ODYSSEY

DEVELOPING JOURNEYS

LAND AT STAKERS FARM YAPTON – DRAINAGE AND SUDS MAINTENANCE AND MANAGEMENT PLAN

LAND AT STAKERS FARM, YAPTON

DRAINAGE AND SUDS MAINTENANCE AND MANAGEMENT PLAN ON BEHALF OF DANDARA LIMITED (SOUTHERN)

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DOCUMENT CONTROL SHEET

Project Name Land at Stakers Farm, Yapton

Project No. 19-156

Rev	Issue Purpose	Author	Checked	Reviewed	Approved	Date
-	First Issue	CJL	AK	SW	SW	29.07.20
A	Infiltration basin omitted from the design and maintenance plan	AK	SW	SW	SW	09.02.21
B	Further changes to address Arun DC comments	AK	SW	SW	SW	16.03.21
C	Drainage channel further description added	AK	SW	SW	SW	25.03.21
D	Various updates across the report to address Arun DC comments	AK	BO	BO	BO	08.01.26

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APPENDICES

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1.0 INTRODUCTION

1.1 Background

1.1.1 Odyssey has been appointed by Dandara Limited (Southern) to provide a Drainage and SUDS Maintenance and Management Plan, to assist with the items required to discharge Conditions of the planning applications associated with their proposed development at Land at Stakers Farm, Yapton

1.1.2 There are two planning applications relating to this one overall site. Planning reference Y/88/18/OUT which is for the 38 units located to the Northern end of the site and Planning reference Y/44/17/OUT which is for the 70 units located to the Southern end of the site.

1.1.3 Both applications are being brought forward together by Dandara Limited (Southern) and are subject to outline conditions which prevent occupation prior to completion of the approved drainage

1.1.4 This report has been prepared based on the site-specific drainage design by Odyssey.

1.1.5 All roads throughout the development will remain private.

2.0 DRAINAGE OVERVIEW

2.1 Surface Water

2.1.1 On the Northern end of the overall site (Y/88/18/OUT), there are numerous surface water systems proposed. Main network is serving majority of the roofs and draining to ground via a large infiltration blanket. Some networks serve individual roofs via separate infiltration blankets whilst other networks cater for hard standing areas, roads, footways, parking areas and adjacent roofs via a porous paving network. All roads, parking courts and driveways are being constructed of a permeable block paved construction to allow infiltration to ground across the site. All the drainage serving the Northern application site are contained fully with the application boundary. Refer to drawings YAP-130-081 to 082 in **Appendix A** for details of the drainage system.

2.1.2 On the southern end of the overall site (Y/44/17/OUT), there are two surface water networks proposed. One serving the roofs only and discharging to a large infiltration blanket. This blanket is located at the edge of the application boundary with part of it oversailing into the northern application site. It should be noted that although the Southern application site is reliant on this basin located partly within a separate application, that the applications are being brought forward by Dandara Limited (Southern) who are therefore in control of both applications. This method has also been approved by the Planners. The other network serves all hard standing areas, roads, footways, parking areas via an interconnected porous paving network, with all roads, parking courts and driveways being constructed of a permeable block paved construction to allow infiltration to ground across the site. It should be noted that there is an area to the south-west of the site where infiltration was poor and so an allowance for this has been made within the neighbouring connected porous paved areas, where infiltration is good. Flows that are unable to infiltrate to ground in the poor infiltration areas will flow via the connected sub-base material or the connection pipework to the porous paved sub-base in areas of good infiltration. Refer to drawings YAP-130-083 to 086 in **Appendix A** for details of the drainage system.

2.1.3 The surface water networks including the infiltration blankets and permeable road systems are designed to cater for a 1 in 100-year return storm (1% annual probability) plus a climate change allowance of 40%. 10% Urban creep has been allowed for roofs within the design catchments. Surface water drainage networks will remain private.

2.1.4 Drainage features serving single dwelling only will be the responsibility of an individual householder. Drainage features of shared surface water drainage system or items located beneath publicly accessible areas in general will be the responsibility of and be maintained long term by the appointed management company in accordance with the drainage suppliers' requirements/recommendations. Please refer to drawing YAP-130-090 in **Appendix B** which identifies responsibilities for respective householders and management company.

2.1.5 It would be necessary for the management company to prepare a bespoke maintenance record sheet, however as a guide a CIRIA's C753 SuDS Manual example is shown in **Appendix C**.

2.2 Foul Water

2.2.1 On the Northern end of the overall site (Y/88/18/OUT), the proposed foul water network is a traditional gravity fed pipe and manhole system, which drains to the west of the site and discharges into the public foul water network in North End Lane. Refer to drawings YAP-130-081 to 082 for details of the drainage system.

2.2.2 On the southern end of the overall site (Y/44/17/OUT), the proposed foul water network is a traditional gravity fed pipe and manhole system draining to a new adoptable foul water pump station in the middle of this site. From the pump station all flows will be pumped along a new rising main to the Northern site, where it will connect into the proposed gravity foul water network before discharging into the public foul sewer network in North End Lane. Refer to drawings YAP-130-083 to 086 for details of the drainage system.

2.2.3 All new foul drainage system will be constructed in accordance with Building Regulations Approved Document H and where possible offered for adoption to Southern Water who will maintain the adoptable system. Any drainage not adopted will be the responsibility of the management company.

3.0 MAINTENANCE AND MANAGEMENT PLAN

3.1 Overview

3.1.1 Outlined below are the inspection and maintenance specifications for the surface water drainage. Lack of maintenance and/or damage to SuDS elements might lead to surface water flooding from within the drainage system.

3.1.2 A pre-handover inspection will be required prior to the commencement of any maintenance periods.

3.1.3 The long term management company will be: **Trinity Estates**, Vantage Point, 23 Mark Road, Hemel Hempstead, Hertfordshire, HP2 7DN; [redacted]
Web: www.trinityestates.com.

3.1.4 Private management company must have access rights to all areas (even private) where the maintenance of a shared drainage system would be necessary.

3.1.5 The following text has been divided into sub-sections which correspond to each relevant SuDS type detailing:

- An explanation of the SuDS component and how it is used;
- The requirements and regularity of SuDS maintenance;
- The requirements and regularity of SuDS inspections;

3.1.6 The actions outlined below are common to all types of surface water drainage, and are the minimum standard of maintenance and inspection; indeed, the management company and individual householders (where appropriate) may find it beneficial to vary the maintenance regularity, and also to include extra tasks such as

- To record the measurements of sediment levels;
- To make a photographic record of problem areas;
- To identify and clear areas where refuse is a problem;

3.1.7 Should repairs to the drainage system be needed it is expected that upon completion any drainage system reinstatement works will provide the same construction and functioning standards as per the approved drainage designs (please refer to **Appendix A** for approved designs).

3.1.8 Any green waste and sediments collected following surface water system maintenance to be safely and appropriately disposed off-site at a suitable facility.

3.2 *Piped Systems, Manholes, Chambers, Silt Traps*

3.2.1 Drainage systems comprising of pipe runs and manholes are a more conventional method of draining surface water runoff from hard standing areas

3.2.2 Surface water falling on impermeable areas, such as roofs, drain via rainwater pipes which convey the water below ground to the main drainage network. Manholes are also provided on the main drainage system at regular intervals, changes in sewer direction, gradient or pipe diameter. This type of drainage system can be accessed from the manholes for routine inspection and maintenance.

Table 3.1: Piped Systems, Manholes, Chambers, Silt Traps - Maintenance Activities

Maintenance Category	Maintenance Activity	Comments	Frequency
Regular Maintenance	Litter and debris removal	Debris removal which may cause risks to performance	Monthly
	Checking of blockages, cleaning of gutters, drainage channels and silt traps	Silt traps found to be non-functioning/blocked on annual inspection will be noted and cleared at 6 monthly intervals. Recurring blockages should be investigated.	Annually (or as required)
		Cleaning of gutters and drainage channels	Annually (or as required based on inspections)
	Correct Operation	Check for blockages, inspect and identify any areas that are not operating correctly	Monthly for 3 months after installation and then 6 monthly
Occasional Maintenance	Clear blockages	Cleaning/jetting	As required
	Desilting of silt traps	Remove sediment and debris from silt traps	As required
Remedial Actions	Repair	Repair/rehabilitation of system components	As required
Monitoring	Initial Inspection	Initial Inspection	Monthly for 3 months after installation
	Operation Inspection	Inspect for evidence of poor operation. Check silt traps for prolonged surcharge. If required, take corrective action and maintenance.	3-monthly and 48 hours after large storms for silt traps checks
	Clogging Inspection	Inspect silt accumulation rates and establish appropriate cleaning frequencies.	Monthly in the first year and then as required
	Inspection Chambers, Silt traps	Monitor inspection chambers and silt traps.	Annually or as required

3.3 Permeable Paving

3.3.1 Permeable paving has been proposed on this site to drain the surface water falling on the roads and driveways. The blocks on the surface of the road are of a type which allows surface water to infiltrate through the small gaps and into the sub-base below. This avoids the need for gullies. The thickness of the sub-base has been sized to attenuate the surface water run off for a 1 in 100 year plus 40% event. The system will be lined with a permeable geotextile, this will allow the surface water to infiltrate into the ground below.

3.3.2 Permeable paving will cleanse the SW run-off. The initial cleansing occurs within the paving blocks sand bedding layer where hydrocarbons are collected. The layer of geotextile below the sand acts as a secondary filter before infiltration through to the sub-base further filters the discharge before ultimately infiltration into the ground.

Table 3.2: Permeable Paving - Maintenance Activities *(continued overleaf)*

Maintenance Category	Maintenance Activity	Comments	Frequency
Regular Maintenance	Sweeping	Regular removal of silt and other sediments to maintain infiltration capacity.	Minimum of 3 surface sweepings per year 1. End of winter (April) - to collect winter debris 2. Mid-summer (July/August) - to collect dust, flower and grass-type deposits. 3. After autumn leaf fall (November) Or as required based on site specific observations of clogging or manufacturer's recommendations
	Brushing and Vacuuming	Brush and suction cleaner (either lorry-mounted or small precinct sweeper) Care should be taken to adjust vacuum equipment to ensure jointing material is not removed. Any lost material should be replaced	
Occasional Maintenance	Landscaping trimming	Stabilise and mow adjacent areas	As required
	Weeding	Removal of weeds from permeable pavement structure	As required

Maintenance Category	Maintenance Activity	Comments	Frequency
Remedial Actions	Landscape Remediation	Remediate any landscaping which, through vegetation maintenance or soil slip, has been raised to within 50mm of the level of the paving.	As required
	Rutting and Damage Remediation	Remedial work to any depressions, rutting and cracked or broken blocks considered detrimental to the structural performance or a hazard to users.	As required
	Structural Remediation	Rehabilitation of surface and upper sub-structure	Every 10 to 15 years or as required (if infiltration performance is reduced because of significant clogging)
Monitoring	Initial Inspection	Initial Inspection	Monthly for 3 months after installation
	Operation Inspection	Inspect for evidence of poor operation and/or weed growth. If required, take remedial action.	3-monthly and 48 hours after large storms
	Clogging Inspection	Inspect silt accumulation rates and establish appropriate brushing frequencies.	Annually

3.4 Drainage Channels

3.4.1 There are drainage channels used across the site.

3.4.2 These are used to receive rainwater downpipes as well as to capture surface water run-off where appropriate.

3.4.3 Rainwater downpipes can be connected into the drainage channel system via a proprietary downpipe adapter or terminate just above drainage channel grating with water falling freely onto the channel grating.

3.4.4 It is imperative that any drainage channels are properly maintained to ensure that rainwater flow within them is not impeded.

3.4.5 When and where necessary drainage channel maintenance activities will be undertaken in accordance with **Table 3.1**.

3.4.6 The design of drainage channels is based on a full-bore condition however no flooding is allowed. Should rainwater start to escape from the channel via the top grating it will be necessary to investigate the issue and necessary corrective maintenance will be undertaken accordingly.

3.4.7 Access into drainage channel is easily facilitated by lifting channel grating thus allowing internal inspection and maintenance action as necessary.

3.5 Infiltration Blanket

3.5.1 Infiltration blankets are proposed on this site to drain surface water falling directly onto the roofs.

3.5.2 Surface water flow to the blankets will be via linear drains, a piped network and silt trap inspection chambers. All manholes immediately upstream of the blankets will incorporate a silt trap / sump. The above system will offer treatment of surface water prior to entering the blanket.

3.5.3 All pipework up to the inlet into the blanket will be maintained in accordance with **Table 3.1**.

3.5.4 Infiltration blankets are constructed from plastic geocellular units.

3.5.5 Main infiltration blankets located underneath public open spaces will incorporate inspection tunnels allowing for an internal survey. These tunnels will be accessed via dedicated inspection chambers and will allow inspection and de-silting (via jetting) should it be necessary.

