

Drainage Proposals Report
for a
New Science Block at the Xavarian College,
Manchester
undertaken on behalf of
Xavarian College

Report Title:	Drainage Proposals Report for a New Science Block at the Xavarian College, Manchester
Report Reference:	10961 – Xavarian College – Science Block – Drainage Proposals - Rev 01
Client:	Xavarian College
Issue Date:	November 2023
Drafted By:	Kevin Tyldesley
Authorised By:	Loughlin O’Gorman

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1.0 INTRODUCTION

- 1.1 WML Consulting have been commissioned by the Xavarian College to provide a Drainage Proposals Report for a proposed development at their site at Lower Park Road, Manchester, M14 5RB.
- 1.2 In particular the report has been composed to respond to the drainage related planning condition (number 11) contained in Manchester City Council's planning approval notice ref. 137030/FO/2023, a copy of which can be found at appendix 01.

2.0 SITE LOCATION AND DESCRIPTION

- 2.1 The existing Xavarian College site at Lower Park Road, Manchester, M14 5RB contains several existing college buildings together with student play / social areas and car parking / access areas.
- 2.2 A plan illustrating the existing site layout can be found at appendix 02.

3.0 DEVELOPMENT AND SURFACE WATER DRAINAGE PROPOSALS

- 3.1 The development proposals are as follows:-
- The demolition of the existing Sunbury Building (noted as no. 2 on the plan at appendix 02).
 - The construction of the New Science Block in place of the Sunbury Building.
 - Minor alterations to the existing external area around the New Science Block.
- 3.2 A plan indicating the proposed site layout together with the surface water drainage strategy and the external surfacing proposals can be found at appendix 03.
- ## 4.0 THE DESIGN TEAM'S RESPONSES TO PLANNING CONDITION 11
- 4.1 This report has been composed to respond to the drainage related planning condition (number 11) contained in Manchester City Council's planning approval notice ref. 137030/FO/2023.
- 4.2 The text from planning condition 11 has been included below in blue font, with the design team's responses provided as required in black font.

No above ground development (excluding demolition works) shall take place until a surface water drainage scheme in accordance with Non-Statutory Technical Standards for Sustainable Drainage Systems (March 2015) or any subsequent replacements national standards and details, has been submitted to and agreed in writing by the Local Planning Authority. The submitted scheme shall include:-

- A finalised drainage layout showing all components, outfalls, levels and connectivity; Refer to the proposed drainage layout drawing which can be found at appendix 03.
- Maximised integration of green SuDS components (utilising infiltration or attenuation) if practicable; Refer to the proposed drainage layout drawing which can be found at appendix 03, and the extract from the Phase 2 site investigation report at appendix 04, which confirms the ground conditions at the site are predominantly clay and are therefore not suited to the use of infiltration.

- Surface water should be restricted to a rate of 5 l/s.
Refer to the proposed drainage layout drawing which can be found at appendix 03.
- A blockage risk assessment is undertaken as part of the drainage strategy to support proposed flows less than 5 l/s. If the risk cannot be adequately managed, a higher minimum discharge rate should be considered / agreed with relevant.
Should the surface water drainage system become partially or fully blocked and thereby generate overland flows, any such flows would leave the site via the existing entrance to Thurloe Street, as this is the lowest part of the site. The proposed building's ground floor level will be around 0.7m above the existing levels at this site entrance. In addition the proposed building will not have a basement. Hence the proposed building will not be affected by a partial or full blockage of the proposed drainage system, and therefore the stipulated discharge rate of 5 l / sec is appropriate.
- An existing and proposed impermeable areas drawing to accompany all discharge rate calculations.
Refer to the existing impermeable area plan at appendix 05, upon which has been overlaid the outline of the proposed roof area of approx. 500m sq. As can be seen from this plan, the new roof area is proposed on an area that is currently all impermeable and positively drained. At appendix 06 can be found the proposed impermeable area plan.
- Runoff volume in the 1 in 100 year, 6 hours rainfall shall be constrained to a value as close as is reasonable practicable to the greenfield runoff volume for the same event, but never to exceed the runoff volume from the development site prior to redevelopment;
With reference to the existing impermeable area plan at appendix 05, it can be seen that in its existing form the site is wholly impermeable and positively drained. Whilst the re-development proposals will include areas of soft landscaping and permeable surfacing. Hence the volume of runoff post redevelopment will be less than under the existing scenario.
- Evidence that the drainage system has been designed (unless an area is designated to hold and/or convey water as part of the design) so that flooding does not occur during a 1 in 100 year rainfall event with allowance for 45% climate change;
Refer to the drainage calculations at appendix 07.
- Assessment of overland flow routes for extreme events. Overland flow routes need to be designed to convey the flood water in a safe manner in the event of a blockage or exceedance of the proposed drainage system capacity including inlet structures. A layout with overland flow routes needs to be presented with appreciation of these overland flow routes with regards to the properties on site and adjacent properties off site.
Should overland flows be generated as a result of a storm that is more onerous than the 1 in 100 year rainfall event with allowance for 45% climate change, or by a failure of the drainage systems, any such flows would leave the site via the existing entrance to Thurloe Street, as this is the lowest part of the site. The proposed building's ground floor level will be around 0.7m above the existing levels at this site entrance. In addition the proposed building will not have a basement. Therefore the proposed building will not be affected by the flows generated by an exceedance rainfall event or a blockage of the proposed drainage system.
- Progression through the drainage hierarchy shall be evidence based and supported by site investigation. Results of ground investigation carried out under Building Research Establishment Digest 365. Site investigations should be undertaken in locations and at proposed depths of the proposed infiltration devices. Proposal of the attenuation that is achieving half emptying time within 24 hours. If no ground investigations are possible or infiltration is not feasible on site, evidence of alternative surface water disposal routes (as follows) is required.

