

COURTNEY DRIVE UPPER COOMERA

EXTERNAL SEWER No. 41901-EXTS

SCHEDULE OF DRAWINGS

NUMBER	REV. NO.	TITLE
GENERAL		
41901-EXTS-000	B	COVER SHEET
41901-EXTS-003	A	SAFETY IN DESIGN
41901-EXTS-004	A	RISK MATRIX & NOTES
EARTHWORKS: EXISTING FEATURES & DEMOLITION		
41901-EXTS-020	B	PLAN SHEET 01
41901-EXTS-021	B	PLAN SHEET 02
EARTHWORKS: FINAL SURFACE & SEDIMENT AND EROSION CONTROL		
41901-EXTS-080	B	PLAN SHEET 01
41901-EXTS-081	B	PLAN SHEET 02
SEWER: SEWER RETICULATION		
41901-EXTS-500	B	PLAN SHEET 01
41901-EXTS-501	B	PLAN SHEET 02
41901-EXTS-510	A	DETAILS SHEET 01
SEWER: PROFILES		
41901-EXTS-530	A	PROFILES SHEET 01
41901-EXTS-531	B	PROFILES SHEET 02
41901-EXTS-532	A	PROFILES SHEET 03



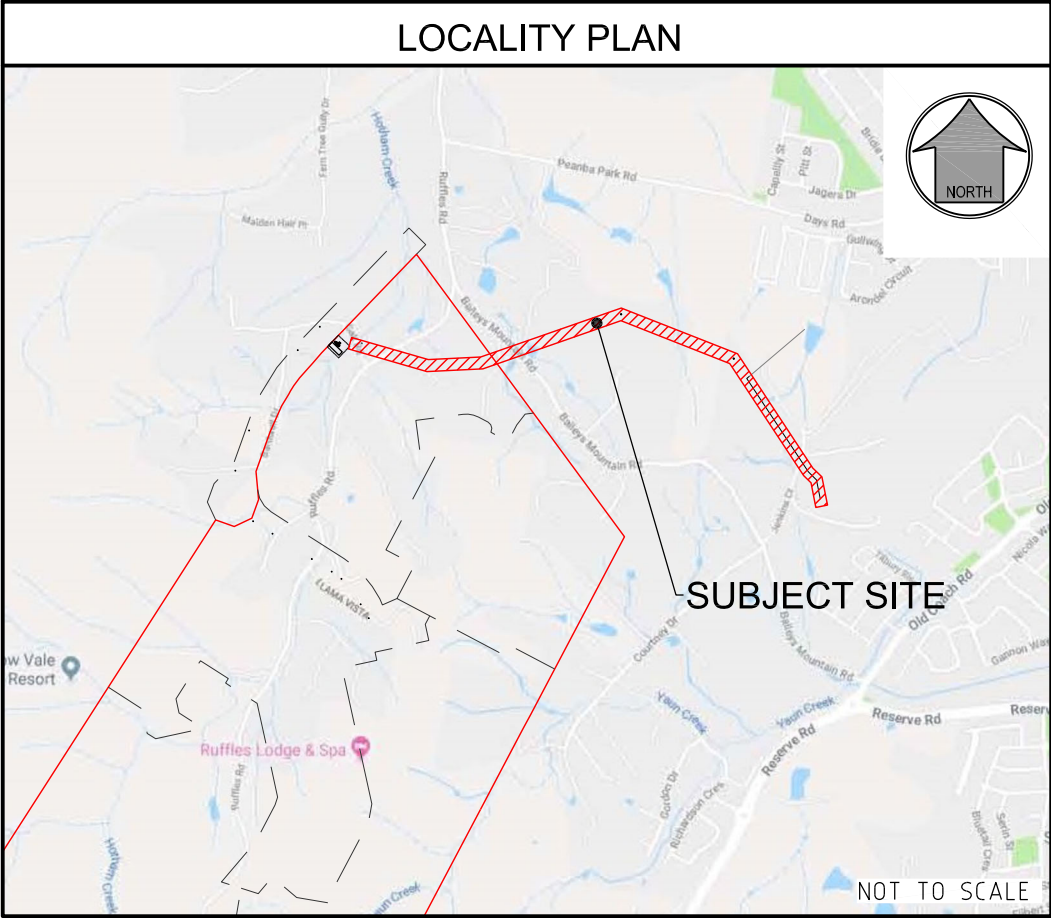
CLIENT



SUB-CONSULTANTS



LOCALITY PLAN



R. P. DESCRIPTION

LOTS 186, 187, 188 ON RP173728 & RICHARDSON CR.
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

DRAWING NUMBER
41901-EXTS-000

AMEND.
B

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DESIGN ITEM	POTENTIAL HAZARD	PHASE	THOSE AT RISK	PRE-TREATMENT RISK ASSESSMENT				TREATMENT OPTIONS	- ADOPTED TREATMENT - REASON - BY WHOM	RESIDUAL RISK ASSESSMENT				ONGOING RESPONSIBILITY
				SEVERITY	LIKELIHOOD (RISK)	Risk Product	RISK RATING			SEVERITY	LIKELIHOOD (RISK)	Risk Product	RISK RATING	
Traffic Management	Accidents at the interface between public and work site	Construction	Contractor & Public	Permanent Disability	Possible	12	High	- Traffic Management Plan to be prepared by suitable qualified consultant. - TMP to consider temporary lighting, signals, barriers/separation and other traffic management measures.	Contractor to prepare site specific TMP incorporating appropriate measures to minimise risk at interface of work site and public roads while traffic is operational	Permanent Disability	Rare	4	Low	On Going: Contractor to monitor until end of Construction Phase
Public Access	Public wandering onto work site	Construction	Contractor, Private Landowner & Public	Death	Unlikely	10	High	- Appropriate signage to be installed at public interface - Fencing to discourage accidental access to site - All excavations to be fenced off minimise public access and access by landowner.	Contractor to prepare site specific Construction Management Plan to minimise risk of public access to the site.	Death	Rare	5	Moderate	On Going: Contractor to monitor until end of Construction Phase
Existing Services	Working on or near existing services of sewer, water and electricity - Electrocutation, disrupt critical services, explosion	Construction	Contractor, Public, Private landowner & Asset Owner	Death	Likely	20	Significant	- Design to consider existing services and include appropriate clearances or protection measures. - Dial Before You Dig to be performed prior to design commencing. - Developer provide survey of any critical existing infrastructure prior to design. - Design drawings to show known services. - Connection point to be detailed in accordance with the relevant standard.	Contractor to physically locate and confirm service location information. Dial Before You Dig logo to be added to drawings. Connection details design and annotated on drawings in accordance with Water Authority requirements.	Death	Rare	5	Moderate	On Going: Contractor to monitor until end of Construction Phase
Demolition & Site Clearing	Potential for hazardous materials within structures (ie asbestos), structure collapse, falling debris & dangerous airborne agents	Construction	Contractor, Private landowners, Public	Death	Unlikely	10	High	- Known site features to be nominated on design drawings. - Appropriately qualified personnel to carry out the works with appropriate management plans in place.	Contractor to physically locate and confirm location of existing structures & services. Contractor to ensure that personnel undertaking demolition works are suitably qualified and are disposing of the waste materials to an approved off site tip.	Medical Treatment	Rare	3	Low	On Going: Contractor to monitor until end of Construction Phase
Earthworks Surface	Working on steep Batters	Construction and maintenance	Contractor & Asset Owner	Permanent Disability	Unlikely	8	Moderate	- Minimise the height of batters. - Minimise the number of locations. - Extend services up batters where possible to reduce future works on batter slopes.	Batters designed to minimum practical height in all locations practical. Services to be constructed up the batters to ensure future batter stability.	Medical Treatment	Rare	3	Low	On Going: Contractor to monitor until end of Construction Phase and Asset Owner to continue monitoring for future maintenance.
Deep excavation	Falling or collapse	Construction, Maintenance and demolition	Public, Client, Supervisors, Contractors	Permanent Disability	Possible	12	High	- Minimise depth of structure. - Bench deep trenches appropriately to minimise trench collapse risk. - Design in accordance with relevant standard. - Minimise the number of structures.	Structures designed in accordance with local authority requirements. Utilise RIGS sewer to reduce the number of access points. Graded pipelines as shallow as practical to reduce depth. Contractor to manage open excavations during construction in accordance with their Management Plans.	Permanent Disability	Rare	4	Low	On Going: Contractor to Monitor until end of Construction Phase
Sewer	Falling and Trench Collapse	Construction and Maintenance	Contractor & Asset Owner	Death	Possible	15	Significant	- Minimise depth of sewer lines where possible. - Design in accordance with relevant standard.	Infrastructure designed in accordance with local authority requirements. Graded pipelines as shallow as practical to reduce depth. Contractor to provide suitable shoring or benching where practical	Death	Rare	5	Moderate	On going: Contractor to Monitor until end of Pipe line construction completed.

PROJECT NAME

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UPPER COOMERA

EXTERNAL SEWER

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LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT



A	08-08-24	COUNCIL ISSUE	BL
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ASSOCIATED CONSULTANTS





DRAWING TITLE

SAFETY IN DESIGN

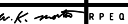


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DESIGNED	RB	DRAWN	BL
APPROVED		REQ 4706	DATE 08-08-24
DRAWING NUMBER			REV
41901-EXTS-003			A

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NOTES:

1. THIS SID REGISTER IN NO WAY RELIEVES THE PRINCIPAL, CONTRACTOR, ASSET OWNER OR ANY OTHER PARTY OF THEIR OWN OBLIGATIONS UNDER THE WORKPLACE HEALTH AND SAFETY ACT AND THEIR DUTY OF CARE. THIS IS PROVIDED AS INFORMATION FOR PARTIES TO ASSIST IN MEETING THEIR OWN OBLIGATIONS AND IS BY NO MEANS A COMPLETE LIST. THIS SID REGISTER OR THE NOTES AND DETAILS INCLUDED WITHIN THE DESIGN DRAWINGS DO NOT RELIEVE THE PRINCIPAL CONTRACTOR OF ANY OBLIGATION UNDER ALL RELEVANT LEGISLATION OR GUIDELINE.
2. ALL CONTRACTORS AND ASSET OWNERS REMAIN RESPONSIBLE IN THE PREPARATION OF THEIR OWN SAFETY MANAGEMENT PLANS AND SUITABLE SAFE WORK METHOD STATEMENTS.
3. THIS SID REGISTER IDENTIFIES ATYPICAL FEATURES OF THE DESIGN. COMMON/TYPICAL FEATURES OF THIS DESIGN ARE NOT INCLUDED IN THIS SID REGISTER.