3.5.6 The inspection and maintenance will be like in **Table 3.1** for 'Regular Maintenance' category and 'Checking of blockages' activity and where necessary as per 'Remedial Actions' category.

3.6 Swale

3.6.1 Swales are shallow, flat bottomed, vegetated open channels that are normally dry except during and immediately following a storm event.

3.6.2 A schedule for maintenance of a swale is shown in **Table 3.3**

Table 3.3: Swale – Maintenance Activities *(continued overleaf)*

Maintenance Category	Maintenance Activity	Comments	Frequency
Regular Maintenance	Litter and debris removal	Litter & debris to be removed prior to any grass cutting activity to minimise risk of shredding litter. Particular attention should be paid to inlet pipes and grilles (if in place)	Monthly
	Grass cutting	To retain grass height within specified design range. All cuttings to be removed from swale.	Monthly (during growing season) or as required
	Inspect infiltration surfaces for ponding, compaction, silt accumulation, record areas where water is ponding for > 48 hours		Monthly or as required
	Inspect vegetation coverage		Monthly for six months, quarterly for two years, then half yearly
	Manage other vegetation and remove nuisance plants	Weeding should be conducted by hand or use non-toxic and biodegradable weed killer. Invasive species should be removed in accordance with best practice	Monthly (at implementation) then as required
	Inspect inlets, outlets, banksides, structures, pipework, etc for evidence of blockage and/or physical damage	Where present	Monthly
	Inspect inlets and facility surface for silt accumulation, establish appropriate silt removal frequencies		Half yearly

Maintenance Category	Maintenance Activity	Comments	Frequency
Occasional Maintenance	Re-seed or replant areas of poor vegetation growth, alter plant types to better suit conditions, if required		As required or if bare soil is exposed over 10% or more of the swale treatment area
Remedial Actions	Repair erosion or other damage by re-turfing or reseeding		As required
	Relevel uneven surfaces and reinstate design levels		As required
	Scarify and spike topsoil layer to improve infiltration performance, break up silt deposits and prevent compaction of the soil surface		As required

3.7 Accidental Spillages of Pollutants

3.7.1 If the spill cannot be safely contained or if the spill is causing a threat to life, evacuate the area and call emergency services from a safe location.

3.7.2 If it is safe to do so an action for dealing with accidental spillages should follow the stop-contain-notify-clean up procedures. These procedures must only be followed if the nature of the spillage and associated hazard is known and understood.

3.7.3 'Stop' – If appropriate stop work immediately and stop the leak or eliminate the source of the spill.

3.7.4 'Contain' – Spills involving hazardous materials should first be contained to prevent spread of the material to other areas. Use pollution control equipment (e.g. spill kits, drip trays, etc) to contain the spill. Check the spill has not reached any drains or water bodies.

3.7.5 'Notify' – Once the spill has been contained notify emergency contact, either nominated management company or emergency services by calling 999.

3.7.6 'Clean up' – Attempt to soak up the spill using absorbent material (or by suction tank or similar if appropriate). Wherever possible the material should be rendered safe by treating with appropriate chemicals. Treated material should be absorbed onto inert carrier material to allow the material to be cleared up and removed to a safe place for disposal or further treatment as appropriate. Any areas of affected permeable block paving surfacing should be appropriately cleaned and re-laid on a new bedding material. In case of a heavy pollution of the sub-base it might be necessary to replace the sub-base as appropriate.

4.0 FINANCIAL MANAGEMENT OF DRAINAGE

4.1 Management Company

4.1.1 Shared drainage not adopted by Southern Water (as in case for FW pump station) will be maintained by a management company.

4.2 Financial Management and Maintenance costs

4.2.1 The management company will collect funds through estate charges (monthly, annually or as appropriate) from all residents to cover costs for the ongoing maintenance.

4.2.2 Within the estates charges a contingency pot/sinking fund will accumulate monies which will cover costs for unforeseen maintenance/repairs and the future replacement of any major components at the end of the manufacturers recommended design life.

4.2.3 In the event that the management company (or any subsequent management company) is no longer able to fulfil its duties, then the responsibility will remain with the residents to form and/or appoint a new management company.

Appendix A

Approved Engineering Drawings

20m x 3m x 0.4m DEEP
(INFILTRATION BLANKET 3 - CRATES)
IL 6.199, TL 6.599, CL 6.899
PLOT 15-17

20m x 4m x 0.4m DEEP
(INFILTRATION BLANKET 2 - CRATES)
IL 6.199, TL 6.599, CL 6.899
PLOTS 5-8

ROOF INTO INFILTRATION BLANKET 2
210m² (inc. 10% CREEP)

ROOF INTO INFILTRATION BLANKET 1
100m² (inc. 10% CREEP)

11m x 3m x 0.4m DEEP
(INFILTRATION BLANKET 1 - CRATES)
IL 5.720, TL 6.120, CL 6.650
PLOTS 3 & 4

RWP TO DISCHARGE ONTO DRAINAGE CHANNEL

RWP'S TO DISCHARGE ONTO DRAINAGE CHANNEL

ALL RWP'S TO DISCHARGE ONTO DRAINAGE CHANNEL

START OF ACO M100D 10.0

START OF ACO M100D 20.0

FWMH 8701
CL 5.950
IL OUT 4.150
150mm DIA OUT

FWMH 8702
CL 5.750
IL IN 3.810
IL OUT 3.800
150mm DIA OUT

IL OUT 3.917
150mm DIA OUT
(IL INTERPOLATED
ONLY - TBC BEFORE
WORKS)

46.4m UPSTREAM TO EXISTING FOUL WATER PUBLIC MH 8701

26.9m DOWNSTREAM TO EXISTING FOUL WATER PUBLIC MH 8702

CONNECTION FROM THE TEMPORARY SALES AREA IL 6.750

FOR CONTINUATION REFER TO SHEET 2 OF 6

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DRAINAGE KEY

- FWMH - EXISTING PUBLIC FOUL WATER MANHOLE
- FWMH - PUBLIC FOUL WATER MANHOLE UNDER SECTION 104
- FWMH - PRIVATE FOUL WATER MANHOLE (PCC RINGS) - MIN 1.2m DIA
- FW-IC3 - PRIVATE FOUL WATER INSPECTION CHAMBER - MIN 0.45m DIA
- FW-IC4 - PRIVATE FOUL WATER INSPECTION CHAMBER - MIN 0.25m DIA
- SWMH - PRIVATE SURFACE WATER MANHOLE (PCC RINGS / BRICKWORK)
- SW-IC3 - PRIVATE SURFACE WATER INSPECTION CHAMBER - MIN 0.6m DIA
- SW-IC3 - PRIVATE SURFACE WATER INSPECTION CHAMBER - MIN 0.75m x 0.60m
- SW-IC3 - PRIVATE SURFACE WATER INSPECTION CHAMBER - MIN 0.45m DIA
- SW-IC4 - PRIVATE SURFACE WATER INSPECTION CHAMBER - MIN 0.25m DIA
- RODDING EYE
- EXISTING PUBLIC FOUL WATER SEWER
- FW RISING MAIN
- PUBLIC FOUL WATER SEWER
- FOUL WATER LATERAL
- PRIVATE FOUL WATER DRAINAGE
- PRIVATE SURFACE WATER DRAINAGE
- SURFACE WATER DRAINAGE CHANNEL (I.E ACO M100D 0.0 OR SIMILAR APPROVED)
- ST — SW CHAMBER WITH MINIMUM 300mm DEEP SILT TRAP
- CONNECTION CHAMBER INTO GEOCELLULAR UNITS - 450mm x 450mm CHAMBER
- INFILTRATION BLANKET
- PERVIOUS PAVING
- PERVIOUS PAVING WITH 235mm THICK LAYER OF GEOCELLULAR UNITS
- FFL 7.250 — PROPOSED FINISHED FLOOR LEVEL
- 6.550 — PROPOSED FINISHED SURFACE LEVEL
- INDICATIVE LIGHTING COLUMN POSITION - TO BE ADJUSTED AT DETAILED LIGHTING DESIGN

KEY PLAN
(SCALE 1:5000)

NOTES

1. IN COMPLIANCE WITH CDM 2015 ODYSSEY HAS FOLLOWED IT'S DESIGN RISK MANAGEMENT PROCESS FOR HAZARD ELIMINATION AND RISK REDUCTION IN DEVELOPING THE ODYSSEY DESIGNS SHOWN ON THIS DRAWING. THERE ARE NO ABNORMAL OR UNUSUAL RESIDUAL RISKS ASSOCIATED WITH THE DESIGN. ANY OTHER RESIDUAL RISKS ARE THOSE THAT WOULD NORMALLY BE EXPECTED BY COMPETENT PERSONS OR CONTRACTORS ENGAGED ON WORK OF THIS NATURE OR TYPE.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELATED DRAWINGS ISSUED BY THE ARCHITECT AND ENGINEER.
3. DO NOT SCALE FROM THIS DRAWING. WORK FROM FIGURED DIMENSIONS ONLY.
4. EXISTING DRAINAGE FEATURES AND GROUND LEVELS (SHOWN TO AN ORDNANCE DATUM) ARE BASED ON THE MK SURVEYS TOPOGRAPHICAL SURVEY - DWG NO. 26714 DATED MARCH 2019. ODYSSEY ASSUMES NO RESPONSIBILITY ON THE LEVEL OF ACCURACY OF SURVEY INFORMATION PROVIDED.
5. ALL DIMENSIONS SHOWN IN METRES UNLESS NOTED OTHERWISE.
6. ALL DIMENSIONS, LEVELS AND SURVEY GRID CO-ORDINATES ARE TO BE CHECKED ONSITE AND THE ENGINEER NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES PRIOR TO THE COMMENCEMENT OF THE WORKS.
7. SURFACE WATER FROM PRIVATE AREAS IS NOT TO BE DISCHARGED ONTO ADOPTABLE HIGHWAY, I.E. PERMEABLE PAVING OR DRAINAGE CHANNELS WILL INTERCEPT FLOWS FROM PRIVATE AREAS AND CONNECT INTO THE PRIVATE OR S104 ADOPTABLE SYSTEM.
8. PRIVATE INSPECTION CHAMBER SIZES ARE TO BE IN ACCORDANCE WITH THE NHBC STANDARDS SECTION 5.3, TABLES 3 AND 4 OR WHERE APPLICABLE BUILDING REGULATIONS PART H; TABLE 11 AND TABLE 12.
9. ALL CHAMBERS DIRECTLY UPSTREAM OF INFILTRATION FEATURES TO INCORPORATE SILT TRAP AND NO PIPE TO BE CONNECTED DIRECTLY TO INFILTRATION FEATURE WITHOUT PASSING THROUGH SILT TRAP.
10. ALL RWP'S TO HAVE RODDING ACCESS.
11. ALL FOUL AND SURFACE WATER DRAINAGE PIPES TO BE 100mm Ø WITH MINIMUM GRADIENTS OF 1/80 AND 1/100 RESPECTIVELY UNLESS SPECIFIED OTHERWISE.
12. IT IS ASSUMED THAT THE INVERT OF THE TAIL OF THE BEND AT THE FOOT OF THE STACK WILL BE 0.45m BELOW FFL FOR ALL SINGLE DWELLINGS. FOR BLOCK OF FLATS THIS IS ASSUMED TO BE 0.75m BELOW FFL.
13. IT IS ASSUMED THAT ANY BRANCH DISCHARGE PIPE FOR SINGLE DWELLINGS WILL NOT DISCHARGE INTO A STACK LOWER THAN 450mm ABOVE THE INVERT OF THE TAIL OF THE BEND AT THE FOOT OF THE STACK. FOR BLOCK OF FLATS THIS IS ASSUMED TO BE 750mm.
14. SECTION 106 FOR FOUL WATER CONNECTION OBTAINED FROM SOUTHERN WATER ON 20-08-2020.
15. ANY ADOPTABLE S104 DRAINAGE WORKS TO BE CARRIED IN ACCORDANCE WITH THE SEWERAGE SECTOR GUIDANCE AND DESIGN AND CONSTRUCTION GUIDANCE.
16. ALL DRAINAGE TESTING REQUIRED IS TO BE CARRIED OUT AT THE CONTRACTORS EXPENSE.
17. DRAINS IN AREAS OF MADE GROUND TO BE CONSTRUCTED BY FIRST MAKING UP THE AREA TO APPROXIMATELY FINISHED LEVEL AND THEN EXCAVATE THROUGH THE FILL MATERIAL INTO UNDISTURBED GROUND. THE DRAIN TRENCH IS THEN TO BE BACKFILLED TO FORMATION LEVEL USING SUITABLE GRANULAR FILL MATERIAL WELL COMPACTED IN LAYERS NOT EXCEEDING 225 THICK.
18. IF THERE IS ANY AMBIGUITY BETWEEN THE SPECIFICATION AND THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY INFORM THE ENGINEER.
19. CONTRACTOR TO SURVEY FOR AND LOCATE THE POSITION AND DEPTH OF ALL SERVICES ACROSS THE SITE BEFORE COMMENCING ANY WORKS.
20. STATUTORY SERVICE DIVERSION WORKS - IF DEEMED NECESSARY - TO BE AGREED WITH THE APPROPRIATE STATUTORY UNDERTAKER.
21. ALL TOPSOIL STRIPPED FOR RE-USE ON VERGES ETC. TO BE STOCKPILED AT A LOCATION TO BE AGREED WITH THE ENGINEER.
22. FOR PIPES WHERE MINIMUM COVER IN ACCORDANCE WITH BUILDING REGULATIONS PART H TABLES 8 TO 10 IS NOT MET CONCRETE SLAB / CONCRETE SURROUND PROTECTION MUST BE ADDED OR DUCTILE IRON PIPES USED.