Refer to the proposed drainage layout drawing which can be found at appendix 03, which discusses the drainage hierarchy in the Drainage Strategy notation. Also refer to the extract from the Phase 2 site investigation report at appendix 04, which confirms the ground conditions at the site are predominantly clay and are therefore not suited to the use of infiltration.

- For sites where proposed development would cause pollution risk to surface water, evidence of pollution control measures (preferably through SuDS) is required.
It is considered that the proposed development does not pose a significant risk of pollution to surface water.
- Hydraulic calculation of the proposed drainage system;
Refer to the drainage calculations at appendix 07.
- Construction details of flow control and SuDS elements.
Refer to the typical drainage detail drawing at appendix 08.

5.0 CONCLUSIONS

- 5.1 It is considered that the responses provided above together with the information contained in the various appendices to this report adequately address the issues raised in condition 11, and therefore this condition can be discharged by Manchester City Council as planning authority.

APPENDIX 01

Planning Consent Notice

Important – Planning permission & notices of consent

Compliance with conditions

- Your planning approval or consent is attached. It will contain conditions that you must comply with.
- Please read the conditions and understand their requirements and restrictions, for example submission and approval of details or measures to protect trees.
- Some conditions will require action before you start development and it is imperative that you seek to have these discharged before any work commences.
- Whilst every effort has been made to group conditions logically, it is your responsibility to ensure that you are aware of the requirements and/or restrictions of all conditions.
- If you fail to comply with the conditions this may result in a breach of planning control and this may lead to enforcement action.
- Failure to comply with conditions may also result in the development not being lawful.
- It is in your interests to demonstrate that conditions have been complied with. Failure to do so may cause difficulties if the property is sold or transferred.
- A fee is payable for each request to discharge conditions.
- For advice on any of these matters, please contact Planning, Manchester City Council, PO Box 532, Town Hall, Manchester M60 2LA or email planning@manchester.gov.uk

Town & Country Planning Act 1990 (as amended)

Planning Permission

Applicant

Xaverian College
C/o Agent

Agent (if used)

Mrs Gillian Worden
P4 Planning Limited
14A Little Lever Street
Manchester
M1 1HR

Part 1 – Particulars of the application/development

Proposal: Erection of a three storey Class F1 (a)(Provision of education) building together with the reconfiguration of the existing car park, and associated landscaping following the demolition of the existing Sunbury building

Location: Xaverian College , Lower Park Road, Manchester, M14 5RB

Date of application: 19 May 2023

Application number: 137030/FO/2023

Part 2 – Particulars of decision

Manchester City Council gives notice that the development referred to in Part 1 has been **Approved** in accordance with the application and plans submitted subject to the condition(s) listed below (if any).

Article 35 Declaration

The application has been determined in a positive and proactive manner, in this instance issues that have arisen during consideration of the application have been discussed with the applicants agent and revised drawings have been submitted, appropriately worded conditions are proposed.

Condition(s) attached to this decision

1) The development must be begun not later than the expiration of three years beginning with the date of this permission.

