

STORMWATER MANAGEMENT PLAN

22 COLLINS CRESCENT YAGOONA

 **National Engineering Register**
ENGINEERS AUSTRALIA
Con Katsoulas
BE (Civil), MIEAust, CPEng No. 449924

- NOTES:
- 1. ALL PROPOSED PITS TO BE 450 x 450 CAST IN-SITU OR PRECAST PITS UNLESS SHOWN OTHERWISE.
 - 2. ALL CHARGED LINE PIPES TO BE 100Ø uPVC SEWER CLASS UNLESS SHOWN OTHERWISE
 - 3. ALL DOWNPIPES TO BE 90Ø uPVC OR 100 x 50 UNLESS OTHERWISE SHOWN
 - 4. ALL NON-PRESSURE STORMWATER PIPES TO BE 100Ø uPVC UNLESS SHOWN OTHERWISE
 - 5. ALL GRATED DRAINS TO BE MINIMUM 150 WIDE GALVANIZED HEAVY DUTY GRATES.
 - 6. ALL NON-TRAFFICABLE PITS TO BE LIGHT DUTY. PITS IN TRAFFICABLE AREAS TO BE HEAVY DUTY.
 - 7. ALL WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH COUNCILS SPECIFICATIONS.
 - 8. ALL PITS GREATER THAN 1.2m DEPTH SHALL INCLUDE STEP IRONS AND HAVE MINIMUM CLEAR DIMENSIONS OF 600 x 600.
 - 9. ALL PITS ARE TO BE BENCHED TO ALLOW SMOOTH FLOW OF WATER THROUGH PITS
 - 10. ALL DOWNPIPES SHALL CONFORM TO AS/NZS 1866 FOR ALUMINIUM PIPES AND AS 1254, AS/NZS 1260, AS 1273, AS/NZS 1477, AS/NZS 2179.2 AND AS 2032 FOR uPVC PIPES.
 - 11. ALL BOX GUTTERS SHALL COMPLY WITH AS/NZS 2179.1
 - 12. ALL BOX GUTTERS SHALL BE CONSTRUCTED WITH A MINIMUM 1:200 GRADE TO SUMP/DOWNPIPES
 - 13. ALL DRAINAGE WORKS SHALL BE IN ACCORDANCE WITH AS 3500.3.2

SHEET INDEX:

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LEGEND

 FLOWPATH

 FLOOR WASTE

 FLOW SPREADER AND DOWNPIPE TYPE 1

 PROPOSED GRATED PIT

 PROPOSED SEALED WATER TIGHT PIT

 RAINHEAD

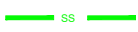
 SUMP OVERFLOW

 PROPOSED STORMWATER PIPE - GRAVITY

 PROPOSED V-DRAIN

 PROPOSED STORMWATER PIPE - CHARGED

 PROPOSED RISING MAIN (PRESSURE PIPE)