CONSTRUCTION ISSUE

Rev	Amendments	Drn	Chk	App	Date
C5	MINOR UPDATES TO SW SYSTEM (PLOTS 23-32) FOLLOWING ARUN DC REQUIREMENTS	AK	SW	SW	25.03.21
C4	MINOR UPDATES FOLLOWING SITE LAYOUT UPDATES	AK	SW	SW	22.03.21
C3	MINOR UPDATES TO ADDRESS CLIENT'S COMMENTS	AK	SW	SW	15.03.21
C2	AMENDMENTS AS PER ARUN DC REQUIREMENTS	AK	SW	SW	04.03.21
C1	CHANGES TO PLOT DRAINAGE. DRAWING STATUS REVISED TO CONSTRUCTION ISSUE	AK	SW	SW	25.02.21
T5	DRAINAGE LAYOUT UPDATED	AK	SW	SW	25.02.21
T4	BELLMOUTH ACCESS CONTOURS UPDATED	AK	SW	SW	05.02.21
T3	CHAMBER NUMBERS ADDED	AK	SW	SW	04.02.21

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Job Title
LAND AT STAKERS FARM, YAPTON

Drawing Title
DRAINAGE LAYOUT - PLOTS 1-23 & 33-38
38 UNIT SITE - SHEET 1 OF 6

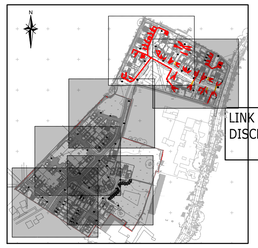
Client
DANDARA LIMITED (SOUTHERN)

Scale	Date	Designed
1:200 @ A1	SEP 20	AK
Drawn	Checked	Approved
JK	AK	SW
Job No	Drawing No	Rev
19-156	YAP-130-081	C5

N:\19-156 - Land at Stakers Farm, Yapton\Tech\Acad\Drawings\Detailed Design\YAP-130-081 Drainage Layout Sheet 1 of 6.dwg

DRAINAGE KEY

- FWMH - EXISTING PUBLIC FOUL WATER MANHOLE
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- SW-IC3 - PRIVATE SURFACE WATER INSPECTION CHAMBER - MIN 0.6m DIA
- SW-IC3 - PRIVATE SURFACE WATER INSPECTION CHAMBER - MIN 0.75m x 0.60m
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- FW RISING MAIN
- PUBLIC FOUL WATER SEWER
- FOUL WATER LATERAL
- PRIVATE FOUL WATER DRAINAGE
- PRIVATE SURFACE WATER DRAINAGE
- SURFACE WATER DRAINAGE CHANNEL (I.E ACO M100D 0.0 OR SIMILAR APPROVED)
- ST — SW CHAMBER WITH MINIMUM 300mm DEEP SILT TRAP
- CONNECTION CHAMBER INTO GEOCELLULAR UNITS - 450mm x 450mm CHAMBER
- INFILTRATION BLANKET
- PERVIOUS PAVING
- PERVIOUS PAVING WITH 235mm THICK LAYER OF GEOCELLULAR UNITS
- FFL 7.250 — PROPOSED FINISHED FLOOR LEVEL
- 6.550 — PROPOSED FINISHED SURFACE LEVEL
- INDICATIVE LIGHTING COLUMN POSITION - TO BE ADJUSTED AT DETAILED LIGHTING DESIGN



KEY PLAN
(SCALE 1:5000)

LINK ROOF BETWEEN PLOTS 25-26 TO DISCHARGE INTO PERMEABLE PAVING SUB-BASE OF THE DRIVEWAY

ROOF INTO INFILTRATION BLANKET 5
70m² (inc. 10% CREEP)

24m² x 0.4m DEEP
(INFILTRATION BLANKET 5 - CRATES)
IL 6.050, TL 6.450, CL 6.750
PLOT 24

37.5m² x 0.4m DEEP
(INFILTRATION BLANKET 4 - CRATES)
IL 6.100, TL 6.500, CL 6.800
PLOT 18-19

ROOF INTO INFILTRATION BLANKET 4
110m² (inc. 10% CREEP)

RWP'S TO DISCHARGE ONTO DRAINAGE CHANNEL

RWP TO DISCHARGE ONTO DRAINAGE CHANNEL

453m² x 0.4m DEEP
(INFILTRATION BLANKET - CRATES)
IL 6.020, TL 6.420, CL 6.920
0.14ha - ROOF (inc. 10% CREEP)

FOR CONTINUATION REFER TO SHEET 1 OF 6

FOR CONTINUATION REFER TO SHEET 3 OF 6

N

NOTES

1. IN COMPLIANCE WITH CDM 2015 ODYSSEY HAS FOLLOWED IT'S DESIGN RISK MANAGEMENT PROCESS FOR HAZARD ELIMINATION AND RISK REDUCTION IN DEVELOPING THE ODYSSEY DESIGNS SHOWN ON THIS DRAWING. THERE ARE NO ABNORMAL OR UNUSUAL RESIDUAL RISKS ASSOCIATED WITH THE DESIGN. ANY OTHER RESIDUAL RISKS ARE THOSE THAT WOULD NORMALLY BE EXPECTED BY COMPETENT PERSONS OR CONTRACTORS ENGAGED ON WORK OF THIS NATURE OR TYPE.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELATED DRAWINGS ISSUED BY THE ARCHITECT AND ENGINEER.
3. DO NOT SCALE FROM THIS DRAWING. WORK FROM FIGURED DIMENSIONS ONLY.
4. EXISTING DRAINAGE FEATURES AND GROUND LEVELS (SHOWN TO AN ORDNANCE DATUM) ARE BASED ON THE MK SURVEYS TOPOGRAPHICAL SURVEY - DWG NO. 26714 DATED MARCH 2019. ODYSSEY ASSUMES NO RESPONSIBILITY ON THE LEVEL OF ACCURACY OF SURVEY INFORMATION PROVIDED.
5. ALL DIMENSIONS SHOWN IN METRES UNLESS NOTED OTHERWISE.
6. ALL DIMENSIONS, LEVELS AND SURVEY GRID CO-ORDINATES ARE TO BE CHECKED ONSITE AND THE ENGINEER NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES PRIOR TO THE COMMENCEMENT OF THE WORKS.
7. SURFACE WATER FROM PRIVATE AREAS IS NOT TO BE DISCHARGED ONTO ADOPTABLE HIGHWAY, I.E. PERMEABLE PAVING OR DRAINAGE CHANNELS WILL INTERCEPT FLOWS FROM PRIVATE AREAS AND CONNECT INTO THE PRIVATE OR S104 ADOPTABLE SYSTEM.
8. PRIVATE INSPECTION CHAMBER SIZES ARE TO BE IN ACCORDANCE WITH THE NHBC STANDARDS SECTION 5.3, TABLES 3 AND 4 OR WHERE APPLICABLE BUILDING REGULATIONS PART H; TABLE 11 AND TABLE 12.
9. ALL CHAMBERS DIRECTLY UPSTREAM OF INFILTRATION FEATURES TO INCORPORATE SILT TRAP AND NO PIPE TO BE CONNECTED DIRECTLY TO INFILTRATION FEATURE WITHOUT PASSING THROUGH SILT TRAP.
10. ALL RWP'S TO HAVE RODDING ACCESS.
11. ALL FOUL AND SURFACE WATER DRAINAGE PIPES TO BE 100mm Ø WITH MINIMUM GRADIENTS OF 1/80 AND 1/100 RESPECTIVELY UNLESS SPECIFIED OTHERWISE.
12. IT IS ASSUMED THAT THE INVERT OF THE TAIL OF THE BEND AT THE FOOT OF THE STACK WILL BE 0.45m BELOW FFL FOR ALL SINGLE DWELLINGS. FOR BLOCK OF FLATS THIS IS ASSUMED TO BE 0.75m BELOW FFL.
13. IT IS ASSUMED THAT ANY BRANCH DISCHARGE PIPE FOR SINGLE DWELLINGS WILL NOT DISCHARGE INTO A STACK LOWER THAN 450mm ABOVE THE INVERT OF THE TAIL OF THE BEND AT THE FOOT OF THE STACK. FOR BLOCK OF FLATS THIS IS ASSUMED TO BE 750mm.
14. SECTION 106 FOR FOUL WATER CONNECTION OBTAINED FROM SOUTHERN WATER ON 20-08-2020.
15. ANY ADOPTABLE S104 DRAINAGE WORKS TO BE CARRIED IN ACCORDANCE WITH THE SEWERAGE SECTOR GUIDANCE AND DESIGN AND CONSTRUCTION GUIDANCE.
16. ALL DRAINAGE TESTING REQUIRED IS TO BE CARRIED OUT AT THE CONTRACTORS EXPENSE.
17. DRAINS IN AREAS OF MADE GROUND TO BE CONSTRUCTED BY FIRST MAKING UP THE AREA TO APPROXIMATELY FINISHED LEVEL AND THEN EXCAVATE THROUGH THE FILL MATERIAL INTO UNDISTURBED GROUND. THE DRAIN TRENCH IS THEN TO BE BACKFILLED TO FORMATION LEVEL USING SUITABLE GRANULAR FILL MATERIAL WELL COMPACTED IN LAYERS NOT EXCEEDING 225 THICK.
18. IF THERE IS ANY AMBIGUITY BETWEEN THE SPECIFICATION AND THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY INFORM THE ENGINEER.
19. CONTRACTOR TO SURVEY FOR AND LOCATE THE POSITION AND DEPTH OF ALL SERVICES ACROSS THE SITE BEFORE COMMENCING ANY WORKS.
20. STATUTORY SERVICE DIVERSION WORKS - IF DEEMED NECESSARY - TO BE AGREED WITH THE APPROPRIATE STATUTORY UNDERTAKER.
21. ALL TOPSOIL STRIPPED FOR RE-USE ON VERGES ETC. TO BE STOCKPILED AT A LOCATION TO BE AGREED WITH THE ENGINEER.
22. FOR PIPES WHERE MINIMUM COVER IN ACCORDANCE WITH BUILDING REGULATIONS PART H TABLES 8 TO 10 IS NOT MET CONCRETE SLAB / CONCRETE SURROUND PROTECTION MUST BE ADDED OR DUCTILE IRON PIPES USED.

