUCTION		ISSUED FOR CONSTRUCTION	1:500 1:1000	PEET FLAGSTONE CITY Pty Ltd	FLAGSTONE CITY - REGIONAL RECREATION PARK	WATER RETICULATION LAYOUT PLAN
					DESIGN	APPROVED DANIEL COLLINS		ASSOCIATED CONSULTANT	FLAGSTONIAN DRIVE FLAGSTONE	PROJECT No. 21-0008
						DATE 28.07.26				DRAWING No. 901
						FOR AND ON BEHALF OF COLLIERS INTERNATIONAL ENGINEERING & DESIGN PTY LTD				REVISION 0

PROPOSED REGIONAL RECREATION PARK

PARKLAND DRIVE, FLAGSTONE

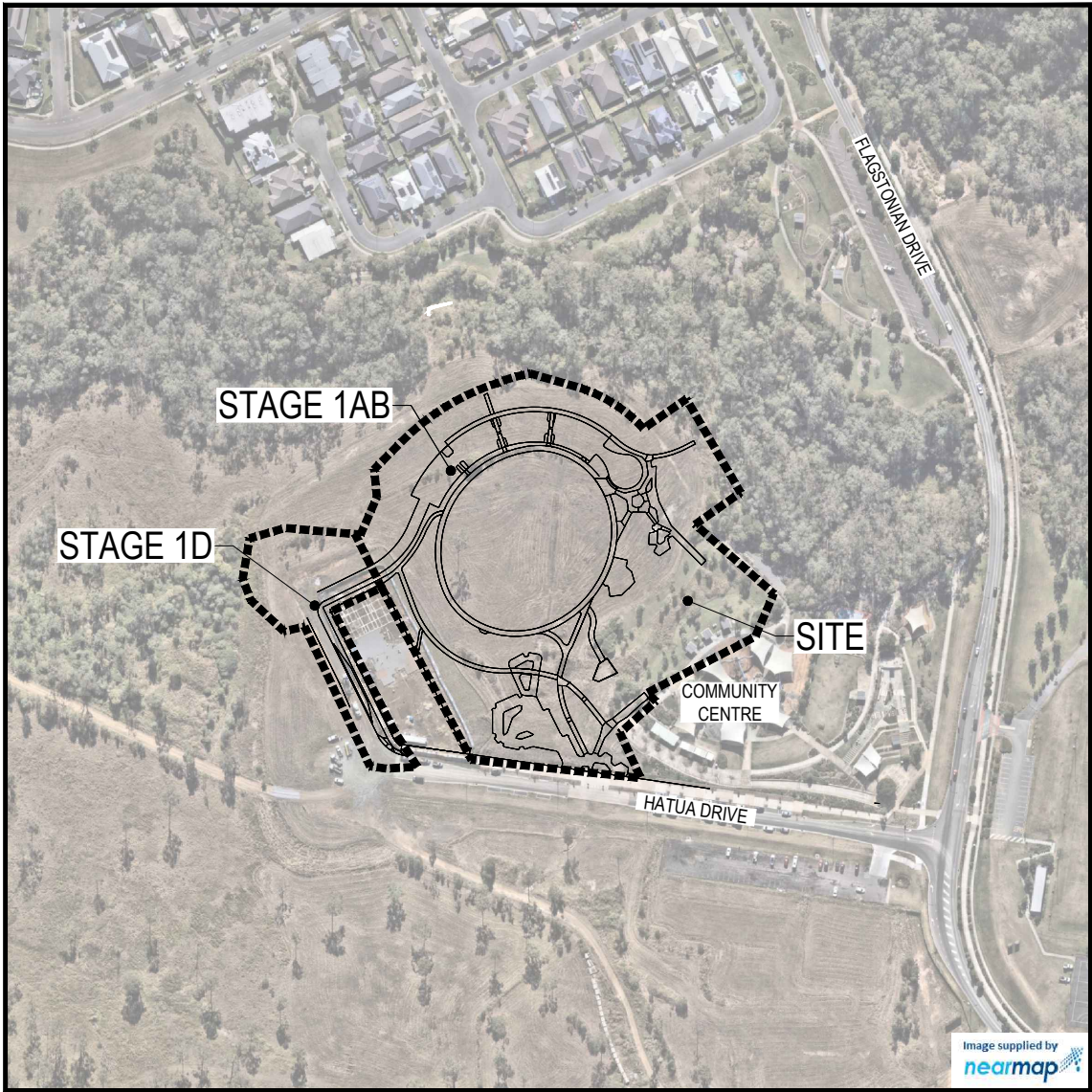
FOR 'PEET FLAGSTONE CITY Pty Ltd'

