MARKS & SPENCER'S AND ALDI RETAIL FOOD STORE (PLOT 10), ROYSTON

SUDS MAINTENANCE PLAN



ROYS-WSP-10-XX-RP-CE-5001
FEBRUARY 2018

CONFIDENTIAL

MARKS & SPENCER'S AND ALDI RETAIL FOOD STORE (PLOT 10), ROYSTON

SUDS MAINTENANCE PLAN

TYPE OF DOCUMENT (VERSION) CONFIDENTIAL

PROJECT NO. 70040494
OUR REF. NO. ROYS-WSP-10-XX-RP-CE-5001

DATE: FEBRUARY 2018

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Unit 9, The Chase
John Tate Road, Foxholes Business Park
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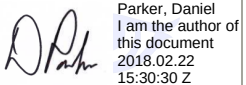
QUALITY CONTROL

Issue/revision	First issue	Revision 1	Revision 2	Revision 3
Remarks				
Date	22/02/2018			
Prepared by	Daniel Parker			
Signature	 Parker, Daniel I am the author of this document 2018.02.22 15:30:30 Z			
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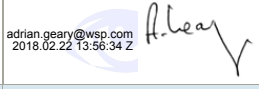
Signature	 adrian.geary@wsp.com 2018.02.22 13:56:34 Z			
Authorised by	David Owen			
Signature	 I am approving this document 2018.02.22 15:57:20 Z			
Project number	70040494			
Report number	ROYS-WSP-10-XX-RP-CE-5001			
File reference	-			

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4	SUDS FEATURES	5

APPENDICES

Appendix A

1 INTRODUCTION

1.1.1. Planning Practice Guidance states that 'When planning a sustainable drainage system, developers need to ensure their design takes account of the construction, operation and maintenance requirements of both surface and subsurface components, allowing for any personnel, vehicle or machinery access required to undertake this work.'

This document sets out the operation & maintenance strategy for all surface water features proposed for the M&S and Aldi Retail Food Store, aiming to mitigate the risk of failure within features by establishing robust operation and maintenance protocols for all proposed features.

1.1.2. This document has been written based on the following supporting guidance:

- Sustainable drainage systems: non-statutory technical standards (Defra)
- CIRIA The SuDS Manual. C753

1.1.3. The document is set out in three sections:

- Site Location
- Site Summary
- SuDS Features

1.1.4. In addition to the above sections, a drawing showing the proposed drainage layout, including proposed SuDS features are included within the Appendix A.

2 SITE LOCATION

	Development Name	M&S and Aldi Retail Food Store
2.1	Address & postcode/Grid reference	M&S and Aldi Retail Food Store (plot 10) A505, Royston Approx - SG8 5HE The approximate OS grid reference of the site is 53449E 24147N
2.2	Constituency	Royston West & Rural, Hertfordshire
2.3	Site area	Plot 10 is the south of the A505development with an approximate developable area of 1.0Ha.
2.4	Planning application no./Ref.	Planning Permission 17/01024/1 granted 17/11/2017 and Condition 10.

3 SITE SUMMARY

The following section summarises a brief overview of the comparison between the existing site and the proposed development.

		Existing Site	Proposed Development	Additional Points to Note
3.1	Permeable area (ha)	1.0 ha	0.4 ha	Car parking bays
3.2	Impermeable area (ha)	0.0 ha	0.6 ha	
3.3	SuDS features: Infiltration Tank 1	0m³	152 m³	In the form of cellular storage
3.3	SuDS features: Infiltration Tank 2	0m³	122 m³	In the form of cellular storage
3.4	SuDS features: Infiltration Tank 3	0m³	122 m³	In the form of cellular storage
3.5	Fuel Interceptor	-	-	Proposed Fuel Interceptor located in service yard in the event of any fuel spillage from HGVs.

4 SUDS FEATURES

The Local Planning Authority (LPA) and Lead Local Flood Authority (LLFA) require the developer to consider the ongoing maintenance of each SuDS feature over the lifetime of the development. The following section considers each SuDS feature individually and sets out appropriate requirements for their management and maintenance and how they are planned to be incorporated within the proposed development.

The following SuDS features are set out on drawings ROYS-WSP-10-XX-DR-CE-5001 and ROYS-WSP-10-XX-DR-CE-5002 see the Appendix A.

SuDS Feature - Permeable Paving		Information of proposed SuDS Feature
4.1	Type of SuDS Feature	Precast concrete blocks with a pattern of indentations along their edges intended to be filled with sharp sand/gravel, laid on a recommended sub-base, which should be single size crushed rock or other open-textured support. This remains free-draining provided surface maintenance limits the deposit of debris in the indentations and joints between blocks. See Typical Drainage Construction details drawing ROYS-WSP-10-XX-DR-CE-5102 in Appendix A.
4.1.1	Dimensions of SuDS Feature	
	- PP1 Surface Area (m)	400 m²
	- PP1 Depth (m)	0.45m sub-base + road build up
4.1.2	Party responsible for maintenance	
	- Name	Ampersand Ltd (Owner)
	- Address	TBC
	- Contact Information	TBC