CONSTRUCTION ISSUE

Rev	Amendments	Drn	Chk	App	Date
C5	MINOR UPDATES TO SW SYSTEM (PLOTS 23-32) FOLLOWING ARUN DC REQUIREMENTS	AK	SW	SW	25.03.21
C4	MINOR UPDATES FOLLOWING SITE LAYOUT UPDATES	AK	SW	SW	22.03.21
C3	MINOR UPDATES TO ADDRESS CLIENT'S COMMENTS	AK	SW	SW	15.03.21
C2	AMENDMENTS AS PER ARUN DC REQUIREMENTS	AK	SW	SW	04.03.21
C1	CHANGES TO PLOT DRAINAGE. DRAWING STATUS REVISED TO CONSTRUCTION ISSUE	AK	SW	SW	25.02.21
T4	DRAINAGE LAYOUT UPDATED	AK	SW	SW	25.02.21
T3	CHAMBER NUMBERS ADDED	AK	SW	SW	04.02.21

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Job Title
LAND AT STAKERS FARM, YAPTON

Drawing Title
DRAINAGE LAYOUT - PLOTS 24-32
38 UNIT SITE - SHEET 2 OF 6

Client
DANDARA LIMITED (SOUTHERN)

Scale	Date	Designed
1:200 @ A1	SEP 20	AK
Drawn	Checked	Approved
JK	AK	SW
Job No	Drawing No	Rev
19-156	YAP-130-082	C5

N:\19-156 - Land at Stakers Farm, Yapton\Tech\Acad\Drawings\Detailed Design\YAP-130-082 Drainage Layout Sheet 2 of 6.dwg

DRAINAGE KEY

- FWMH - EXISTING PUBLIC FOUL WATER MANHOLE
- FWMH - PUBLIC FOUL WATER MANHOLE UNDER SECTION 104
- FWMH - PRIVATE FOUL WATER MANHOLE (PCC RINGS) - MIN 1.2m DIA
- FW-IC3 - PRIVATE FOUL WATER INSPECTION CHAMBER - MIN 0.45m DIA
- FW-IC4 - PRIVATE FOUL WATER INSPECTION CHAMBER - MIN 0.25m DIA
- SWMH - PRIVATE SURFACE WATER MANHOLE (PCC RINGS / BRICKWORK)
- SW-IC3 - PRIVATE SURFACE WATER INSPECTION CHAMBER - MIN 0.6m DIA
- SW-IC3 - PRIVATE SURFACE WATER INSPECTION CHAMBER - MIN 0.75m x 0.60m
- SW-IC3 - PRIVATE SURFACE WATER INSPECTION CHAMBER - MIN 0.45m DIA
- SW-IC4 - PRIVATE SURFACE WATER INSPECTION CHAMBER - MIN 0.25m DIA
- RODDING EYE
- EXISTING PUBLIC FOUL WATER SEWER
- FW RISING MAIN
- PUBLIC FOUL WATER SEWER
- FOUL WATER LATERAL
- PRIVATE FOUL WATER DRAINAGE
- PRIVATE SURFACE WATER DRAINAGE
- SURFACE WATER DRAINAGE CHANNEL (I.E ACO M100D 0.0 OR SIMILAR APPROVED)
- ST — SW CHAMBER WITH MINIMUM 300mm DEEP SILT TRAP

- INFILTRATION BLANKET
- PERVIOUS PAVING
- FFL 7.250 — PROPOSED FINISHED FLOOR LEVEL
- 6.550 — PROPOSED FINISHED SURFACE LEVEL
- LIGHTING COLUMN POSITION - REFER TO SIGNIFY DESIGNS FOR DETAILED LIGHTING DESIGN AND SPECIFICATION
- ALTHON GRC SMALL HEADWALL - OR SIMILAR APPROVED
- ALTHON SWALE INLET HEADWALL 150 - OR SIMILAR APPROVED

N

FOR CONTINUATION REFER TO SHEET 2 OF 6

GEOCELLULAR UNITS INFILTRATION BLANKET FLOOR AREA - 1393m² IL - 5.000 DEPTH - 0.400m (VOID RATIO - MIN.95%)

GEOCELLULAR UNITS TO BE POSITIONED OUTSIDE OF THE ADJACENT ROAD 45 DEGREES LOAD SPREAD LINE. IF THIS IS NOT FEASIBLE PROXIMITY OF GEOCELLULAR UNITS TO THE ROAD TO BE ASSESSED BY THE CHOSEN MANUFACTURER AND PROTECTION MEASURES MAY BE REQUIRED

GEOCELLULAR UNITS TO BE POSITIONED OUTSIDE OF THE ADJACENT ROAD 45 DEGREES LOAD SPREAD LINE. IF THIS IS NOT FEASIBLE PROXIMITY OF GEOCELLULAR UNITS TO THE ROAD TO BE ASSESSED BY THE CHOSEN MANUFACTURER AND PROTECTION MEASURES MAY BE REQUIRED

UNITS ALLOWING INSPECTION FROM ADOPTABLE MANHOLES (UNITS TO BE LOCATED 5m AWAY FROM THE BUILDINGS)

WHERE PERMAVOID UNITS ARE AT THE SAME LEVEL AS DRAINAGE COMPONENTS THE PERMAVOID UNITS TO BE LOCALLY OMITTED, DRAINAGE COMPONENT INSTALLED AND EQUAL AMOUNT OF PERMAVOID RE-INTRODUCED IMMEDIATELY NEXT TO DRAINAGE COMPONENT AS A PERMAVOID ADDITIONAL TOP LAYER

FOUL WATER RISING MAIN SERVING 70 UNITS FROM SOUTHERN SITE TO DISCHARGE INTO ADOPTABLE GRAVITY DRAINAGE WITH 38 UNIT NORTHERN SITE AS SHOWN SUBJECT TO WATER AUTHORITY AGREEMENT. CONNECTION LOCATION MAY ALTER FOLLOWING CONSULTATION WITH WATER AUTHORITY.

RISING MAIN SERVING ADOPTABLE FOUL WATER PUMPING STATION - SUBJECT TO SECTION 104 AGREEMENT

CCTV / MAINTENANCE INSPECTION CHAMBERS

TP4 - 1.8*10-6

FOR CONTINUATION REFER TO SHEET 1 OF 6

INVERT-TO-INVERT CONNECTION.

INFILTRATION BLANKET 3
2m x 11m x 0.4m DEEP
IL 5.200, TL 5.600, CL 5.950 (min.)

RWP TO DISCHARGE ONTO DRAINAGE CHANNEL

RWP TO DISCHARGE ONTO DRAINAGE CHANNEL

RWP TO DISCHARGE ONTO DRAINAGE CHANNEL

ALL RWP's TO DISCHARGE ONTO DRAINAGE CHANNEL

FOR CONTINUATION REFER TO SHEET 4 OF 6

INVERT-TO-INVERT CONNECTION

INVERT-TO-INVERT CONNECTION

KEY PLAN
(SCALE 1:5000)

NOTES

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10. ALL RWP'S TO HAVE RODDING ACCESS.
11. ALL FOUL AND SURFACE WATER DRAINAGE PIPES TO BE 100mm Ø WITH MINIMUM GRADIENTS OF 1/80 AND 1/100 RESPECTIVELY UNLESS SPECIFIED OTHERWISE.
12. IT IS ASSUMED THAT THE INVERT OF THE TAIL OF THE BEND AT THE FOOT OF THE STACK WILL BE 0.45m BELOW FFL FOR ALL SINGLE DWELLINGS. FOR BLOCK OF FLATS THIS IS ASSUMED TO BE 0.75m BELOW FFL.
13. IT IS ASSUMED THAT ANY BRANCH DISCHARGE PIPE FOR SINGLE DWELLINGS WILL NOT DISCHARGE INTO A STACK LOWER THAN 450mm ABOVE THE INVERT OF THE TAIL OF THE BEND AT THE FOOT OF THE STACK. FOR BLOCK OF FLATS THIS IS ASSUMED TO BE 750mm.
14. SECTION 106 FOR FOUL WATER CONNECTION OBTAINED FROM SOUTHERN WATER ON 20-08-2020.
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18. IF THERE IS ANY AMBIGUITY BETWEEN THE SPECIFICATION AND THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY INFORM THE ENGINEER.
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CONSTRUCTION ISSUE

Rev	Amendments	Drn	Chk	App	Date
C3	PLOTS 105-106 SURROUNDING LEVELS AMENDED	AK	SW	SW	27.05.21
C2	LIGHTING COLUMNS LOCATION UPDATED	AK	SW	SW	26.05.21
C1	CHANGES TO PLOT DRAINAGE. DRAWING STATUS REVISED TO CONSTRUCTION ISSUE	AK	SW	SW	30.04.21
T3	CHAMBER NUMBERS ADDED	AK	SW	SW	04.02.21
T2	UPDATED TO CLIENT COMMENTS FOR FORMAL TENDER ISSUE	JK	AK	SW	22.12.20

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Job Title
LAND AT STAKERS FARM, YAPTON

Drawing Title
DRAINAGE LAYOUT - PLOTS 1-11
70 UNIT SITE - SHEET 3 OF 6

Client
DANDARA LIMITED (SOUTHERN)

Scale	Date	Designed
1:200 @ A1	SEP 20	AK
Drawn	Checked	Approved
JK	AK	SW
Job No	Drawing No	Rev
19-156	YAP-130-083	C3

N:\19-156 - Land at Stakers Farm, Yapton\Tech\Acad\Drawings\Detailed Design\YAP-130-083 Drainage Layout Sheet 3 of 6.dwg

DRAINAGE KEY

- FWMH - EXISTING PUBLIC FOUL WATER MANHOLE
- FWMH - PUBLIC FOUL WATER MANHOLE UNDER SECTION 104
- FWMH - PRIVATE FOUL WATER MANHOLE (PCC RINGS) - MIN 1.2m DIA
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- ALTHON GRC SMALL HEADWALL - OR SIMILAR APPROVED
- ALTHON SWALE INLET HEADWALL 150 - OR SIMILAR APPROVED



KEY PLAN
(SCALE 1:5000)

INFILTRATION BLANKET 4
2m x 11m x 0.4m DEEP
IL 5.676, TL 6.076, CL 6.426 (min.)

INFILTRATION BLANKET 6
3m x 3.5m x 0.4m DEEP
IL 5.916, TL 6.316, CL 6.666 (min.)

INVERT-TO-INVERT CONNECTIONS

INVERT-TO-INVERT CONNECTION

INVERT-TO-INVERT CONNECTION

RWP TO DISCHARGE ONTO DRAINAGE CHANNEL

RWP TO DISCHARGE ONTO DRAINAGE CHANNEL

ALL RWP's TO DISCHARGE ONTO DRAINAGE CHANNEL

RWP TO DISCHARGE ONTO DRAINAGE CHANNEL

ALL RWP's TO DISCHARGE ONTO DRAINAGE CHANNEL

RWP'S TO

ONT

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CONSTRUCTION ISSUE

Rev	Amendments	Drn	Chk	App	Date
C3	PLOTS 105-106 SURROUNDING LEVELS AMENDED	AK	SW	SW	27.05.21
C2	LIGHTING COLUMNS LOCATION UPDATED	AK	SW	SW	26.05.21
C1	CHANGES TO PLOT DRAINAGE. DRAWING STATUS REVISED TO CONSTRUCTION ISSUE	AK	SW	SW	30.04.21
T3	CHAMBER NUMBERS ADDED	AK	SW	SW	04.02.21
T2	UPDATED TO CLIENT COMMENTS FOR FORMAL TENDER ISSUE	JK	AK	SW	22.12.20

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Job Title
LAND AT STAKERS FARM, YAPTON

Drawing Title
DRAINAGE LAYOUT - PLOTS 12-29 & 62-70
70 UNIT SITE - SHEET 4 OF 6

Client
DANDARA LIMITED (SOUTHERN)

Scale	Date	Designed
1:200 @ A1	SEP 20	AK
Drawn	Checked	Approved
JK	AK	SW
Job No	Drawing No	Rev
19-156	YAP-130-084	C3

FOR CONTINUATION REFER TO SHEET 6 OF 6

N:\19-156 - Land at Stakers Farm, Yapton\Tech\Acad\Drawings\Detailed Design\YAP-130-084 Drainage Layout Sheet 4 of 6.dwg

29m² x 0.4m DEEP
IL 6.029, TL 6.429, CL 6.779 (min.)

2.5m OFFSET LINE FROM THE SITE BOUNDARY

RWP's TO DISCHARGE ONTO DRAINAGE CHANNEL

ALL RWP's TO DISCHARGE ONTO DRAINAGE CHANNEL

PERMAVOID DIFFUSER UNIT PVOD05202 INSTALLED WITHIN SUB-BASE OF PERMEABLE PAVING IL 6.300

INVERT-TO-INVERT CONNECTION

PERMAVOID DIFFUSER UNIT PVOD05202 INSTALLED WITHIN SUB-BASE OF PERMEABLE PAVING IL 6.350

INVERT-TO-INVERT CONNECTION

RWP's TO DISCHARGE ONTO DRAINAGE CHANNEL

FOR CONTINUATION REFER TO SHEET 6 OF 6

DRAINAGE KEY

- FWMH - EXISTING PUBLIC FOUL WATER MANHOLE
- FWMH - PUBLIC FOUL WATER MANHOLE UNDER SECTION 104
- FWMH - PRIVATE FOUL WATER MANHOLE (PCC RINGS) - MIN 1.2m DIA
- FW-IC3 - PRIVATE FOUL WATER INSPECTION CHAMBER - MIN 0.45m DIA
- FW-IC4 - PRIVATE FOUL WATER INSPECTION CHAMBER - MIN 0.25m DIA
- SWMH - PRIVATE SURFACE WATER MANHOLE (PCC RINGS / BRICKWORK)
- SW-IC3 - PRIVATE SURFACE WATER INSPECTION CHAMBER - MIN 0.6m DIA
- SW-IC3 - PRIVATE SURFACE WATER INSPECTION CHAMBER - MIN 0.75m x 0.60m
- SW-IC3 - PRIVATE SURFACE WATER INSPECTION CHAMBER - MIN 0.45m DIA
- SW-IC4 - PRIVATE SURFACE WATER INSPECTION CHAMBER - MIN 0.25m DIA
- RODDING EYE
- EXISTING PUBLIC FOUL WATER SEWER
- FW RISING MAIN
- PUBLIC FOUL WATER SEWER
- FOUL WATER LATERAL
- PRIVATE FOUL WATER DRAINAGE
- PRIVATE SURFACE WATER DRAINAGE
- SURFACE WATER DRAINAGE CHANNEL (I.E ACO M100D 0.0 OR SIMILAR APPROVED)
- ST — SW CHAMBER WITH MINIMUM 300mm DEEP SILT TRAP
- INFILTRATION BLANKET
- PERVIOUS PAVING