DRAWING LIST

21-0008-910	TRUNK SEWER COVER PLAN
21-0008-911	TRUNK SEWER GENERAL NOTES
21-0008-912	TRUNK SEWER MANHOLE CONSTRUCTION NOTES SHEET 1 OF 2
21-0008-913	TRUNK SEWER MANHOLE CONSTRUCTION NOTES SHEET 2 OF 2
21-0008-920	TRUNK SEWER MANHOLE LAYOUT PLAN
21-0008-921	TRUNK SEWER LONGITUDINAL SECTIONS

REFERENCE DRAWINGS

LW-SEW-DWG-0020 (B)	GENERAL NOTES SHEET 1 OF 4
LW-SEW-DWG-0021 (B)	GENERAL NOTES SHEET 2 OF 4
LW-SEW-DWG-0022 (B)	GENERAL NOTES SHEET 3 OF 4
LW-SEW-DWG-0023 (B)	GENERAL NOTES SHEET 4 OF 4
LW-SEW-DWG-0024 (B)	GENERAL STRUCTURAL NOTES SHEET 1 OF 2
LW-SEW-DWG-0025 (B)	GENERAL STRUCTURAL NOTES SHEET 2 OF 2
LW-SEW-DWG-2000 (B)	COVER SHEET AND DRAWING LIST
LW-SEW-DWG-2050 (A)	TYPICAL INTERNALLY LINED MAINTENANCE HOLE DETAILS SHEET 1 OF 3
LW-SEW-DWG-2051 (A)	TYPICAL INTERNALLY LINED MAINTENANCE HOLE DETAILS SHEET 2 OF 3
LW-SEW-DWG-2052 (A)	TYPICAL INTERNALLY LINED MAINTENANCE HOLE DETAILS SHEET 3 OF 3
LW-SEW-DWG-2053 (A)	TYPICAL TYPE 'D' MAINTENANCE HOLE MODIFIED P3 MAINTENANCE HOLE
LW-SEW-DWG-2100 (A)	TYPICAL MAINTENANCE STRUCTURE DETAILS ON EXISTING GRAVITY SEWER
LW-SEW-DWG-2101 (A)	MISCELLANEOUS CONNECTION DETAILS
LW-SEW-DWG-2102 (A)	PE TO PVC CONNECTION DETAILS
LW-SEW-DWG-2103 (A)	TYPICAL DIAMETER SEWER CONNECTION TO EXISTING
LW-SEW-DWG-2120 (A)	MAINTENANCE HOLE TYPICAL PVC INTERNAL DROP DETAILS



PROJECT INFORMATION SUMMARY:
AREA OF SITE = 3.50 ha
RP DESCRIPTION
LOT 908 ON SP311419, LOT 90013 ON SP315400 & LOT 90011 SP307980
DATUM LEVEL AND LOCATION
P.S.M. 107142
RL 39.075 AHD
MGA
LOCAL AUTHORITY: LOGAN CITY COUNCIL
COUNCIL REFERENCE NUMBER:
STAGE 1D DEV2022/1313
STAGE 1AB DEV2012/402

LOCALITY PLAN
SCALE 1:2000 (A1)
SCALE 1:4000 (A3)

REV	DATE	DESIGN	DRAWN	REVISION DETAILS	DRAWN	STATUS	SCALE	CLIENT	PROJECT NAME	DRAWING TITLE
1	21/07/21	DESIGN	DESIGN	ORIGINAL ISSUE	DESIGN	NOT FOR CONSTRUCTION	1:2000 1:4000	PEET FLAGSTONE CITY Pty Ltd	FLAGSTONE CITY - REGIONAL RECREATION PARK	TRUNK SEWER COVER PLAN
								ASSOCIATED CONSULTANT	FLAGSTONIAN DRIVE FLAGSTONE	PROJECT No. 21-0008
										DRAWING No. 910
										REVISION 0

FOR AND ON BEHALF OF COLLIER'S INTERNATIONAL ENGINEERING & DESIGN PTY LTD

Colliers

PLOT: 29 JUL 2025 12:08 PM LOCATION: H:\21-0008 Flagstone - Town Centre\Design\Local\REC PARK\21-0008-0910 SEW 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 (SEQCODE).
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 HEALTH 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 THE SEQ 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.
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. SEWERS SHALL BE DISUSED/ABANDONED IN ACCORDANCE WITH PROCEDURE SET OUT IN THE GRAVITY SEWER CODE.
3. 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.
4. CONCRETE FOR MH CONSTRUCTION SHALL BE SPECIAL CLASS TO WSA PS-358 WITH REQUIREMENT OF CALCAREOUS AGGREGATES.
5. CONSTRUCTION OF PAVEMENT IN UNSEALED ROAD SHOULDERS SHALL BE IN ACCORDANCE WITH SEQ STANDARD DRAWING SEQ-SEW-1205-1.
6. 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 FOR PE LINED MANHOLES NECKS
 - TOP SLAB REINFORCEMENT TO BE AS PER SEQ-SEW-1301-26-A
7. FOR POLYETHYLENE LINER (PE LINER) MAINTENANCE HOLES REFER TO SEQ-SEW-1101-6 A FOR INSTALLATION REQUIREMENTS