Reason - Required to be imposed pursuant to Section 91 of the Town and Country Planning Act 1990.

2) The development hereby approved shall be carried out in accordance with the following drawings and documents:
Proposed Elevations 6037_1230 Rev P03; Proposed GA Plans 6037_1225 Rev P03;
Proposed site plan 6037_1220 Rev P03; Proposed Site Section 6037_1235 Rev P03;
Demolition Site Plan 6037_1022 Rev P02; Part L2 Compliance Report prepared by

TACE; Arboicultural Impact Assessment 4331-XCSB-BS-AIA-001 Rev A; Design and Access Statement Rev P02 all as received by the City Council on the 8th September 2023

Waste Management Strategy for the storage and disposal of refuse as received by the City Council on the 25th July 2023

Crime Impact Statement 2009/0578/CIS/02 Version A as received by the City Council as local planning authority on the 1st June 2023

Phase 1 Desk Study and Preliminary Geoenvironmental Assessment 10961G-WML-XX-ZZ-Rp-G-0001 February 2023 as received by the City Council as local planning authority on the 19th May 2023; Xaverian College, Rusholme, Manchester Travel Plan ref 11742-HYD-XX-XX-RP-TP-6001-P04 all as received by the City Council as local planning authority on the 19th May 2023

Reason - To ensure that the development is carried out in accordance with the approved plans. Pursuant to policies SP1 and DM1 of the Core Strategy.

3) No demolition or development works shall take place until the applicant or their agents or successors in title has secured the implementation of a programme of historic building recording. The survey is to be undertaken in accordance with a Written Scheme of Investigation (WSI), submitted to and approved in writing by the local planning authority. The WSI shall cover the following:

1. Informed by the North West Historic Environment Research Framework, a phased programme and methodology of investigation and recording to include:
 - i - historic building survey to Historic England Level 3
 - ii - informed by the above, an archaeological watching brief during any soft-strip or demolition works which have potential to reveal concealed historic fabric that can further enhance the record.
2. A programme for post investigation assessment to include:
 - analysis of the site investigation records and finds
 - production of a final report on the significance of the heritage interest represented.
3. Deposition of the final report with the Greater Manchester Historic Environment Record.
4. Dissemination of the results commensurate with their significance.
5. Provision for archive deposition of the report and records of the site investigation.
6. Nomination of a competent person or persons/organisation to undertake the works set out within the approved WSI.

Reason: In accordance with NPPF Section 16, Paragraph 205 in order to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible.

4) Prior to the commencement of demolition of the existing building on site, a method statement prepared by a suitably qualified person giving full details of the measures to be taken to avoid any possible harm to bats shall be submitted to and approved in writing by the City Council as local planning authority. The method statement shall include details of the hand removal of roof coverings, soffit boards etc . The demolition shall be subsequently undertaken in accordance with the agreed method statement. If at any time during the demolition works bats are identified works shall stop and a

suitably qualified ecologist shall be consulted to provide appropriate advice prior to any works re-commencing.

Reason - To ensure the protection of habitat of species that are protected under the Wildlife and Countryside Act 1981 or as subsequently amended in order to comply with policy EN15 of the Core Strategy

5) Prior to the commencement of development, including demolition works, an arboricultural method statement for works in the vicinity of trees to be retained together with a tree protection schedule and protection plan as identified within the arboricultural impact assessment shall be submitted to and agreed in writing by the City Council as local planning authority. The development shall be subsequently carried out in accordance with these details.

Reason - In order avoid damage to trees/shrubs adjacent to and within the site which are of important amenity value to the area and in order to protect the character of the area, in accordance with policies EN9 and EN15 of the Core Strategy.

6) Prior to the commencement of development, a demolition/construction management plan outlining working practices shall be submitted to and approved in writing by the City Council as Local Planning authority, which for the avoidance of doubt shall include:

- Dust suppression measures including methods for ensuring mud, dust and debris isn't tracked on to surrounding roads;
- Compound locations;
- Details of an emergency contact telephone number;
- Details of contractor Parking;
- The phasing and quantification / classification of vehicular activity associated with planned demolition and construction works;
- Commentary on types and frequency of vehicular demands together with evidence (including appropriate swept-path assessment) of satisfactory routing both within the site and on the adjacent highway together with associated traffic management
- Dilapidation surveys, this should include photographs and commentary on the condition of carriageway / footways on construction vehicle routes surrounding the site
- Sheeting of construction vehicles
- Management of construction activities with regard to pedestrian movements (both internal and external to the site)
- Details of the arrangements for displaced on site car parking

The development shall only be carried out in accordance with the approved management plan.