FFL 7.250 — PROPOSED FINISHED FLOOR LEVEL

6.550 — PROPOSED FINISHED SURFACE LEVEL

LIGHTING COLUMN POSITION - REFER TO SIGNIFY DESIGNS FOR DETAILED LIGHTING DESIGN AND SPECIFICATION

ALTHON GRC SMALL HEADWALL - OR SIMILAR APPROVED

ALTHON SWALE INLET HEADWALL 150 - OR SIMILAR APPROVED

KEY PLAN
(SCALE 1:5000)

NOTES

1. IN COMPLIANCE WITH CDM 2015 ODYSSEY HAS FOLLOWED IT'S DESIGN RISK MANAGEMENT PROCESS FOR HAZARD ELIMINATION AND RISK REDUCTION IN DEVELOPING THE ODYSSEY DESIGNS SHOWN ON THIS DRAWING. THERE ARE NO ABNORMAL OR UNUSUAL RESIDUAL RISKS ASSOCIATED WITH THE DESIGN. ANY OTHER RESIDUAL RISKS ARE THOSE THAT WOULD NORMALLY BE EXPECTED BY COMPETENT PERSONS OR CONTRACTORS ENGAGED ON WORK OF THIS NATURE OR TYPE.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELATED DRAWINGS ISSUED BY THE ARCHITECT AND ENGINEER.
3. DO NOT SCALE FROM THIS DRAWING. WORK FROM FIGURED DIMENSIONS ONLY.
4. EXISTING DRAINAGE FEATURES AND GROUND LEVELS (SHOWN TO AN ORDNANCE DATUM) ARE BASED ON THE MK SURVEYS TOPOGRAPHICAL SURVEY - DWG NO. 26714 DATED MARCH 2019. ODYSSEY ASSUMES NO RESPONSIBILITY ON THE LEVEL OF ACCURACY OF SURVEY INFORMATION PROVIDED.
5. ALL DIMENSIONS SHOWN IN METRES UNLESS NOTED OTHERWISE.
6. ALL DIMENSIONS, LEVELS AND SURVEY GRID CO-ORDINATES ARE TO BE CHECKED ONSITE AND THE ENGINEER NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES PRIOR TO THE COMMENCEMENT OF THE WORKS.
7. SURFACE WATER FROM PRIVATE AREAS IS NOT TO BE DISCHARGED ONTO ADOPTABLE HIGHWAY, I.E. PERMEABLE PAVING OR DRAINAGE CHANNELS WILL INTERCEPT FLOWS FROM PRIVATE AREAS AND CONNECT INTO THE PRIVATE OR S104 ADOPTABLE SYSTEM.
8. PRIVATE INSPECTION CHAMBER SIZES ARE TO BE IN ACCORDANCE WITH THE NHBC STANDARDS SECTION 5.3, TABLES 3 AND 4 OR WHERE APPLICABLE BUILDING REGULATIONS PART H; TABLE 11 AND TABLE 12.
9. ALL CHAMBERS DIRECTLY UPSTREAM OF INFILTRATION FEATURES TO INCORPORATE SILT TRAP AND NO PIPE TO BE CONNECTED DIRECTLY TO INFILTRATION FEATURE WITHOUT PASSING THROUGH SILT TRAP.
10. ALL RWP'S TO HAVE RODDING ACCESS.
11. ALL FOUL AND SURFACE WATER DRAINAGE PIPES TO BE 100mm Ø WITH MINIMUM GRADIENTS OF 1/80 AND 1/100 RESPECTIVELY UNLESS SPECIFIED OTHERWISE.
12. IT IS ASSUMED THAT THE INVERT OF THE TAIL OF THE BEND AT THE FOOT OF THE STACK WILL BE 0.45m BELOW FFL FOR ALL SINGLE DWELLINGS. FOR BLOCK OF FLATS THIS IS ASSUMED TO BE 0.75m BELOW FFL.
13. IT IS ASSUMED THAT ANY BRANCH DISCHARGE PIPE FOR SINGLE DWELLINGS WILL NOT DISCHARGE INTO A STACK LOWER THAN 450mm ABOVE THE INVERT OF THE TAIL OF THE BEND AT THE FOOT OF THE STACK. FOR BLOCK OF FLATS THIS IS ASSUMED TO BE 750mm.
14. SECTION 106 FOR FOUL WATER CONNECTION OBTAINED FROM SOUTHERN WATER ON 20-08-2020.
15. ANY ADOPTABLE S104 DRAINAGE WORKS TO BE CARRIED IN ACCORDANCE WITH THE SEWERAGE SECTOR GUIDANCE AND DESIGN AND CONSTRUCTION GUIDANCE.
16. ALL DRAINAGE TESTING REQUIRED IS TO BE CARRIED OUT AT THE CONTRACTORS EXPENSE.
17. DRAINS IN AREAS OF MADE GROUND TO BE CONSTRUCTED BY FIRST MAKING UP THE AREA TO APPROXIMATELY FINISHED LEVEL AND THEN EXCAVATE THROUGH THE FILL MATERIAL INTO UNDISTURBED GROUND. THE DRAIN TRENCH IS THEN TO BE BACKFILLED TO FORMATION LEVEL USING SUITABLE GRANULAR FILL MATERIAL WELL COMPACTED IN LAYERS NOT EXCEEDING 225 THICK.
18. IF THERE IS ANY AMBIGUITY BETWEEN THE SPECIFICATION AND THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY INFORM THE ENGINEER.
19. CONTRACTOR TO SURVEY FOR AND LOCATE THE POSITION AND DEPTH OF ALL SERVICES ACROSS THE SITE BEFORE COMMENCING ANY WORKS.
20. STATUTORY SERVICE DIVERSION WORKS - IF DEEMED NECESSARY - TO BE AGREED WITH THE APPROPRIATE STATUTORY UNDERTAKER.
21. ALL TOPSOIL STRIPPED FOR RE-USE ON VERGES ETC. TO BE STOCKPILED AT A LOCATION TO BE AGREED WITH THE ENGINEER.
22. FOR PIPES WHERE MINIMUM COVER IN ACCORDANCE WITH BUILDING REGULATIONS PART H TABLES 8 TO 10 IS NOT MET CONCRETE SLAB / CONCRETE SURROUND PROTECTION MUST BE ADDED OR DUCTILE IRON PIPES USED.

CONSTRUCTION ISSUE

Rev	Amendments	Drn	Chk	App	Date
C3	LARGE INFILTRATION BLANKET SHAPE ADJUSTED. 2.5m DISTANCE AWAY FROM SITE BOUNDARY SHOWN	AK	SW	SW	09.06.21
C2	LIGHTING COLUMNS LOCATION UPDATED	AK	SW	SW	26.05.21
C1	CHANGES TO PLOT DRAINAGE. DRAWING STATUS REVISED TO CONSTRUCTION ISSUE	AK	SW	SW	30.04.21
T3	CHAMBER NUMBERS ADDED	AK	SW	SW	04.02.21
T2	UPDATED TO CLIENT COMMENTS FOR FORMAL TENDER ISSUE	JK	AK	SW	22.12.20

ODYSSEY

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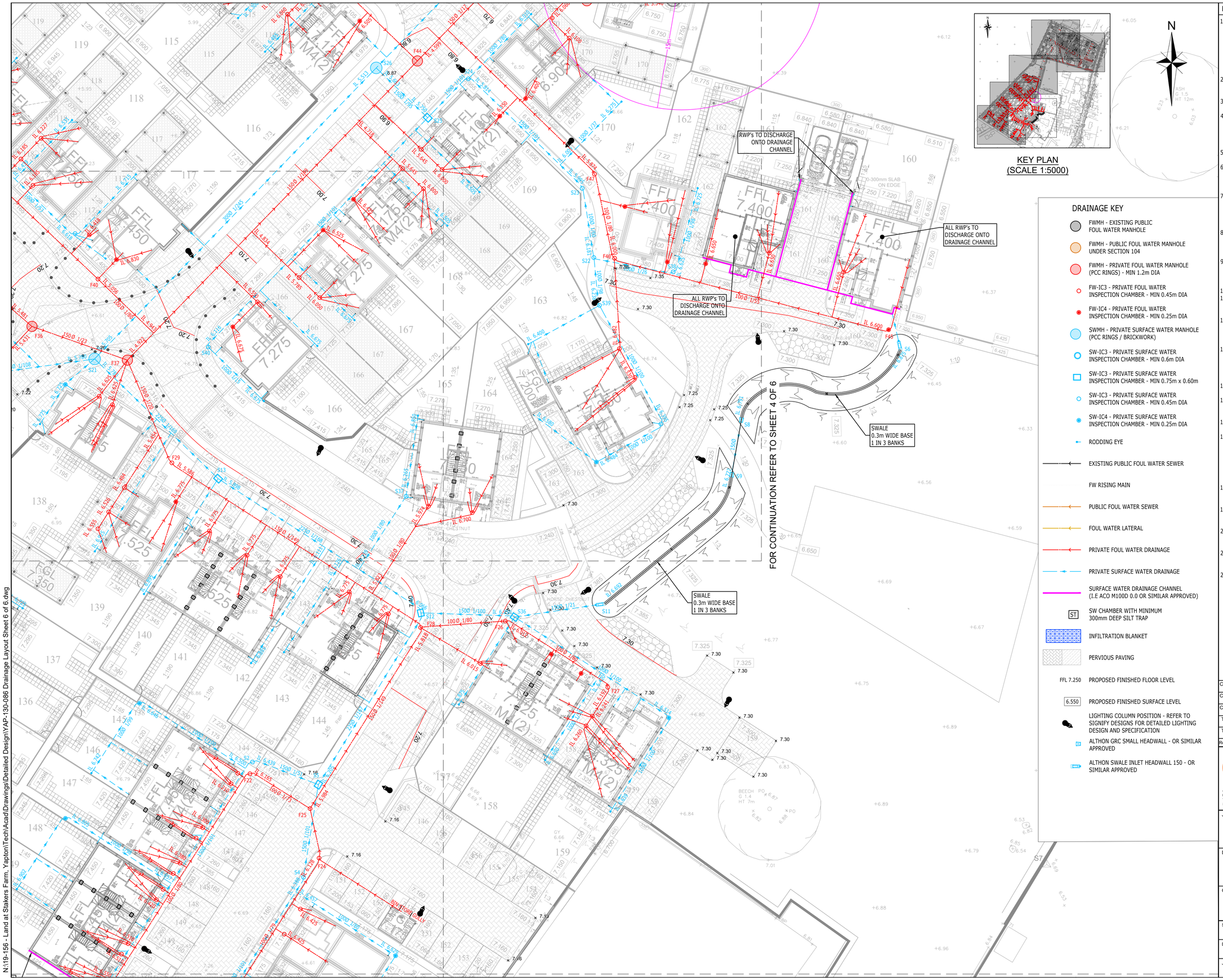
Job Title
LAND AT STAKERS FARM, YAPTON

Drawing Title
DRAINAGE LAYOUT - PLOTS 30-56
70 UNIT SITE - SHEET 5 OF 6

Client
DANDARA LIMITED (SOUTHERN)

Scale	Date	Designed
1:200 @ A1	SEP 20	AK
Drawn	Checked	Approved
JK	AK	SW
Job No	Drawing No	Rev
19-156	YAP-130-085	C3

N:\19-156 - Land at Stakers Farm, Yapton\Tech\Acad\Drawings\Detailed Design\YAP-130-085 Drainage Layout Sheet 5 of 6.dwg



NOTES

1. IN COMPLIANCE WITH CDM 2015 ODYSSEY HAS FOLLOWED IT'S DESIGN RISK MANAGEMENT PROCESS FOR HAZARD ELIMINATION AND RISK REDUCTION IN DEVELOPING THE ODYSSEY DESIGNS SHOWN ON THIS DRAWING. THERE ARE NO ABNORMAL OR UNUSUAL RESIDUAL RISKS ASSOCIATED WITH THE DESIGN. ANY OTHER RESIDUAL RISKS ARE THOSE THAT WOULD NORMALLY BE EXPECTED BY COMPETENT PERSONS OR CONTRACTORS ENGAGED ON WORK OF THIS NATURE OR TYPE.
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5. ALL DIMENSIONS SHOWN IN METRES UNLESS NOTED OTHERWISE.
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10. ALL RWP'S TO HAVE RODDING ACCESS.
11. ALL FOUL AND SURFACE WATER DRAINAGE PIPES TO BE 100mm Ø WITH MINIMUM GRADIENTS OF 1/80 AND 1/100 RESPECTIVELY UNLESS SPECIFIED OTHERWISE.
12. IT IS ASSUMED THAT THE INVERT OF THE TAIL OF THE BEND AT THE FOOT OF THE STACK WILL BE 0.45m BELOW FFL FOR ALL SINGLE DWELLINGS. FOR BLOCK OF FLATS THIS IS ASSUMED TO BE 0.75m BELOW FFL.
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14. SECTION 106 FOR FOUL WATER CONNECTION OBTAINED FROM SOUTHERN WATER ON 20-08-2020.
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16. ALL DRAINAGE TESTING REQUIRED IS TO BE CARRIED OUT AT THE CONTRACTORS EXPENSE.
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18. IF THERE IS ANY AMBIGUITY BETWEEN THE SPECIFICATION AND THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY INFORM THE ENGINEER.
19. CONTRACTOR TO SURVEY FOR AND LOCATE THE POSITION AND DEPTH OF ALL SERVICES ACROSS THE SITE BEFORE COMMENCING ANY WORKS.
20. STATUTORY SERVICE DIVERSION WORKS - IF DEEMED NECESSARY - TO BE AGREED WITH THE APPROPRIATE STATUTORY UNDERTAKER.
21. ALL TOPSOIL STRIPPED FOR RE-USE ON VERGES ETC. TO BE STOCKPILED AT A LOCATION TO BE AGREED WITH THE ENGINEER.
22. FOR PIPES WHERE MINIMUM COVER IN ACCORDANCE WITH BUILDING REGULATIONS PART H TABLES 8 TO 10 IS NOT MET CONCRETE SLAB / CONCRETE SURROUND PROTECTION MUST BE ADDED OR DUCTILE IRON PIPES USED.