PIPEWORK

8. WHERE CONNECTING TO EXISTING PIPEWORK, THE LEVEL AND DIAMETER OF THE EXISTING PIPEWORK, SHALL BE CONFIRMED BY THE CONTRACTOR, PRIOR TO CONNECTION.
9. ALL FLANGES SHALL BE IN ACCORDANCE WITH AS 4087, CLASS 14 FOR CAST IRON AND, CLASS 16 FOR DUCTILE IRON AND STEEL, UNO.
10. 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
11. INSTALL VALVE IDENTIFICATION CAP ON ALL SPINDLES.
12. GASKET MATERIAL TO COMPLY WITH AS4087 AND IN ACCORDANCE WITH WSA 109.
13. ALL FLANGE BOLT HOLE ORIENTATIONS SHALL BE OFF-CENTRE UNO.
14. ALL FLANGE BOLT SETS SHALL BE GRADE 316 STAINLESS STEEL. REFER AS 4087 - TABLE C1 FOR CLASS.
15. FLANGE GASKET MATERIAL AND THICKNESS SHALL BE IN ACCORDANCE WITH AS 4087 - TABLE C1.
16. THRUST AND PUDDLE FLANGES SHALL BE CAST CENTRALLY WITHIN WALLS UNLESS SHOWN OTHERWISE.
17. ALL SPIGOT AND SOCKET DICL PIPEWORK SHALL BE CLASS PN35.
18. 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.
19. 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.
20. 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.
21. 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 SEWER BURIED BELOW"
9. TEMPORARY OR SHORT TERM BATTERS (UP TO 4 WEEKS) CAN BE CONSTRUCTED TO THE GRADIENTS PRESENTED IN TABLE 7 OF REPORT 8043 – 24-231.
10. USE TYPE 4 EMBEDMENT WITH GEOFABRIC WRAPPING IN ALL DISPERSIVE/FILL AREAS.
11. WRAPPING MUST FULLY ENCAPSULATE BEDDING WITH 250mm OVERLAP AT JOINS.
12. TRENCH BASE TO ACHIEVE MINIMUM BEARING PRESSURE OF 100kPa UNLESS OTHERWISE SPECIFIED.
13. BACKFILL COMPACTED TO 98% STANDARD COMPACTION PER AS3798 AND VERIFIED TO LCC REQUIREMENTS.
14. THRUST BLOCKS TO HAVE A MINIMUM HORIZONTAL BEARING PRESSURE ALLOWANCE OF 50kPa.
15. TRENCH BACKFILL FOR DEEP TRENCHES (>5m) MUST ACHIEVE A DENSITY RATIO OF AT LEAST 98% STANDARD AT MOISTURE CONTENTS RANGING BETWEEN +/- 2% OMC AND TESTED AT FREQUENCIES REQUIRED BY LOGAN WATER.

LIVE SEWER WORKS

No.	DESCRIPTION	DIA. SEWER	EXISTING ASSET ID AT CONNECTION	MH/MS TYPE	COVER TYPE	LOT & PLAN No.	E.S.L.	F.S.L.	CONNECTION I.L.	CONNECTION DEPTH TO INVERT	ALTERATION TO EXISTING MH BENCHING REQUIRED (Y/N)
1 (A)	CONTRACTOR TO PLUG THE UPSTREAM STUB IN EXISTING MANHOLE AT BOUNDARY, LAY, CONNECT NEW SEWER, AND BACKFILL. AFTER CLEANSING, TESTING AND INSPECTION, NOTIFY AGENCY.	Ø300	13/S3	MH	D	-	43.578	43.578	41.715	1.863	Y
1 (B)	AGENCY TO REMOVE PLUG ON EXISTING STUB AND MAKE LIVE CONNECTION AFTER SUCCESSFUL 'ON MAINTENANCE' INSPECTION.										
2 (A)	CONTRACTOR TO PLUG THE UPSTREAM STUB IN EXISTING STUB, LAY, CONNECT NEW SEWER, AND BACKFILL. AFTER CLEANSING, TESTING AND INSPECTION, NOTIFY AGENCY.	Ø150	1/1	STUB	-	-	51.034	51.034	47.780	3.254	N
2 (B)	AGENCY TO REMOVE PLUG ON EXISTING STUB AND MAKE LIVE CONNECTION AFTER SUCCESSFUL 'ON MAINTENANCE' INSPECTION.										