		Consequence				
		Minor / Insignificant (1)	First Aid Treatment (2)	Medical Treatment (3)	Permanent Disability (4)	Death (5)
Likelihood	Almost Certain (5)	Moderate	High	Significant	Significant	Significant
	Likely (4)	Low	Moderate	High	Significant	Significant
	Possible (3)	Low	Moderate	High	High	Significant
	Unlikely (2)	Low	Low	Moderate	Moderate	High
	Rare (1)	Low	Low	Low	Low	Moderate

Level of Risk
Significant 15 to 25
High 9 to 14
Moderate 5 to 8
Low 1 to 4

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RISK MATRIX
& NOTES



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GENERAL

1. EXISTING SERVICES - EXTERNAL WORKS
THE LOCATIONS OF ALL EXISTING SERVICES WITHIN THE WORK AREA SHALL BE CONFIRMED BY THE CONTRACTOR PRIOR TO CONSTRUCTION COMMENCING. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE RELEVANT AUTHORITIES & TO ENSURE THAT THE EXISTING SERVICES ARE NOT DAMAGED OR DISTURBED IN ANY WAY BY THE CONTRACT WORKS.
2. EXISTING STRUCTURES
ALL EXISTING STRUCTURES & ASSOCIATED INFRASTRUCTURE TO BE REMOVED & DISPOSED OF OFF SITE.
3. EXISTING DAMS
EXISTING DAMS TO BE DEWATERED. ALL SILT & DEBRIS ARE TO BE REMOVED & LAWFULLY DISPOSED OF TO A TIP OFF SITE, OR INCORPORATED INTO THE SITE EARTHWORKS AT THE DIRECTION OF THE GEOTECHNICAL ENGINEER. REPLACEMENT FILL IS TO BE LOCATED & COMPACTED IN ACCORDANCE WITH LOCAL COUNCIL'S SPECIFICATIONS.

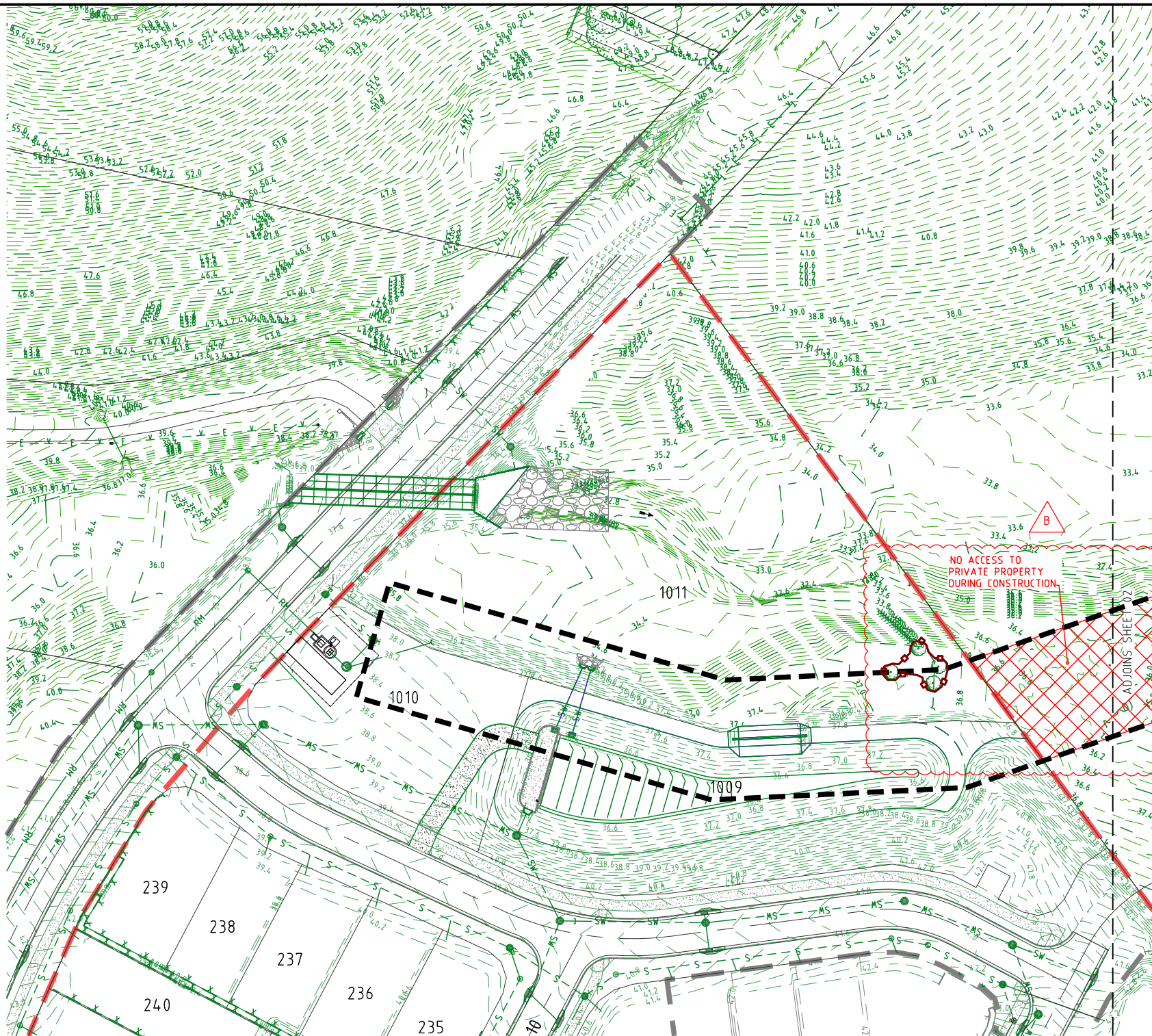
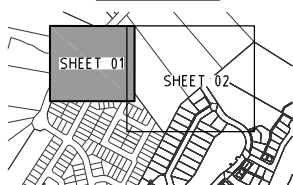
NOTE:

CONTRACTOR TO MAKE ALL NECESSARY ALLOWANCES FOR LOCATION AND PROTECTION OF EXISTING SERVICES DURING WORKS.

LEGEND

- EXISTING PROPERTY LINE
- EXISTING FENCE
- EXISTING KERB
- EXISTING EDGE OF BITUMEN
- CONTROL LINE / CENTER OF ROAD
- EXISTING FOOTPATH
- EXISTING EDGE OF VEGETATION
- EXISTING RISING MAIN
- EXISTING SEWER
- EXISTING STORMWATER
- EXISTING WATER
- EXISTING GAS
- EXISTING UNDERGROUND ELECTRICITY
- EXISTING OVERHEAD ELECTRICITY
- EXISTING TELSTRA
- EXISTING COMMUNICATIONS
- EXISTING CONTOURS
- DEMOLISH RISING MAIN
- DEMOLISH SEWER
- DEMOLISH STORMWATER
- DEMOLISH WATER
- DEMOLISH GAS
- DEMOLISH UNDERGROUND ELECTRICITY
- DEMOLISH OVERHEAD ELECTRICITY
- DEMOLISH TELSTRA
- DEMOLISH COMMUNICATIONS
- SITE BOUNDARY
- STAGE BOUNDARY
- LIMIT OF WORKS BOUNDARY
- TREE PROTECTION FENCE
- ACCESS TRACK
- NO ACCESS ZONE
- VMP AREA
- EXISTING TREES

SHEET LAYOUT



NOTE:

CONTRACTOR TO MAINTAIN ACCESS TO ALL RESIDENTIAL PROPERTIES AT ALL TIMES



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CLIENT



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B	04-09-24	LEGEND AMENDED, NO ACCESS ZONE & NOTE ADDED	BL
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ASSOCIATED CONSULTANTS



DRAWING TITLE

EXISTING FEATURES
AND DEMOLITION
PLAN
SHEET 01

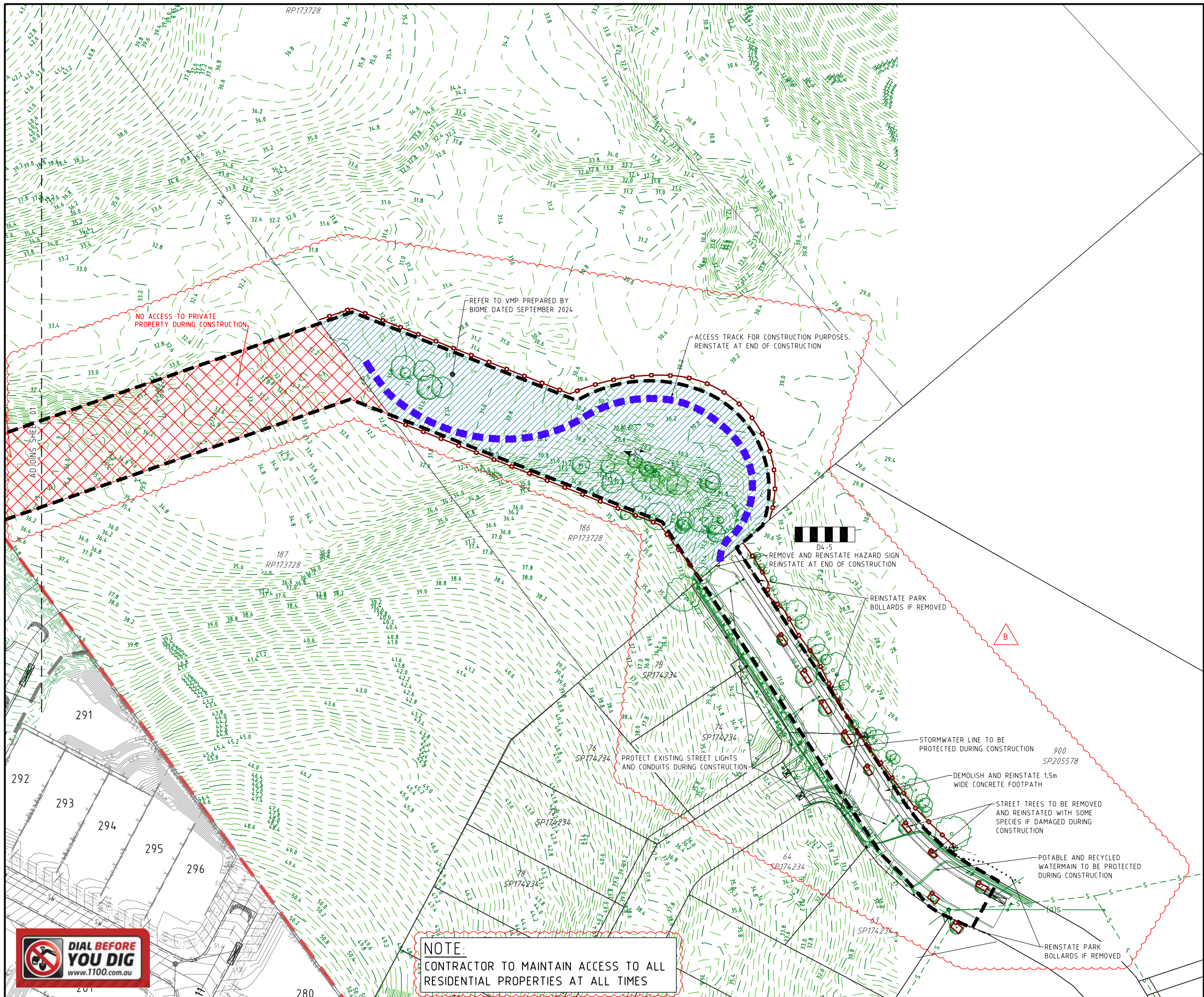
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APPROVED <i>AK</i>	DATE 08-08-24