CONSTRUCTION ISSUE

Rev	Amendments	Drn	Chk	App	Date
C3	FINISHED LEVELS AROUND PLOT 159 UPDATED	AK	SW	SW	12.07.21
C2	LIGHTING COLUMNS LOCATION UPDATED	AK	SW	SW	26.05.21
C1	CHANGES TO PLOT DRAINAGE. DRAWING STATUS REVISED TO CONSTRUCTION ISSUE	AK	SW	SW	30.04.21
T3	CHAMBER NUMBERS ADDED	AK	SW	SW	04.02.21
T2	UPDATED TO CLIENT COMMENTS FOR FORMAL TENDER ISSUE	JK	AK	SW	22.12.20

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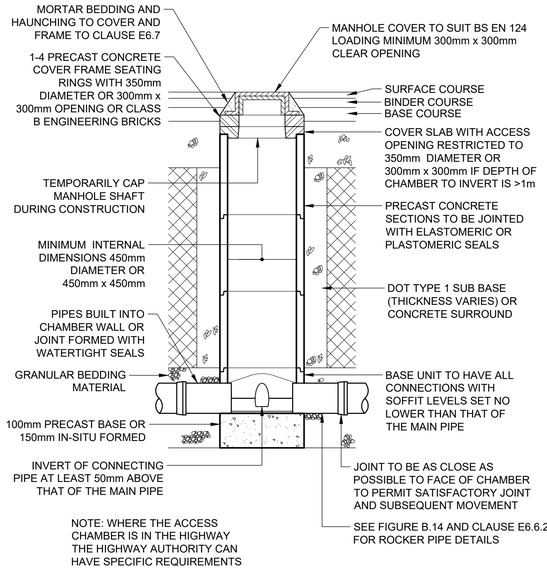
Job Title
LAND AT STAKERS FARM, YAPTON

Drawing Title
DRAINAGE LAYOUT - PLOTS 57-61 70 UNIT SITE - SHEET 6 OF 6

Client
DANDARA LIMITED (SOUTHERN)

Scale	Date	Designed
1:200 @ A1	SEP 20	AK
Drawn	Checked	Approved
JK	AK	SW
Job No	Drawing No	Rev
19-156	YAP-130-086	C3

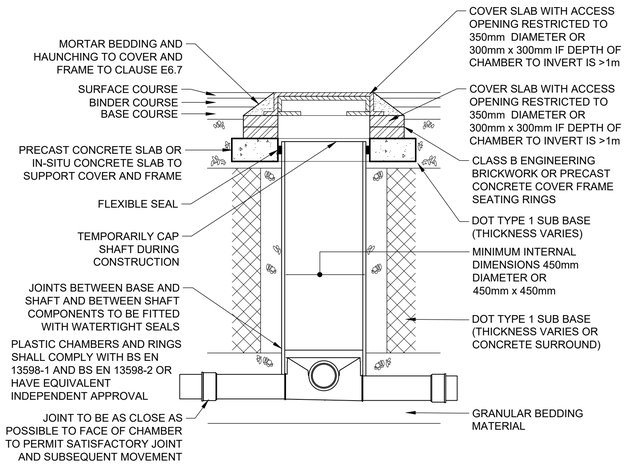
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TYPICAL INSPECTION CHAMBER DETAIL - ADOPTABLE TYPE 3 DEMARCATION CHAMBER

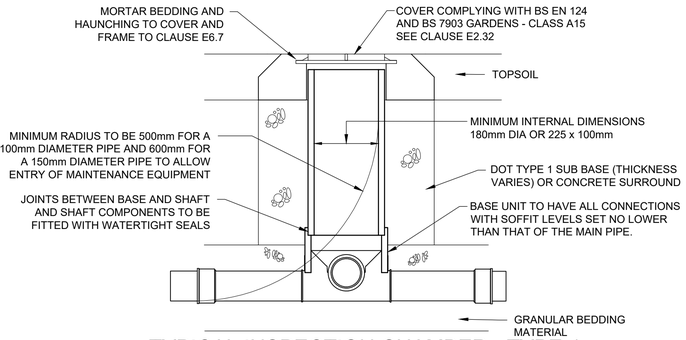
(RIGID MATERIAL DETAIL)

MAXIMUM DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE IN AREAS SUBJECT TO VEHICLE LOADING 3m, NON-ENTRY



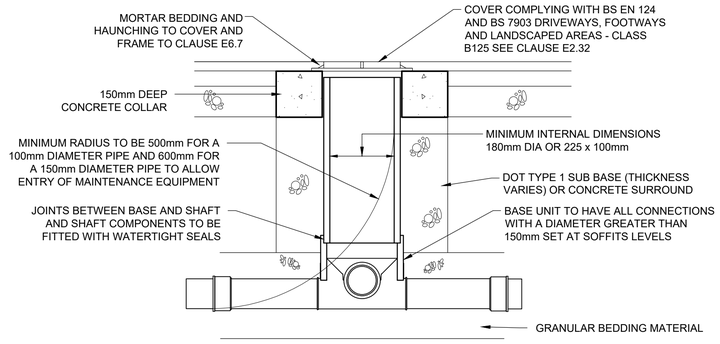
TYPICAL INSPECTION CHAMBER DETAIL - TYPE 3

(FLEXIBLE MATERIAL DETAIL) MAXIMUM DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE IN AREAS SUBJECT TO VEHICLE LOADING 3m, NON-ENTRY



TYPICAL INSPECTION CHAMBER - TYPE 4

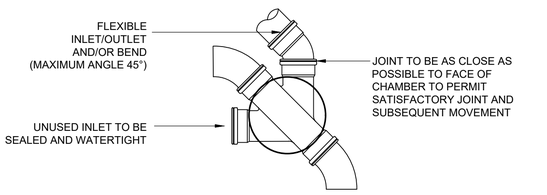
SITED IN DOMESTIC GARDENS



TYPICAL INSPECTION CHAMBER - TYPE 4

SITED IN DRIVEWAYS/PAVED AREAS

PLASTIC CHAMBERS AND RINGS SHALL COMPLY WITH BS EN 13598-1 AND BS EN 13598-2 OR HAVE EQUIVALENT INDEPENDENT APPROVAL



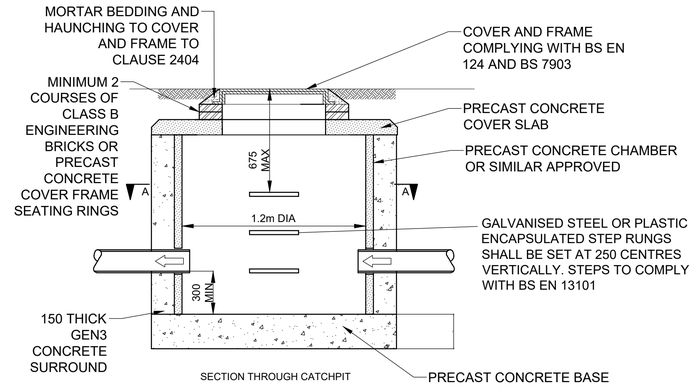
WHERE CHAMBERS ARE POSITION ON 90° CORNERS, ALWAYS USE THE MAIN CHANNEL BY FITTING A 45° BEND ON THE INLET AND OUTLET

NOTE: WHERE THE ACCESS CHAMBER IS IN THE HIGHWAY THE HIGHWAY AUTHORITY CAN HAVE SPECIFIC REQUIREMENTS

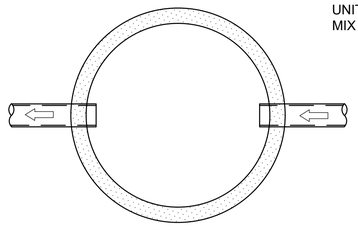
TYPICAL INSPECTION CHAMBER - TYPE 4

(FLEXIBLE MATERIAL DETAIL)

MAXIMUM DEPTH FROM COVER LEVEL TO INVERT OF PIPE 0.6m, NON-ENTRY

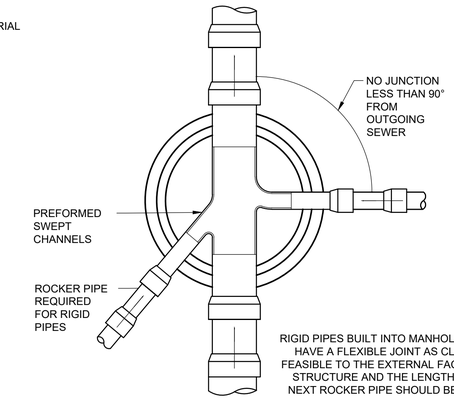


SECTION THROUGH CATCHPIT



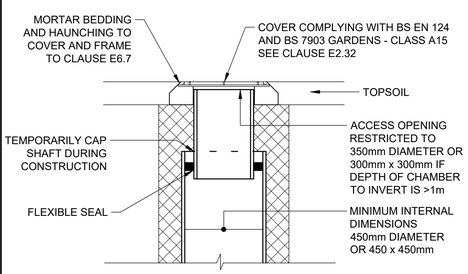
SECTION A-A

CATCHPIT DETAIL

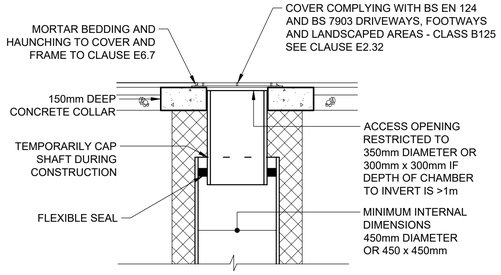


RIGID PIPES BUILT INTO MANHOLE SHOULD HAVE A FLEXIBLE JOINT AS CLOSE AS FEASIBLE TO THE EXTERNAL FACE OF THE STRUCTURE AND THE LENGTH OF THE NEXT ROCKER PIPE SHOULD BE SHOWN

TYPICAL ARRANGEMENT OF PIPE JUNCTIONS WITHIN MANHOLES



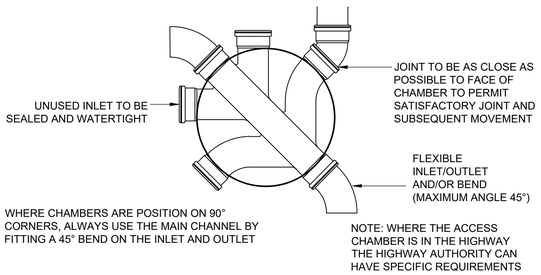
SITED IN DOMESTIC GARDENS



SITED IN DOMESTIC DRIVEWAYS OR FOOTWAYS

PLASTIC CHAMBERS AND RINGS SHALL COMPLY WITH BS EN 13598-1 AND BS EN 13598-2 OR HAVE EQUIVALENT INDEPENDENT APPROVAL

ALTERNATIVE TOP DETAILS FOR LIGHT VEHICLE LOADING AND LANDSCAPED AREAS - TYPE 3



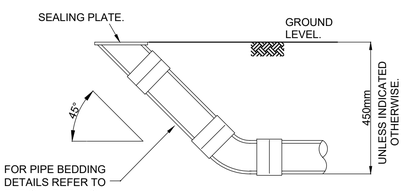
WHERE CHAMBERS ARE POSITION ON 90° CORNERS, ALWAYS USE THE MAIN CHANNEL BY FITTING A 45° BEND ON THE INLET AND OUTLET

NOTE: WHERE THE ACCESS CHAMBER IS IN THE HIGHWAY THE HIGHWAY AUTHORITY CAN HAVE SPECIFIC REQUIREMENTS

TYPICAL INSPECTION CHAMBER - TYPE 3

(FLEXIBLE MATERIAL DETAIL)

MAXIMUM DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE 2m, NON-ENTRY



RODDING EYE DETAIL

TO BE USED IN PEDESTRAIN AND LANDSCAPED AREAS NOT SUBJECT TO VEHICULAR LOADING. MAXIMUM DEPTH TO INVERT 600mm.