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 TUNNELED 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.
5. ALL ENVIRONMENTAL PROTECTION MEASURES SHALL BE IMPLEMENTED PRIOR TO ANY CONSTRUCTION WORK COMMENCING INCLUDING CLEARING

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. THE CONTRACTOR SHALL HAVE READ THE GEOTECHNICAL REPORT.
4. THE CONTRACTOR SHALL HAVE READ THE DISPERSIVE SOILS MANAGEMENT PLAN.

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

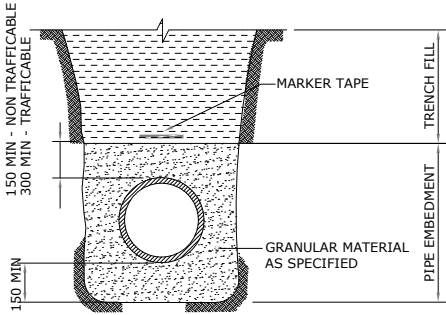
1. THE DESIGN AND CONSTRUCTION OF THE WORKS SHALL COMPLY WITH ALL QUEENSLAND LEGISLATION.
2. THE SAFETY IN DESIGN, DESIGN AND RISK MITIGATION MEASURES FOR THESE DRAWINGS DO NOT NECESSARILY ACCOUNT FOR ALL DESIGN, CONSTRUCTION, OPERATION, MAINTENANCE AND DEMOLITION ASSESSMENTS. IT DOES NOT REDUCE OR LIMIT 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

EMBEDMENT MATERIAL DESIGN NOTES

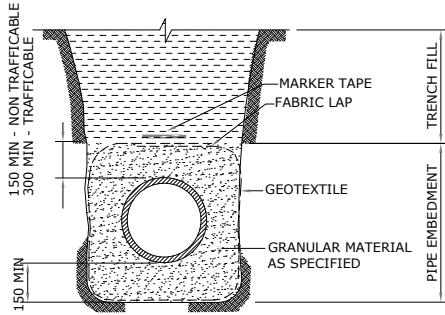
1. ALL DIMENSIONS IN MILLIMETERS.
2. BEDDING MATERIAL SHALL BE A SINGLE SIZED 5mm OR 7mm NOMINAL SIZE CRUSHED ROCK COMPLYING WITH TABLE G2 OF AS2566.2.
3. IMPORTED BACKFILL MATERIAL SHALL HAVE A SOAKED CBR VALUE OF NOT LESS THAN 15% AND A MAXIMUM PARTICLE SIZE OF 75mm.
4. FLOWABLE FILL OR LEAN MIX CONCRETE SHALL BE THOROUGHLY 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 IN ACCORDANCE WITH THE GEOTECH REPORT AT 98% STANDARD COMPACTION AT MOISTURE CONTENTS RANGING BETWEEN +/- 2% OMC.
3. SINGLE SIZE COARSE AGGREGATES OF SIZES 7 & 10 mm ARE DEEMED "SELF COMPACTING" AND DO NOT REQUIRE COMPACTION TESTING WHEN USED AS EMBEDMENT U.N.O.
4. THE INSTALLED MAIN AND STRUCTURES SHALL CONFORM WITH THE CONSTRUCTION TOLERANCES NOMINATED WITHIN SEQ-CODE.



TYPE 3 SUPPORT
(NTS)



TYPE 4 SUPPORT - WITH GEOTEXTILE
(NTS)

PLOT: 29 JUL 2025 12:08 PM LOCATION: H:\2121-0008 Flagstone - Town Centre\Design\Acad\REC\PAR\21-0008-0910 SEWM COVER.dwg

REV

DATE

DESIGN

DRAWN

REVISION DETAILS

1

24/07/25

DR

BC

ORIGINAL ISSUE

2

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DRAFT ONLY

NOT FOR CONSTRUCTION

DESIGN

APPROVED

DANIEL COLLINS

FOR AND ON BEHALF OF COLLIER'S INTERNATIONAL ENGINEERING & DESIGN PTY LTD

Colliers

SCALE

CLIENT

PEET FLAGSTONE CITY Pty Ltd

ASSOCIATED CONSULTANT

PROJECT NAME

FLAGSTONE CITY - REGIONAL RECREATION PARK

FLAGSTONIAN DRIVE
FLAGSTONE

DRAWING TITLE

TRUNK SEWER GENERAL NOTES

PROJECT No.
21-0008

DRAWING No.
911

REVISION
0

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.