Reason - To safeguard the amenities of nearby residents pursuant to policies SP1, EN19 and DM1 of the Manchester Core Strategy.

7) a) Before the development hereby approved commences, a report (the Preliminary Risk Assessment) to identify and evaluate all potential sources and impacts of any ground contamination, groundwater contamination and/or ground gas relevant to the site shall be submitted to and approved in writing by the City Council as local planning authority. The Preliminary Risk Assessment shall conform to City Council's current guidance document (Planning Guidance in Relation to Ground Contamination).

In the event of the Preliminary Risk Assessment identifying risks which in the written opinion of the Local Planning Authority require further investigation, the development

shall not commence until a scheme for the investigation of the site and the identification of remediation measures (the Site Investigation Proposal) has been submitted to and approved in writing by the City Council as local planning authority.

The measures for investigating the site identified in the Site Investigation Proposal shall be carried out before development commences and a report prepared outlining what measures, if any, are required to remediate the land (the Site Investigation Report and/or Remediation Strategy) which shall be submitted to and approved in writing by the City Council as local planning authority.

b) When the development commences, the development shall be carried out in accordance with the previously agreed Remediation Strategy and prior to occupation a Completion/Verification Report shall be submitted to and approved in writing by the City Council as local planning authority.

In the event that ground contamination, groundwater contamination and/or ground gas, not previously identified, are found to be present on the site at any time before the development in each phase is occupied, then development shall cease and/or the development shall not be occupied until, a report outlining what measures, if any, are required to remediate the land (the Revised Remediation Strategy) is submitted to and approved in writing by the City Council as local planning authority and the development shall be carried out in accordance with the Revised Remediation Strategy, which shall take precedence over any Remediation Strategy or earlier Revised Remediation Strategy.

Reason - To ensure that the presence of or the potential for any contaminated land and/or groundwater is detected and appropriate remedial action is taken in the interests of public safety, pursuant to policy EN18 of the Core Strategy.

8) In this condition "retained tree" means an existing tree, shrub or hedge which is to be as shown as retained on the approved plans and particulars; and paragraphs (a) and (b) below shall have effect until the expiration of 5 years from the date of the occupation of the building for its permitted use.

(a) No retained tree shall be cut down, uprooted or destroyed, nor shall any retained tree be topped or lopped other than in accordance with the approved plans and particulars, without the written approval of the local planning authority. Any topping or lopping approved shall be carried out in accordance with British Standard 5387 (Trees in relation to construction)

(b) If any retained tree is removed, uprooted or destroyed or dies, another tree shall be planted at the same place and that tree shall be of such size and species, and shall be planted at such time, as may be specified in writing by the local planning authority.

Reason - In order avoid damage to trees/shrubs adjacent to and within the site which are of important amenity value to the area and in order to protect the character of the area, in accordance with policies EN9 and EN15 of the Core Strategy.

9) Prior to the commencement of above ground development, all materials to be used on all external elevations of the development together with details of soldier coursing, horizontal brick protrusions, feature angled brick detailing, mortar types and window reveal depths, and perforated plant screening shall be submitted for approval in writing by the City Council, as Local Planning Authority. The approved materials shall then be implemented as part of the development.

Reason - To ensure that the appearance of the development is acceptable to the City Council as local planning authority in the interests of the visual amenity of the area within which the site is located, as specified in policies SP1 and DM1 of the Manchester Core Strategy

10) Works to demolish the roof space of the existing building shall not be undertaken during the bird nesting season (March to August inclusive) unless it can be otherwise demonstrated that no active birds are present.

Reason - To ensure the protection of habitat of species that are protected under the Wildlife and Countryside Act 1981 or as subsequently amended and to comply with policy EN15 of the Core Strategy.

11) No above ground development (excluding demolition works) shall take place until a surface water drainage scheme in accordance with Non-Statutory Technical Standards for Sustainable Drainage Systems (March 2015) or any subsequent replacements national standards and details, has been submitted to and agreed in writing by the Local Planning Authority.

