

DRAINAGE

1. REFER TO CIVIL AND STRUCTURAL SPECIFICATION REPORT - PART R.
2. CONTRACTOR SHOULD ENSURE THE LOCAL PLANNING AUTHORITY HAVE APPROVED THE DRAINAGE PROPOSALS PRIOR TO ORDERING MATERIAL OR INSTALLATION.

HYDRAULIC DESIGN:
3. THE SURFACE WATER NETWORK, FLOW CONTROL AND ATTENUATION HAS BEEN DESIGNED USING DRAINAGE SOFTWARE WITH FSR RAINFALL DATA.

STRATEGY:
4. DISCHARGE RATE RESTRICTED AT 5.8 l/s SUBJECT TO LLFA APPROVAL. THIS IS BASED ON A RURAL RATE CALCULATED USING ICP SUDS.
5. TOTAL ATTENUATION FOR 100YR+45% CLIMATE CHANGE BELOW GROUND = 1.237m³.

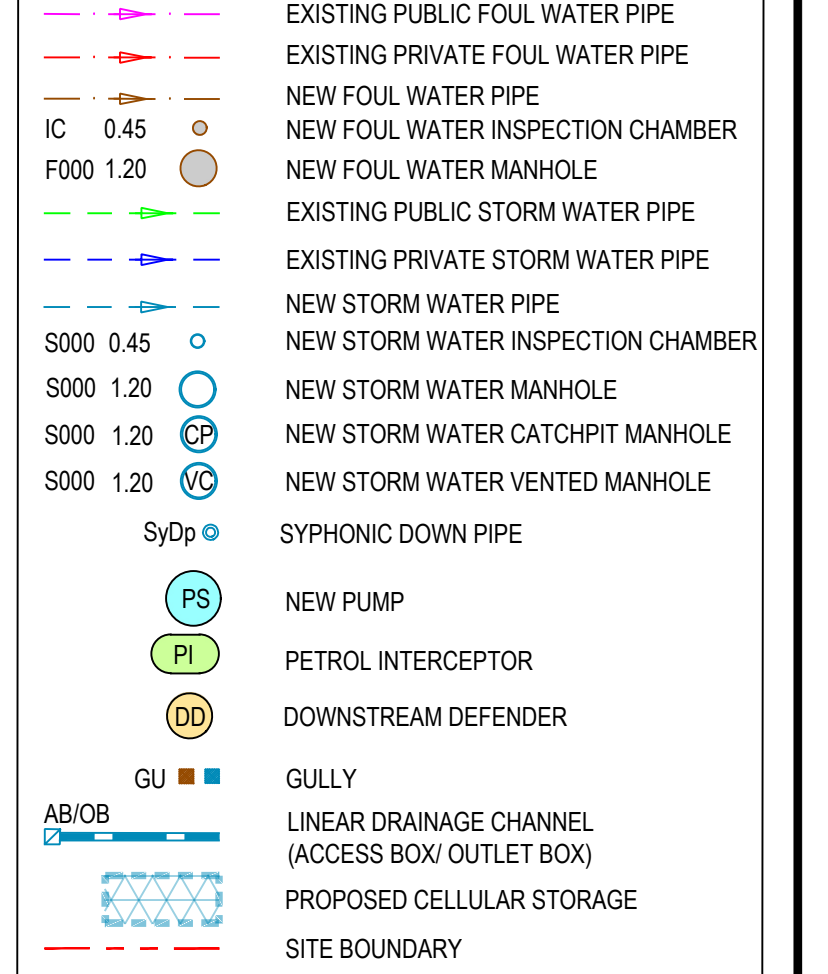
FINAL DRAINAGE CONNECTIONS:
6. WHERE THIRD PARTY APPROVAL IS REQUIRED THESE ARE NOTED AGAINST EACH DISCHARGE POINT ON THE DRAWING.
7. NO CONNECTION OR DISCHARGE SHOULD BE MADE UNTIL APPROVAL HAS BEEN RECEIVED. CHECK STATUS OF APPLICATION WITH ENGINEER.
8. CONTRACTOR SHOULD INVESTIGATE AND INSTALL FINAL DRAINAGE CONNECTIONS PRIOR TO INSTALLING ANY UPSTREAM DRAINAGE TO AVOID POTENTIAL LEAK ISSUES.
9. EVERY EFFORT HAS BEEN MADE TO PROVIDE ACCURATE INFORMATION. HOWEVER, THE CONTRACTOR IS ADVISED TO CHECK ACTUAL CONDITIONS, I.E. THE LOCATION, ACCESSIBILITY, UNDERGROUND ROUTE, LEVELS, SIZES, CONDITION OF EXISTING SEWERS TO BE RE-USED AND/OR CONNECTED INTO.