POLYETHYLENE LINER (PE LINER)

1. THE PE LINER SHALL FORM A COMPLETELY SEALED AND WELDED ROBUST CONTINUOUS MEMBRANE SYSTEM. THE PE LINER SHALL BE BUILT TO THE MH CONSTRUCTION TOLERANCES WITHOUT ANY DEFECTS SUCH AS BULGING, WARPING, PINCHING, OVERLAPPING.
2. THE PE SHEETS SHALL:
 - HAVE A MINIMUM THICKNESS OF 2.5 mm.
 - ACHIEVE A MECHANICAL BOND BETWEEN THE CONCRETE AND LINER.
 - BE INSTALLED BY AN ACCREDITED APPLICATOR APPROVED BY THE MANUFACTURER.
 - BE TENSIONED OVER THE FORMWORK WITHIN THE YIELD ELONGATION LIMIT PRIOR TO SECURING TO THE FORMWORK.
3. PREPARATION, APPLICATION AND INSTALLATION TO COMPLY WITH THE MANUFACTURER'S SPECIFICATION.
4. POURED CONCRETE TO BE AT A COOLER AMBIENT TEMPERATURE THAN THE TEMPERATURE WHEN THE PE SHEETS WERE ATTACHED TO THE FORMWORK.
5. EXTRUSION WELDING AND WELD TESTING AT SEAMS TO BE UNDERTAKEN BY THE APPROVED APPLICATOR TO THE MANUFACTURER'S SPECIFICATION.
6. ENCAPSULATION OF ANCHORS TO BE CHECKED BY TAPPING THE SURFACE TO DETECT HOLLOW

SOUNDS THAT INDICATE VOIDS. VOIDS TO BE FILLED BY INJECTION GROUT AND PE SHEET REPAIRED BY EXTRUSION WELDING OVER THE INJECTION HOLE.

7. REFER TO SEQ CODE CIVIL IPAM LIST FOR APPROVED PE LINER PRODUCTS. PREPARATION, APPLICATION AND INSTALLATION OF LINER TO COMPLY WITH MANUFACTURER'S SPECIFICATIONS AND BE READ IN CONJUNCTION WITH WSA 201 MANUAL FOR SELECTION AND APPLICATION OF PROTECTIVE COATINGS AND SEQ-SEW-1101-6.

PE LINING TO EXTEND TO BASE OF MANHOLE PRIOR TO BENCHING BEING POURED.

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.

SPRING LINE CLEARANCE

NOMINAL DIAMETER (DN)	MINIMUM CLEARANCE "Lc" TO AS/NZ 2566.1
≤300	150
>300 - ≤450	200
>450 - ≤900	300

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REV	DATE	DESIGN	DRAWN	REVISION DETAILS		DRAWN	STATUS		SCALE	CLIENT	PROJECT NAME	DRAWING TITLE		
												TRUNK SEWER MANHOLE CONSTRUCTION NOTES SHEET 1 OF 2		

MAINTENANCE HOLES – DESIGN REQUIREMENT

- DESIGN AND CONSTRUCTION OF ALL SEWERAGE INFRASTRUCTURE SHALL BE RPEQ CERTIFIED.
- 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
- 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

- SEQ CODE SEWER MH STANDARD DRAWINGS THAT ARE APPLICABLE TO LOGAN WATER 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.
- SEQ CODE SEWER MH STANDARD DRAWINGS THAT ARE APPLICABLE TO LOGAN WATER 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

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

MAINTENANCE HOLES

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

MAINTENANCE HOLE CIRCULAR ACCESS COVERS

- CIRCULAR ACCESS COVERS AND FRAMES SHALL BE RATED TO CLASS RATING B OR CLASS RATING D TO AS 3996.
- PRODUCT CERTIFICATION TO AS 3996 SHALL BE SUPPLIED FOR EACH COVER ASSEMBLY.
- COVERS, FRAMES AND RISER RINGS, WHERE REQUIRED, SHALL BE SUPPLIED ASSEMBLED.
- COVERS SHALL BE SOLID TOP. IN LOGAN WATER AREAS ONLY, CLASS B CONCRETE INFILL COVERS MAY BE USED.
- COVERS SHALL HAVE IDENTIFICATION TAGS DETAILING, SEWER / VACUUM SEWER / CLASS RATING B, D / SEALED / COVER PATTERN DETAIL /SEQ-SP NAME / WEIGHT.
- BOLT DOWN COVERS SHALL BE PROVIDED IN FLOOD PRONE AREAS, STORM SURGE AREAS, SURCHARGING SEWERS AND WHERE SPECIFIED IN THE DESIGN.
- 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.