The submitted scheme shall include:

- A finalised drainage layout showing all components, outfalls, levels and connectivity;
- Maximised integration of green SuDS components (utilising infiltration or attenuation) if practicable;
- Surface water should be restricted to a rate of 5 l/s.
- A blockage risk assessment is undertaken as part of the drainage strategy to support proposed flows less than 5 l/s. If the risk cannot be adequately managed, a higher minimum discharge rate should be considered / agreed with relevant.
- An existing and proposed impermeable areas drawing to accompany all discharge rate calculations.
- Runoff volume in the 1 in 100 year, 6 hours rainfall shall be constrained to a value as close as is reasonable practicable to the greenfield runoff volume for the same event, but never to exceed the runoff volume from the development site prior to redevelopment;
- Evidence that the drainage system has been designed (unless an area is designated to hold and/or convey water as part of the design) so that flooding does not occur during a 1 in 100 year rainfall event with allowance for 45% climate change;
- Assessment of overland flow routes for extreme events. Overland flow routes need to be designed to convey the flood water in a safe manner in the event of a blockage or exceedance of the proposed drainage system capacity including inlet structures. A layout with overland flow routes needs to be presented with appreciation of these overland flow routes with regards to the properties on site and adjacent properties off site.
- Progression through the drainage hierarchy shall be evidence based and supported by site investigation. Results of ground investigation carried out under Building Research Establishment Digest 365. Site investigations should be undertaken in locations and at proposed depths of the proposed infiltration devices. Proposal of the attenuation that is achieving half emptying time within 24 hours. If no ground investigations are possible or infiltration is not feasible on site, evidence of alternative surface water disposal routes (as follows) is required.
- For sites where proposed development would cause pollution risk to surface water, evidence of pollution control measures (preferably through SuDS) is required.
- Hydraulic calculation of the proposed drainage system;

- Construction details of flow control and SuDS elements.

The development shall be carried out in accordance with the agreed details.

Reason: To promote sustainable development, secure proper drainage and to manage the risk of flooding and pollution. This condition is imposed in light of national policies within the NPPF and NPPG and local policies EN8 and EN14.

12) Within three months of the commencement of development details of an ecological enhancement strategy for the site together with a timescale for its implementation shall be submitted to and agreed in writing by the City Council as local planning authority. The development shall be carried out in accordance with the agreed details.

Reason - To ensure the development delivers bio-diversity enhancements pursuant to policy EN15 of the Core Strategy and the NPPF.

13) Within three months of the commencement of development a hard and soft landscaping treatment scheme shall be submitted to and approved in writing by the City Council as local planning authority. The approved scheme shall be implemented not later than 12 months from the date the buildings are first occupied. If within a period of 5 years from the date of the planting of any tree or shrub, that tree or shrub or any tree or shrub planted in replacement for it, is removed, uprooted or destroyed or dies, or becomes, in the opinion of the local planning authority, seriously damaged or defective, another tree or shrub of the same species and size as that originally planted shall be planted at the same place.

Reason - To ensure that a satisfactory landscaping scheme for the development is carried out that respects the character and visual amenities of the area, in accordance with policies SP1, EN9 and DM1 of the Core Strategy.

14) Within 3 months of the commencement of development, a scheme for electric vehicle charging points to be installed at the development shall be submitted to and approved in writing by the City Council as local planning authority. The agreed details shall be installed and operational prior to the approved development's first use.

Reason: To secure a reduction in air pollution from traffic or other sources in order to protect existing and future residents from air pollution, pursuant to policies EN16, SP1 and DM1 of the Core Strategy.

15) a) The premises shall be acoustically insulated and treated to limit the break out of noise in accordance with a noise study of the premises and a scheme of acoustic treatment that has been submitted to and approved in writing by the City Council as local planning authority. The scheme shall be implemented in full before the use commences or as otherwise agreed in writing by the City Council as local planning authority.

b) Prior to occupation of the development a verification report will be required to validate that the work undertaken throughout the development conforms to the recommendations and requirements in the approved acoustic consultant's report. The report shall also undertake post completion testing to confirm that acceptable criteria have been met. Any instances of non-conformity with the recommendations in the report shall be detailed along with any measures required to ensure compliance with the agreed noise criteria.