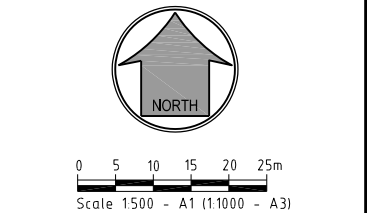
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B	04-09-24	SEWER PATHWAY AREA AMENDED	BL
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DRAWING TITLE
**EXISTING FEATURES
AND DEMOLITION
PLAN
SHEET 02**

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SEDIMENT AND EROSION

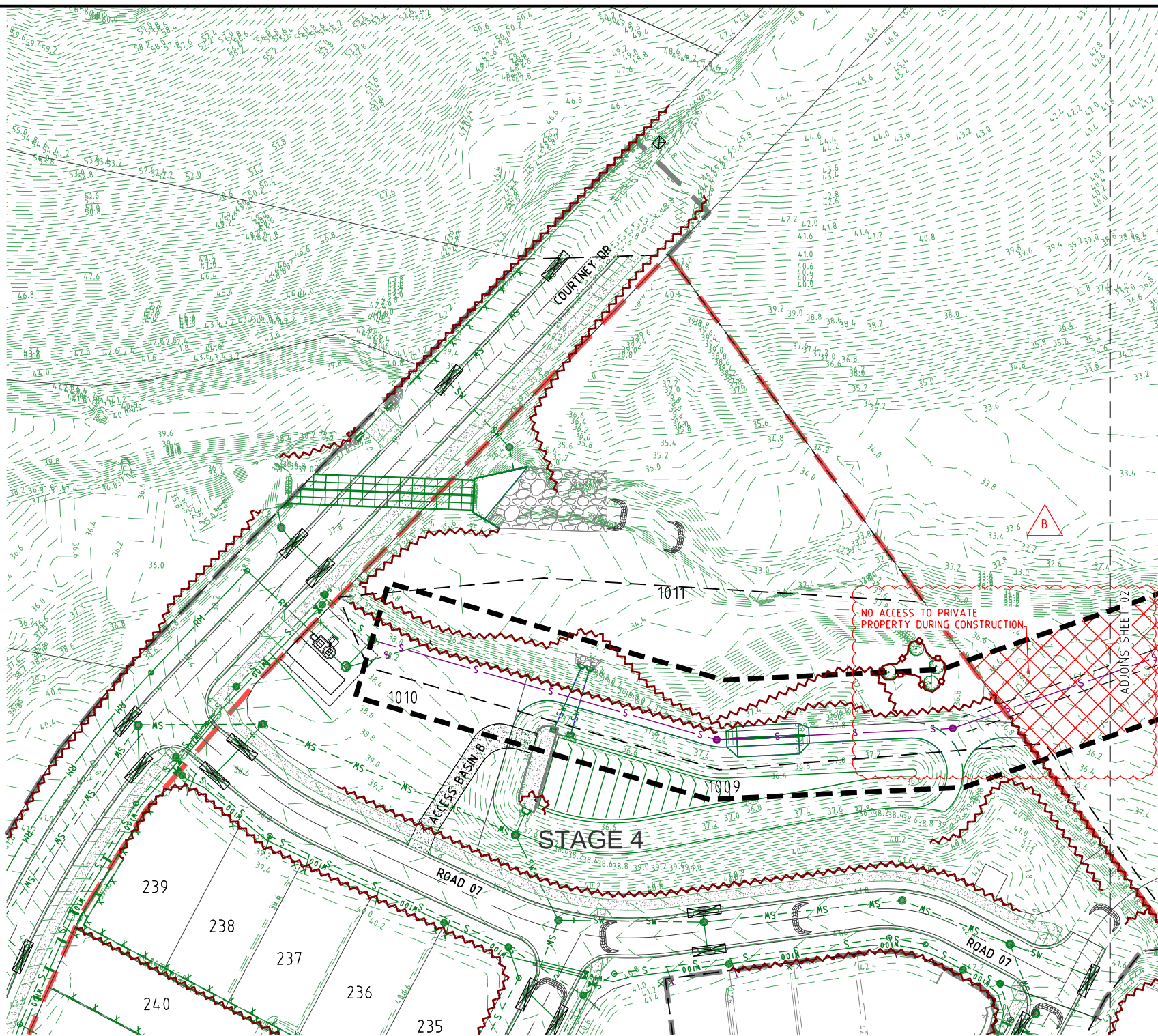
- THE EROSION & SEDIMENT CONTROL DEVICES SHOWN ON THESE DRAWINGS ARE INDICATIVE & PROVIDED FOR SUBMISSION TO LOCAL AUTHORITY ONLY. NOTWITHSTANDING THE EROSION & CONTROL DEVICES SHOWN ON THESE DRAWINGS, THE CONTRACTOR MUST PREPARE & FOLLOW A SITE SPECIFIC EROSION & SEDIMENT CONTROL PLAN TO MEET ALL LOCAL & STATE GOVERNMENT LEGISLATION INCLUDING BUT NOT LIMITED TO:
 - ENVIRONMENTAL PROTECTION ACT WITH SPECIFIC REFERENCE TO PARTS 5440G & 5319
 - STATE PLANNING POLICYPRESCRIBED WATER CONTAMINANTS (AS DEFINED IN THE ENVIRONMENTAL PROTECTION ACT 1994) MUST NOT BE RELEASED FROM THE SITE OR TO WATERS WITHIN THE SITE, OR BE LIKELY TO BE RELEASED SHOULD RAINFALL OCCUR, UNLESS ALL REASONABLE & PRACTICABLE MEASURES ARE TAKEN TO PREVENT OR MINIMISE THE RELEASE & CONCENTRATION OF CONTAMINATION. THE ESC PLAN MUST BE DESIGNED, IMPLEMENTED & MAINTAINED IN ACCORDANCE WITH "BEST PRACTICE EROSION & SEDIMENT CONTROL" PUBLISHED BY THE INTERNATIONAL EROSION CONTROL ASSOCIATION (AUSTRALASIAN CHAPTER) (IECA, 2008).
- TO COMPLY WITH THE REQUIREMENTS OF THE EP ACT & BEST PRACTICE DESIGN, THE SEDIMENT BASINS ON THE SITE MUST BE DESIGNED & IMPLEMENTED TO ACHIEVE THE FOLLOWING:

SEDIMENT BASINS ARE TO BE DESIGNED, IMPLEMENTED & MAINTAINED TO A STANDARD WHICH WOULD ACHIEVE AT LEAST 80% OF THE AVERAGE ANNUAL RUNOFF VOLUME OF THE CONTRIBUTING CATCHMENT TREATED (I.E. 80% HYDROLOGIC EFFECTIVENESS) TO 50MG/L TSS OR LESS & PH IN THE RANGE 6.5-8.5

