

Let's develop
Your Tomorrow
Today

19045 – Edge Lane, Openshaw Site Maintenance Plan

Revision E – Attenuation Tank photographs added

Prepared for Lovell

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Proposed drainage system:

The surface water from each dwellings discharges into two separate pipe networks and gravitate towards two control chambers which restrict the outgoing flows to an approved discharge rate.

Two cellular storages are used adjacent to the control chambers to store excess flow from rainfall event of 1 in 30 to 1 in 100 (plus 40% climates change).as a means of storing the exceedance flow.

Surface water drainage (blue) and foul water drainage (Brown) as shown on the drawing ELL-19045-YH-B-180-H are to become public sewer and to be maintained by united utilities as part of section 104 adoption agreement. The adopted manholes in these drawings are also scheduled on drawing ELL-19045-YH-B-220-H which gives the details of the manhole structures.

The remaining drainage which are located within the privately purchased dwelling boundaries are classed as private drainage and will be maintained by the purchasers.

The properties which are to be remained under Your Housing ownership will be maintained by the management company which will be appointed by Your Housing.

The cellular storage units are also to be maintained by a management company appointed to ensure the drainage system and cellular storage tank inlets & outlet pipework remain clear at all times and remain operational.

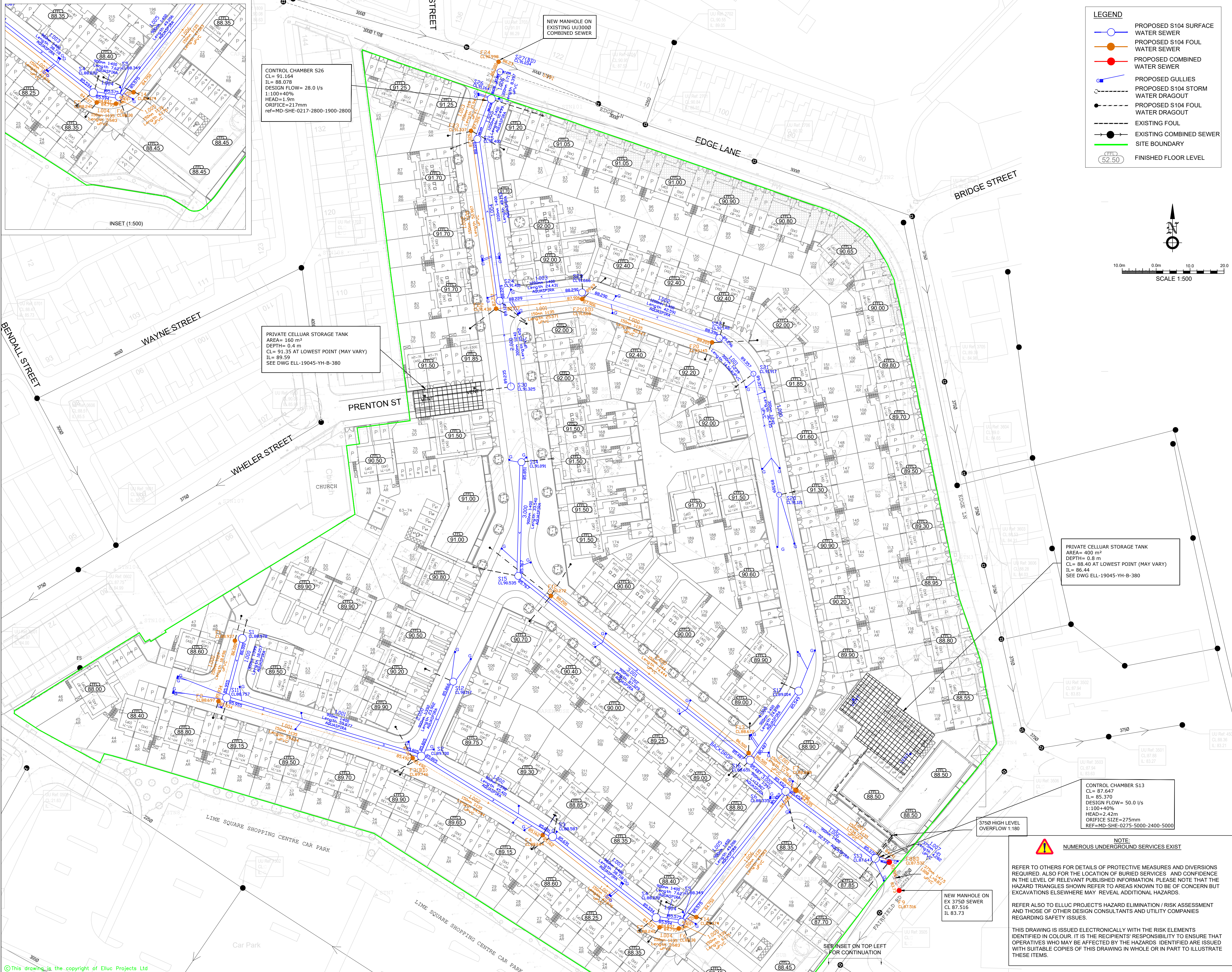
The table below presents management activities in order to meet the aim & objectives outlined above.