 PROPOSED SUBSOIL DRAIN

 PROPOSED BUILDING - GROUND FLOOR

 PROPOSED BUILDING - FIRST FLOOR

 PROPOSED CONTOURS

IL 0.00 PIT/PIPE INVERT LEVEL

TK 0.00 TOP OF KERB LEVEL

 GRATED DRAIN

+ 00.00 EXISTING SURFACE LEVEL

+ 00.00 PROPOSED SURFACE LEVEL

 SEALED INSPECTION OPENING

 DOWNPIPE - TYPE 1

 HIP ROOF

 FLAT ROOF

 TERRACE/BALCONY

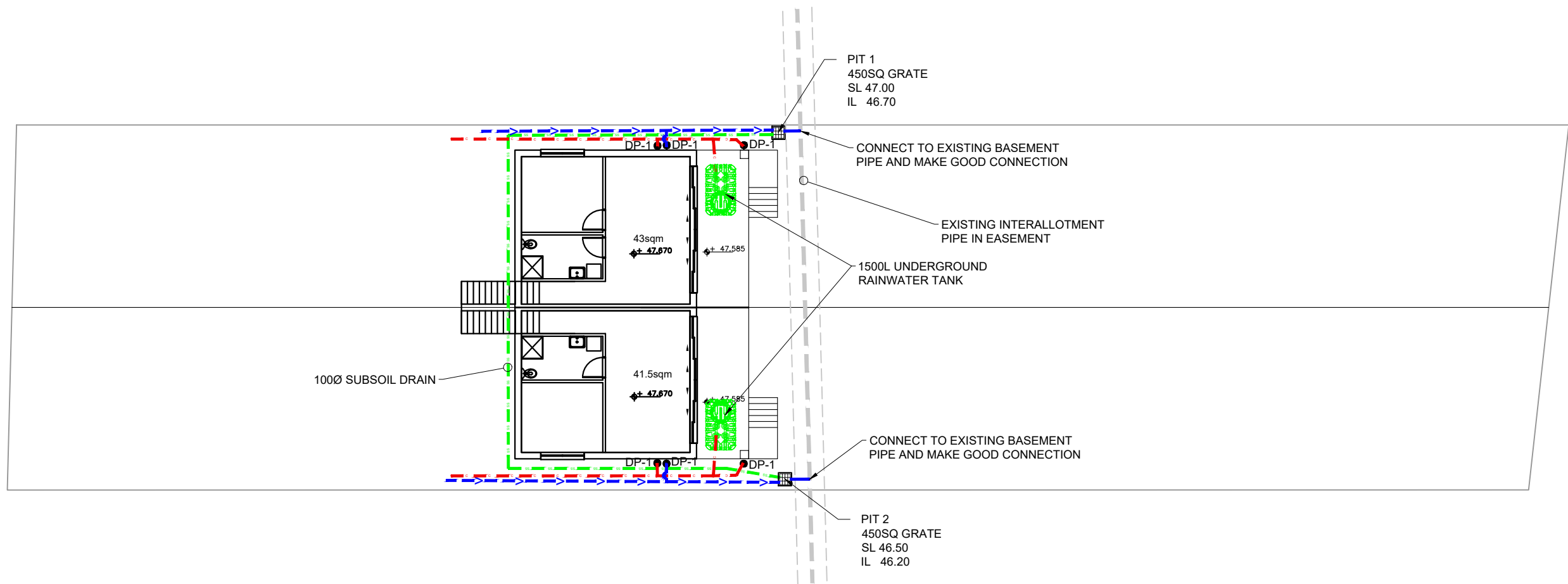
 BASIX ROOF AREA DRAINING TO RAINWATER TANK

 AREA BYPASSING ON-SITE DETENTION TANK

DOWNPIPE TYPE	DOWNPIPE SIZES	
	ROUND	RECTANGULAR
1	90Ø	100 X 75
2	100Ø	100 X 75
3	125Ø	100 X 100
4	150Ø	150 X 150

FOR DA APPROVAL

SURVEYOR	0	DA ISSUE	23/12/21				C.K. ENGINEERING SERVICES	CLIENT:	DRAWING TITLE:	DRAWN: S.C.	SIGNED: 	DATE: SEPTEMBER 2022
C & A SURVEYORS	1	DA ISSUE - EASEMENT PIPE DESIGN	13/09/22				ABN 67 115 216 496	A & K ENGINEERING	INDEX	DESIGNED: C.K.		SCALE: AS SHOWN
ARCHITECT							49 FLORA ST	PROJECT:		CHECKED: C.K.		DATUM: AHD
A & K ENGINEERING							ROSELANDS, NSW 2196	22 COLLINS CRESCENT YAGOONA				
CONSULTANT	No.	AMMENDMENT	DATE	No.	AMMENDMENT	DATE	MOB: 0403 329 327			JOB & DRAWING No:	211608	No. IN SET: 1 OF 6
-							EMAIL: ckatsoulas@gmail.com					ISSUE: 1
DO NOT SCALE												