	Maintenance Specifications	
	- As Required	• Inspect/check all inlets, outlets, inspection chambers, surface and • Overflows (where required) to ensure that they are in good condition, • Free from blockages and operating as designed. Take action where • Required (for 3 months following installation) • Removal of weeds where required • Stabilizing and mowing of contributing areas where required
	- Monthly	• Refer to manufacturer specifications • For sealed systems, inspection of outfalls should be undertaken
	- Six monthly	• Brushing and vacuuming to manufacturer requirements. Re-grit where necessary after brushing.
4.1.3	Remediation inspections & tasks following significant storm events:	• Inspect and carry out essential recovery works to return the feature to full working order

SuDS Feature – Soakaway Tank System		Information of proposed SuDS Feature
4.2	Type of SuDS Feature	Geocellular systems can be used to control and manage rainwater surface water runoff either as a soakaway or as a storage tank. The modular/honeycomb nature of geocellular systems means that they can be tailored to suit the specific requirements of any site. See Typical Soakaway and Cellular Tank Detail drawing ROYS-WSP-10-XX-DR-CE-5101 in Appendix A
4.2.1	Dimensions of SuDS Feature	
	- Tank 1 Length (m)	40.0m
	- Tank 1 Width (m)	9.5m
	- Tank 1 Depth (m)	0.4m
	- Tank 2 Length (m)	32.0m
	- Tank 2 Width (m)	9.5m (max)
	- Tank 2 Depth (m)	0.4m
	- Tank 3 Length (m)	32.0m
	- Tank 3 Width (m)	9.5m
	- Tank 3 Depth (m)	0.4m

4.2.2	Party responsible for maintenance	
	- Name	Ampersand Ltd (Owner)
	- Address	TBC
	- Contact Information	TBC
4.2.3	Maintenance Specifications	
	- Monthly	• Inspect and identify any areas that are not operating correctly. If required, take remedial action. (for 3 months following installation) • Debris removal from catchment surface (where may cause risks to performance) • Inspect systems as specified by the manufacturer • Where rainfall infiltrates into blocks from above, check surface of filter for blockage by silt, algae or other matter. Remove and replace surface infiltration medium as necessary.
	- Six monthly	• Inspect and identify any areas that are not operating correctly. If required, take remedial action. (following initial 3 month period)
	- Annual	• Remove sediment from pre-treatment structures (e.g. upstream silt-traps or Vortex flow control upstream) and geocellular system where required (High pressure water jetting) • Inspect and document the presence of wildlife
4.2.4	Remediation inspections & tasks following significant storm events:	• Inspect and carry out essential recovery works to return the feature to full working order

SuDS Feature – Fuel Interceptor		Information of proposed SuDS Feature
4.3	Type of SuDS Feature	The SPEL Stormceptor is specially designed and fabricated to provide a effective means of separating oil and other light liquids from surface water drainage systems. The SPEL Stormceptor was the first Environment Agency listed class 1 by-pass separator to BS EN 858-1:2002.
4.3.1	Dimensions of SuDS Feature	
	- PP1 Surface Area (m)	NA
	- PP1 Depth (m)	NA
4.3.2	Party responsible for maintenance	
	- Name	Ampersand Ltd (Owner)
	- Address	TBC
	- Contact Information	TBC
4.3.3	Maintenance Specifications	
	- As Required	• Inspect/check all inlets, outlets, inspection chambers, surface and • Overflows (where required) to ensure that they are in good condition, • Free from blockages and operating as designed. Take action where • Required (for 3 months following installation) • Removal of weeds where required • Stabilizing and mowing of contributing areas where required

	- Monthly	• Refer to manufacturer specifications • For sealed systems, inspection of outfalls should be undertaken
	- Six monthly	• Brushing and vacuuming to manufacturer requirements. Re-grit where necessary after brushing.
4.3.4	Remediation inspections & tasks following significant storm events:	• Inspect and carry out essential recovery works to return the feature to full working order

Appendix A

DRAINAGE DESIGN DRAWINGS

Drainage and External Levels Layout Sheet 1 of 2	ROYS-WSP-10-XX-DR-CE-5001 Revision P01
Drainage and External Levels Layout Sheet 1 of 2	ROYS-WSP-10-XX-DR-CE-5002 Revision P01
Typical Soakaway and Cellular Tank Detail	ROYS-WSP-10-XX-DR-CE-5101 Revision P01
Typical Drainage Construction Details	ROYS-WSP-10-XX-DR-CE-5102 Revision P01



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Document & Drawing Issue Sheet

Project No:	70040494	Issue No: 14
Project Name:	Royston Industrial Unit - M&S and Aldi (Plot 10)	Issuing Office:
Date of Issue:	22-Feb-2018	Unit 9, The Chase, John Tate
Purpose of Issue:	Planning Application	Road, Foxholes Business Park,
Method of Issue	Email	Hertford, SG13 7NN
Number of items Issued:	5	Tel: +44 (0)1992 526 000
Format of Issue:	PDf	wsp.com
Service:	Development Infrastructure	

Issued to:	No of Recipients: 3	
Company	Name	Position/Function
Kimberley Developments	Philip	Client
WSP	David Owen	Project Director
Bidwells	Stacy Rawlings	

Dwg/Doc Number	Title	Scale	Size	Revision
ROYS-WSP-10-XX-DR-CE-5001	Drainage and Levels Plan 1 of 2	1:250	A1	P01
ROYS-WSP-10-XX-DR-CE-5002	Drainage and Levels Plan 2 of 2	1:250	A1	P01
ROYS-WSP-10-XX-DR-CE-5101	Typical Soakway and Cellular Tank Detail	NTS	A3	P01
ROYS-WSP-10-XX-DR-CE-5102	Typical Drainage Construction Details	NTS	A1	P01
ROYS-WSO-10-XX-RP-CE-5001	SUDS Maintenance Plan	NTS	A4	0 1