Cellular Storage operations and maintenance requirements

Maintenance	Required Action	Frequency
Regular maintenance	Inspection and identifying of any areas that are not operating correctly and taking remedial actions when necessary	Monthly
	Inspect all inlet and outlets and silt traps and clear silts and debris	Monthly
	Inspect Vents and repair as necessary	
	Inspect condition of cellular storage tank and carry out maintenance to accordance with the supplier's recommendations. Inspect Vents and repair as necessary	Monthly
Remedial work	Inspect and repair all inlets and outlet pipes to the cellular storage tank	As required (tasks to repair problems due to damage)
	Inspect Vents and repair as necessary	
	Reinstatement following pollution incident	As required (tasks to repair problems due to damage)
	Removal of silt buildup	As required (tasks to repair problems due to damage)

Operations and maintenance requirements for private surface and foul water drainage to include manholes and pipes (Excluding the drainage within building curtilage)

Maintenance	Required Action	Frequency
Regular maintenance	Inspection and identifying of any areas that are not operating correctly and taking remedial actions when necessary	Monthly
	Debris and Grass removal from catchment surface, Inspect inspection chamber, silt traps and clear silts and debris	Monthly
Occasional tasks	Inspect inspection chambers, drainage channels, gullies, silt traps and clear silts and debris	Annually
Remedial work	Review and repair / replace any gullies and / or Aco drains due to wear and tear	As required



LEGEND

- PROPOSED S104 SURFACE WATER SEWER
- PROPOSED S104 FOUL WATER SEWER
- PROPOSED COMBINED WATER SEWER
- PROPOSED GULLIES
- PROPOSED S104 STORM WATER DRAGOUT
- PROPOSED S104 FOUL WATER DRAGOUT
- EXISTING FOUL
- EXISTING COMBINED SEWER
- SITE BOUNDARY
- FINISHED FLOOR LEVEL