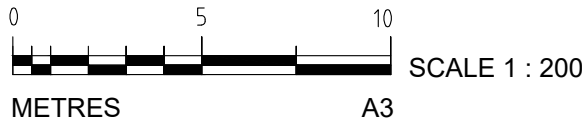


LOWER FLOOR PLAN

SCALE: 1:200

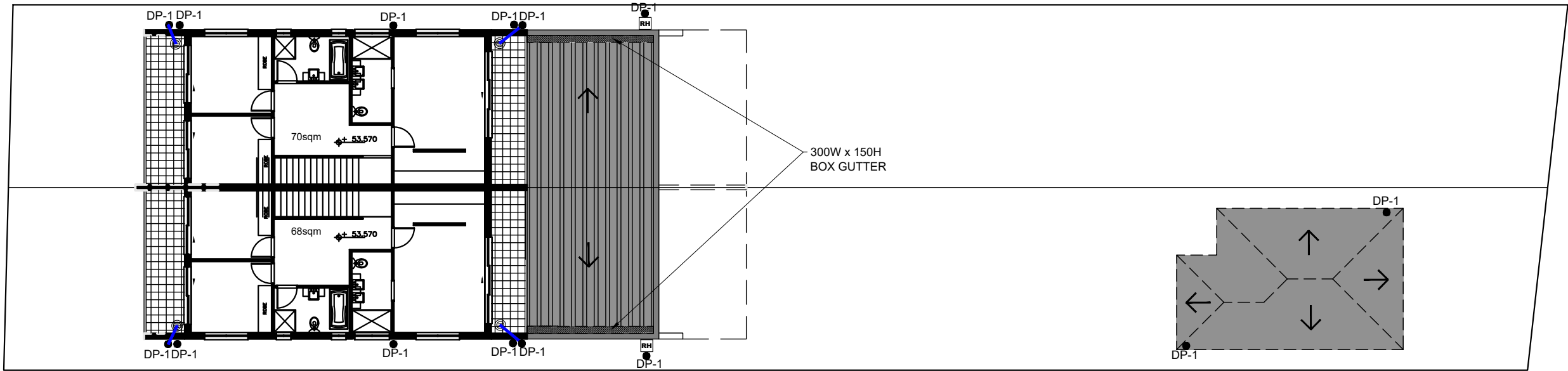


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	1	DA ISSUE - EASEMENT PIPE DESIGN	13/09/22						DESIGNED: C.K.		SCALE: AS SHOWN
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CONSULTANT	No.	AMMENDMENT	DATE	No.	AMMENDMENT	DATE			JOB & DRAWING No:		No. IN SET: 3 OF 6
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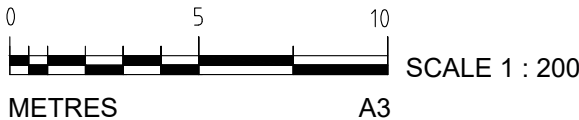


FIRST FLOOR PLAN AND SECONDARY ROOF PLAN

SCALE: 1:200

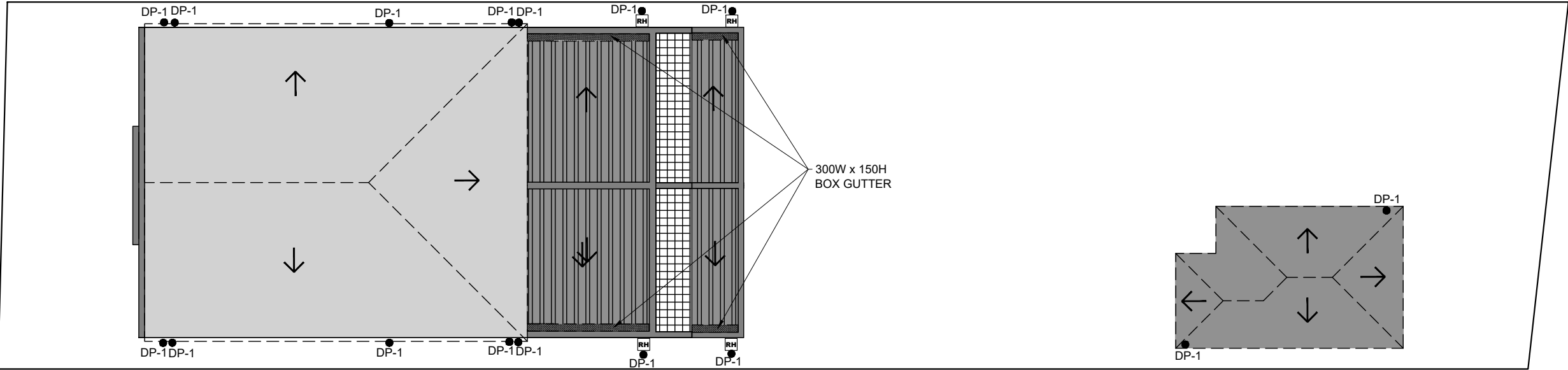


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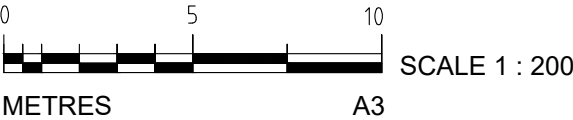
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-						DO NOT SCALE		22 COLLINS CRESCENT YAGOONA			JOB & DRAWING No: 211608	No. IN SET: 4 OF 6	ISSUE: 1