Reason - To safeguard the amenities of the occupiers of the building and occupiers of nearby properties pursuant to policy DM1 of the Core Strategy and saved UDP policy DC26

16) a) Externally mounted ancillary plant, equipment and servicing shall be selected and/or acoustically treated in accordance with a scheme designed so as to achieve a rating level of 5dB (LAeq) below the typical background (LA90) level at the nearest noise sensitive location. Prior to commencement of the use hereby approved the scheme shall be submitted to and approved in writing by the City Council as local planning authority in order to secure a reduction in the level of noise emanating from the site. The scheme shall be implemented in full before the use commences or as otherwise agreed in writing by the City Council as local planning authority.

b) Prior to the operation of the scheme a verification report shall be submitted to and approved in writing by the City Council as local planning authority to validate that the work undertaken throughout the development conforms to the recommendations and requirements in the approved acoustic report. The report shall also undertake post completion testing to confirm that the noise criteria have been met. Any instances of nonconformity with the recommendations in the report shall be detailed along with any measures required to ensure compliance with the agreed noise criteria.

Reason - To minimise the impact of the development and to prevent a general increase in pre-existing background noise levels around the site pursuant to policy DM1 of the Core Strategy and saved UDP policy DC26.

17) No development hereby permitted shall be occupied until details of the implementation, maintenance and management of the sustainable drainage scheme have been submitted to and approved by the local planning authority. The scheme shall be implemented and thereafter managed and maintained in accordance with the approved details. Those details shall include:

- Verification report providing photographic evidence of construction as per design drawings;
- As built construction drawings if different from design construction drawings;
- Management and maintenance plan for the lifetime of the development which shall include the arrangements for adoption by any public body or statutory undertaker, or any other arrangements to secure the operation of the sustainable drainage scheme throughout its Lifetime.

Reason: To manage flooding and pollution and to ensure that a managing body is in place for the sustainable drainage system and there is funding and maintenance mechanism for the lifetime of the development pursuant to policies EN8 and EN14 of the Core Strategy.

18) The development hereby approved shall not be occupied or used until the Council as local planning authority has acknowledged in writing that it has received written confirmation of a secured by design accreditation.

Reason - To reduce the risk of crime pursuant to policies SP1 and DM1 of the Core Strategy and to reflect the guidance contained in the National Planning Policy Framework.

19) The car parking shown on the approved plans shall be laid out and demarcated prior to the first use of the development hereby approved and shall be retained thereafter for use by occupiers of the development.

Reason - To ensure adequate provision is available for development whilst it is in operation pursuant to policies DM1 and T1 of the Core Strategy.

Informatives

Building Regulations 2010

This permission does not grant approval under Building Regulations.

Street Naming & Numbering Requirements

Manchester City Council is responsible for allocating street naming and numbering within Manchester for new developments or property conversions. Individuals or businesses are not permitted to allocate their own property numbers, building or street names.

If your development includes the creation of new dwellings (either new build or conversion of existing buildings), creation of new commercial properties or the subdivision of existing properties you must ensure that you request new or changes to addresses through us so they can be officially allocated and registered in accordance with the Public Health Act 1925 Sections 17-19 & Greater Manchester Act 1981 Section 22.

Failure to do this may result in difficulties for the developer/occupier when requiring services such as connections to utilities, phone lines and postal services and may delay your development.

You can apply online at the following address:

http://www.manchester.gov.uk/info/100011/roads_parking_and_transport/1988/naming_and_numbering_of_houses_buildings_streets_and_roads/2

Mining Information

The proposed development lies within an area which could be subject to current coal mining or hazards resulting from past coal mining. Please read the Standing Advice from the Coal Authority in Appendix A.

Cadent Gas Ltd own and operate the gas infrastructure within the area of your development. There may be a legal interest (easements and other rights) in the land that restrict activity in proximity to Cadent assets in private land. The applicant must ensure that the proposed works do not infringe on legal rights of access and or restrictive covenants that exist.

If buildings or structures are proposed directly above the apparatus the development may only take place following diversion of the apparatus. The applicant should apply online to have apparatus diverted in advance of any works, by visiting cadentgas.com/diversions

Prior to carrying out works, including the construction of access points, please register on www.linesearchbeforeudig.co.uk to submit details of the planned works for review, ensuring requirements are adhered to.

Your responsibilities and obligations

Cadent may have a Deed of Easement on the pipeline, which provides them with a right of access for a number of functions and prevents change to existing ground levels, storage of materials. It also prevents the erection of permanent/temporary buildings, or structures. If necessary Cadent will take action to legally enforce the terms of the easement.

This informative does not constitute any formal agreement or consent for any proposed development work either generally or related to Cadent's easements or other rights, or any planning or building regulations applications.

