



TITLE;
 ABOVE GROUND
 FLOODING FOR 100 YEAR
 + 40% CLIMATE CHANGE RETURN PERIOD

$S5 = 0.08 m^3$
 (1.5x1.5x0.05 m)

$S11 = 8.80 m^3$
 (20x6x0.75 m)

$S9 = 14 m^3$
 (20x10x0.75 m)

$S10 = 5.50 m^3$
 (15x5x0.75 m)

ABOVE GROUND TOTAL
 VOLUME = 28.40 m³

- GENERAL NOTES:
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELATED DRAWINGS ISSUED BY THE ENGINEER.
 - DO NOT SCALE FROM THIS DRAWING. WORK FROM FIGURED DIMENSIONS ONLY.
 - ALL DIMENSIONS SHOWN ON THIS DRAWING ARE IN METRES UNLESS OTHERWISE STATED.
 - ALL DIMENSIONS, LEVELS AND SURVEY GRID CO-ORDINATES ARE TO BE CHECKED ON SITE AND THE ENGINEER NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES PRIOR TO THE COMMENCEMENT OF THE WORKS.
 - NO DEVIATION FROM THE DETAILS SHOWN ON THIS DRAWING IS PERMITTED WITHOUT PRIOR PERMISSION FROM THE ENGINEER AND ALL SETTING OUT SHALL BE AGREED ON SITE WITH THE ENGINEER PRIOR TO THE COMMENCEMENT OF THE WORKS.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY APPROVALS FROM THE LOCAL AUTHORITY PRIOR TO COMMENCING WORKS ON THE HIGHWAY I.E. ROAD CLOSURE NOTICES.
 - UNLESS STATED OTHERWISE, ALL EXCAVATED MATERIAL SHALL BE DISPOSED OF AT AN APPROVED TIP OFF-SITE.
 - THE PUBLIC HIGHWAY AND WORKS WILL BE KEPT CLEAN AND FREE OF DEBRIS BY USE OF WHEEL WASHING FACILITIES AND ROAD SWEEPERS TO THE COUNCIL'S SATISFACTION.
 - DRAINAGE DESIGN SUBJECT TO INPUT FROM ARBOCULTURIST. THE CURRENT DESIGN ASSUMES THERE ARE NO ISSUES WITH EXISTING TREES/TREE ROOT PROTECTION AREAS.
 - DRAWING BASED ON FLOWMAY TOPOGRAPHICAL SURVEY / ARCHITECT'S SITE PLAN.
 - STORM DRAINAGE TO BE 100mm DIA AT 1:60 GRADIENT UNO.
 - FOUL DRAINAGE TO BE 100mm DIA AT 1:40 UNO. ALL FOUL INSPECTION CHAMBERS TO BE 450mm DIA MIN INVERT LEVEL 0.75m.
 - ALL GULLIES AND AOD DRAINS ARE TO BE TRAPPED TO BS 5911:1982, IN NO EVENT SHALL OPEN GULLIES BE USED FOR THIS SCHEME.
 - BYPASS SEPARATOR TO TREAT CAR PARK RUNOFF AS SHOWN. ONLY CLEAN UNCONTAMINATED WATER SHALL DRAIN TO THE SURFACE WATER SYSTEM.
 - GEOLOGICAL SUBSTRATA THINER FORMATION COMPRISING OF SILT AND CLAY TO THICK CLAY, THEREFORE INFILTRATION NOT SUITABLE FOR THIS SCHEME. IT IS PROPOSED THAT ALL SURFACE WATER RUNOFF IS TO BE CONNECTION TO THE EXISTING SOUTHERN WATER STORM SEWER AS SHOWN.
- DRAINAGE DESIGN PHILOSOPHY
- ALL STORM WATER RUNOFF FROM THE REDEVELOPMENT YARD AREA IS DESIGNED TO DISCHARGE INTO THE OFFSITE SEWER AS INDICATED ON THE PLAN AT A RESTRICTED RATE OF 4 1/3 PER Hrs, therefore 0.632 Hrs = 2.50 1/3 AT S15.
- STORM WATER IS TO BE STORED WITHIN THE BELOW GROUND NON-INFILTRATION ATTENUATION BOX CULVERT FOR RETURN PERIODS UP TO THE 100 YEAR RETURN PERIOD INCLUDING 20% FOR CLIMATE CHANGE. THIS VOLUME EQUATES TOTALS APPROXIMATELY 160m³, WHICH IS PROVIDED AS UNDERGROUND STORAGE.
- THE SURFACE WATER DRAINAGE HAS BEEN MODELLED FOR THE 100 YEAR RETURN PERIOD PLUS 40% FOR CLIMATE CHANGE, WHICH GENERATES 28m³ OF FLOODING. THE FLOODING IS RESTRICTED TO AREAS OF CAR PARKING WHICH CAN BE CONTAINED ON SITE WITHOUT INCREASING RISK TO ANY ADJACENT LAND.
- BOTH STORM AND FOUL WATER CONNECTIONS INTO THE EXISTING SOUTHERN WATER SEWER IS SUBJECT TO ADEQUATE CAPACITY WITHIN THE EXISTING NETWORK. OFFSITE / SECTION 98 WORKS UNKNOWN - TBC.
- BOTH STORM AND FOUL WATER CONNECTIONS SUBJECT TO SOUTHERN WATER SECTION 106 APPROVAL.
- ALL DRAIN POINTS FROM BUILDINGS SHOWN INDICATIVELY AND SHOULD BE CONFIRMED AND CO-ORDINATED BY THE ARCHITECT. LOCATIONS ARE NOT INTENDED FOR CONSTRUCTION PURPOSES. REFER TO ARCHITECT'S PLANS FOR DETAILED SETTING OUT LOCATIONS.