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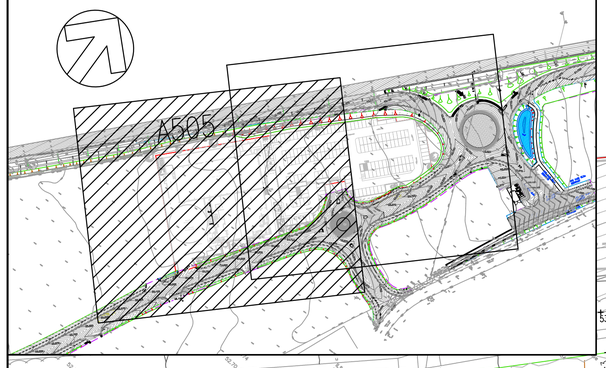

DO NOT SCALE

LEGEND:

- SITE BOUNDARY
- PROPOSED HIGHWAY BOUNDARY, REFER TO DRAWING No.01334-S38-200

SURFACE WATER

- PROPOSED PRIVATE SURFACE WATER SEWER
- PROPOSED SURFACE WATER CONNECTION PIPE (150ø AT 1:150 UNLESS OTHERWISE STATED)
- PROPOSED SURFACE WATER DISH CHANNEL
- PROPOSED LINEAR DRAINAGE CHANNEL WITH SUMP
- PROPOSED SURFACE WATER MANHOLE, REFER DRAWING o.ROYS-WSP-10-XX-DR-CE-5201
- RWP RAINWATER PIPE (YET TO BE CONFIRMED)
- PROPOSED GULLY
- PROPOSED CELLULAR STORAGE, REFER TO DRAWING No.ROYS-WSP-10-XX-DR-CE-5101
- PROPOSED PERMEABLE PAVING, REFER TO DRAWING No.ROYS-WSP-10-XX-DR-CE-7001 AND ROYS-WSP-10-XX-DR-CE-7002
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- 53.750 PROPOSED HIGHWAY CONTOURS

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- PROPOSED PRIVATE FOUL WATER SEWER
- PROPOSED FOUL WATER MANHOLE

NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL RELATED DOCUMENTATION, DRAWINGS AND STANDARD DETAILS.
2. THE WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE DOT MCDHW AND DMRB.
3. ALL DRAINAGE OUTFALLS AND CONNECTIONS TO EXISTING SYSTEMS SHALL BE CHECKED & SURVEYED AND THE RESULTS PASSED TO THE OVERSEEING AUTHORITY / CLIENT IN ADVANCE OF THE START OF DRAINAGE WORKS.
4. THE CONTRACTOR SHALL TAKE SUCH STEPS TO SAFEGUARD AGAINST CONTAMINATION OF LOCAL WATERCOURSES.
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12. CONTRACTORS CHOSEN MANUFACTURER TO DESIGN AN WARRANT THE BELOW GROUND SURFACE WATER ATTENUATION SYSTEM INCLUDING ALLOWANCE FOR GROUND CONDITIONS, LOADINGS INCLUDING VEHICULAR LOADINGS WITH REGARD TO COVER, CONSTRUCTION DEPTH AND TO PROVIDE THE REQUIRED CUBIC METERS OF STORAGE. VENTING TO BE PROVIDED IN ACCORDANCE WITH MANUFACTURERS REQUIREMENTS.
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14. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH MANHOLE SCHEDULE, DRAWING No.ROYS-WSP-10-XX-DR-CE-5201.
15. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH TYPICAL SOAKWAY AND CELLULAR TANK DETAIL DRAWING No.ROYS-WSP-10-XX-DR-CE-5101.
16. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH TYPICAL DRAINAGE CONSTRUCTION DETAILS, DRAWING No.ROYS-WSP-10-XX-DR-CE-5102.

REV	DATE	BY	DESCRIPTION	CHK	APP
P01	08/02/2018	DHP	FIRST ISSUE FOR TENDER	AJG	DALO

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CLIENT: KIAFIELD PROPERTIES LTD

ARCHITECT: FARRELL AND CLARK LLP

SITE/PROJECT: ROYSTON INDUSTRIAL DEVELOPMENT M&S AND ALDI RETAIL FOOD STORE

TITLE: DRAINAGE AND EXTERNAL LEVELS LAYOUT SHEET 1 OF 2

SCALE @ A1:	CHECKED:	APPROVED:
1:250	AJG	DALO

PROJECT NO:	DESIGNED:	DRAWN:	DATE:
70040494	DHP	DHP	February 18

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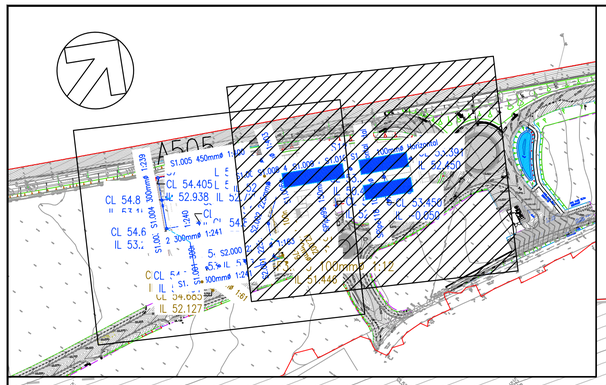