ROOF PLAN
SCALE: 1:200

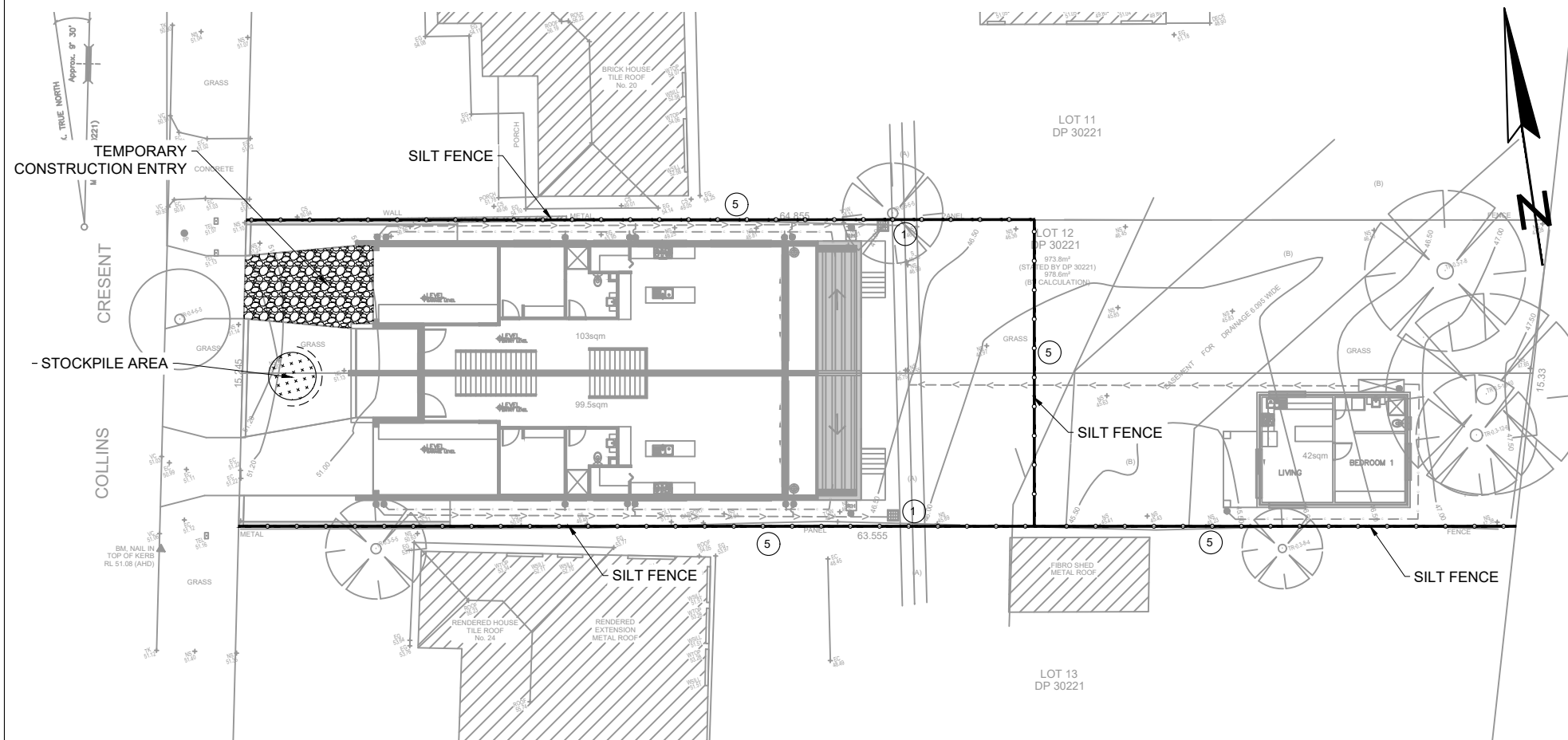
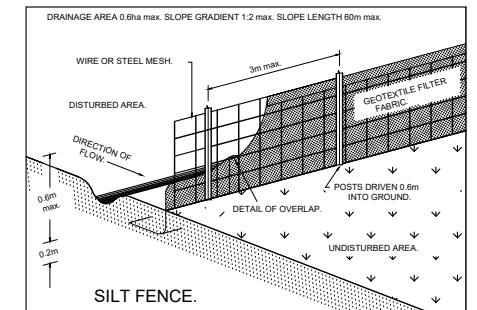
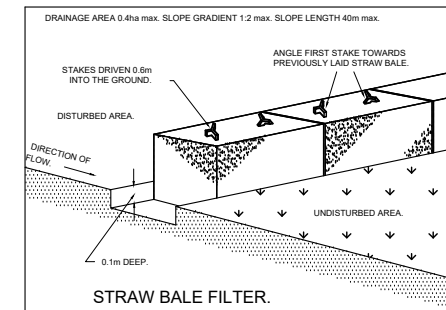
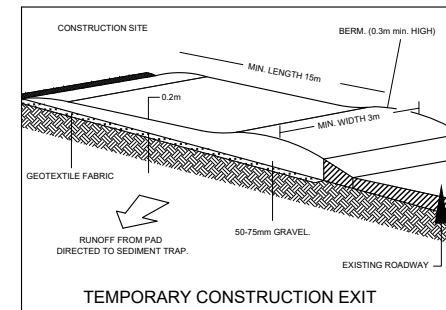
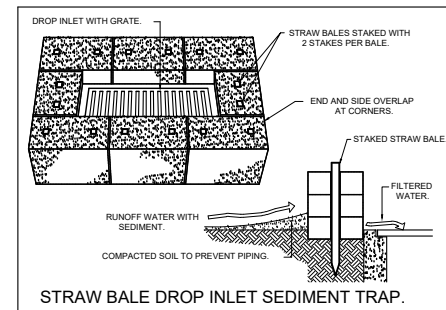
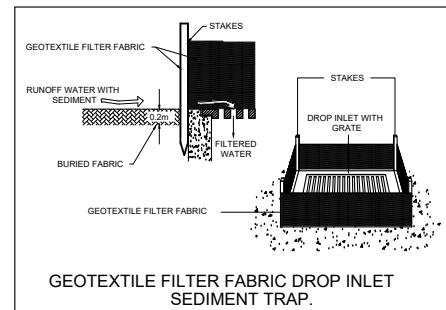