NOTES

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELATED DRAWINGS ISSUED BY THE ARCHITECT AND ENGINEER AND SEWERAGE SECTOR GUIDANCE WITH APPENDICES WHERE APPLICABLE.
2. DO NOT SCALE FROM THIS DRAWING. WORK FROM FIGURED DIMENSIONS ONLY.
3. ALL DIMENSIONS SHOWN IN METRES UNLESS NOTED OTHERWISE.
4. NO DEVIATION FROM THE DETAILS SHOWN ON THIS DRAWING IS PERMITTED WITHOUT PERMISSION FROM THE ENGINEER.
5. PRIVATE FOUL WATER AND SURFACE WATER DRAINAGE IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT BUILDING REGULATIONS, BS EN 752, NHBC STANDARDS CHAPTER 5.3 AND RELEVANT AGREEMENT CERTIFICATES.
6. PRIVATE DRAINS TO BE CONSTRUCTED USING FLEXIBLY JOINTED VITRIFIED CLAY PIPES TO BS 65 "SUPER STRENGTH" SPECIFICATION (HEPWORTH SUPERSLEVE OR SIMILAR APPROVED) OR UPVC BUILDING DRAINAGE SYSTEM PIPEWORK TO BS EN 1401, BEDDED AND BACKFILLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
7. INSPECTION CHAMBER SIZES ARE TO BE IN ACCORDANCE WITH THE BUILDING REGULATIONS PART H; TABLE 11 AND MANHOLE SIZES TABLE 12.OR NHBC STANDARD WHERE APPLICABLE.
8. THE CENTRELINE OF THE MANHOLE IS NOT NECESSARILY COINCIDENTAL WITH THE CENTRELINE OF THE MAIN PIPE.
9. POSITION OF MANHOLE COVER SLAB AND STEP RUNGS TO BE DIRECTED ON SITE.
10. BACKFILLING OF DRAIN TRENCHES ADJACENT TO DWELLINGS OF OTHER STRUCTURES TO BE IN ACCORDANCE WITH THE BUILDING REGULATIONS PART H; DIAGRAM 8.
11. ALL MORTAR TO BE CLASS 1 UNLESS NOTED OTHERWISE.
12. BRICKS TO BE ENGINEERING CLASS B TO BS EN 771-1, LAID IN ENGLISH BOND ON CLASS (i) MORTAR TO CLAUSE 2404, SPECIFICATION FOR HIGHWAY WORKS. ANY OVER EXCAVATION TO BE MADE GOOD.
13. ALL CONCRETE AND CONCRETE PRODUCTS TO BE SULPHATE RESISTING.
14. INSPECTION CHAMBER COVERS IN PRIVATE AREAS SHOULD BE GROUP 1 CLASS A15, IN PEDESTRIAN AREAS INACCESSIBLE TO WHEELED VEHICLES AND GROUP 4 CLASS D400 IN VEHICULAR AREAS.
15. IN COMPLIANCE WITH CDM 2015 ODYSSEY HAS FOLLOWED IT'S DESIGN RISK MANAGEMENT PROCESS FOR HAZARD ELIMINATION AND RISK REDUCTION IN DEVELOPING THE ODYSSEY DESIGNS SHOWN ON THIS DRAWING. THERE ARE NO ABNORMAL OR UNUSUAL RESIDUAL RISKS ASSOCIATED WITH THE DESIGN. ANY OTHER RESIDUAL RISKS ARE THOSE THAT WOULD NORMALLY BE EXPECTED BY COMPETENT PERSONS OR CONTRACTORS ENGAGED ON WORK OF THIS NATURE OR TYPE.

CONSTRUCTION ISSUE

Rev	Amendments	Drn	Chk	App	Date
C2	DETAILS UPDATED	AK	SW	SW	16.03.21
C1	DRAWING STATUS REVISED TO CONSTRUCTION ISSUE	AK	SW	SW	26.02.21
T3	MINOR NOTES UPDATES	AK	SW	SW	17.12.20
T2	UPDATED FOR TENDER ISSUE	AK	SW	SW	30.09.20

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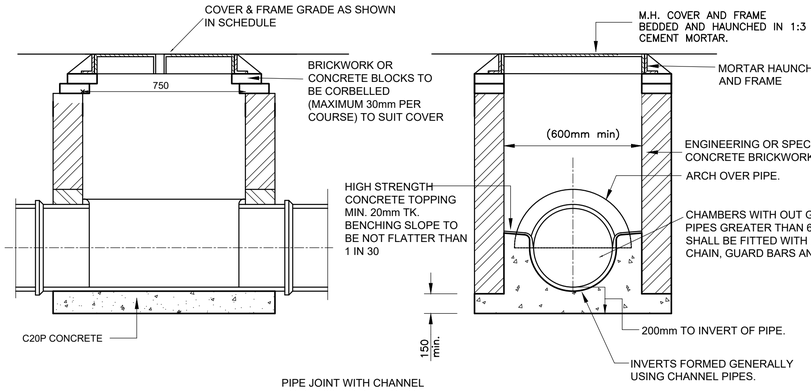
Job Title: LAND AT STAKERS FARM, YAPTON

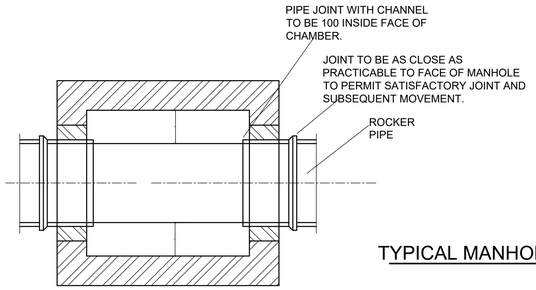
Drawing Title: DRAINAGE CONSTRUCTION DETAILS (SHEET 1 OF 2)

Client: DANDARA LIMITED (SOUTHERN)

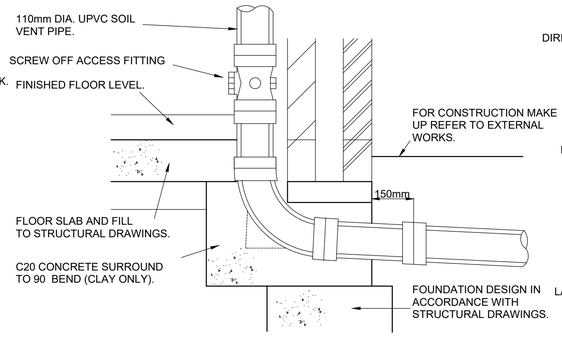
Scale	Date	Designed
AS SHOWN	JUL 20	CJL
Drawn	Checked	Approved
CJL	SW	JHM
Job No	Drawing No	Rev
18-204	YAP-180-030	C2

N:\19-156 - Land at Stakers Farm, Yapton\Tech\Acad\Drawings\Detailed Design\YAP-180-030 Drainage Construction Details Sheet 1 of 2.dwg

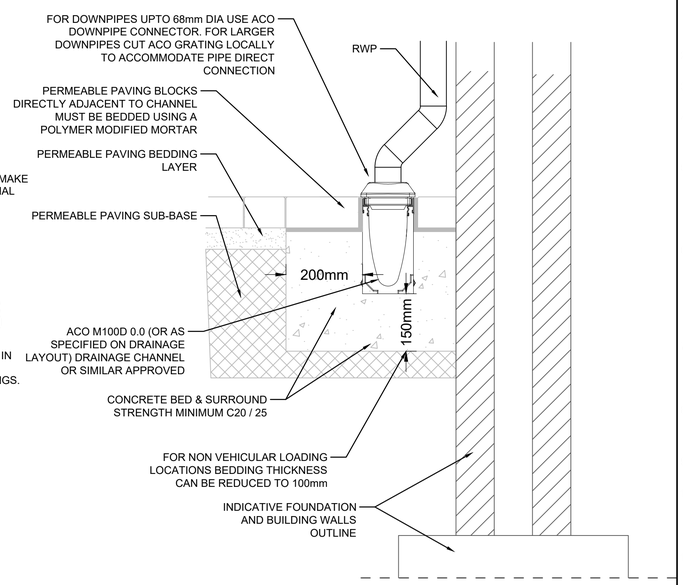




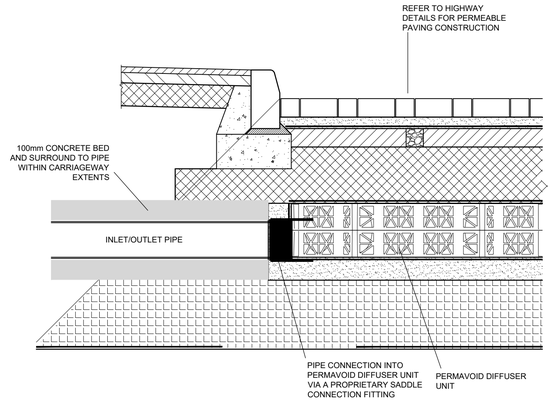
TYPICAL MANHOLE DETAIL - TYPE 3



SOIL VENT PIPE CONNECTION

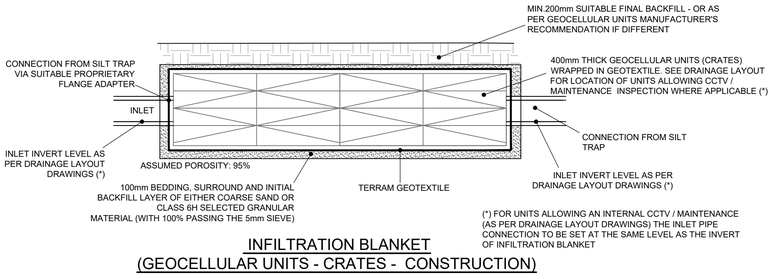


DRAINAGE CHANNEL DETAIL (PARKING SPACES)

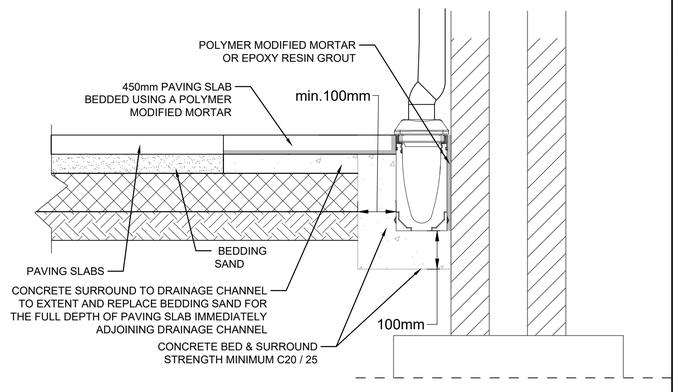


PERMAVOID DIFFUSER UNIT

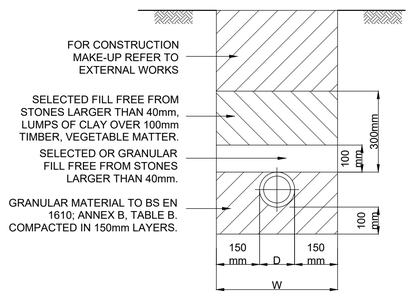
FOR USE WITH 70 UNITS SCHEME TO INTERCONNECT AREAS OF PERMEABLE PAVING



INFILTRATION BLANKET (GEOCELLULAR UNITS - CRATES - CONSTRUCTION)

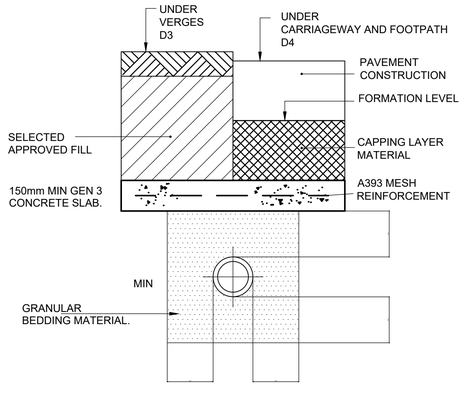


DRAINAGE CHANNEL DETAIL (PATIO AREA)



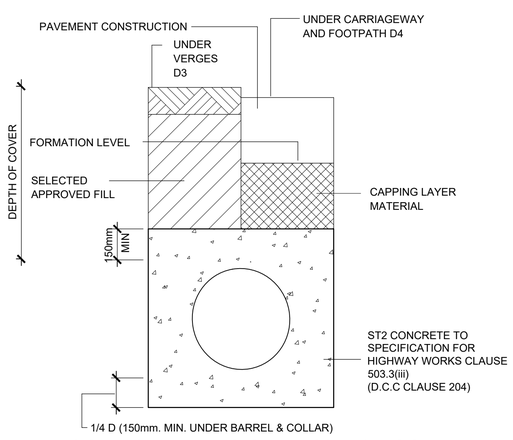
TYPICAL PIPE BEDDING DETAIL: TYPE 3 (UPVC PIPES)

LOCATION: PEDESTRIAN AREAS: 0.6 m - 8.0 m DEEP.
VEHICLE AREAS: 1.2 m - 8.0 m DEEP.