GENERALLY:
10. DO NOT SCALE FROM THIS DRAWING, WORK TO DIMENSIONS OR CO-ORDINATES PROVIDED.
11. REPORT CONFLICTS TO ENGINEER IMMEDIATELY.
12. EVERY EFFORT HAS BEEN MADE TO ASCERTAIN TYPE, LOCATION AND DEPTH OF BURIED SERVICES AND/OR OBSTRUCTIONS. HOWEVER, THE CONTRACTOR IS ADVISED TO CARRY OUT OWN INVESTIGATIONS TO ENSURE THERE ARE NO CLASHES WITH THE PROPOSED WORKS.
13. CONTRACTOR IS RESPONSIBLE FOR PROTECTING RETAINED SERVICES AND MAKING CONTACT WITH OWNERS OF APPARATUS TO OBTAIN NECESSARY CONSENT FOR EXCAVATION, PROTECTION AND/OR DIVERTING.
14. BURIED OBSTRUCTIONS ENCOUNTERED DURING EXCAVATION THAT CONFLICT WITH PROPOSED WORKS SHOULD BE BROKEN OUT AND REMOVED. RESIDUAL VOIDS TO BE BACKFILLED AND COMPACTED AS PER SPECIFICATION.

NEW DRAINAGE:
15. INTERNAL FOUL POINTS ARE LOCATED AND SET OUT BY THE ARCHITECT.
16. TRADITIONAL RAINWATER DOWNPIPES ARE PROVIDED BY THE CLADDING CONTRACTOR AND COORDINATED WITH THE ARCHITECT.
17. DESIGN ASSUMES THAT ALL WORKS ARE NOT TO BE ADOPTED.
18. GRADIENTS OF PIPES ARE AVERAGED. PIPE CONNECTIONS SHOULD BE INSTALLED TO THE STATED INVERT LEVELS.
19. COVER LEVELS OF THE MANHOLES ARE AVERAGED. COVER AND FRAME SHOULD BE SET TO SUIT FINISHED GROUND LEVELS.
20. ALL PIPEWORK WITHIN MANHOLES ARE TO BE LAID SOFFIT TO SOFFIT (J.N.O.), INCLUDING BACKDROP PIPEWORK, WHERE THE ROOFING ACCESS LEVEL IS SPECIFIED.
21. FLAT LATERAL CONNECTION TO BE 135° "Y" JUNCTIONS (IE 45° OBlique JUNCTIONS) RELATIVE TO MAIN RUN. TO BE USED ON FOUL OR SURFACE WATER RUNS. 90° OR 87½° SQUARE JUNCTIONS SUITABLE FOR SURFACE WATER CONNECTIONS ONLY.
22. SADDLE CONNECTIONS TO LARGER PIPES SHOULD BE MADE SO THAT THE INVERT LEVEL OF THE SMALLER PIPE DOES NOT ADJOIN BELOW MID HEIGHT OF THE LARGER PIPE.
23. PIPES CROSSING WITHIN 200MM OF EACH OTHER ARE TO BE ISOLATED BY CONCRETE FOR A MINIMUM DISTANCE OF 1M BEYOND CROSSING POINT IN ALL DIRECTIONS.
24. A CCTV DRAINAGE SURVEY TO BE CARRIED OUT ON COMPLETION TO PROVE THE INTEGRITY OF THE AS-BUILT DRAINAGE SYSTEMS.

ANCILLARY ITEMS:
25. WHERE PROPOSED CONTRACTOR MUST PROVIDE PROPOSALS FOR SUPPLY OF LINEAR DRAINAGE CHANNELS, KERB DRAINS, INTERCEPTORS, ATTENUATION, PUMPS, HYDROBRAKE, FILTER UNITS.
26. WHERE PROPOSED ALLOWANCE SHOULD BE MADE FOR POWER SUPPLY TO INTERCEPTORS AND PUMPS AND FOR INSTALLING CONTROL PANELS.

LEGEND



P4	08.05.25	DOWNSTREAM DEFENDER ADDED	SH	IL
P3	09.04.25	ISSUED FOR PLANNING	MS	IL
P2	12.03.25	REVISED WITH INFILTRATION TEST	RM	IL
P1	03.06.24	PRELIMINARY ISSUE	SH	IL

PROPOSED DRAINAGE PLAN



Project
**DOWNLEY ROAD,
HAVANT**

Drawing Set	Drawing Status	Scale	Project Number	Drawing Number	Revision
DRAINAGE	PRELIMINARY	1:250 @ A1 1:500 @ A3	24-011-I&L	D00	P4

FOUL WATER DISCHARGE

- FORM NEW Ø150 CONNECTIONS TO EXISTING FOUL MANHOLE.
- LOCATION AND LEVELS OF CONNECTION POINT BASED ON SOUTHERN WATER SEWER RECORDS. TO BE SURVEYED.
- S106 REQUIRED FOR DIRECT CONNECTION PRIOR TO MAKING CONNECTION.