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P01	08/02/2018	DHP	FIRST ISSUE FOR ARCHITECTS COMMENTS	AJG	DALO

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SCALE @ A1:	CHECKED:	APPROVED:
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PROJECT NO:	DESIGNED:	DRAWN:	DATE:
70040494	DHP	DHP	February 18

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2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL RELATED DOCUMENTATION AND STANDARD DETAILS.
3. ALL CLAUSE NUMBERS REFER TO THE SPECIFICATION FOR HIGHWAY WORKS (SHW), LATEST EDITION.
4. CONTRACTORS CHOSEN MANUFACTURER TO DESIGN AN WARRANT THE BELOW GROUND SURFACE WATER ATTENUATION SYSTEM INCLUDING ALLOWANCE FOR GROUND CONDITIONS, LOADINGS INCLUDING VEHICULAR LOADINGS WITH REGARD TO COVER, CONSTRUCTION DEPTH AND TO PROVIDE THE REQUIRED CUBIC METERS OF STORAGE. VENTING TO BE PROVIDED IN ACCORDANCE WITH MANUFACTURERS REQUIREMENTS.
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9. TEMPORARY WORKS DESIGN ASSOCIATED WITH THE CONSTRUCTION OF THE WORKS SHALL BE RESPONSIBILITY OF THE CONTRACTOR.
10. PRIOR TO THE START OF THE WORKS THE CONTRACTOR SHALL AGREE A REGIME OF FORMATION TESTING WITH THE ADOPTING AUTHORITY. THE FINDINGS OF SUCH TESTING (FOR EXAMPLE CBR READINGS) SHALL BE AGREED WITH THE ADOPTING AUTHORITY AND THE CAPPING / SUB BASE DESIGN REVIEWED ACCORDINGLY.
11. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH EARTHWORKS SPECIFICATION PRODUCED BY WSP DATED JULY 2017 AND THE GROUND INVESTIGATION REPORT PRODUCED BY WSP FOR PLOT 10 DATED 10 AUGUST 2017
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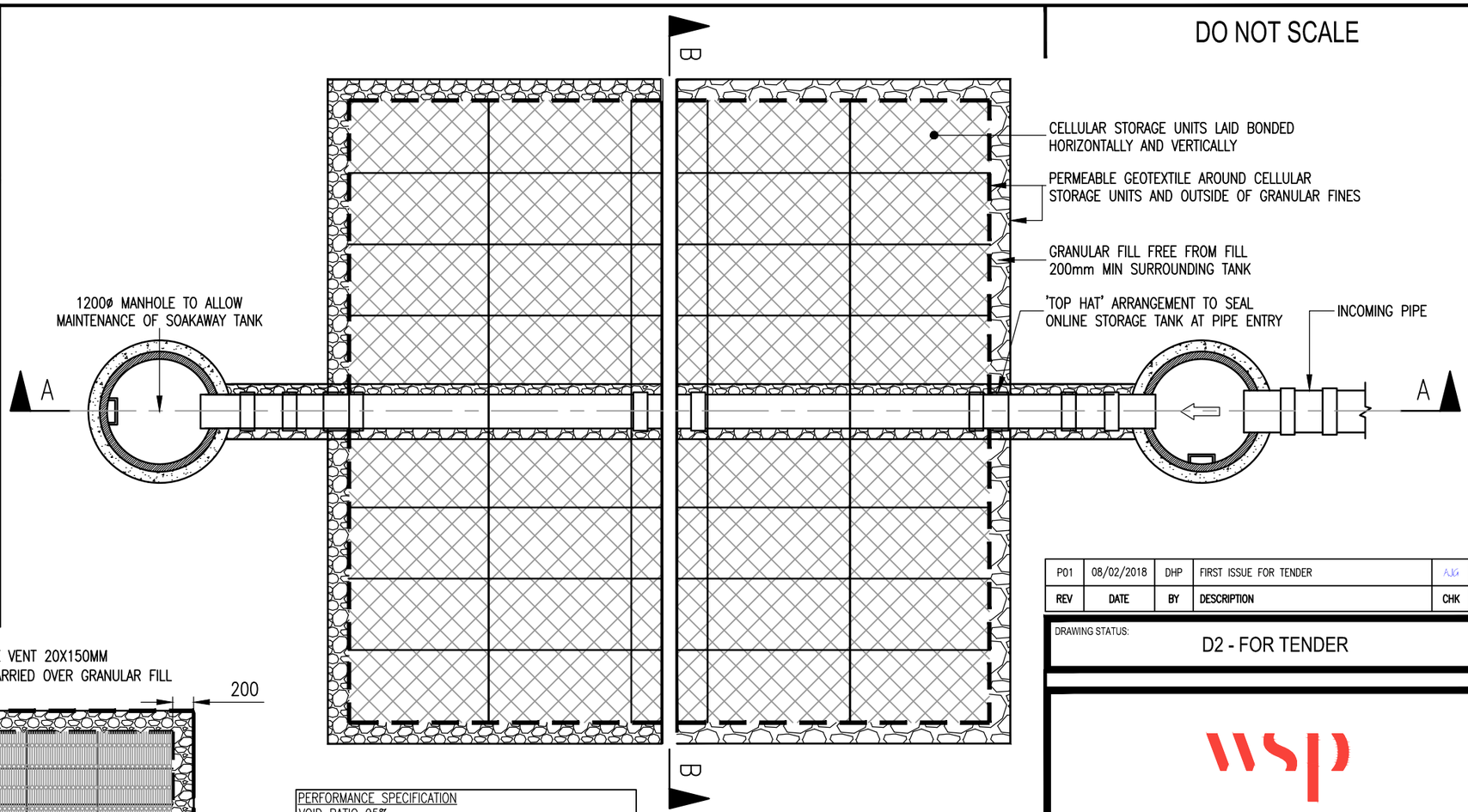
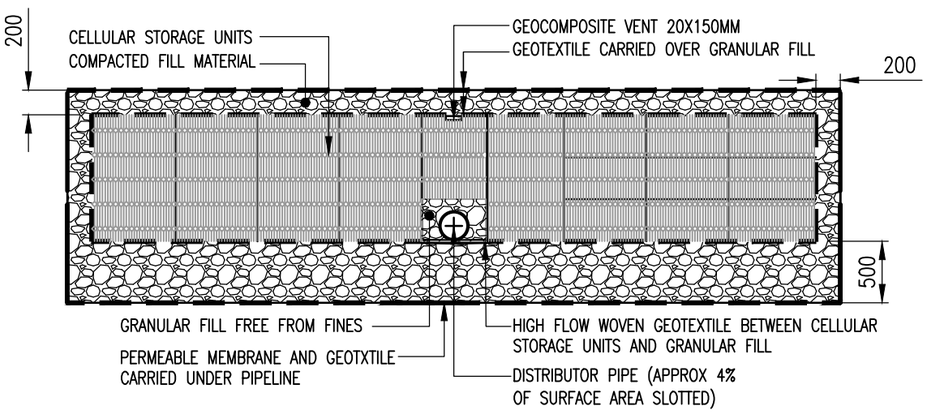