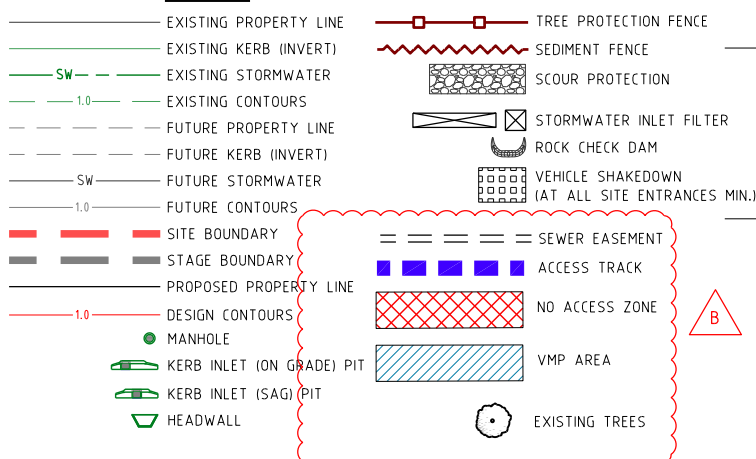
THIS WILL REQUIRE THE INSTALLATION & OPERATION OF A HIGH-EFFICIENCY SEDIMENT BASIN(S) DESIGNED IN ACCORDANCE WITH THE SPECIFICATIONS CONTAINED IN THE "BEST PRACTICE EROSION & SEDIMENT CONTROL - APPENDIX B SEDIMENT BASIN DESIGN & OPERATION" PUBLISHED BY THE INTERNATIONAL EROSION CONTROL ASSOCIATION (AUSTRALASIAN CHAPTER) (IECA, 2016, DRAFT)
- THE EROSION & SEDIMENT CONTROL PLAN MUST BE PREPARED & CERTIFIED BY A CERTIFIED PROFESSIONAL IN EROSION & SEDIMENT CONTROL & FOLLOW THE REQUIREMENTS OUTLINED IN IECA'S BEST PRACTICE EROSION & SEDIMENT CONTROL DOCUMENT & THE QUEENSLAND URBAN DRAINAGE MANUAL.
- PRIOR TO THE COMMENCEMENT OF WORKS ONSITE THE CONTRACTOR MUST MAKE THEMSELVES AWARE OF ALL PREVIOUS GEOTECHNICAL REPORTS & DETERMINE THE DISPERSIVE CHARACTERISTICS OF THE SOIL (INCLUDING PERFORMING ANY SOIL TESTS IF REQUIRED). THE RESULTS OF THIS REVIEW & ANY TESTS MUST BE INCLUDED IN THE CONTRACTOR'S EROSION & SEDIMENT CONTROL PLAN. A COPY OF ALL TEST RESULTS MUST BE PROVIDED TO THE SUPERINTENDENT.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO CONTROL EROSION & DOWNSTREAM SEDIMENTATION DURING ALL STAGES OF CONSTRUCTION (INCLUDING THE MAINTENANCE PERIOD). NOTWITHSTANDING THE CONTROL MEASURES OR FINISHED EARTHWORKS DESIGN SHOWN ON THESE DRAWINGS, THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING ADDITIONAL OR ALTERNATIVE EROSION & SEDIMENT CONTROL MEASURES TO MINIMISE SEDIMENT ACROSS OR LEAVING THE SITE.
- AT ALL TIMES THE CONTRACTOR SHALL MONITOR THE PREVAILING WEATHER CONDITIONS (INCLUDING WEEKENDS & PUBLIC HOLIDAYS) & AT ALL TIMES REMAINS RESPONSIBLE TO:
 - CLEAN & REPAIR CONTROL DEVICES WHENEVER THE ACCUMULATED SEDIMENT REDUCES THEIR CAPACITY BY 50%.
 - MAINTAIN POSITIVE GRADES OF ALL PERIMETER BANKS & SWALES TO AN OUTLET.
 - PROTECT ANY DOWNSTREAM CONSTRUCTION.
 - CONTROLLING DUST.
 - MEASURES HAVE BEEN INSTALLED IN ACCORDANCE WITH DETAILS OUTLINED IN THEIR EROSION & SEDIMENT CONTROL PLAN & AS DIRECTED BY THE SUPERINTENDENT.
- THE CONTRACTOR'S PLAN SHALL ALLOW FOR SUITABLE ACCESS TO ALLOW MAINTENANCE OF ALL SEDIMENT CONTROL DEVICES. NO ADDITIONAL VEGETATION CLEARING IS PERMITTED FOR GAINING ACCESS UNLESS APPROVED BY THE SUPERINTENDENT.
- THE CONTRACTOR MAY REQUEST APPROVAL FROM THE SUPERINTENDENT TO REUSE THE STOCKPILED MULCH FOR STABILISING BATTERS ONLY IN LOCATIONS WHERE THE APPROVED LANDSCAPE OPW DESIGN REQUIRES MULCH ULTIMATELY.
- CONSTRUCTION STOCKPILING:
 - TOPSOIL SHALL BE STRIPPED & STOCKPILED IN LOCATIONS NOMINATED ON THE CONSTRUCTION DRAWINGS OR IN LOCATIONS AGREED WITH THE SUPERINTENDENT.
 - ADDITIONAL VEGETATION CLEARING IS NOT PERMITTED TO FACILITATE THE STOCKPILING OF MATERIALS UNLESS SHOWN ON THE APPROVED VEGETATION MANAGEMENT PLAN.
 - ANY STOCKPILE SITE MUST BE CLEAR OF ADJACENT PROPERTY BOUNDARIES SO AS NOT TO CAUSE A NUISANCE TO ADJOINING PROPERTIES.
 - NO STOCKPILES ARE TO BE LOCATED WITHIN THE TREE PROTECTION ZONE OF VEGETATION.
 - A TEMPORARY SILT FENCE IS TO BE ERECTED APPROXIMATELY 5m FROM TOE OF BATTER ON LOW SIDE OF STOCKPILING.
- NOTWITHSTANDING THE DETAILS SHOWN IN THE CONTRACTOR'S EROSION & SEDIMENT CONTROL PLAN, DURING CONSTRUCTION THE CONTRACTOR MUST:
 - SIZE ALL TEMPORARY SEDIMENT BASINS APPROPRIATELY TO TREAT THE UPSTREAM CATCHMENT. NOTE THAT THE PERMANENT BIO BASINS SHOWN ON THESE DRAWINGS ARE SIZED FOR THE ULTIMATE CATCHMENT NOT FOR THE CONSTRUCTION PHASE.
 - PLACE A ROCK BUND AROUND ALL HEADWALLS DURING CONSTRUCTION.
 - PROVIDE KERB INLET PROTECTION TO ALL GULLIES.
 - PLACE A MINIMUM 1.0m WIDE TURF STRIP BEHIND ALL KERBS & IN A HERRINGBONE LAYOUT WITHIN THE ROAD VERGE.
 - MAINTENANCE (INCLUDING FLOCCULATION IF REQUIRED & PUMP OUT) OF ALL CONSTRUCTION SEDIMENT BASINS (WHETHER EXISTING OR NEW).
 - CLEAN OUT OF ALL GROSS POLLUTANT TRAPS, SEDIMENT FOREBAYS & ALL OTHER PERMANENT SEDIMENT CONTROL DEVICES AT BOTH ON & OFF MAINTENANCE.
- CONTRACTOR TO CONFIRM THE EXTENTS OF REQUIRED GRASSING TREATMENTS WITH THE SUPERINTENDENT AT LEAST 7 DAYS PRIOR TO FINAL TRIMMING.
- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT GRASSING STRIKE RATES ARE ACHIEVED AT THE ON & OFF MAINTENANCE INSPECTIONS IN ACCORDANCE WITH COUNCIL REQUIREMENTS. THIS INCLUDES THE SUPPLY & INSTALLATION OF ANY REQUIRED CHEMICAL/FERTILISER AMELIORATION TO ACHIEVE THE SPECIFIED GRASS STRIKE RATES.
- GEOTEXTILE LINING OF CHANNELS & CHECK DAMS MAY BE REQUIRED SUBJECT TO THE SITE CONDITIONS. BATTERS WITHIN PUBLIC OPEN SPACE TO BE VEGETATED IN ACCORDANCE WITH APPROVED OPEN SPACE MANAGEMENT PLAN & LANDSCAPING OPW. CONTRACT DOCUMENTATION WILL SPECIFY WHETHER THIS IS THE CIVIL CONTRACTOR OR THE LANDSCAPE CONTRACTOR'S RESPONSIBILITY TO SUPPLY & INSTALL. THE CIVIL CONTRACTOR IS RESPONSIBLE FOR PROVIDING SUITABLE ACCESS FOR THE LANDSCAPE CONTRACTOR TO PERFORM THEIR WORKS.
- MAINTENANCE PERIOD (PRE TO POST CONSTRUCTION)
 - ALL PROTECTION MEASURES ARE TO BE INSPECTED & MAINTAINED REGULARLY
 - REPAIRS ARE TO BE EFFECTED IMMEDIATELY.
 - SILT AFTER RAIN IS TO BE CLEANED FROM STREETS & ALLOTMENTS IMMEDIATELY & CORRECTIVE ACTION TAKEN TO AVOID A RE-OCCURRENCE.
 - AT OFF-MAINTENANCE & ONLY WHEN DIRECTED BY COUNCIL, REMOVE & DISPOSE OFFSITE ALL TEMPORARY EROSION & SEDIMENT CONTROL DEVICES.
- EROSION & SEDIMENT CONTROL IS THE RESPONSIBILITY OF THE CONTRACTOR AND THE CONTRACTOR HOLDS ALL LIABILITY.

NOTE:

SEDIMENT AND EROSION CONTROL MEASURES SHOWN RELATE TO THE FINISHED SURFACE ONLY AND ARE CONCEPTUAL ONLY. THE CONTRACTOR IS TO PREPARE A SITE SPECIFIC CONSTRUCTION AND MAINTENANCE PHASE SEDIMENT AND EROSION CONTROL PLAN.

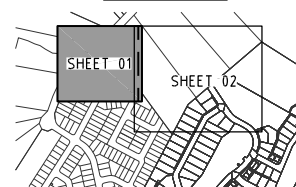


LEGEND



PROVIDE SEDIMENT AND EROSION CONTROL MEASURES IN ACCORDANCE WITH THE INTERNATIONAL EROSION CONTROL ASSOCIATION BPESC DOCUMENT.

SHEET LAYOUT



PROJECT NAME

COURTNEY DR
UPPER COOMERA

EXTERNAL SEWER

RP DESCRIPTION
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CLIENT



0 5 10 15 20 25m
Scale 1:500 - A1 (1:1000 - A3)

B	04-09-24	SEWER AMENDED, NO ACCESS ZONE & TREES ADDED	BL
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ASSOCIATED CONSULTANTS



DRAWING TITLE

FINAL SURFACE AND
SEDIMENT AND EROSION
PLAN
SHEET 01



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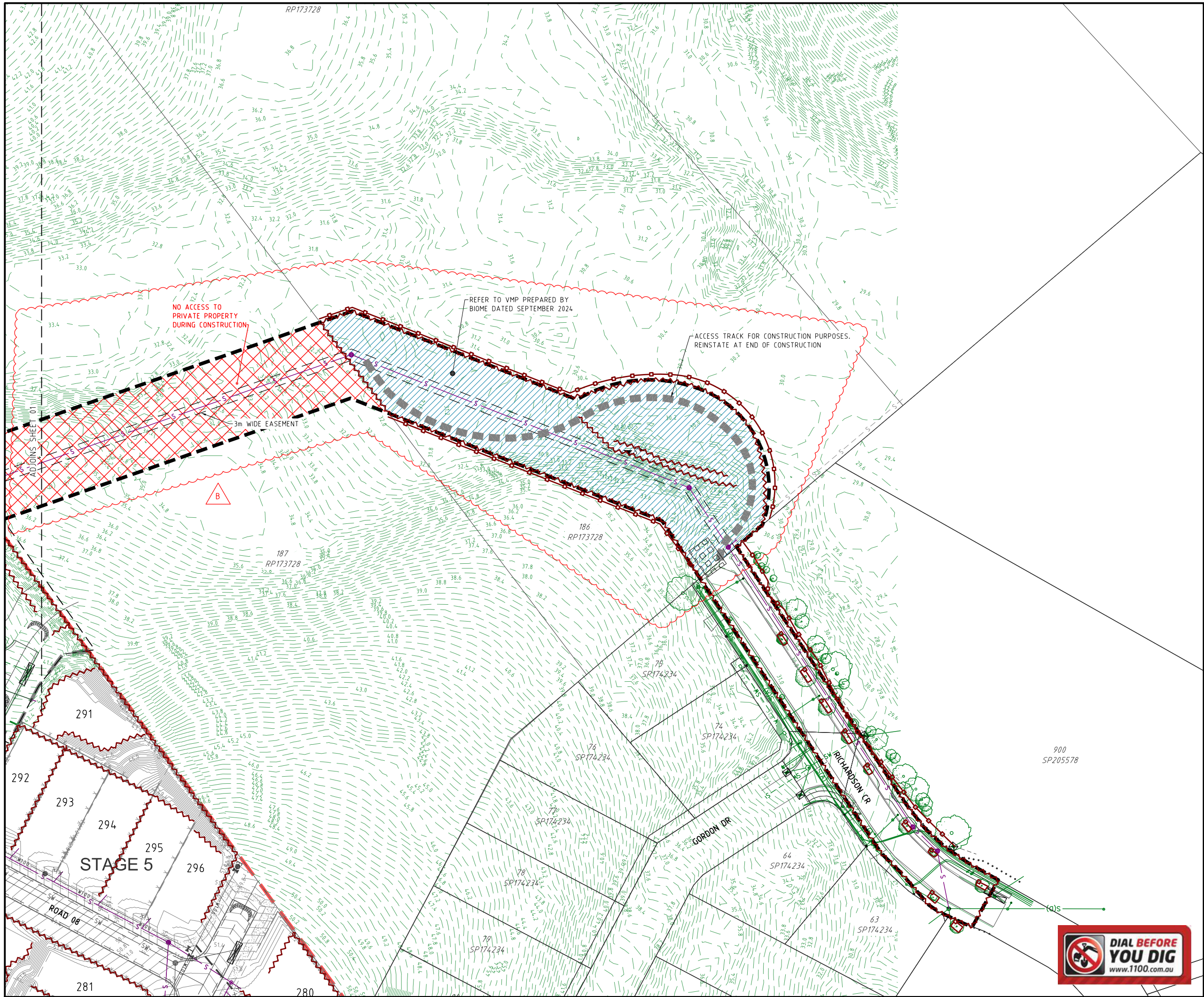
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APPROVED A.K.M.	CHECKED P.E.Q.4706
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0 5 10 15 20 25m
Scale 1500 - A1 (1:1000 - A3)

B	04-09-24	NO ACCESS ZONE, ACCESS TRACK & VMP AREA ADDED	BL
A	08-08-24	COUNCIL ISSUE	BL
REV	DATE	DESCRIPTION	INT

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ASSOCIATED CONSULTANTS



DRAWING TITLE

FINAL SURFACE AND
SEDIMENT AND EROSION
PLAN
SHEET 02



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DESIGNED RB	DRAWN BL
APPROVED <i>AK</i>	RECEIVED DATE 08-08-24
DRAWING NUMBER 41901-EXTS-081	REV B

SEQ CODE SEWER NOTES

SEQ CODE NOTES COPIED DIRECTLY FROM DRAWING SEQ-SEW-1101-3 (REV B1).