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							No. IN SET: 5 OF 6 ISSUE: 1						



EROSION CONTROL NOTES:

1. ALL WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH COUNCIL'S STANDARD SPECIFICATIONS AND TO THE SATISFACTION OF COUNCIL'S ENGINEER.
2. EROSION AND SEDIMENTATION CONTROLS SHALL BE CONSTRUCTED AS SHOWN ON SHEET 2 AND 3 OF THIS PLAN AND/OR WHERE DIRECTED BY COUNCIL'S ENGINEER.
3. SEDIMENTATION AND EROSION CONTROL DEVICES SHALL BE IMPLEMENTED PRIOR TO OR IN CONJUNCTION WITH THE FIRST PHASE OF EARTHWORKS AND SHALL BE REMOVED ONLY WHEN THE AREAS ABOVE IT HAVE BEEN STABILISED. EACH SEDIMENTATION AND EROSION CONTROL DEVICE SHALL BE INSPECTED AFTER EACH STORM FOR STRUCTURAL DAMAGE OR CLOGGING BY SILT AND OTHER DEBRIS AND PROMPTLY DESILTED, REPAIRED OR REPLACED IF REQUIRED.
4. TOPSOIL STOCKPILES SHALL BE LOCATED OUTSIDE HAZARD AREAS SUCH AS DRAINAGE DEPRESSIONS.
5. ALL AREAS NOT SUBJECT TO CONSTRUCTION WORKS SHALL BE RETAINED FREE FROM DISTURBANCE OR DAMAGE FOR THE DURATION OF THE WORKS.
6. TREES TO BE RETAINED SHALL BE PROTECTED DURING SITE WORKS AND CONSTRUCTION BY THE ERECTION OF SOLID BARRICADES AT THE DRIP LINE OR AS SPECIFIED BY COUNCIL'S ENGINEER.
7. THE DEVELOPER OR CONTRACTOR WILL TAKE ALL MEASURES TO PREVENT DAMAGE TO TREES AND ROOT SYSTEMS DURING SITE WORKS AND CONSTRUCTION ACTIVITIES INCLUDING THE PROVISION OF WATER, SEWERAGE AND STORMWATER DRAINAGE SERVICES. IN PARTICULAR, WORKS, ERECTION OF STRUCTURES, EXCAVATION OR CHANGES TO SOIL LEVELS WITHIN 4 METRES OF THE TRUNKS OF TREES TO BE RETAINED ARE NOT PERMITTED UNLESS PART OF THE DEVELOPMENT AS APPROVED, AND THE STORAGE OF SPOIL, BUILDING MATERIALS, SOILS OR THE DRIVING OR PARKING OF ANY VEHICLE OR MACHINERY WITHIN 4 METRES OF THE TRUNK OF A TREE TO BE RETAINED, IS NOT PERMITTED.
8. WETTING OF THE SITE SHOULD BE CARRIED OUT AS OFTEN AS NECESSARY AS A FORM OF DUST CONTROL.
9. SILT FENCES TO BE CONSTRUCTED WHERE EVER NATURAL SURFACE SLOPES AWAY FROM DISTURBED AREAS OR WHERE DIRECTED BY THE ENGINEER.