CONCRETE

- CONCRETE WORKMANSHIP AND MATERIALS TO COMPLY WITH AS 3600 AND AS 3610
- CONCRETE TO COMPLY WITH AS 1379, AS 1478.1, AS 1478.2, AS 3582.1, AS 3582.2, AS 3582.3 AND AS 3972.
- 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.
- WATER NOT TO BE ADDED TO CONCRETE AFTER TRUCK HAS LEFT BATCHING PLANT UNLESS APPROVED OTHERWISE.
- TEST SLUMP OF EACH BATCH OF CONCRETE DELIVERED.
- DESIGN, CERTIFICATION, CONSTRUCTION AND PERFORMANCE OF FORMWORK BY CONTRACTOR.
- CONCRETE CONSTRUCTION TOLERANCES TO AS 3610.
- CONCRETE SIZES DO NOT INCLUDE FINISHES. SIZES NOT TO BE REDUCED OR PENETRATIONS ADDED.
- CONDUITS, PIPES, ETC. NOT TO BE PLACED IN CONCRETE COVER TO THE REINFORCEMENT.
- EXPOSED EDGES AND RE-ENTRANT CORNERS TO HAVE 25 MM CHAMFERS OR FILLETS UNLESS NOTED OTHERWISE.
- CONSTRUCTION JOINTS AS DETAILED AND LOCATED ON DESIGN DRAWINGS.
- CONCRETE SURFACE FINISHES TO AS 3610. FORMED EXPOSED SURFACES - CLASS 2
- 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

- CONCRETE CURING TO AS3600 AS SOON AS POSSIBLE AFTER PLACING AND FINISHING.
- 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

- CONCRETE SHALL BE SPECIAL CLASS TO WSA-PS 358 WITH CALCAREOUS AGGREGATE.
- BENCHING FINISH SHALL CONSIST OF EQUAL PARTS OF CEMENT AND SAND.
- 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

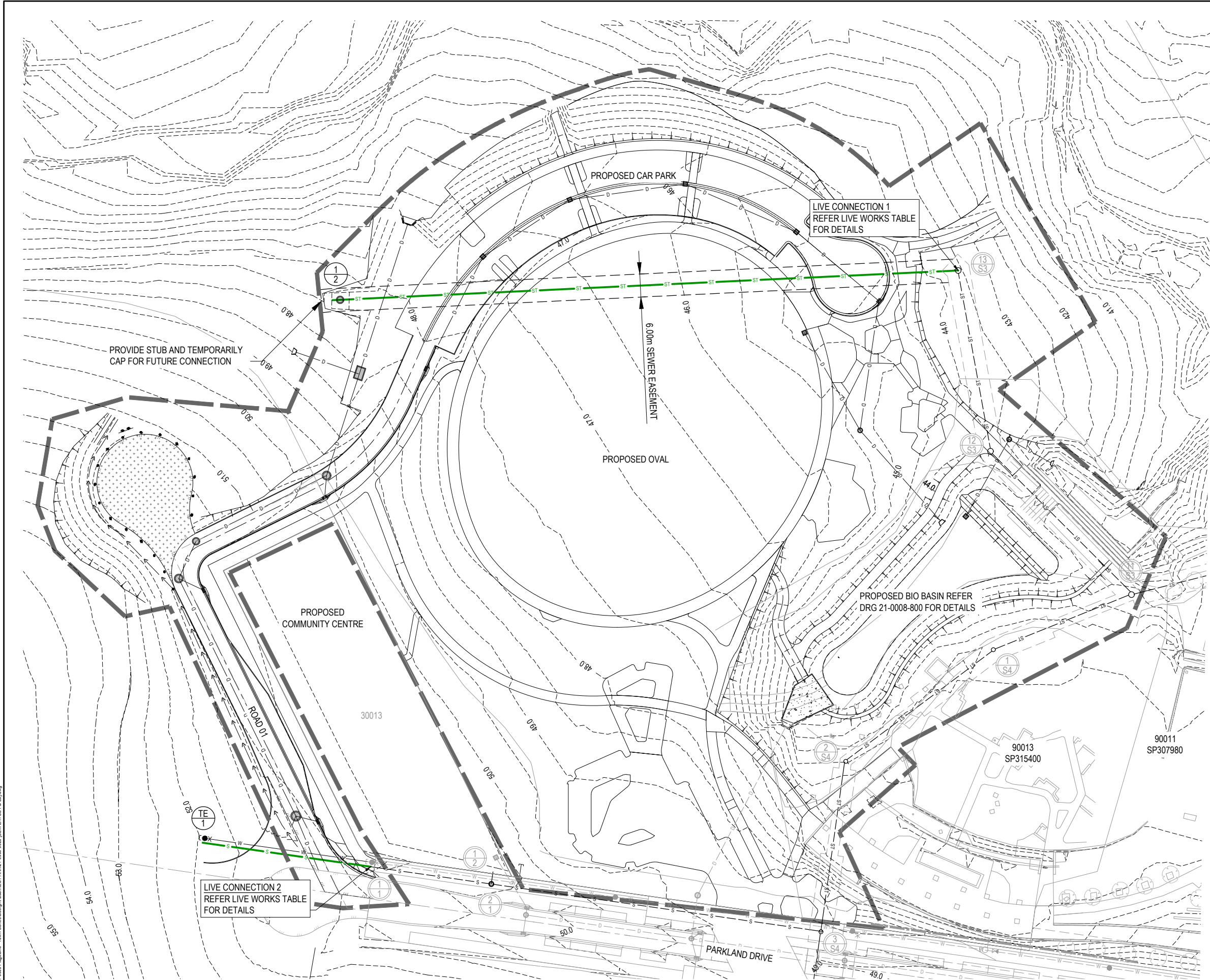
- REINFORCEMENT FOR THE TOP SLABS SHALL BE A PREFABRICATED ELEMENT.
- REINFORCEMENT TO COMPLY WITH AS4671.
- SYMBOLS ON DRAWINGS FOR GRADE AND TYPE OF REINFORCEMENT ARE:
 - R - STRUCTURAL GRADE 250 PLAIN ROUND BARS
 - N - HOT ROLLED GRADE 500 DEFORMED BAR, DUCTILITY CLASS N
 - L - HOT ROLLED GRADE 500 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
- 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
- ABBREVIATIONS TO REINFORCEMENT LOCATION:
 - EW - EACH WAY
 - EF - EACH FACE
 - B - BOTTOM
 - T - TOP
 - CP - CENTRALLY PLACED
- REINFORCEMENT IS SHOWN DIAGRAMMATICALLY ONLY AND NOT NECESSARILYIN TRUE PROJECTION.
- REINFORCEMENT TO BE FIXED SECURELY AND SUPPORTED ON PROPRIETY CONCRETE, METAL OR PLASTIC SUPPORTS.
- 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