VEGETATION PROTECTION

- A. TREES LOCATED ALONG THE FOOTPATH SHALL BE, TRANSPLANTED PRIOR TO CONSTRUCTION, OR REPLACED IF DESTROYED.
- B. WHEN WORKING WITHIN 4m OF TREES, RUBBER OR HARDWOOD GIRDLES SHALL BE CONSTRUCTED WITH 1.8 m BATTENS CLOSELY SPACED & ARRANGED VERTICALLY FROM GROUND LEVEL. GIRDLES SHALL BE STRAPPED TO TREES PRIOR TO CONSTRUCTION & REMAIN UNTIL COMPLETION.
- C. 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.
- D. ANY TREE LOPPING REQUIRED SHOULD BE UNDERTAKEN BY AN APPROVED ARBORIST.

SOIL

- A. TOPSOIL & SUBSOIL SHALL BE STOCKPILED SEPARATELY.
- B. CARE SHALL BE TAKEN TO PREVENT SEDIMENT FROM ENTERING THE STORMWATER SYSTEM. THIS MAY INVOLVE PLACING APPROPRIATE SEDIMENT CONTROLS AROUND STOCKPILES.
- C. IF ACID SULPHATE SOILS EXIST IN THE WORKS AREA. THE CONTRACTOR MUST PREPARE A RISK ASSESSMENT BASED ON THE QUEENSLAND ACID SULPHATE SOIL TECHNICAL MANUAL & MANAGE THE ACID SULPHATE SOILS AS PER THE MANUAL.

CREEK CROSSINGS

- A. SILTATION CONTROL MEASURES SHALL BE PLACED DOWNSTREAM OF ANY EXCAVATION WORK.
- B. APPROPRIATE SEDIMENT CONTROLS SHALL BE USED TO PREVENT SEDIMENT FROM ENTERING THE CREEK.
- C. NO SOIL SHALL BE STOCKPILED WITHIN 5 m OF THE CREEK.

REHABILITATION

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

SAFETY

- A. THE DESIGN & CONSTRUCTION OF THE WORKS SHALL COMPLY WITH ALL QUEENSLAND LEGISLATION.

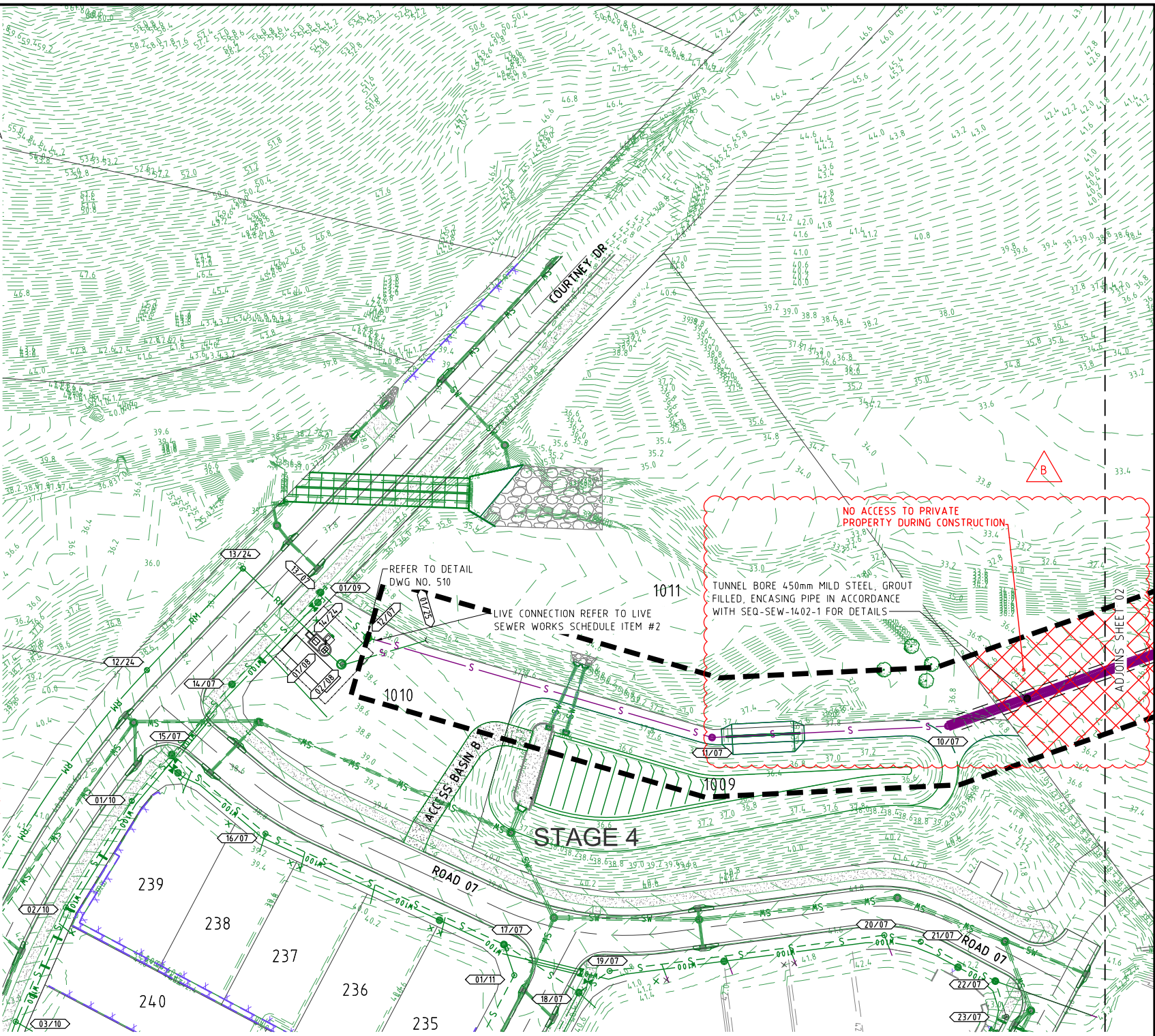
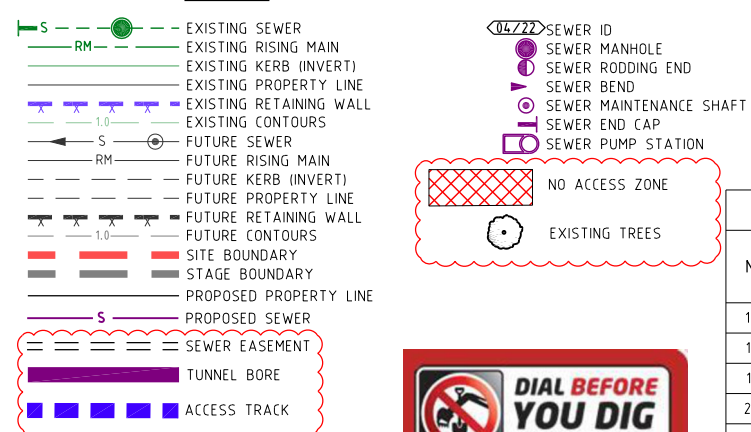
GENERAL

1. ALL WORK & MATERIALS SHALL BE IN ACCORDANCE WITH CURRENT SOUTH EAST QUEENSLAND SEWERAGE CODE SPECIFICATIONS & STANDARDS.
2. UNLESS SPECIFIED OTHERWISE ALL MATERIALS & WORK SHALL COMPLY WITH THE RELEVANT AUSTRALIAN STANDARDS.
3. 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.
4. ALL WORK ASSOCIATED WITH LIVE SEWERS OR MAINTENANCE HOLES SHALL BE CARRIED OUT BY DEVELOPER'S APPROVED CONTRACTOR UNDER THE SUPERVISION OF SEQ'S AGENT AT THE DEVELOPER'S COST.
5. ALL PIPES & MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE "ACCEPTED PRODUCTS & MATERIALS" LIST.
6. EACH ALLOTMENT SHALL BE SERVED BY A DN100 PVC PROPERTY CONNECTION. FOR ALLOTMENTS OTHER THAN SINGLE RESIDENTIAL, A DN160 PE (OR DN150 PVC) PROPERTY CONNECTION SHALL BE PROVIDED.
7. PROPERTY CONNECTIONS SHALL BE LOCATED WITHIN THE PROPERTY AS SHOWN IN THE DRAWINGS.
8. PROPERTY CONNECTION BRANCHES SHALL EXTEND INTO THE PROPERTY A MINIMUM OF 300 mm AND A MAXIMUM OF 750 mm. UNITYWATER REQUIRES MINIMUM EXTENSION OF 500 mm INTO PROPERTY.
9. WHERE PIPES ARE LAID IN FILL, THE FILLING SHALL BE CARRIED OUT IN LAYERS NOT EXCEEDING 300 mm (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.
10. WHERE SEWERS HAVE A GRADE OF 1 IN 20 OR STEEPER, BULKHEADS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SEQ SEWER CODE.
11. THE CONTRACTOR SHALL VERIFY THE LOCATION & DEPTH OF EXISTING SERVICES WITH RELEVANT AUTHORITIES BEFORE COMMENCING WORKS.
12. SEWERS SHALL BE DISUSED /ABANDONED IN ACCORDANCE WITH PROCEDURES SET OUT IN THE SEQ SEWER CODE.
13. BENCH MARK & LEVELS TO AHD.
- ~~14. THE EXISTING DWELLING ON LOT 3, REFER SEQ SEW 1100, SERVED BY A SEPTIC SYSTEM, SHALL BE CONNECTED TO THE NEW SEWER BY A LICENSED PLUMBER IN ACCORDANCE WITH THE RELEVANT STATUTORY & COUNCIL REQUIREMENTS. THE SEPTIC SYSTEM, INCLUDING TRENCHES, SHALL BE REMOVED AT THE DEVELOPER'S COST. ALL FIXTURES SHALL BE UPGRADED IF REQUIRED BY PLUMBING CODE. STANDARD NOTE NOT APPLICABLE & THEREFORE DELETED.~~
15. EXISTING ALLOTMENTS REQUIRING A PROPERTY CONNECTION FROM EXISTING SEWERS SHALL BE PROVIDED BY THE SEQ SERVICE PROVIDER AT THE DEVELOPER'S COST.