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ARCHITECT A & K ENGINEERING	1	DA ISSUE - EASEMENT PIPE DESIGN	13/09/22					DESIGNED: C.K.		SCALE: AS SHOWN		
CONSULTANT -	No.	AMMENDMENT	DATE	No.	AMMENDMENT	DATE		CHECKED: C.K.		DATUM: AHD		
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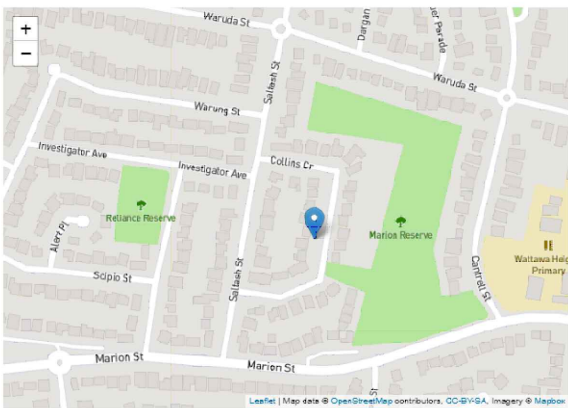
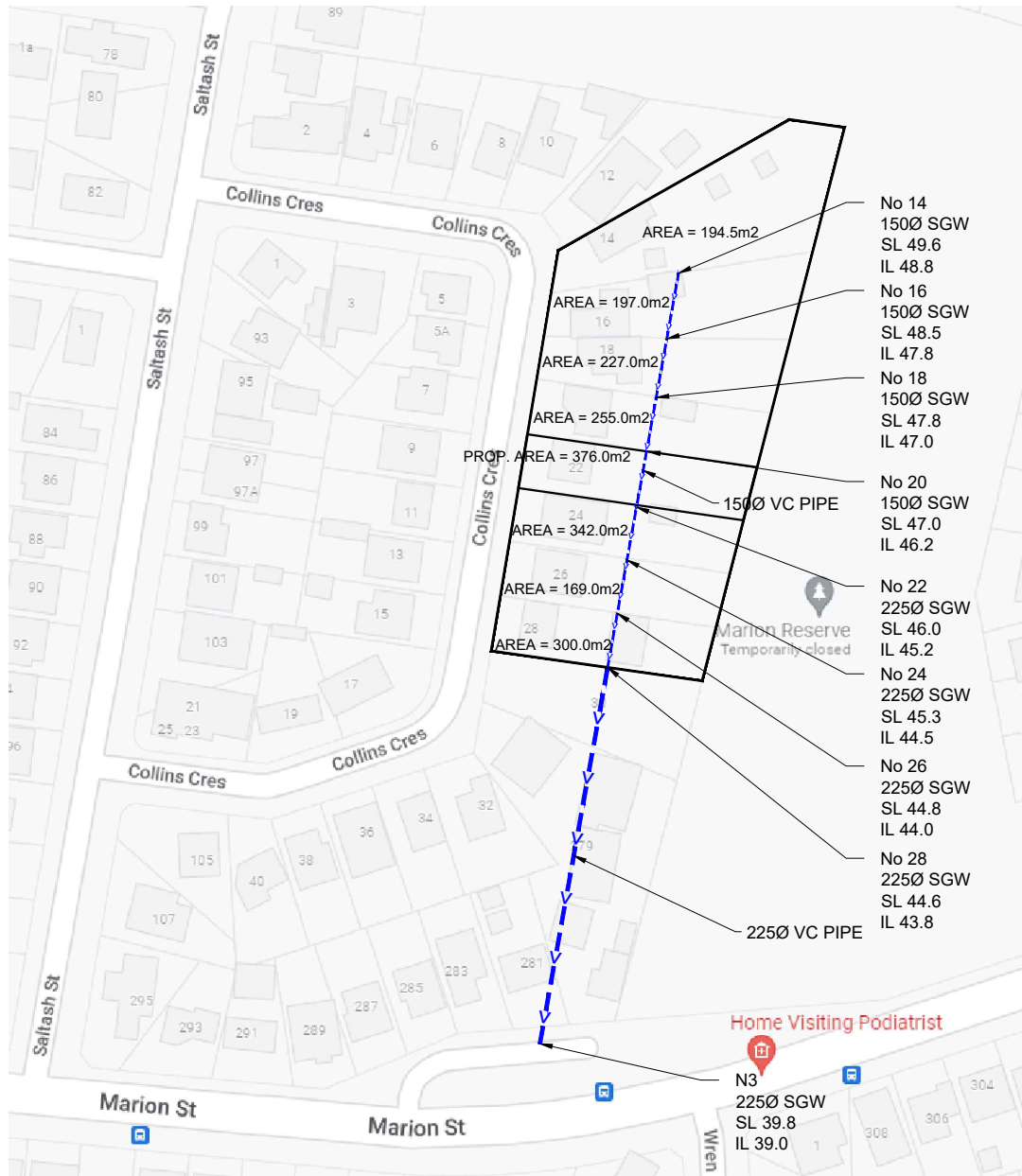