Cadent Gas Ltd or their agents, servants or contractors advise that they do not accept any liability for any losses arising under or in connection with this information. This limit on liability applies to all and any claims in contract, tort (including negligence), misrepresentation (excluding fraudulent misrepresentation), breach of statutory duty or otherwise. This limit on liability does not exclude or restrict liability where prohibited by the law nor does it supersede the express terms of any related agreements.

If you need any further information or have any questions about the outcome, please contact Cadent at plantprotection@cadentgas.com or on 0800 688 588 quoting reference 29721518.

Any external lighting installed at the site shall be designed in accordance with best practice guidelines to avoid impacts on nocturnal animals such as bats.

MCC records highlights an underground culverted watercourse (Dog Kennel Brook) is located within close proximity to the site (approximately 80m north of the site), while our records are frequently updated to ensure the highest level of accuracy, the records cannot guarantee 100% accuracy for all MCC underground assets. Therefore, we would request that the applicant informs the onsite contractor to remain observant and to take the appropriate safety precautions during excavation works. If any major unknown drainage assets are found beneath the site, then further investigation works should take place to identify the asset and MCC should be contacted immediately.

Any requirements for licensing, hoarding /scaffolding, skips and any associated temporary traffic management arrangements will need discussion and agreement with the council's Highway Applications and Network Resilience teams via Contact Manchester (Tel: 0161 234 5004 / Email: highwaylicences@manchester.gov.uk)

Construction/demolition works shall be confined to the following hours unless otherwise agreed in writing by the City Council as local planning authority:

Monday - Friday: 7.30am - 6pm

Saturday: 8.30am - 2pm

Sunday / Bank holidays: No work

To discharge the acoustic insulation condition where entertainment noise is proposed the LAeq (entertainment noise) shall be controlled to 5dB below the LA90 (without entertainment noise) in each octave band at the facade of the nearest noise sensitive location, and internal noise levels at structurally adjoined residential properties in the 63Hz and 125Hz octave frequency bands shall be controlled so as not to exceed (in habitable rooms) 47dB and 41dB (Leq,5min), respectively.

Date: 19 September 2023

Signed: 

Julie Roscoe
Director of Planning, Building Control & Licensing

Manchester City Council, P O Box 532, Town Hall, Manchester M60 2LA

Notes

1. This permission refers only to that required under the Town and Country Planning Act 1990 does not include any consent or approval under any other enactment, byelaw, order or regulation.

2 If the applicant is aggrieved by the decision of the local planning authority to refuse permission or approval for the proposed development, or to grant permission or approval subject to conditions, they may appeal to the Secretary of State in accordance with Section 78(1) of the Town and Country Planning Act 1990 within six months of the date of the notice of the decision.

The Planning Inspectorate have introduced an online appeals service that can be used to make appeals online. This service is available through the gov.uk website – www.gov.uk/appeal-planning-decision The Inspectorate will publish details of your appeal on the internet. Alternatively If you are unable to access the online appeal form, please contact the Planning Inspectorate to obtain a paper copy of the appeal form on tel: 0303 444 5000.

The Secretary of State has power to allow a longer period for the giving of a notice of appeal but they will not normally be prepared to exercise this power unless there are special circumstances that excuse the delay in giving notice of appeal.

If you intend to submit an appeal that you would like examined by inquiry then you must notify the City Council (planning@manchester.gov.uk) and the Planning Inspectorate (inquiryappeals@planninginspectorate.gov.uk) at least 10 days before submitting the appeal. Further details are on GOV.UK.

3. The statutory requirements are those set out in Section 79(6) of the Town and Country Planning Act 1990, namely Sections 70(1) and 72(1) of the Act.

4. If either the local planning authority or the Secretary of State refuses permission to develop land or grants it subject to conditions, the owner may claim that they can neither put the land to a reasonably beneficial use in its existing state nor render the land capable of a reasonably beneficial use by the carrying out of any development which has been or would be permitted.

In these circumstances, the owner may serve a purchase notice on the Council in whose area the land is situated. This notice will require the Council to purchase his interest in the land in accordance with the provisions of Part VI of the Town and Country Planning Act 1990

5. In certain circumstances, a claim may be made against the local planning authority for compensation, where permission is refused or granted subject to conditions by the Secretary of State on appeal or on a reference of the application to them. The circumstances in which such compensation is payable are set out in Section 114 of the Town and Country Planning Act 1990.

