C D M : SIGNIFICANT HAZARDS

THE FOLLOWING HEALTH AND SAFETY HAZARDS ARE IDENTIFIED BY THE DESIGNER AS ABNORMAL IN PURSUANCE OF THE CURRENT CONSTRUCTION DESIGN AND MANAGEMENT REGULATIONS.

RISKS DURING CONSTRUCTION:

- DEEP EXCAVATIONS - Deep excavations should have adequate propping and shoring to ensure stability. Personnel working in excavations should be sufficiently protected from falling objects.
- EXISTING SERVICES - Further to any existing services information available, contractor to undertake further surveys/scans to locate any existing services prior to excavations. Refer to Subscan Underground Utilities survey, project ref. U0000491, for reference.

OPERATION / MAINTENANCE RISKS:

- MANHOLES/GULLIES/SILT TRAPS: Inspect manholes & silt traps for build up of silt and general debris (once a year, preferably in the spring after leaf fall in the autumn). If silt/debris is building up then clean with jetting lorry / gully sucker & inspect pipe.
- INTERCEPTOR: Refer to manufacturers recommendations.

RISKS DURING DEMOLITION / DECOMMISSIONING / DISMANTLING / ALTERATIONS:

- No abnormal risks have been identified relating to this design element.

IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY COMPETENT & ADEQUATELY RESOURCED CONTRACTOR(S) WORKING TO SAFE SYSTEMS OF WORK.

KEY

- Site boundary
- Existing private foul/combined drain
- Existing private storm drain
- Existing drainage to be made redundant and grubbed up
- Proposed private foul drain
- Proposed private storm drain
- Rodding eye
- Type 2 precast concrete ring manhole
- Type 3 PPIC (450mm)
- Proposed cellular storage soakaway
- Proposed permeable paving
- Proposed private gully
- Proposed drainage channel
- Proposed land drain
- Terram Root Guard Plus Protection

NEATH ABBEY ROAD

Proposed swale, planted with native species to NPTCBC specification. Interpretation board to be provided, with information on swale function and supported flora and fauna

Drainage channel to be Monotec 100 type 380 by Hauraton, complete with Inspection Box at head of run and Trash Boxes at outlet in accordance with manufacturer's details.Inspection points to be no more than 22.0m apart

SOAKAWAY 1. Geocellular soakaway tank e.g. Versa-Void by ESS With AIC Access channel. Estimated size to be 12.5 x 8.0 x 0.80m, to give approximately 80m³ attenuation volume. Design infiltration rate $2.45x10^{-5}$ m/s with a factor of safety of 2.0 applied. Soakaway IL 5.80m AOD.

Drainage channel to be Monotec 100 type 380 by Hauraton, complete with Inspection Box at head of run and Trash Boxes at outlet in accordance with manufacturer's details.Inspection points to be no more than 22.0m apart

Bioretention tree pit e.g 1.2m x 1.8m Hydro Biofilter by Hydro International, with internal bypass

Class 1 bypass oil interceptor/separator. SPEL Stormceptor 208 C1/SC complete with alarm system and vent. Invert levels fall 50mm between inlet and outlet. Vent location to be agreed with architect, alarm to sound in manager's office - refer to M&E engineer

SOAKAWAY 2. Geocellular soakaway tank e.g. Versa-Void by ESS With AIC Access channel. Estimated size to be 16.5 x 6.0 x 1.05m, to give approximately 100m³ attenuation volume. Design infiltration rate $9.1x10^{-6}$ m/s with a factor of safety of 2.0 applied. Soakaway IL 5.00m AOD.

Existing drainage to be grubbed up and made redundant

Drainage channel to be Monotec 100 type 230 by Hauraton, complete with Trash Box at outlet in accordance with manufacturer's details.

Land drain

Filter drain

Upside down HB2 kerbs laid flush to form intermediate lateral restraint to permeable block paving

Existing drainage to be grubbed up and made redundant

Line of existing high pressure gas main

Drainage channel to be Aco Qmax 150 or similar. Drainage channel railing to be F900 ductile iron Q-guard

Access road to be of permeable block paving construction. Permeable sub-base depth 200mm.

Class 1 bypass oil interceptor/separator. SPEL Stormceptor 210 C1/SC complete with alarm system and vent. Invert levels fall 50mm between inlet and outlet. Vent location to be agreed with architect, alarm to sound in manager's office - refer to M&E engineer

Upside down HB2 kerbs laid flush to form intermediate lateral restraint to permeable block paving

Filter drain

SOAKAWAY 3. Geocellular soakaway tank e.g. Versa-Void by ESS With AIC Access channel. Estimated size to be 17.5 x 9.0 x 1.3m, to give approximately 205m³ attenuation volume. Design infiltration rate $5.70x10^{-5}$ m/s with a factor of safety of 2.0 applied. Soakaway IL 5.20m AOD.