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

PLOT - 29 JUL 2025 12:08 PM LOCATION - H:\2121-0008 Flagstone - Town Centre\Design\Asat\REC PARK\21-0008-0910 SEW COVER.dwg

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												TRUNK SEWER MANHOLE CONSTRUCTION NOTES SHEET 2 OF 2			
				[DRAFT ONLY NOT FOR CONSTRUCTION]		DESIGN	APPROVED DANIEL COLLINS			PEET FLAGSTONE CITY Pty Ltd	FLAGSTONE CITY - REGIONAL RECREATION PARK	FLAGSTONIAN DRIVE FLAGSTONE	PROJECT No.	DRAWING No.	REVISION
															21-0008



LEGEND

PROPOSED AREA OF WORKS

S

S

PROPOSED SEWER MAIN

ST

ST

PROPOSED TRUNK SEWER MAIN

S

S

EXISTING SEWER MAIN

ST

ST

EXISTING TRUNK SEWER

24.6

FINISHED SURFACE CONTOUR

D

D

PROPOSED STORMWATER DRAINAGE PIPE

D

D

EXISTING STORMWATER DRAINAGE PIPE

R

R

PROPOSED ROOFWATER DRAINAGE PIPE

R

R

EXISTING ROOFWATER DRAINAGE PIPE

W

W

PROPOSED WATER MAIN

W

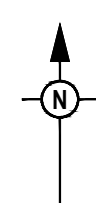
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EXISTING WATER MAIN