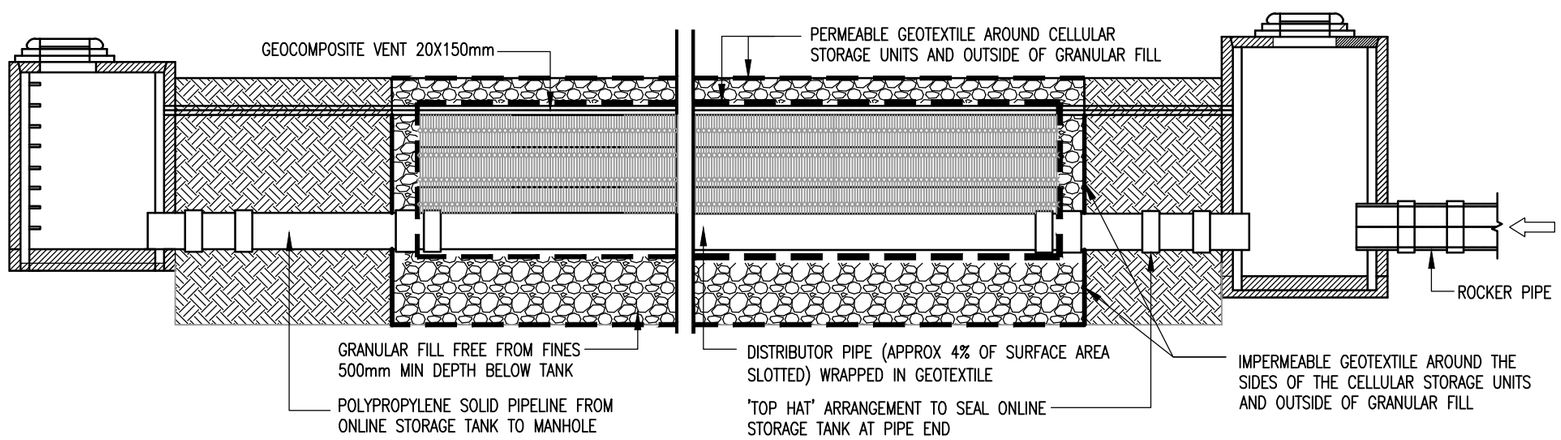
PLAN

PERFORMANCE SPECIFICATION
VOID RATIO 95%
VERTICAL COMPRESSIVE STRENGTH – MAX 610 kN/m2
LATERAL COMPRESSIVE STRENGTH – MAX 63 kN/m2
SHORT–TERM VERTICAL DEFLECTION – 70.1 kN/m2 per mm
SHORT–TERM LATERAL DEFLECTION – 4.4 kN/m2 per mm

THE STRUCTURAL LOAD BEARING CAPACITY OF GEOCELLUAR STORAGE TANKS TO BE IN ACCORDANCE WITH CIRIA C680.