EXCEEDANCE OVERLAND FLOWS

EXCEEDANCE ROUTE IN THE EVENT OF FAILURE OF THE DRAINAGE SYSTEM OR STORM EVENT IN EXCESS OF 1 IN 100+45% CC

DOWNSTREAM DEFENDER

CHAMBER CL 18.613m
CHAMBER IL 17.350m
MAX DESIGN FLOW 5.80 l/s

PETROL INTERCEPTOR

CONTRACTOR TO OBTAIN DESIGN/QUOTE FROM SUPPLIER BASED ON FOLLOWING PARAMETERS

AREA DRAINED 6.070m²
MAX FLOW RATE 380l/s
IL IN Ø450 @ 16.526m
IL OUT Ø450 @ 16.426m

ALLOW FOR CONCRETE SURROUND, POWER SUPPLY, CONTROL PANEL, VENTING AND HIGH LEVEL ALARM.

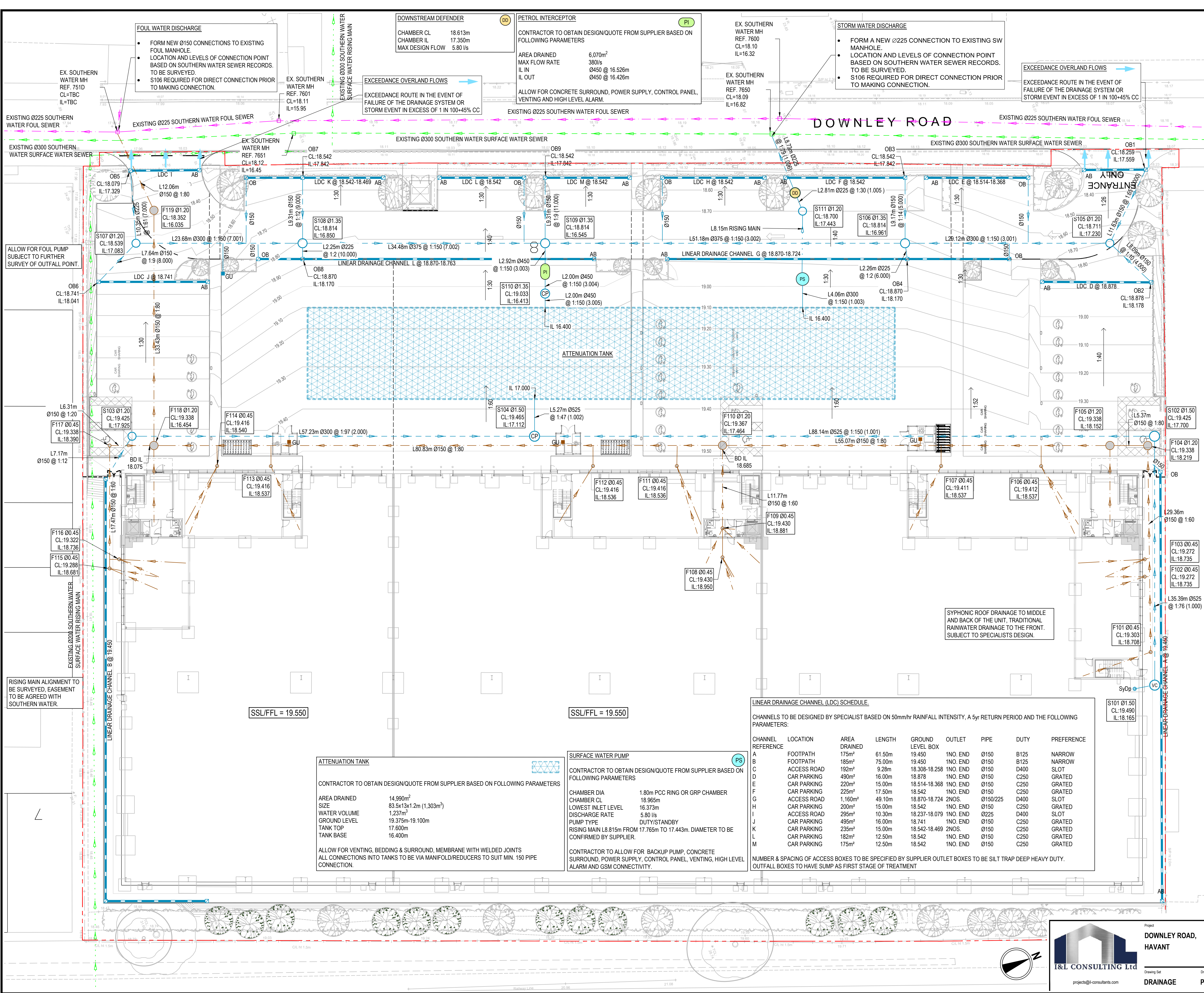
STORM WATER DISCHARGE

- FORM A NEW Ø225 CONNECTION TO EXISTING SW MANHOLE.
- LOCATION AND LEVELS OF CONNECTION POINT BASED ON SOUTHERN WATER SEWER RECORDS. TO BE SURVEYED.
- S106 REQUIRED FOR DIRECT CONNECTION PRIOR TO MAKING CONNECTION.