Drainage channel to be Monotec 100 type 380 by Hauraton, complete with Trash Box at outlet in accordance with manufacturer's details.

Kerb inlets to swale

Upside down HB2 kerbs laid flush to form intermediate lateral restraint to permeable block paving

Proposed swale, planted with native species to NPTCBC specification. Interpretation board to be provided, with information on swale function and supported flora and fauna

Foul drainage to discharge via existing spur

Existing foul drain to be diverted around new building footprint.

Sw.01 Ø150 @ 1:26
Sw.01 Ø150 @ 1:170
Sw.04
Sw.03
Sw.02 Ø225 @ 1:147
Ø225 @ 1:27
Fw.01 Ø100 @ 1:23
Fw.02 Ø100 @ 1:80
Fw.03 Ø100 @ 1:80
Fw.04 Ø225 @ 1:100
Sw.06
Sw.07 Ø225 @ 1:12
Sw.05 Ø100 @ 1:80
Ø100 @ 1:67
Ø100 @ 1:36
Sw.08
Fw.Ex.01
Fw.07 Ø150 @ 1:50
Fw.06 Ø150 @ 1:50
FRe.02
Fw.05
FRe.01
Ø225 @ 1:100

10 PARKING SPACES Inc. 7 Staff Parking (Typical 2.6m x 5m)

RETAIL AREA 1315 sq m

WAREHOUSE 400 sqm

WELFARE 124 sq m

10 cycle parking spaces

DUCTS LAID TO THESE SPACES FOR FUTURE EVP PROVISION

ELECTRIC CHARGING POINT

Pool

Tank

El Sub Sta

Works

Depot

Depot

GENERAL NOTES

DRAWINGS AND SPECIFICATIONS: This drawing is to be read in conjunction with all relevant Architects, Engineers and Specialists drawings together with the specification.

DRAINAGE NOTES

DRAINAGE STANDARDS: All private drainage works shall be in accordance with Building Regulations Document Part H. All adoptable drainage works shall be in accordance with Sewers for Adoption 7th Edition and statutory undertaker's requirements.

MANHOLE COVER LEVELS: All manhole & inspection chamber cover levels are to be adjusted to suit the Architect's proposed finished surface levels. If the cover levels proposed in the drainage schedules vary from proposed surface level by more than 100mm, Contractor to notify Craddys.

LAYING DRAINAGE. It is recommended that all drains be laid starting from the downstream connection to the existing network and working upstream to and through the new development.

DRAINAGE PIPE SIZES: All foul water drains to be 100mm diameter unless noted otherwise. All surface water drains to be 150mm U.N.O.

ABOVE GROUND DRAINAGE: RWP/SVP drainage positions shown on Craddys drawings, upon which the below ground drainage is designed, are based upon the positions provided to us by the Architect and these are to be set out on the Architect's floor plans unless agreed otherwise. If above ground drainage positions change then Craddys will need to be informed of these changes in writing and the changes in position clearly noted or highlighted on a drawing, i.e. using revision clouds, with relevant CAD files provided to Craddys below ground drainage drawings to be updated. Note that should these changes occur following Craddys issue of Construction status drawings then there is a risk of the contractor undertaking abortive works.

IF YOU HAVE A QUERY CALL US

SCALING FROM THIS DRAWING OR OBTAINING DIMENSIONS ELECTRONICALLY MAY NOT PROVIDE ACCURATE INFORMATION AND SHOULD BE AVOIDED. WORK ONLY FROM FIGURED DIMENSIONS.

REV	REVISION DETAILS	BY	DATE
E	FOUL DRAINAGE LAYOUT CLARIFIED	WAH	12.02.21
D	SITE PLAN REVISED	WAH	12.11.20
C	UPDATES FOLLOWING SAB COMMENTS	WAH	25.03.20
B	TENDER ISSUE	WAH	11.03.20
A	FIRST ISSUE	WAH	05.08.19

CRADDYS

Consulting Civil and Structural Engineers

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CLIENT: ALDI STORES LTD

STATUS: TENDER

PROJECT TITLE: ALDI STORE, NEATH ABBEY ROAD, NEATH

DRAWING TITLE: PROPOSED DRAINAGE LAYOUT

SCALE AT A1	DRG SIZE	DRAWN	CHECKED	APPROVED
1:250	A1	WAH	RJH	RAG

JOB NO.	DRAWING NUMBER	REV
7899	0050	E