SECTION B–B



SECTION A–A

REV	DATE	BY	DESCRIPTION	CHK	APP
P01	08/02/2018	DHP	FIRST ISSUE FOR TENDER	AJG	DALO

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ARCHITECT: FARRELL AND CLARK LLP

PROJECT: ROYSTON INDUSTRIAL DEVELOPMENT M&S AND ALDI RETAIL FOOD STORE

TITLE: TYPICAL SOAKWAY AND CELLULAR TANK DETAIL

SCALE @ A3:	CHECKED:		APPROVED:
NTS	AJG		DALO
PROJECT No:	DESIGNED:	DRAWN:	DATE:
70040494	DHP	DHP	February 18

DRAWING No: ROYS-WSP-10-XX-DR-CE-5101 REV: P01

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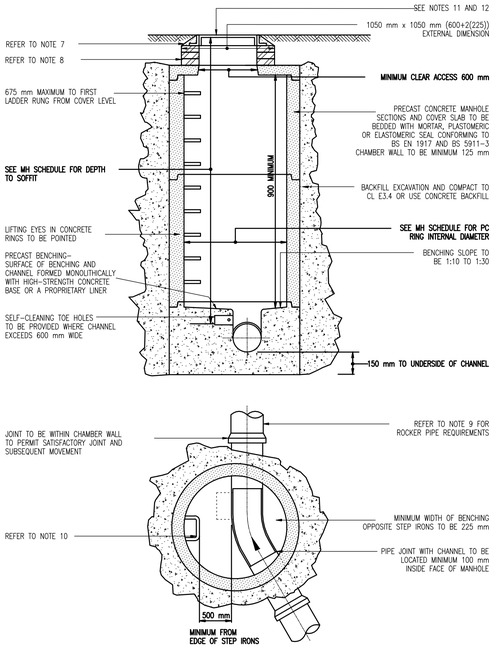
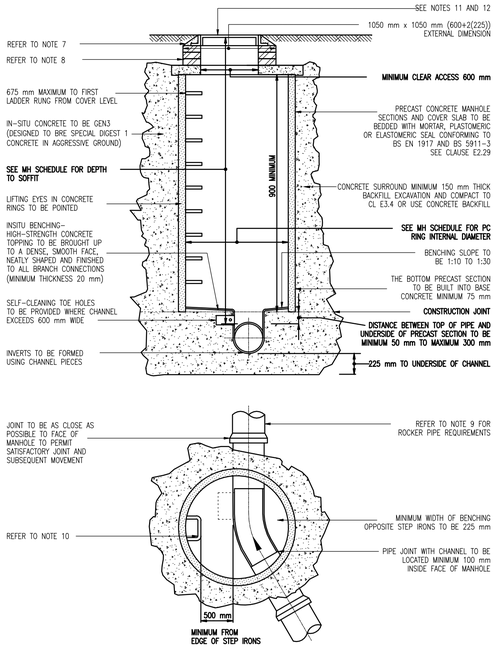
TYPICAL MANHOLE DETAIL – TYPE 2T
DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE NOT EXCEEDING 3m



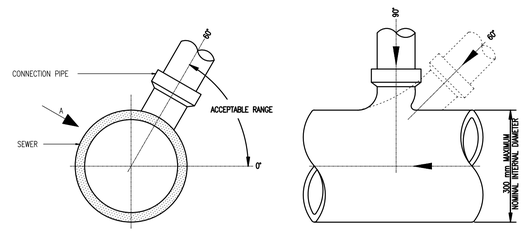
NOT TO SCALE

TYPICAL MANHOLE DETAIL – TYPE 2
DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE NOT EXCEEDING 3m



NOT TO SCALE

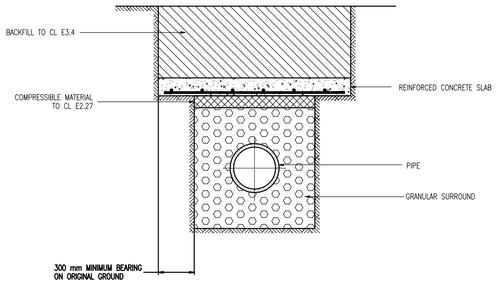
CONNECTIONS TO SEWER



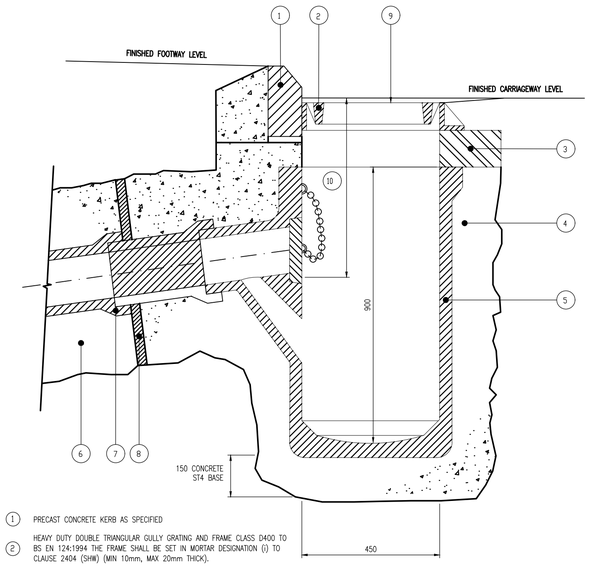
CROSS SECTIONAL VIEW OF SEWER

PLAN VIEWED IN DIRECTION OF ARROW – A

PROTECTION PIPES LAID AT SHALLOW DEPTHS
(ALTERNATIVELY USE CLASS Z CONCRETE BED AND SURROUND)