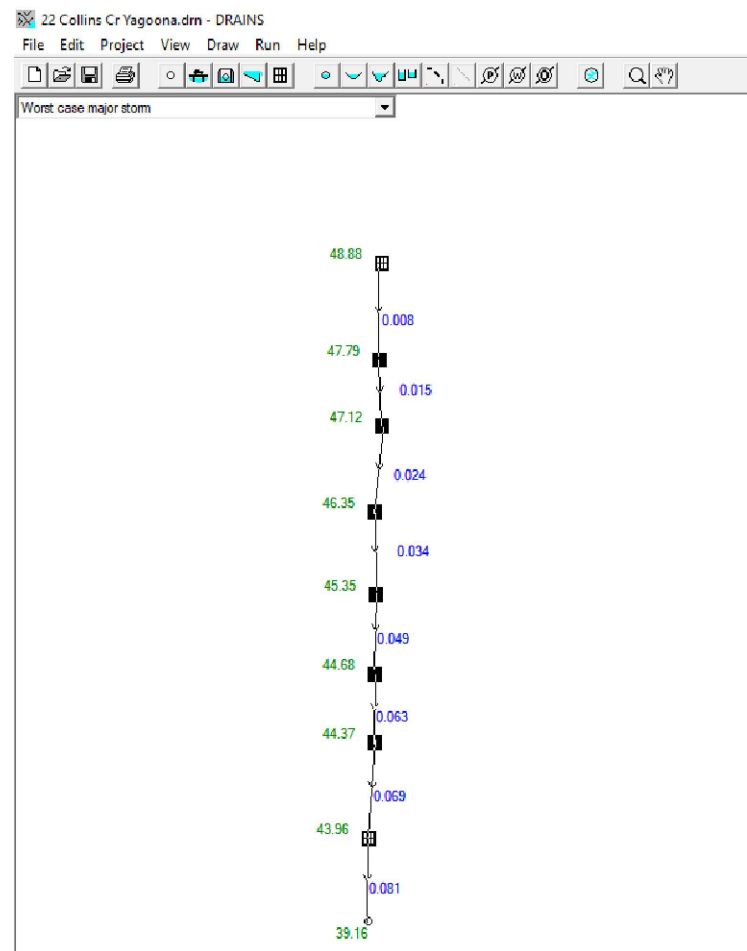
Table	Chart	Unit: mm/h						
		Annual Exceedance Probability (AEP)						
Duration	63.2%	50%#	20%*	10%	5%	2%	1%	
1 min	128	142	184	212	239	274	301	
2 min	105	114	143	164	185	211	232	
3 min	97.5	106	134	154	173	199	219	
4 min	92.0	101	129	148	166	191	210	
5 min	87.2	95.9	123	142	160	183	201	
10 min	69.2	76.7	100	115	130	150	164	
15 min	57.5	63.8	83.4	96.2	109	125	137	
20 min	49.4	54.8	71.5	82.4	93.0	107	117	
25 min	43.5	48.2	62.7	72.2	81.4	93.4	102	
30 min	39.0	43.2	55.9	64.4	72.6	83.3	91.4	
45 min	30.2	33.3	42.8	49.3	55.5	63.8	70.1	
1 hour	25.1	27.5	35.2	40.5	45.6	52.5	57.8	
1.5 hour	19.2	21.0	26.7	30.7	34.7	40.0	44.2	
2 hour	15.9	17.4	22.1	25.4	28.7	33.2	36.8	