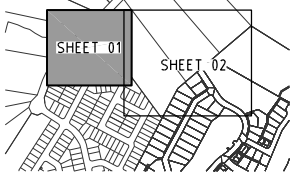
PROJECT SPECIFIC SEWER NOTES

- a. ALL SEWER MAINS TO BE AS PER SEWER PIPE SPECIFICATIONS TABLE.
- b. NOTWITHSTANDING THE STANDARD SEQ NOTES ABOVE, ALL MATERIALS & WORKS MUST BE IN ACCORDANCE WITH THE SERVICE PROVIDER'S APPROVAL CONDITIONS & THE SEQ WS&S D&C CODE.
- c. THE CONTRACTOR IS TO INCLUDE ROCK EXCAVATION AS PART OF THEIR SEWER RATES UNLESS SCHEDULED OTHERWISE WITHIN THE CONTRACT.
- d. THE CONTRACTOR TO PROVIDE CALCAREOUS CONCRETE WHERE SPECIFIED IN THE SEQ CODE BY THE RELEVANT AUTHORITY.
- e. WATER & ELECTRICAL CROSSING LOCATIONS ARE INDICATIVE ONLY. REFER TO PLANS TO DETERMINE PRECISE CROSSING LOCATIONS. WHERE SERVICE INDICATES CLASH WITH SEWER, SEWER TO TAKE PRECEDENCE. SERVICE TO BE CONSTRUCTED OVER OR UNDER SEWER ACCORDING TO SUPERINTENDENT'S INSTRUCTION
- f. ALL BENDS TO BE LONG RADIUS BEND TO MEET MANUFACTURER'S MINIMUM RADIUS REQUIREMENTS U.N.O.
- g. CONTRACTOR TO VERIFY DOWNSTREAM EXISTING PIPE LEVELS PRIOR TO COMMENCEMENT OF WORKS ON-SITE.
- h. PROPERTY CONNECTIONS HAVE BEEN DESIGNED TO CONTROL THE REQUIRED SERVICE AREA OF EACH LOT AT A GRADE OF 160 & A MAXIMUM DEPTH OF PROPERTY CONNECTION AT 1.5m. UNLESS OTHERWISE STATED.
- i. CONTRACTOR TO PAY ALL FEES & CHARGES ASSOCIATED WITH CONNECTIONS.

LEGEND



SHEET LAYOUT



SEWER PIPE SPECIFICATIONS

SEWER MAIN LOCATION	PIPE MATERIAL SPECIFICATION
GRAVITY VERGE	PVC-U SN8
GRAVITY ROAD CROSSING	PVC-U SN8

NOTE:
CONTRACTOR TO MAINTAIN ACCESS TO ALL RESIDENTIAL PROPERTIES AT ALL TIMES

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

SERVICE PROVIDER AND CONSTRUCTOR LIVE SEWER WORKS SCHEDULE

No.	Description	Dia. Sewer	MH No.	MH/MS Type	Cover Type	Lot no	F.S.L	E.S.L	I.L	Depth to invert
1(A)	CIVIL CONTRACTOR TO MAKE APPLICATION TO GC WATER FOR THE LIVE CONNECTION TO DOWNSTREAM SEWER MANHOLE AT EACH LOCATION (LINE 7)	225	102/1	A	B	63	28.705	28.705	26.450	2.255
1(B)	0.5m FROM STUB END CAP, CONTRACTOR TO LAY NEW LINE 7. AFTER CLEANSING, TESTING AND INSPECTING, NOTIFY GCW & W									
1(C)	CONTRACTOR TO REMOVE TEMPORARY END CAPS ON STUB & LINE 7 AND MAKE LIVE CONNECTION AFTER SUCCESSFUL "ON MAINTENANCE" INSPECTION.	225	12/07	B	D	LOT1010	38.162	38.162	36.625	1.537
2(A)	CIVIL CONTRACTOR TO PLUG EXISTING MH 12/07. REMOVE END CAP AND LAY LINE 7 FROM EXISTING STUB.									
2(B)	CIVIL CONTRACTOR TO CLEANSE AND TEST LINE AFTER WORKS ARE COMPLETE AND NOTIFY GCW FOR ON MAINTENANCE INSPECTION.									
2(C)	CIVIL CONTRACTOR TO REMOVE PLUG IN MH 12/07 AFTER SUCCESSFUL ON MAINTENANCE INSPECTION.									

PROJECT NAME

COURTNEY DR
UPPER COOMERA

EXTERNAL SEWER

RP DESCRIPTION
LOTS 186, 187, 188 ON RP173728 & RICHARDSON CR.
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT



0 5 10 15 20 25m
Scale 1:500 - A1 (1:1000 - A3)

REV	DATE	DESCRIPTION	INT
B	04-09-24	SEWER & TUNNEL BORE AMENDED, NO ACCESS & VMP AREA ADDED	BL
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SEWER RETICULATION
PLAN
SHEET 01

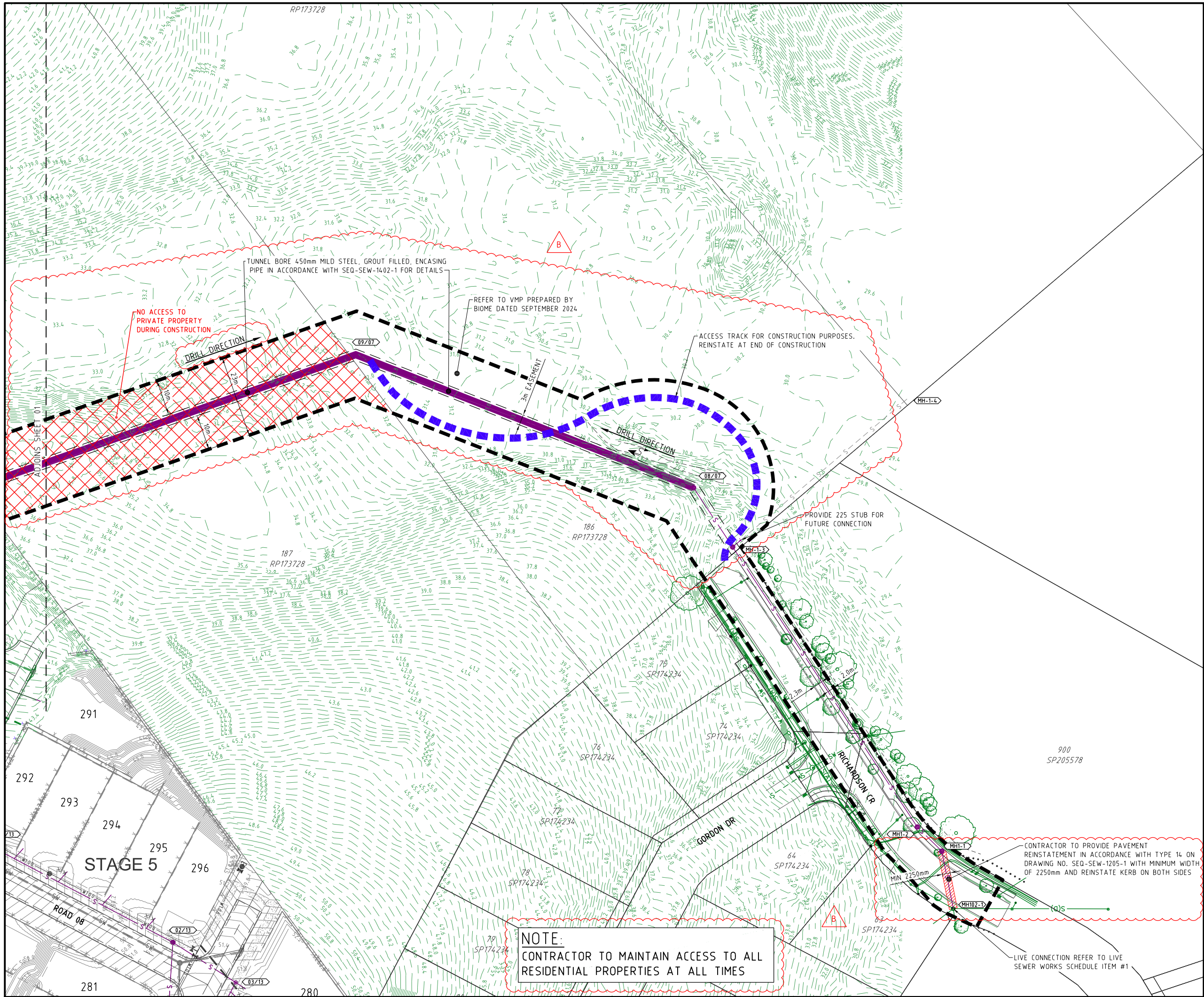


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DESIGNED RB	DRAWN BL
APPROVED A.K.M.	CHECKED P.E.Q.706
DRAWING NUMBER 41901-EXTS-500	REV B



PROJECT NAME

COURTNEY DR
UPPER COOMERA

EXTERNAL SEWER

RP DESCRIPTION

LOTS 186, 187, 188 ON RP173728 & RICHARDSON CR.
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT

0 5 10 15 20 25m
Scale 1:500 - A1 (1:1000 - A3)

B	04-09-24	SEWER & WORKS AREA AMENDED. NO ACCESS ZONE ADDED	BL
A	08-08-24	COUNCIL ISSUE	BL
REV	DATE	DESCRIPTION	INT

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WATER AND ENVIRONMENTAL CONSULTING

DRAWING TITLE

SEWER RETICULATION
PLAN
SHEET 01

Civil Engineering
Project Coordination

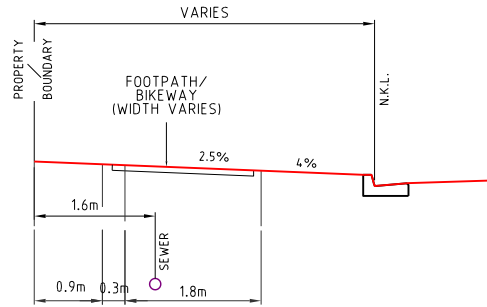
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APPROVED	DATE 08-08-24
DRAWING NUMBER	REV
41901-EXTS-501	B

k:\outload client\419 - hb land\01 - courtney drive\external\engineering drawings\external sewer\Curent\41901-EXTS-510.dwg, DETAILS SHEET 01, 9/09/2024 12:24:40 PM, 1:2