EXCEEDANCE OVERLAND FLOWS

EXCEEDANCE ROUTE IN THE EVENT OF FAILURE OF THE DRAINAGE SYSTEM OR STORM EVENT IN EXCESS OF 1 IN 100+45% CC

DOWNLEY ROAD



ATTENUATION TANK

CONTRACTOR TO OBTAIN DESIGN/QUOTE FROM SUPPLIER BASED ON FOLLOWING PARAMETERS

AREA DRAINED 14,990m²
SIZE 83.5x13x1.2m (1,303m³)
WATER VOLUME 1.237m³
GROUND LEVEL 19.375m-19.100m
TANK TOP 17.600m
TANK BASE 16.400m

ALLOW FOR VENTING, BEDDING & SURROUND, MEMBRANE WITH WELDED JOINTS
ALL CONNECTIONS INTO TANKS TO BE VIA MANIFOLD/REDUCERS TO SUIT MIN. 150 PIPE CONNECTION.

SURFACE WATER PUMP

CONTRACTOR TO OBTAIN DESIGN/QUOTE FROM SUPPLIER BASED ON FOLLOWING PARAMETERS

CHAMBER DIA 1.80m PCC RING OR GRP CHAMBER
CHAMBER CL 18.965m
LOWEST INLET LEVEL 16.373m
DISCHARGE RATE 5.80 l/s
PUMP TYPE DUTY/STANDBY
RISING MAIN L8.815m FROM 17.765m TO 17.443m. DIAMETER TO BE CONFIRMED BY SUPPLIER.

CONTRACTOR TO ALLOW FOR BACKUP PUMP, CONCRETE SURROUND, POWER SUPPLY, CONTROL PANEL, VENTING, HIGH LEVEL ALARM AND GSM CONNECTIVITY.

LINEAR DRAINAGE CHANNEL (LDC) SCHEDULE									
CHANNELS TO BE DESIGNED BY SPECIALIST BASED ON 50mm/hr RAINFALL INTENSITY, A 5yr RETURN PERIOD AND THE FOLLOWING PARAMETERS:									
CHANNEL REFERENCE	LOCATION	AREA DRAINED	LENGTH	GROUND LEVEL BOX	OUTLET	PIPE	DUTY	PREFERENCE	
A	FOOTPATH	175m ²	61.50m	19.450	1NO. END	Ø150	B125	NARROW	
B	FOOTPATH	185m ²	75.00m	19.450	1NO. END	Ø150	B125	NARROW	
C	ACCESS ROAD	192m ²	9.28m	18.308-18.258	1NO. END	Ø150	D400	SLOT	
D	CAR PARKING	490m ²	16.00m	18.878	1NO. END	Ø150	C250	GRATED	
E	CAR PARKING	220m ²	15.00m	18.514-18.368	1NO. END	Ø150	C250	GRATED	
F	CAR PARKING	225m ²	17.50m	18.542	1NO. END	Ø150	C250	GRATED	
G	ACCESS ROAD	1,160m ²	49.10m	18.870-18.724	2NOS.	Ø150/Ø225	D400	SLOT	
H	CAR PARKING	200m ²	15.00m	18.542	1NO. END	Ø150	C250	GRATED	
I	ACCESS ROAD	295m ²	10.30m	18.237-18.079	1NO. END	Ø225	D400	SLOT	
J	CAR PARKING	495m ²	16.00m	18.741	1NO. END	Ø150	C250	GRATED	
K	CAR PARKING	235m ²	15.00m	18.542-18.469	2NOS.	Ø150	C250	GRATED	
L	CAR PARKING	182m ²	12.50m	18.542	1NO. END	Ø150	C250	GRATED	
M	CAR PARKING	175m ²	12.50m	18.542	1NO. END	Ø150	C250	GRATED	

NUMBER & SPACING OF ACCESS BOXES TO BE SPECIFIED BY SUPPLIER
OUTLET BOXES TO BE SILT TRAP DEEP HEAVY DUTY.
OUTFALL BOXES TO HAVE SUMP AS FIRST STAGE OF TREATMENT