- NOTES:**
1. ALL ADOPTABLE DRAINAGE WORKS HAVE BEEN DESIGNED AND ARE TO BE CONSTRUCTED IN ACCORDANCE WITH "SEWERS FOR ADOPTION 6TH EDITION" AND UU SUPPLEMENT GUIDELINES AND STANDARD DETAILS
 2. ALL CLAY PIPE WORK SHALL BE EXTRA STRENGTH CLAYWARE TO B.S EN 295:1991 PART 1
 3. ALL PRECAST CONCRETE PIPEWORK SHALL BE TO THE CLASS STATED ON THE DRAWINGS IN ACCORDANCE WITH B.S EN 1916:2002 & B.S EN 1917:2002
 4. THE CONTRACTOR MAY ELECT TO USE REINFORCED PVC PIPES AS COVERED BY B.S 4680:2000 & B.S EN 1401-1. STRUCTURED WALL UPVC PIPES TO COMPLY WITH WIS 4-35-01 UPTO AND INCLUDING 300MM. (BY PRIOR AGREEMENT WITH ADOPTING AUTHORITY) MAX. PIPE LENGTH TO BE 3.0M
 5. ALL LEVELS RELATE TO TOPOGRAPHICAL SURVEY DATUM
 6. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS
 7. PLOT DRAINAGE CONNECTIONS TO SEWERS MUST BE 150MM DIAMETER AND UNLESS OTHERWISE STATED LAID TO THE INVERT SHOWN
 8. LEVELS GIVEN ON DRAGOUT CHAMBERS ARE INCOMING PIPE LEVELS
 9. PLOT DRAINAGE RUNS TO BE KEPT WITHIN THE CURTLAGGE OF THE PLOT THEY SERVE WHEREVER POSSIBLE
 10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ANY EXISTING INVERT LEVELS AND EXISTING SITE LEVELS (EXISTING BOUNDARY LEVELS) INDICATED ON DRAWINGS ARE CORRECT BEFORE WORKS COMMENCE
 11. ALL CONNECTIONS TO ADOPTABLE SEWERS SHALL BE MANUFACTURED JUNCTION PIPES. SADDLE CONNECTIONS WILL NOT BE PERMITTED, UNLESS SPECIFIED.
 12. ALL SEWERS FOR ADOPTION WITH GREATER THAN 1.20M COVER IN ROADS OR 0.9M COVER IN FIELDS SHALL HAVE CLASS S GRANULAR BED AND SURROUND.
 13. ANY SEWER FOR ADOPTION WITH LESS THAN 1.2M COVER IN ROADS OR 0.9M COVER IN FIELDS SHALL HAVE A MINIMUM OF 150MM ST4 CONCRETE SURROUND. FLEXIBILITY SHALL BE MAINTAINED BY THE PROVISION OF FLEXCELL OR SIMILAR APPROVED JOINT FILLER BREAKS IN THE CONCRETE SURROUND AT EACH PIPE JOINT
 14. IT IS THE RESPONSIBILITY FOR THE CONTRACTOR TO CHECK ALL ONSITE EXISTING GROUND LEVELS PRIOR TO COMMENCING AND IF THERE ARE ANY DISCREPANCIES THE CONTRACTOR MUST REPORT TO THE SUPERVISING OFFICER, GIVING NOTICE WHICH IN ACCORDANCE WORTH THE LA REQUIREMENTS.
 15. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE DRAINAGE AUTHORITY OF THE COMMENCEMENT OF ANY DRAINAGE WORKS AND TO COMPLETE ANY REQUIRED SEWER CONNECTION FORMS INCLUDING PAYING ANY REQUIRED FEES. THE CONTRACTOR MUST ALLOW FOR THE SUPERVISION OF THE SEWER CONSTRUCTION WORKS BY THE LOCAL AUTHORITY AND NOTIFY THE SUPERVISING OFFICER, GIVING NOTICE WHICH IN ACCORDANCE WORTH THE LA REQUIREMENTS.
 16. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO APPLY FOR ANY REQUIRED ROAD OPENING PERMITS WITH THE LOCAL AUTHORITY INCLUDING THE PAYMENT OF ANY FEES
 17. BEFORE COMMENCING ANY WORKS ON SITE, THE CONTRACTOR MUST CONTACT THE RELEVANT STATUTORY UNDERTAKER AND BE IN POSSESSION OF THE LATEST AVAILABLE DRAWINGS FROM THE STATUTORY UNDERTAKERS WHICH SHOWS DETAILS OF THEIR SERVICES/APPARATUS. THE CONTRACTOR MUST CONFIRM EXACT LOCATION AND DEPTH OF ANY SERVICES/APPARATUS BY THE USE OF ELECTRO-LOCATION OR SIMILAR DEVICES AND BY HAND DUG TRIAL HOLES. MECHANICAL EXCAVATOR, POWER TOOLS ETC. MUST NOT BE USED TO LOCATE EXISTING SERVICES/APPARATUS.