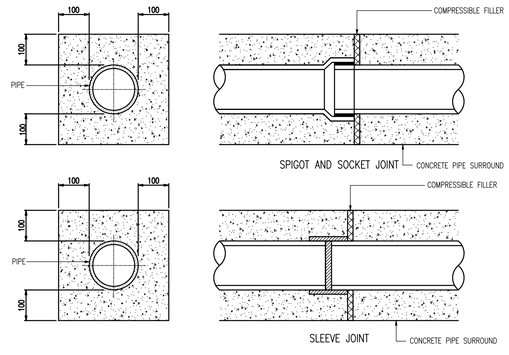


TYPICAL GULLY DETAIL

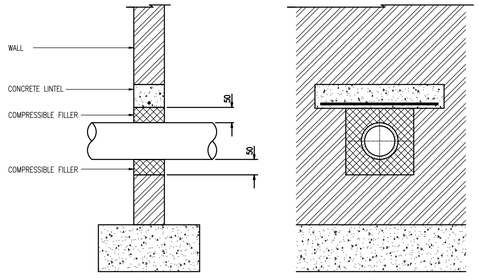


1. PRECAST CONCRETE KERB AS SPECIFIED
2. HEAVY DUTY DOUBLE TRIANGULAR GULLY GRATING AND FRAME CLASS D400 TO BS EN 124:1994 THE FRAME SHALL BE SET IN MORTAR DESIGNATION (i) TO CLAUSE 2404 (SHW) (MIN 10mm, MAX 20mm THICK).
3. ENGINEERING BRICKWORK CLASS B 225mm THICK TO CLAUSE 2406 (SHW) OR GULLY COVER SLABS TO BS EN 124:1994 D400 WITH MORTAR DESIGNATION (i) JOINTS TO CLAUSE 2404 (SHW)
4. 150mm CONCRETE SURROUND MIX ST2 TO BS EN 206 (SHW)
5. UNREINFORCED CONCRETE STREET GULLY TO BS 5911 PART 6:2004. SEE ALSO NOTE BELOW RELATING TO THE USE OF PLASTIC GULLY POTS.
6. TYPE Z TRENCH CONSTRUCTION (CONCRETE SURROUND).
7. FLEXIBLE JOINT.
8. COMPRESSIBLE MATERIAL TO CLAUSE 1015 (SHW)
9. GULLY COVER SET 0 TO – 3mm BELOW FINISHED CARRIAGEWAY LEVEL.
10. DEPTH OF OUTLET INVERT TO BE 750mm BELOW TOP OF GULLY GRATING WHERE OUTLET IS BENEATH HIGHWAY.

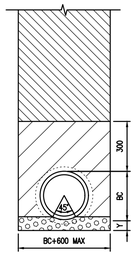
JOINTS FOR CONCRETE ENCASED PIPES



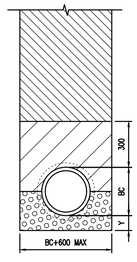
PROTECTION OF PIPES PENETRATING SINGLE LEAF BOUNDARY WALLS



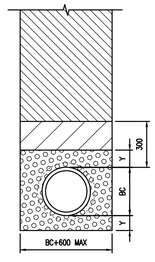
FLAT GRANULAR BED (SINGLE SIZE) CLASS 'F'



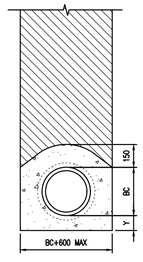
GRANULAR BED AND HAUNCH CLASS 'B'



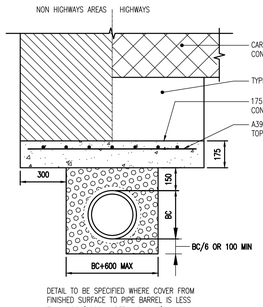
GRANULAR BED AND SURROUND CLASS 'S'



CONCRETE BED AND SURROUND CLASS 'Z'

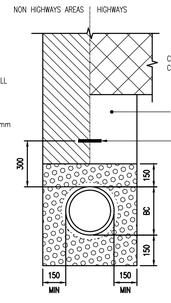


CONCRETE PIPE PROTECTION FOR LIMITED COVER



DETAIL TO BE SPECIFIED WHERE COVER FROM FINISHED SURFACE TO PIPE BARREL IS LESS THAN 900 (1200 UNDER HIGHWAYS)

RISING MAIN



DN = NOMINAL INTERNAL DIAMETER OF PIPE.
BC = OUTSIDE DIAMETER OF PIPE.

DIMENSION Y

CLASS	MACHINE DUG UNIFORM SOIL	ROCK OR MIXED SOILS
N,F,B & S	NOTE (i)	NOTE (ii)
A & Z	NOTE (ii)	NOTE (ii)

(i) Y=BC/6, WITH MIN 100 UNDER BARRELS (50 FOR SLEEVE JOINTED) AND MIN 50 UNDER SOCKETS, WHICHEVER IS THE GREATER, WITH MAX OF 400.

(ii) Y=BC/4, WITH MIN 200 UNDER BARRELS (150 FOR SLEEVE JOINTED) AND MIN 150 UNDER SOCKETS, WHICHEVER IS THE GREATER, WITH A MAX OF 400.