KEY

- EXISTING PUBLIC SURFACE WATER PIPE
- EXISTING PUBLIC FOUL WATER PIPE
- ADAPTABLE SURFACE WATER MANHOLE (S14)
- ADAPTABLE SURFACE WATER INSPECTION CHAMBER TYPE 2 UNO (S14)
- PRIVATE SURFACE WATER MANHOLE REF NO. (S14)
- PRIVATE SURFACE WATER INSPECTION CHAMBER TYPE 2 (L) AND (K) REF NO. (S14)
- HOLE
- SURFACE WATER ROAD GULLY
- SURFACE WATER YARD GULLY
- ROCKING EYE IN 6m DEEP 400mm UNO
- POLY STORM CELLULAR STORAGE (OR SIMILAR APPROVED DESIGN SUBJECT TO MANUFACTURER APPROVAL)
- MATERIALS PERMISSIBLE PAVED OR SIMILAR APPROVED BOTH (SEN TYPE 1) W/ 100mm SUB-BASE AND WITH PERFORATED PIPE LAY IN THICK
- ADAPTABLE FOUL WATER MANHOLE (S10)
- ADAPTABLE FOUL WATER INSPECTION CHAMBER TYPE 2 (L) AND (K) REF NO. (S10)
- PRIVATE FOUL WATER MANHOLE (S10)
- PRIVATE FOUL WATER INSPECTION CHAMBER TYPE 2 (L) AND (K) REF NO. (S10)

NOTE: FOR MANHOLE / INSPECTION CHAMBER TYPES REFER TO S46 DRAINAGE DETAILS SHEETS (S2024)

FOR MANHOLE SETTING OUT CO-ORDINATES REFER TO S01N LATEST SA CAD PLAN / STORM WATER MANHOLE SCHEDULE

FINAL COVER LEVELS TO BE ADJUSTED ON SITE WHERE REQUIRED

ALL GULLIES TO BE LOCATED AT LOW POINTS

STORM Network 1

Pipe Code	Diameter (mm)	Gradient (1%)	Pipe Type	Pipe Length	Upstream Manhole			Downstream Manhole		
					Number	Invert	Cover	Number	Invert	Cover
1.000	100	59	CLAY	12.042	S1	24.38	25.08	S4	24.18	24.90
1.001	150	66	CLAY	10.591	S4	23.77	24.80	S7	23.61	24.85
1.002	150	23	CLAY	29.276	S7	23.81	24.65	S15	22.39	23.10
1.003	225	205	CLAY	16.533	S15	21.49	23.10	S18	21.43	22.56
1.004	150	98	CLAY	24.747	S16	21.43	22.80	S17	21.17	22.08
1.005	150	24	CLAY	12.065	S17	21.17	22.00	S18	20.68	21.50
2.000	150	101	CLAY	12.787	S2	24.10	24.85	S3	23.97	24.90
2.001	150	101	CLAY	20.534	S3	23.97	24.90	S4	23.77	24.90
3.000	100	59	CLAY	11.298	S5	23.85	24.55	S7	23.66	24.65
4.000	100	47	CLAY	11.300	S6	23.90	24.60	S7	23.66	24.65
5.000	100	20	CLAY	15.695	S8	23.30	23.90	S15	22.40	23.10
6.000	150	101	CLAY	24.057	S9	22.00	22.75	S11	21.76	22.75
6.001	225	167	CLAY	5.524	S11	21.69	22.75	S12	21.65	23.50
6.002	225	165	CLAY	5.273	S12	21.65	23.50	S13	21.62	23.30
6.003	225	165	CLAY	8.749	S13	21.62	23.30	S15	21.57	23.10
7.000	150	94	CLAY	22.507	S10	22.00	22.76	S11	21.76	22.75
8.000	150	53	CLAY	7.917	S14	22.00	23.25	S15	22.35	23.10

NOTE: TOPOGRAPHICAL SURVEY, OS DATA, SITE PLAN OVERLAY SHOWN INDICATIVELY AND SHOULD BE COMPLETED BY ARCHITECT.

NOTE: SCHEME SUBJECT TO DETAILED DESIGN

ISSUED FOR APPROVAL: GW, 2020.217
 ISSUED FOR INFORMATION: GW, 22.05.17
 Rev: Description: Date: C/S: Date

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Client: Red Key Concepts
 Architect: Kent Design Studio
 Project: Proposed Doctors Surgery and Housing, Court Hill Road, Litebourne, Canterbury, Kent
 Drawing Title: Proposed Below Ground Drainage Layout WITH 40% CLIMATE CHANGE

Drawn: GW, ME, Date: MAY 17, Sheet Size: A1, Scale: 1:250
 ICSA Project Number: 6528, Set: S0, Revision: P2

Project: 6002 SK