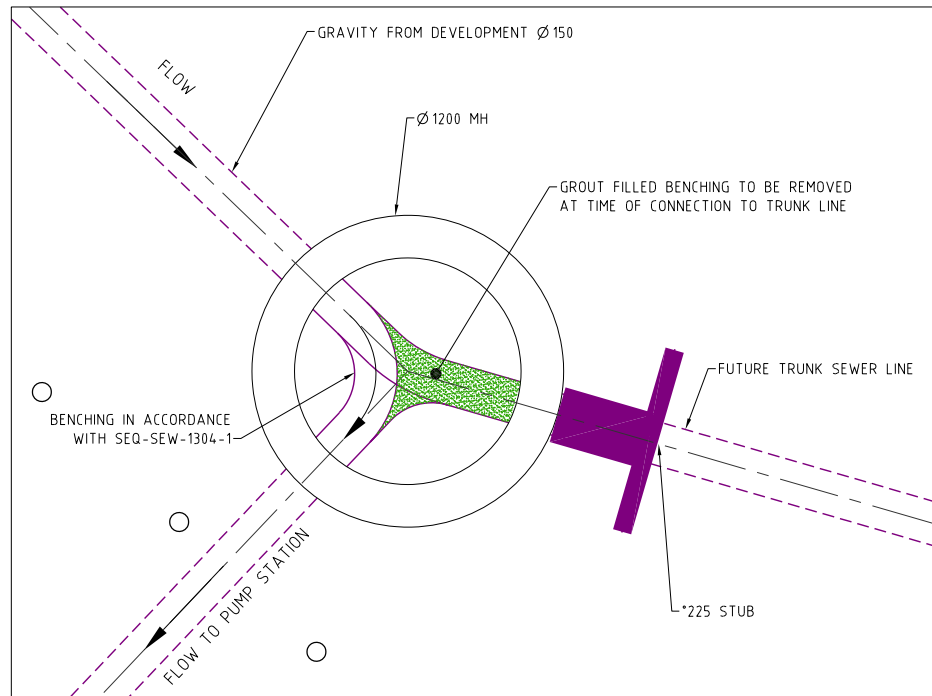


U/G POWER GAS SEWERAGE
TELECOMMUNICATIONS AND CABLE T.V. AND WATER

C.O.G.C. TYPICAL SERVICES SEWER RETICULATION ONLY

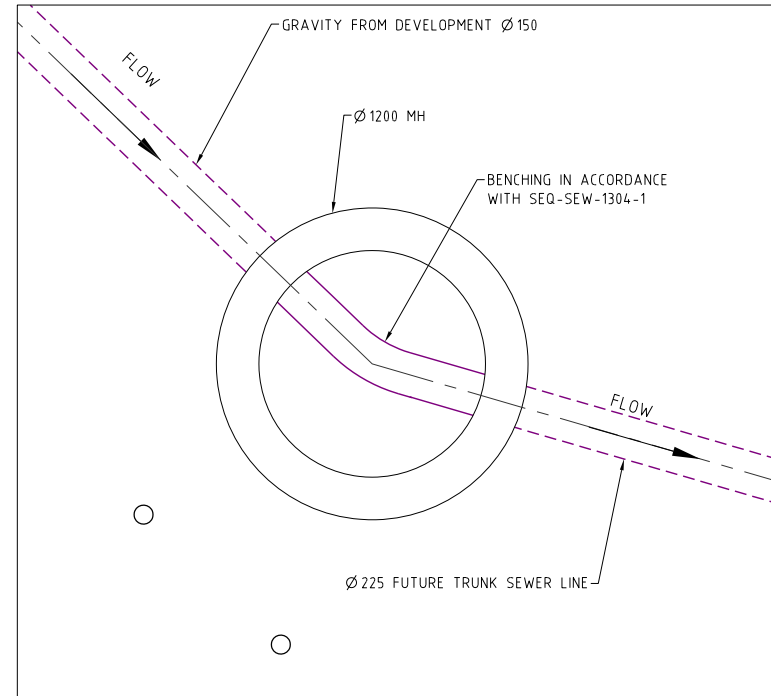
SCALE 1:50 - A1 (1:100 - A3)

1. PUBLIC UTILITIES ALLOCATIONS ARE MEASURED FROM THE REAL PROPERTY BOUNDARY.
2. LIGHT POLE, TREE ALLOCATIONS AND FOOTPATHS ARE MEASURED FROM THE NOMINAL KERB LINE.



MH12/7 DETAIL IF PUMP STATION IS OPERATIONAL

SCALE 1:20 - A1 (1:40 - A3)



MH12/7 DETAIL IF PUMP STATION IS NOT OPERATIONAL

SCALE 1:20 - A1 (1:40 - A3)

PROJECT NAME

COURTNEY DR
UPPER COOMERA

EXTERNAL SEWER

RP DESCRIPTION

LOTS 186, 187, 188 ON RP173728 & RICHARDSON CR.
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT



0 0.5 1.0 1.5 2.0 2.5m
Scale 1:50 - A1 (1:100 - A3)

REV	DATE	DESCRIPTION	INT
A	08-08-24	COUNCIL ISSUE	BL

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DRAWING TITLE

SEWER RETICULATION
DETAILS
SHEET 01



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DESIGNED RB DRAWN BL

APPROVED *AK* RPEQL706 DATE 08-08-24

DRAWING NUMBER REV
41901-EXTS-510 A

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SEWER STRUCTURE LIDS	
D	TRAFFICABLE LID
B	NON-TRAFFICABLE LID
M	'M' PREFIX DESIGNATES BOLT DOWN LID

RIGS STRUCTURE TYPES	
P(x)	PRECAST CONCRETE SEWER MAINTENANCE STRUCTURE REFER TO SEQ STD DWG SEQ-SEW-1300-1
A	TYPE 'A' 1050mm DIA. MAINTENANCE STRUCTURE REFER TO SEQ STD DWGS SEQ-SEW-1307-1
B	TYPE 'B' 1200mm DIA. MAINTENANCE STRUCTURE REFER TO SEQ STD DWGS SEQ-SEW-1307-1
C	TYPE 'C' 1500mm DIA. MAINTENANCE STRUCTURE REFER TO SEQ STD DWGS SEQ-SEW-1307-1
J1	TYPE 'J1' MAINTENANCE STRUCTURE REFER TO SEQ STD DWGS SEQ-SEW-1314-2
BND	BEND REFER TO SEQ STD DWGS SEQ-SEW-1314-3
RE	RODDING END MAINTENANCE STRUCTURE REFER TO SEQ STD DWGS SEQ-SEW-1314-1
END	PROPRIETARY END CAP
PS	SEWER PUMP STATION REFER TO RELEVANT SEQ STD DWGS
RCM	RECEIVING MAINTENANCE STRUCTURE REFER TO RELEVANT SEQ STD SEWER PUMP STATION DWGS
G6	TYPE 'G6' TERMINAL MAINTENANCE SHAFT REFER TO SEQ STD DWGS SEQ-SEW-1314-1

RIGS STRUCTURE DROPS	
V	STRAIGHT THROUGH SEWER REFER TO SEQ STD DWG SEQ-SEW-1303-1
W	OBLIQUE BACKDROP REFER TO SEQ STD DWG SEQ-SEW-1303-1
X	INTERNAL BACKDROP REFER TO SEQ STD DWG SEQ-SEW-1303-1
Y	EXTERNAL BACKDROP REFER TO SEQ STD DWG SEQ-SEW-1303-1

STRUCTURE TYPE LID CLASS DROP TYPE

✱ CONSTRUCT BRIDGING
STRUCTURE SPANNING THE
SEWER TRENCH REFER
TYPICAL SECTIONS &
DETAILS FOR BRIDGING
STRUCTURE DETAILS
TRENCHSTOPS,
BULKHEADS & CONCRETE
ENCASEMENTS TO BE
INSTALLED IN
ACCORDANCE WITH SEQ
SEWER CODE

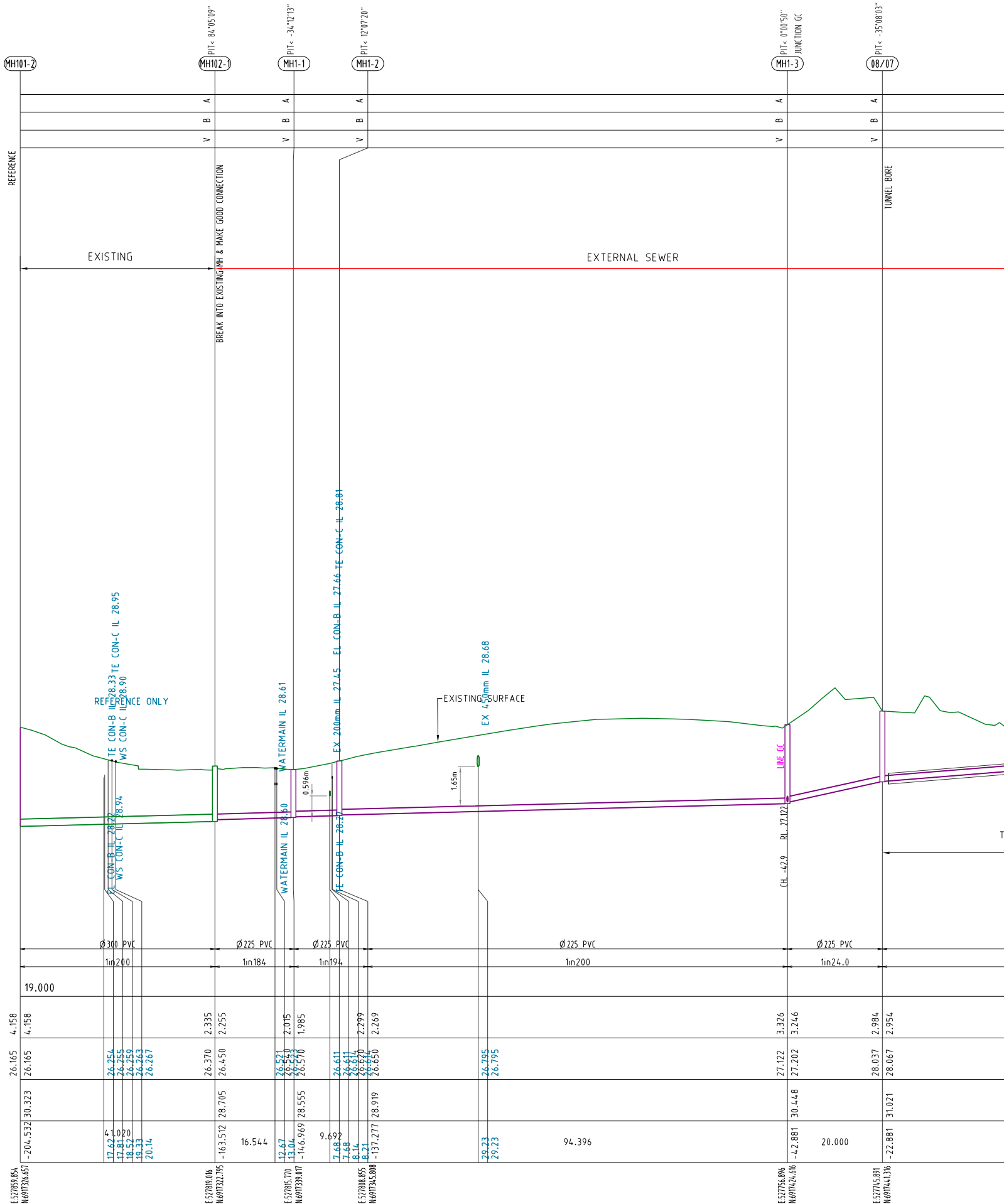
NOTES

- IF SHOWN, WATER AND
ELECTRICAL CROSSING
LOCATIONS ARE
INDICATIVE ONLY.
REFER TO PLANS TO
DETERMINE CROSSING
LOCATIONS. WHERE
SERVICE INDICATES
CLASH WITH SEWER,
SEWER TO TAKE
PRECEDENCE, SERVICE
TO BE CONSTRUCTED
OVER OR UNDER SEWER
ACCORDING TO
SUPERINTENDENTS
INSTRUCTION
 - ALL GRAVITY uPVC
SEWER PIPE TO BE
CLASS SN8 U.N.O.
 - ALL PRESSURE MAINS
PE100 PN16 SDR11
 - ALL EMBEDMENT TYPE
IS TO BE TYPE 3 U.N.O
 - ALL BENDS TO BE
LONG RADIUS BEND,
1.2m RADIUS MIN.
 - CONTRACTOR TO
VERIFY DOWNSTREAM
EXISTING PIPE LEVELS
PRIOR TO
COMMENCEMENT OF
PIPEWORK
 - PROTECTIVE COATING IS
TO BE INSTALLED TO
MAINTENANCE
STRUCTURES (WHERE
REQUIRED) IN
ACCORDANCE WITH
CLAUSE 4.7.2 OF SEQ
SEWERAGE CODE.
 - TRENCHSTOPS IN
ACCORDANCE
WITH SEQ-WAT-1209-1
- PIPE DIAMETER (mm)
PIPE GRADE

DATUM R.L.