KEY TO MATERIALS

- TOP SOIL OR EXISTING GROUND
- PRECAST CONCRETE
- GEN3 CONCRETE BED AND SURROUND.
- SUITABLE BACKFILL MATERIAL
- SELECTED SIDEFILL AND SURROUND. CLASS 8 LOWER TRENCH FILL TABLE 6/1 SHW
- SINGLE SIZE GRANULAR MATERIAL. TABLE 5/3 SHW TO BS 13242 COARSE AGGREGATE CLAUSE 4.3.2
- GRANULAR BEDDING MATERIAL. TABLE 5/3 SHW TO BS 13242 COARSE AGGREGATE CLAUSE 4.3.2
- COMPRESSIBLE MATERIAL

DO NOT SCALE

NOTES.

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
2. ALL CLAUSE NUMBERS REFER TO THE SPECIFICATION FOR HIGHWAY WORKS, LATEST EDITION.
3. PLASTIC GULLY POTS SUBJECT TO HIGHWAY AUTHORITY'S WRITTEN APPROVAL MAY BE USED AS AN ALTERNATIVE TO CONCRETE GULLY POTS. WHERE THE CONTRACTOR CHOOSES THIS OPTION, THE CONCRETE SURROUND TO THE GULLY POT SHALL BE MIX ST2 TO BS EN 206 TO A MINIMUM THICKNESS OF 200mm & SHALL BE VIBRATED WITH A 50mm DIAMETER POKER.
4. CONTRACTOR SHOULD PROVIDE MECHANICAL LIFTING AIDS FOR ITEMS HEAVIER THAN 20 KGS. IF MECHANICAL LIFTING AIDS ARE IMPRACTICAL A RISK ASSESSMENT SHOULD BE UNDERTAKEN WHICH IDENTIFIES THE APPROPRIATE CONTROL MEASURES REQUIRED TO AVOID RISK OF INJURY FROM MANUAL HANDLING.
5. MANHOLE COVERS AND FRAMES SHALL COMPLY WITH BS EN 124, BS7903 AND CLAUSE E2.32
6. MANHOLE FRAMES SHALL BE SET LEVEL, BEDDED AND HAUNCHED TO CL E6.7
7. MANHOLE FRAME SHALL BE SEATED ON AT LEAST TWO COURSES OF CLASS B ENGINEERING BRICKS TO CL E6.7
8. FOR ROCKER PIPE DETAILS REFER TO CLAUSE E6.6.2
9. STEP IRONS COMPLYING WITH BS EN 14396 AND CLAUSE E2.37
10. OPENING TO BE LOCATED CENTRALLY OVER 900 mm SHAFT AND OFFSET APPROXIMATELY 200 mm FOR 1200 mm DIAMETER SHAFT WITH LADDER
11. MANHOLE COVERS TO CL E2.32–SEE MANHOLE SCHEDULE FOR SIZES
12. PIPE BEDDING CLASSIFICATIONS ARE DERIVED FROM T.R.R.L DOCUMENT 'SIMPLIFIED TABLED OF EXTERNAL LOADS ON BURIED PIPELINES'
13. TOP SOIL THICKNESS TO BE AS EXISTING, BUT NOT LESS THAN 150
14. SHW MEANS REFER TO THE SPECIFICATION FOR HIGHWAY WORKS VOL. 1 SERIES 600
15. COMPRESSIBLE FILLER FOR PIPELINES TO BE USED TO INTERRUPT CONCRETE PROTECTION TO PIPELINES AND SHALL COMPLY WITH CL. 2.27
16. WHERE A PIPE PASSES THROUGH A WALL, INSTALL A SUITABLE PIPE SLEEVE AND LINTEL, COMPLETE WITH TWO COUPLERS ON EITHER SIDE OF THE WALL OR FILL WITH COMPRESSIBLE MATERIAL AS SHOWN. THIS WILL COMPENSATE FOR ANY SETTLEMENT OF THE BUILDING OR MADE–UP GROUND. ALTERNATIVELY FORM A LINTEL OR RELIEVING ARCH IN THE STRUCTURE TO LEAVE 20 CLEARANCE ABOVE THE CROWN OF THE PIPE, FILL THIS CLEARANCE WITH SUITABLE MATERIAL WHICH IS COMPATABLE WITH UPVC, NON–CRACKING AND RESISTANT TO MOISTURE AND GAS
17. GRANULAR BEDDING FOR PIPES AND BACKFILLING MATERIAL FOR TEMPORARY DRAINS (TRENCH SUB–DRAINS), SHALL COMPLY WITH CLAUSE 2.88
18. CONCRETE PROTECTION TO PIPES TO BE IN ACCORDANCE WITH CLAUSE 5.3, AT THE DISCRETION OF THE ENGINEER AWAY FROM CHAMBERS AND WHERE GROUND CONDITIONS PERMIT. THE LENGTHOF THE UNINTERRUPTED CONCRETE PROTECTION MAY BE INCREASED TO 8m

REV	DATE	BY	DESCRIPTION	CHK	APP
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DRAWING STATUS: D2 - FOR TENDER

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SITE/PROJECT: ROYSTON INDUSTRIAL DEVELOPMENT M&S AND ALDI RETAIL FOOD STORE

TITLE: TYPICAL DRAINAGE CONSTRUCTION DETAILS

SCALE @ A1:	CHECKED:	APPROVED:	
NTS	AJG	DALO	
PROJECT NO: 70040494	DESIGNED: DHP	DRAWN: DHP	DATE: February 18

DRAWING No: ROYS-WSP-10-XX-DR-CE-5102 REV: P01

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