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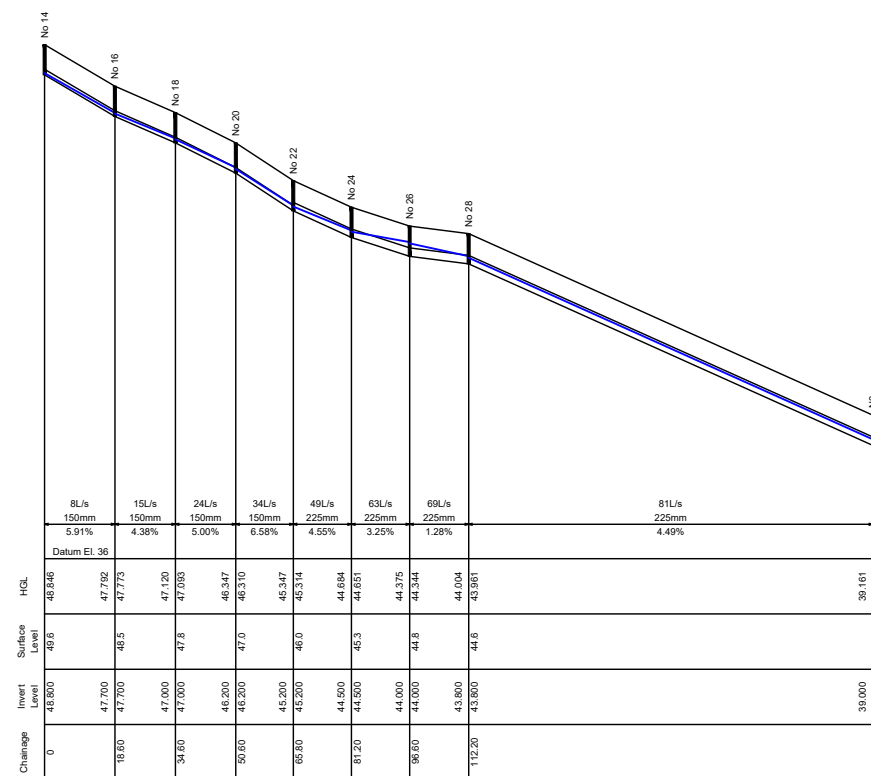
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ARCHITECT	1	DA ISSUE - EASEMENT PIPE DESIGN	13/09/22							DESIGNED: C.K.		SCALE: AS SHOWN
A & K ENGINEERING										CHECKED: C.K.		DATUM: AHD
CONSULTANT	No.	AMMENDMENT	DATE	No.	AMMENDMENT	DATE		PROJECT: 22 COLLINS CRESCENT YAGOONA		JOB & DRAWING No: 211608	No. IN SET: 7 OF 6	ISSUE: 1
-							DO NOT SCALE					



CATCHMENT PLAN-PROPOSED
SCALE: 1:2000



PROPOSED DRAINS RESULTS - 10%AEP



PROPOSED PIPE LONGSECTION
SCALE: H-1:2000 V-1:200

EASEMENT PIPE CALCULATIONS

THE EXISTING EASEMENT PIPE SYSTEM WAS CHECKED FOR THE 10% AEP EVENT FOR THE EXISTING ROOF AREAS THAT ARE CURRENTLY DRAINING TO IT AND WAS FOUND TO BE INADEQUATE.

IT WILL BE REQUIRED TO UPGRADE THE EXISTING 150Ø SGW DOWNSTREAM OF No 22 COLLINS CR (ie WITHIN No 24 - 28 COLLINS CR) TO A 225Ø UPVC TO ENSURE THAT THE EASEMENT PIPE HAS CAPACITY FOR THE 10%AEP.



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C & A SURVEYORS	1	DA ISSUE - EASEMENT PIPE DESIGN	13/09/22				A & K ENGINEERING		DESIGNED: C.K.		SCALE: AS SHOWN
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