DEPTH TO INVERT
PIPE INVERT LEVELS
DESIGN SURFACE LEVELS
CHAINAGE

LINE NO.



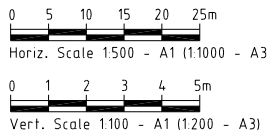
PROJECT NAME

COURTNEY DR
UPPER COOMERA

EXTERNAL SEWER

RP DESCRIPTION
LOTS 186, 187, 188 ON RP173728 & RICHARDSON CR.
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT



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DRAWING TITLE

SEWER RETICULATION
PROFILES
SHEET 01



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DESIGNED RB	DRAWN BL
APPROVED <i>AK</i>	REQ 4706 DATE 08-08-24

DRAWING NUMBER	REV
41901-EXTS-530	A

STRUCTURE TYPE
LID CLASS
DROP TYPE

* CONSTRUCT BRIDGING
STRUCTURE SPANNING THE
SEWER TRENCH REFER
TYPICAL SECTIONS &
DETAILS FOR BRIDGING
STRUCTURE DETAILS
TRENCHSTOPS,
BULKHEADS & CONCRETE
ENCASEMENTS TO BE
INSTALLED IN
ACCORDANCE WITH SEQ
SEWER CODE

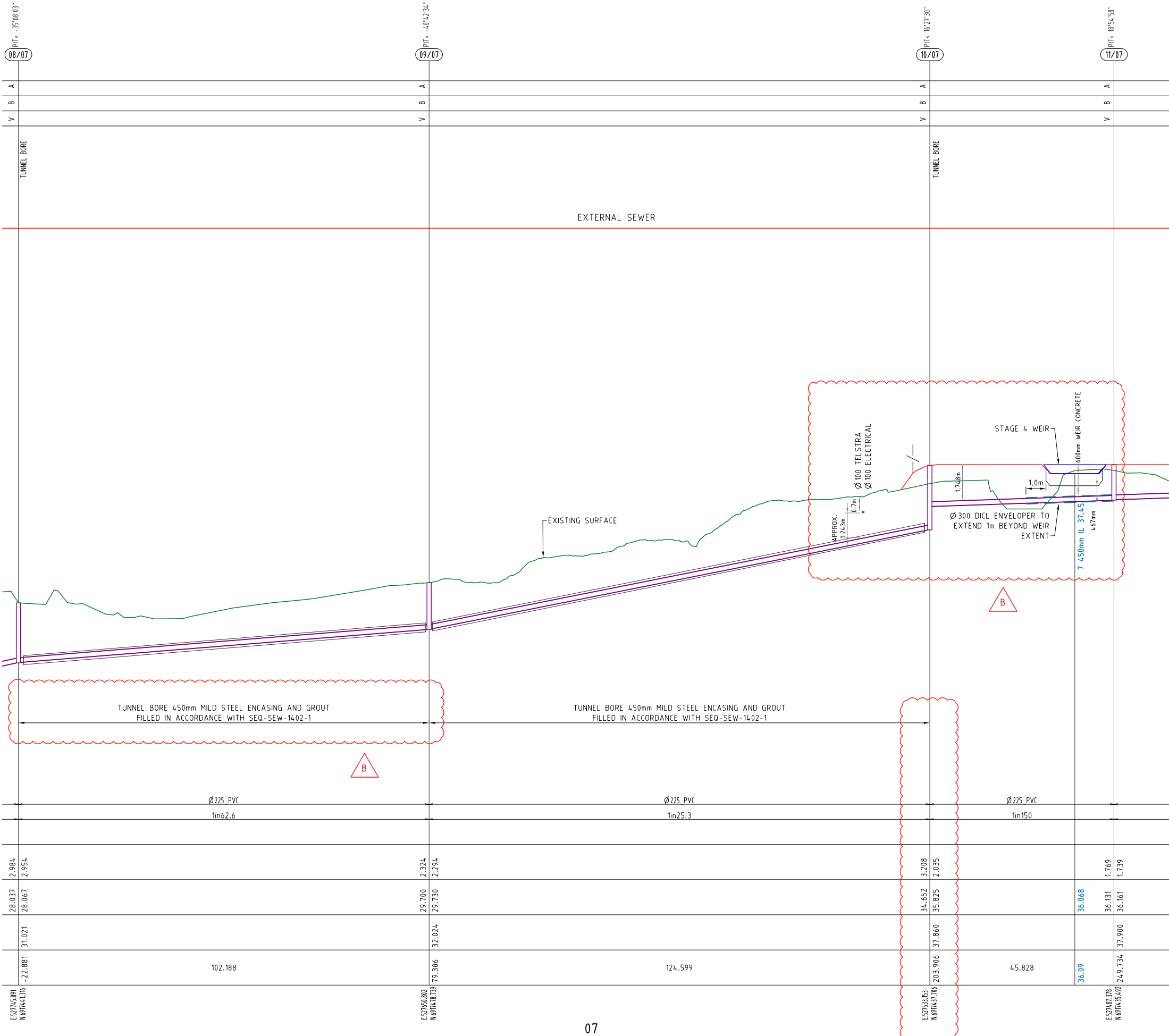
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SEWER TO TAKE
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TO BE CONSTRUCTED
OVER OR UNDER SEWER
ACCORDING TO
SUPERINTENDENTS
INSTRUCTION
 - ALL GRAVITY uPVC
SEWER PIPE TO BE
CLASS SN8 U.N.O.
 - ALL PRESSURE MAINS
PE100 PN16 SDR11
 - ALL EMBEDMENT TYPE
IS TO BE TYPE 3 U.N.O.
 - ALL BENDS TO BE
LONG RADIUS BEND,
1.2m RADIUS MIN.
 - CONTRACTOR TO
VERIFY DOWNSTREAM
EXISTING PIPE LEVELS
PRIOR TO
COMMENCEMENT OF
PIPEWORK
 - PROTECTIVE COATING IS
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STRUCTURES (WHERE
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ACCORDANCE WITH
CLAUSE 4.7.2 OF SEQ
SEWERAGE CODE.
 - TRENCHSTOPS IN
ACCORDANCE
WITH SEQ-WAT-1209-1
- PIPE DIAMETER (mm)
PIPE GRADE

DATUM R.L.

DEPTH TO INVERT
2.984 2.954
PIPE INVERT LEVELS
28.037 28.067
DESIGN SURFACE LEVELS
31.021
CHAINAGE
-22.881

LINE NO.



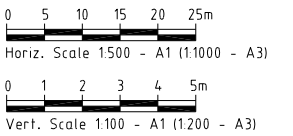
PROJECT NAME

COURTNEY DR
UPPER COOMERA

EXTERNAL SEWER

R P DESCRIPTION
LOTS 186, 187, 188 ON RP173728 & RICHARDSON CR.
LOCALITY OF UPPER COOMERA
LOCAL AUTHORITY - GOLD COAST CITY COUNCIL

CLIENT



REV	DATE	DESCRIPTION	INT
B	04-09-24	TUNNELBORE ADDED & ENVELOPER LENGTH AMENDED	BL
A	08-08-24	COUNCIL ISSUE	BL

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DRAWING TITLE

SEWER RETICULATION
PROFILES
SHEET 02



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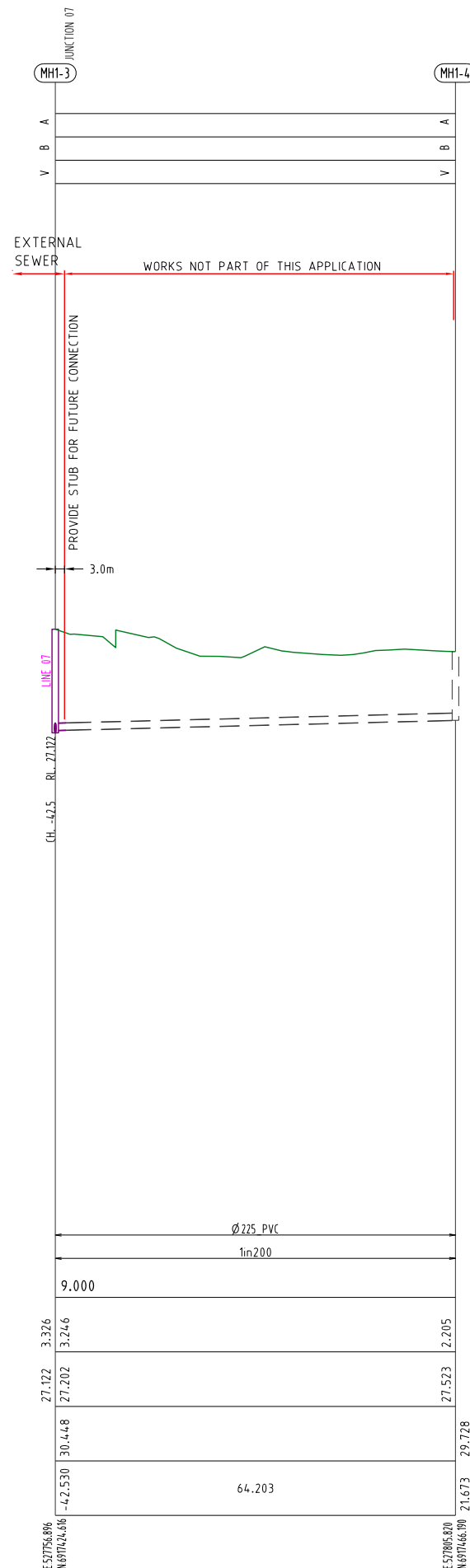
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DESIGNED	RB	DRAWN	BL
APPROVED	<i>AK</i>	RPEQ4706	DATE 08-08-24
DRAWING NUMBER			REV
41901-EXTS-531			B

COURTNEY DR
UPPER COOMERA

RP DESCRIPTION
LOTS 186, 187, 188 ON RP173728 & RICHARDSON CR. LOCALITY OF UPPER COOMERA LOCAL AUTHORITY - GOLD COAST CITY COUNCIL



DRAWING NUMBER	REV
41901-EXTS-532	A