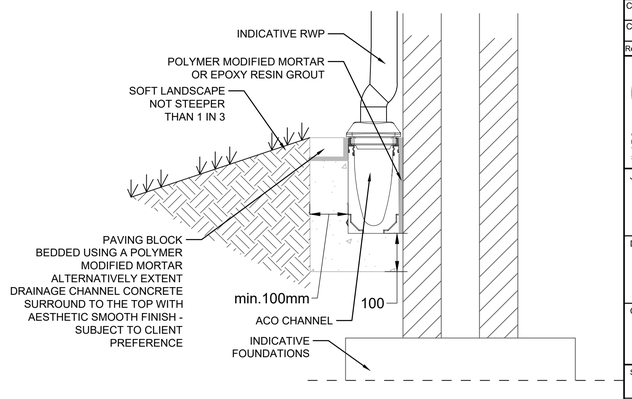


CONCRETE PAD PROTECTION

DESIGN D3 (UNDER VERGES - <900 COVER)
DESIGN D4 (UNDER CARRIAGEWAYS - <1200 COVER)



DESIGN D3 (UNDER VERGES - <900 COVER) DESIGN D4 (UNDER CARRIAGEWAYS - <1200 COVER) BEDDING DETAIL - CLASS 'Z'



DRAINAGE CHANNEL DETAIL (SOFT LANDSCAPE AREA)

NOTES

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELATED DRAWINGS ISSUED BY THE ARCHITECT AND ENGINEER AND SEWERAGE SECTOR GUIDANCE WITH APPENDICES WHERE APPLICABLE.
2. DO NOT SCALE FROM THIS DRAWING. WORK FROM FIGURED DIMENSIONS ONLY.
3. ALL DIMENSIONS SHOWN IN METRES UNLESS NOTED OTHERWISE.
4. NO DEVIATION FROM THE DETAILS SHOWN ON THIS DRAWING IS PERMITTED WITHOUT PERMISSION FROM THE ENGINEER.
5. PRIVATE FOUL WATER AND SURFACE WATER DRAINAGE IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT BUILDING REGULATIONS, BS EN 752, NHBC STANDARDS CHAPTER 5.3 AND RELEVANT AGREEMENT CERTIFICATES.
6. PRIVATE DRAINS TO BE CONSTRUCTED USING FLEXIBLY JOINTED VITRIFIED CLAY PIPES TO BS 65 "SUPER STRENGTH" SPECIFICATION (HEPWORTH SUPERSLEVE OR SIMILAR APPROVED) OR UPVC BUILDING DRAINAGE SYSTEM PIPEWORK TO BS EN 1401, BEDDED AND BACKFILLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
7. INSPECTION CHAMBER SIZES ARE TO BE IN ACCORDANCE WITH THE BUILDING REGULATIONS PART H; TABLE 11 AND MANHOLE SIZES TABLE 12.OR NHBC STANDARD WHERE APPLICABLE.
8. THE CENTRELINE OF THE MANHOLE IS NOT NECESSARILY COINCIDENTAL WITH THE CENTRELINE OF THE MAIN PIPE.
9. POSITION OF MANHOLE COVER SLAB AND STEP RUNGS TO BE DIRECTED ON SITE.
10. BACKFILLING OF DRAIN TRENCHES ADJACENT TO DWELLINGS OF OTHER STRUCTURES TO BE IN ACCORDANCE WITH THE BUILDING REGULATIONS PART H; DIAGRAM 8.
11. ALL MORTAR TO BE CLASS 1 UNLESS NOTED OTHERWISE.
12. BRICKS TO BE ENGINEERING CLASS B TO BS EN 771-1, LAID IN ENGLISH BOND ON CLASS (i) MORTAR TO CLAUSE 2404, SPECIFICATION FOR HIGHWAY WORKS. ANY OVER EXCAVATION TO BE MADE GOOD.
13. ALL CONCRETE AND CONCRETE PRODUCTS TO BE SULPHATE RESISTING.
14. INSPECTION CHAMBER COVERS IN PRIVATE AREAS SHOULD BE GROUP 1 CLASS A15, IN PEDESTRIAN AREAS INACCESSIBLE TO WHEELED VEHICLES AND GROUP 4 CLASS D400 IN VEHICULAR AREAS.
15. IN COMPLIANCE WITH CDM 2015 ODYSSEY HAS FOLLOWED IT'S DESIGN RISK MANAGEMENT PROCESS FOR HAZARD ELIMINATION AND RISK REDUCTION IN DEVELOPING THE ODYSSEY DESIGNS SHOWN ON THIS DRAWING. THERE ARE NO ABNORMAL OR UNUSUAL RESIDUAL RISKS ASSOCIATED WITH THE DESIGN. ANY OTHER RESIDUAL RISKS ARE THOSE THAT WOULD NORMALLY BE EXPECTED BY COMPETENT PERSONS OR CONTRACTORS ENGAGED ON WORK OF THIS NATURE OR TYPE.

CONSTRUCTION ISSUE

Rev	Amendments	Drn	Chk	App	Date
C5	PERMAVOID DIFFUSER DETAIL ADDED.	TSB	AK	SW	10.06.21
C4	PERMAVOID CONNECTION DETAIL OMITTED. REFER TO YAP-130-SK004	AK	SW	SW	14.04.21
C3	FURTHER DRAINAGE CHANNEL DETAILS ADDED AS PER CLIENT'S REQUIREMENT	AK	SW	SW	16.03.21
C2	AMENDMENTS AS PER ARUN DC REQUIREMENTS	AK	SW	SW	04.03.21
C1	DRAWING STATUS REVISED TO CONSTRUCTION ISSUE	AK	SW	SW	25.02.21

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Job Title: LAND AT STAKERS FARM, YAPTON

Drawing Title: DRAINAGE CONSTRUCTION DETAILS (SHEET 2 OF 2)

Client: DANDARA LIMITED (SOUTHERN)

Scale	Date	Designed
AS SHOWN	JUL 20	CJL
Drawn	Checked	Approved
CJL	SW	JHM
Job No	Drawing No	Rev
18-204	YAP-180-031	C5

N:\19-156 - Land at Stakers Farm, Yapton\Tech\Acad\Drawings\Detailed Design\YAP-180-031 Drainage Construction Details Sheet 2 of 2.dwg

Appendix B

Surface Water Maintenance Plan Drawing



NOTES

1. THIS DRAWING MUST BE READ IN CONJUNCTION WITH THE 'DRAINAGE AND SUDS MAINTENANCE AND MANAGEMENT PLAN' REPORT REF: 19-156-05 (LATEST REVISION) BY ODYSSEY.
2. ITEMS HIGHLIGHTED IN RED (SERVING A SINGLE/TWO PROPERTIES ONLY) SHALL REMAIN THE SOLE RESPONSIBILITY OF THE RESPECTIVE HOUSEHOLDERS.
3. ITEMS HIGHLIGHTED IN BLUE (SERVING MORE THAN A SINGLE PROPERTY, PROVIDING MEANS OF ACCESS TO A SHARED ITEM OR LAID BENEATH PUBLICLY ACCESSIBLE AREAS) SHALL BE DEEMED 'SHARED ITEMS' AND RESPONSIBILITY FOR THESE WOULD BE VESTED IN THE MANAGEMENT COMPANY.
4. PERMEABLE PAVING SPECIFICALLY ASSIGNED TO A PLOT AND/OR PRIVATE DRIVES SERVING SINGLE PLOT ONLY WOULD REMAIN THE RESPONSIBILITY OF THE RESPECTIVE HOUSEHOLDER.
5. SHARED DRIVES, ACCESS ROADS, VISITOR PARKING SPACES AND ANY OTHER SHARED ELEMENTS OF PAVED AREAS SHALL BE DEEMED 'SHARED ITEMS' AND RESPONSIBILITY FOR THESE WOULD BE VESTED IN THE MANAGEMENT COMPANY.

LEGEND

- DRAINAGE RUN SERVING INDIVIDUAL HOUSEHOLD (SEE NOTE 2).
- DRAINAGE RUN SERVING MULTIPLE HOUSEHOLDS (SEE NOTE 3).

Rev	Amendments	Dm	Chk	App	Date
A	DRAINAGE COMMENTS INCORPORATED	EW	AK	BO	10.04.26

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Job Title
LAND AT STAKERS FARM
YAPTON

Drawing Title
SW MAINTENANCE PLAN
(70 UNITS SCHEME)

Client
DANDARA LIMITED
(SOUTHERN)

Scale	Date	Designed
1:500 @A1	JAN 26	AK
Drawn	Checked	Approved
AK	BO	BO
Job No	Drawing No	Rev
19-156	YAP-130-090	A

P:\19-156 - Land at Stakers Farm, Yapton\TechAcad\Drawings\Detailed Design\YAP-130-090 SW Maintenance Plan.dwg

Appendix C

CIRIA C753 SuDS Manual Maintenance Record Pro-forma Example

TABLE B.25 SuDS maintenance inspection checklist

General information			
Site ID			
Site location and co-ordinates (GIS if appropriate)			
Elements forming the SuDS scheme		Approved drawing reference(s)	
Inspection frequency		Approved specification reference	
Type of development		Specific purpose of any parts of the scheme (eg biodiversity, wildlife and visual aspects)	

Inspection date								
	Details	**Y/N**	**Action required**	**Date completed**	**Details**	**Y/N**	**Action required**	**Date Completed**
General inspection items								
Is there any evidence of erosion, channelling, ponding (where not desirable) or other poor hydraulic performance?								
Is there any evidence of accidental spillages, oils, poor water quality, odours or nuisance insects?								
Have any health and safety risks been identified to either the public or maintenance operatives?								
Is there any deterioration in the surface of permeable or porous surfaces (eg rutting, spreading of blocks or signs of ponding water)?								
Silt/sediment accumulation								
Is there any sediment accumulation at inlets (or other defined accumulation zones such as the surface of filter drains or infiltration basins and within proprietary devices)? If yes, state depth (mm) and extent. Is removal required? If yes, state waste disposal requirements and confirm that all waste management requirements have been complied with (consult environmental regulator)								

continued...

continued from...

TABLE B.25 SuDS maintenance inspection checklist

Inspection date								
	Details	**Y/N**	**Action required**	**Date completed**	**Details**	**Y/N**	**Action required**	**Date Completed**
Is surface clogging visible (potentially problematic where water has to soak into the underlying construction or ground (eg underdrained swale or infiltration basin)?								
Does permeable or porous surfacing require sweeping to remove silt?								
System blockages and litter build-up								
Is there evidence of litter accumulation in the system? If yes, is this a blockage risk?								
Is there any evidence of any other clogging or blockage of outlets or drainage paths?								
Vegetation								
Is the vegetation condition satisfactory (density, weed growth, coverage etc)? (Check against approved planting regime.)								
Does any part of the system require weeding, pruning or mowing? (Check against maintenance frequency stated in approved design.)								
Is there any evidence of invasive species becoming established? If yes, state action required								
Infrastructure								
Are any check dams or weirs in good condition?								
Is there evidence of any accidental damage to the system (eg wheel ruts?)								
Is there any evidence of cross connections or other unauthorised inflows?								
Is there any evidence of tampering with the flow controls?								

continued...

continued from...

TABLE B.25 SuDS maintenance inspection checklist

Inspection date								
	Details	**Y/N**	**Action required**	**Date completed**	**Details**	**Y/N**	**Action required**	**Date Completed**
Are there any other matters that could affect the performance of the system in relation to the design objectives for hydraulic, water quality, biodiversity and visual aspects? (Specify.)								
Other observations								
Information appended (eg photos)								
Suitability of current maintenance regime								
Continue as current Increase maintenance Decrease maintenance								
Next inspection								
Proposed date for next inspection								