I	FOUL LATERAL OUTSIDE OF APARTMENT BLOCK 1 HAS BEEN REVISED TO NEW LAYOUT	19.11.21	EK	ARA
H	FFL REVISED TO NEW SITE LEVELS	21.05.21	ARA	ARA
G	DRAINAGE COVER LEVELS AND FFL REVISED TO NEW SITE LEVELS	21.05.21	ARA	ARA
F	DRAINAGE COVER LEVELS AND FFL REVISED TO NEW SITE LEVELS	13.05.21	ARA	ARA
E	F8 CHANGED TO RED S23.515 & F23	26.03.21	ARA	ARA
D	INVERT COVER REVISED	17.02.21	ARA	ARA
C	HYDROBARK ANNOTATION AND COMBINED DRAINAGE COLOR REVISED	11.01.21	ARA	ARA
B	MAIN DRAINAGE REVISED TO SUIT NEW SITE LAYOUT & SEC 104 COMMENTS	28.10.20	RL	ARA
A	MAIN DRAINAGE REVISED TO NEW POSITIONS OF MANHOLES F20 & F21	29.05.20	EK	RL

Rev: Description: Date: By: Chkd:

Status:

Client: PRELIMINARY

Project: YOUR HOUSING

Dwg Title: EDGE LANE OPENSRAW

Section 104 SEWERS FOR ADOPTION WATER INDUSTRY ACT 1991

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Scale: 1:500 Size: A1 First Issue: JAN 2020 Drawn: EK Checked: ARA

Dwg No: ELL-19045-YH-B-180

Rev: I

NOTE:
NUMEROUS UNDERGROUND SERVICES EXIST

REFER TO OTHERS FOR DETAILS OF PROTECTIVE MEASURES AND DIVERSIONS REQUIRED. ALSO FOR THE LOCATION OF BURIED SERVICES AND CONFIDENCE IN THE LEVEL OF RELEVANT PUBLISHED INFORMATION. PLEASE NOTE THAT THE HAZARD TRIANGLES SHOWN REFER TO AREAS KNOWN TO BE OF CONCERN BUT EXCAVATIONS ELSEWHERE MAY REVEAL ADDITIONAL HAZARDS.

REFER ALSO TO ELLUC PROJECTS' HAZARD ELIMINATION / RISK ASSESSMENT AND THOSE OF OTHER DESIGN CONSULTANTS AND UTILITY COMPANIES REGARDING SAFETY ISSUES.

THIS DRAWING IS ISSUED ELECTRONICALLY WITH THE RISK ELEMENTS IDENTIFIED IN COLOUR. IT IS THE RECIPIENTS' RESPONSIBILITY TO ENSURE THAT OPERATIVES WHO MAY BE AFFECTED BY THE HAZARDS IDENTIFIED ARE ISSUED WITH SUITABLE COPIES OF THIS DRAWING IN WHOLE OR IN PART TO ILLUSTRATE THESE ITEMS.

MANHOLE SCHEDULE NETWORK 1 NORTHERN CATCHMENT

Manhole Number	Cover Level	Connections	Pipe			Manhole Size	Types	
			Code	Inverts	Diams Inv-sft		UNITED UTILITIES MANHOLE TYPES	Cover
F20	92.145		1	1.000	88.205	150	1	D400
E. 389283.292	3.790							
N. 397708.553		0						
F21	91.668		1	1.000	87.906	150	1	D400
E. 389245.028	3.612							
N. 397721.349		0						
F22	91.438		1	1.001	87.717	150	1	D400
E. 389219.616	3.571							
N. 397718.498		0						
F23	91.337		1	1.002	87.326	150	1	D400
E. 389212.229	3.861							
N. 397770.887		0						
F24	90.998		1	1.003	86.380	150	1	D400
E. 389220.368	4.468							
N. 397791.261		0						
S20	91.121		1	1.000	89.509	300	4	D400
E. 389303.061	1.312							
N. 397663.675		0						
S21	91.917		1	1.000	89.357	300	1	D400
E. 389295.476	2.260							
N. 397699.326		0						
S22	92.142		1	1.001	89.296	300	SHALLOW SW MANHOLE	D400
E. 389285.404	2.546							
N. 397709.846		0						
S23	91.666		1	1.002	88.290	1200	SHALLOW SW MANHOLE	D400
E. 389244.986	2.176							
N. 397723.275		0						
S24	91.401		1	2.000	88.129	300	SHALLOW SW MANHOLE	D400
E. 389220.680	1.972							
N. 397720.807		0						
S25	91.400		1	1.004	88.109	1200	SHALLOW SW MANHOLE	D400
E. 389214.119	2.091							
N. 397768.511		0						
S26 CONTROL CHAMBER	91.164		1	1.005	88.078	1200	5	D400
E. 389218.237	2.786							
N. 397780.312		0						
S27	91.034		1	1.006	87.960	300	1	D400
E. 389220.825	2.774							
N. 397788.300		0						
S30	91.601		1	2.000	89.235	300	1	D400
E. 389224.008	2.068							
N. 397695.674		0						