FUTURE/EXISTING RETAINING WALL

PROPOSED EASEMENT

PROPOSED SWALE DRAIN



WARNING! - EXISTING SERVICES

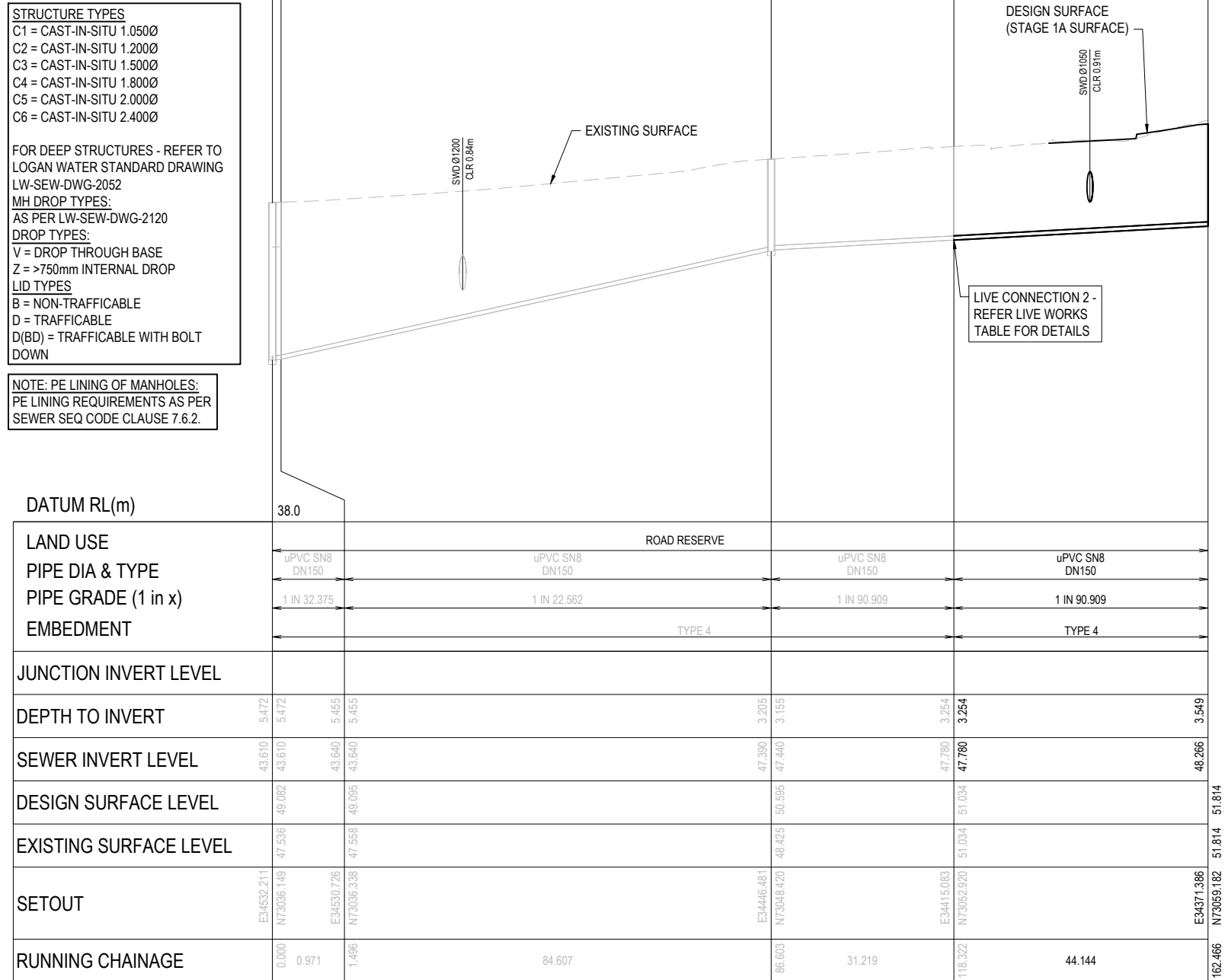
EXTREME CARE SHOULD BE TAKEN WHEN EXCAVATING IN THIS AREA. THE FOLLOWING EXISTING SERVICES ARE LIKELY TO BE PRESENT IN THE VICINITY OF THE SITE:

- 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.

REV	DATE	DESIGN	DRAWN	REVISION DETAILS	DRAWN	STATUS	SCALE	CLIENT	PROJECT NAME	DRAWING TITLE
1	2020/07/26	DESIGN	DANIEL COLLINS	ORIGINAL ISSUE	DANIEL COLLINS	DESIGN	1:500 1:1000	PEET FLAGSTONE CITY Pty Ltd	FLAGSTONE CITY - REGIONAL RECREATION PARK	TRUNK SEWER LAYOUT PLAN
FOR AND ON BEHALF OF COLLIER'S INTERNATIONAL ENGINEERING & DESIGN PTY LTD								ASSOCIATED CONSULTANT	FLAGSTONIAN DRIVE FLAGSTONE	PROJECT No. 21-0008
										DRAWING No. 920
										REVISION 0

STRUCTURE NAME	EX3/S4	EX STUB	2/1	1/1	TE/1	13/S3	1/2
STRUCTURE TYPE & DROP	P2		A			C3	V
STRUCTURE LID TYPE			B			D	
JUNCT. LINE No.							
JUNCT. DROP TYPES							
DEPTH TO HC							
HC INVERT LEVEL							
HC TYPE							
HC LOT No.							
CH FROM DS STRUCTURE							



LINE NUMBER				LINE 1				LINE 2						
DATE	DESIGN	DRAWN	REVISION DETAILS		DRAWN	STATUS			SCALE 1:50010501020A1 1:1000HORIZONTAL 1:10021024A1 1:200VERTICAL	CLIENT PEET FLAGSTONE CITY Pty Ltd	PROJECT NAME FLAGSTONE CITY - REGIONAL RECREATION PARK FLAGSTONIAN DRIVE FLAGSTONE	DRAWING TITLE TRUNK SEWER LONGITUDINAL SECTIONS		
01.07.26	BS	BS	ORIGINAL ISSUE			NOT FOR CONSTRUCTION DESIGN APPROVED DANIEL COLLINS DATE 08.07.26						PROJECT No. 21-0008	DRAWING No. 921	REVISION 0
FOR AND ON BEHALF OF COLLIER'S INTERNATIONAL ENGINEERING & DESIGN PTY LTD														