MANHOLE SCHEDULE NETWORK 2 SOUTHERN CATCHMENT

Manhole Number	Cover Level	Connections	Pipe			Manhole Size	Types	
			Code	Inverts	Diams Inv-sft		UNITED UTILITIES MANHOLE TYPES	Cover
F1	88.937		1	1.000	86.080	150	1200	1
E. 389142.862	2.707							
N. 397620.653		0						
F2	88.697		1	1.000	85.934	150	1500	1
E. 389137.812	2.613							
N. 397602.804		0						
F3	89.746		1	1.001	85.492	150	1500	1
E. 389195.038	4.104							
N. 397586.063		0						
F4	88.664		1	1.002	85.162	150	1500	1
E. 389233.351	3.352							
N. 397563.342		0						
F5	88.240		1	1.003	84.837	150	1500	1
E. 389267.809	3.253							
N. 397536.181		0						
F6	88.300		1	1.004	84.795	150	1200	1
E. 389273.481	3.355							
N. 397535.633		0						
F7	88.289		1	2.001	86.271	150	1500	1
E. 389308.010	3.741							
N. 397576.546		0						
F8	87.532		1	1.007	84.141	150	1500	1
E. 389335.534	3.241							
N. 397565.367		0						
F9	87.516		1	1.008	83.730	375	1500	1
E. 389338.496	3.413							
N. 397547.049		0						
F12	90.272		1	2.000	86.200	150	1200	1
E. 389235.797	1.922							
N. 397633.882		0						
F13	88.672		1	2.000	86.500	150	1200	1
E. 389294.069	1.822							
N. 397587.555		0						
F14	88.374		1	1.005	84.750	150	1500	1
E. 389278.661	3.475							
N. 397539.194		0						

Manhole Number		Cover Level	Connections	Pipe			Manhole Size	Types	
Coordinates		Depth To Soffit		Code	Inverts	Diams Inv-soff		UNITED UTILITIES MANHOLE TYPES	Cover
S1		88.978					2400	SHALLOW SW MANHOLE	D400
E.	389144.849	2.078							
N.	397621.288			0	1.000	86.000			
S2		89.700					2400	2	D400
E.	389197.586	2.995							
N.	397586.620			0	1.002	85.805			
S3		88.587					2400	SHALLOW SW MANHOLE	D400
E.	389236.306	1.996							
N.	397562.914			0	1.003	85.691			
S4		88.232					2400	SHALLOW SW MANHOLE	D400
E.	389266.792	1.738							
N.	397539.046			0	1.004	85.594			
S5		88.349					2100	SHALLOW SW MANHOLE	D400
E.	389274.316	1.874							
N.	397537.802			0	1.005	85.575			
S6		88.335					2100	SHALLOW SW MANHOLE	D400
E.	389305.011	1.983							
N.	397576.260			0	1.006	85.452			
S11		88.757					2400	SHALLOW SW MANHOLE	D400
E.	389140.236	1.902							
N.	397603.830			0	1.001	85.955			
S12		90.117					2100	2	D400
E.	389206.999	3.351							
N.	397608.590			0	2.000	85.866			
S13 CONTROL CHAMBER		87.647					2700	5	D400
E.	389331.404	1.902							
N.	397556.497			0	1.007	85.370			
S14		91.091					2100	2	D400
E.	389227.109	4.340							
N.	397673.273			0	3.000	85.851			
S15		90.535					2100	2	D400
E.	389226.171	3.868							
N.	397639.746			0	3.001	85.767			
S16		88.651					2100	2	D400
E.	389294.537	2.265							
N.	397585.409			0	3.002	85.487			
S17		89.004					2100	SHALLOW SW MANHOLE	D400
E.	389308.825	2.555							
N.	397605.799			0	4.000	85.549			

Photographic Evidence of Drainage Construction







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