Appendix A



The Coal Authority

STANDING ADVICE - DEVELOPMENT LOW RISK AREA

The proposed development lies within a coal mining area which may contain unrecorded coal mining related hazards. If any coal mining feature is encountered during development, this should be reported immediately to the Coal Authority on 0345 762 6848.

Further information is also available on the Coal Authority website at:

www.gov.uk/government/organisations/the-coal-authority

Standing Advice valid from 1st January 2023 until 31st December 2024

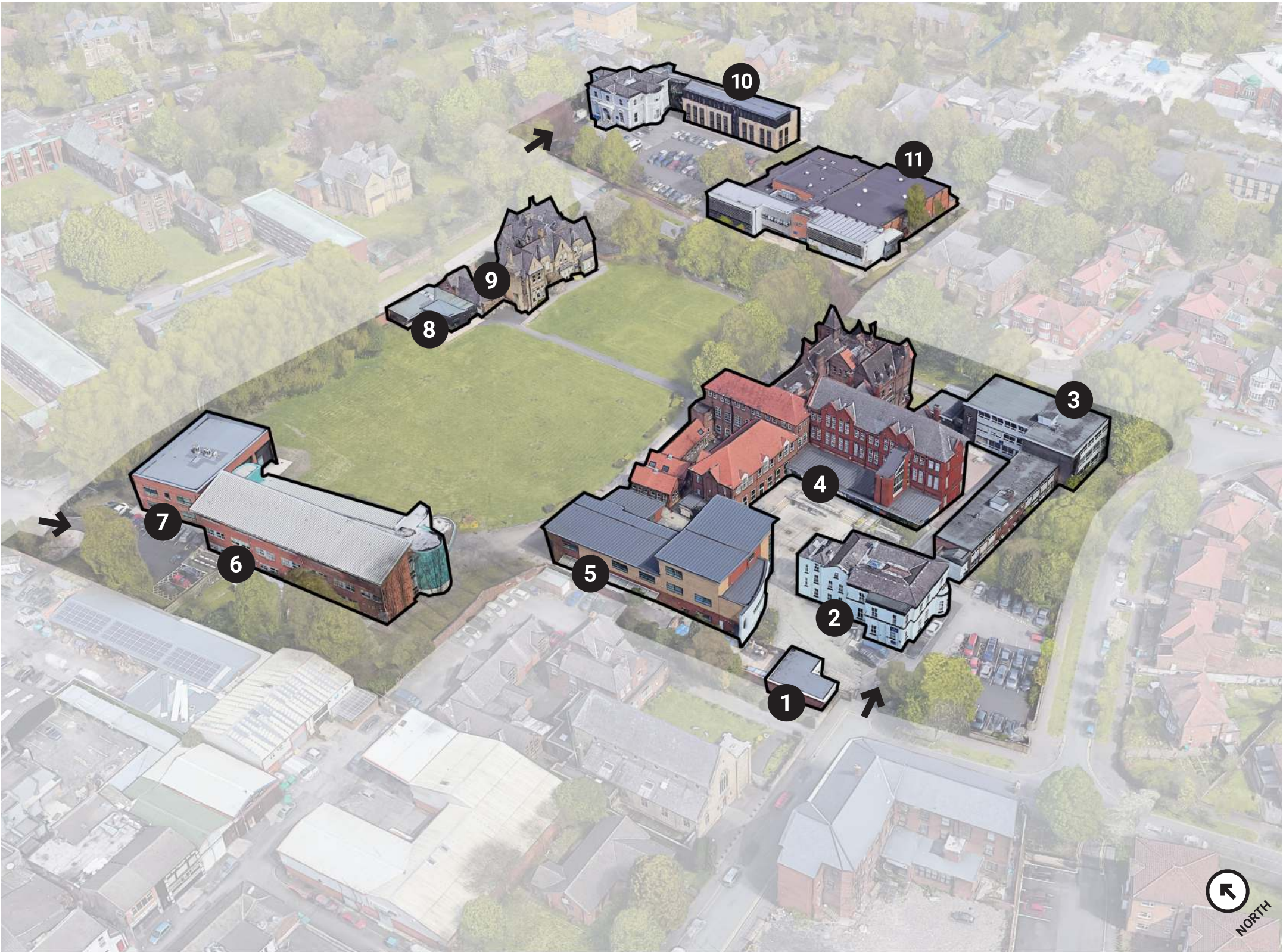
APPENDIX 02

Site location plan

Existing Site.

Xaverian Campus Buildings

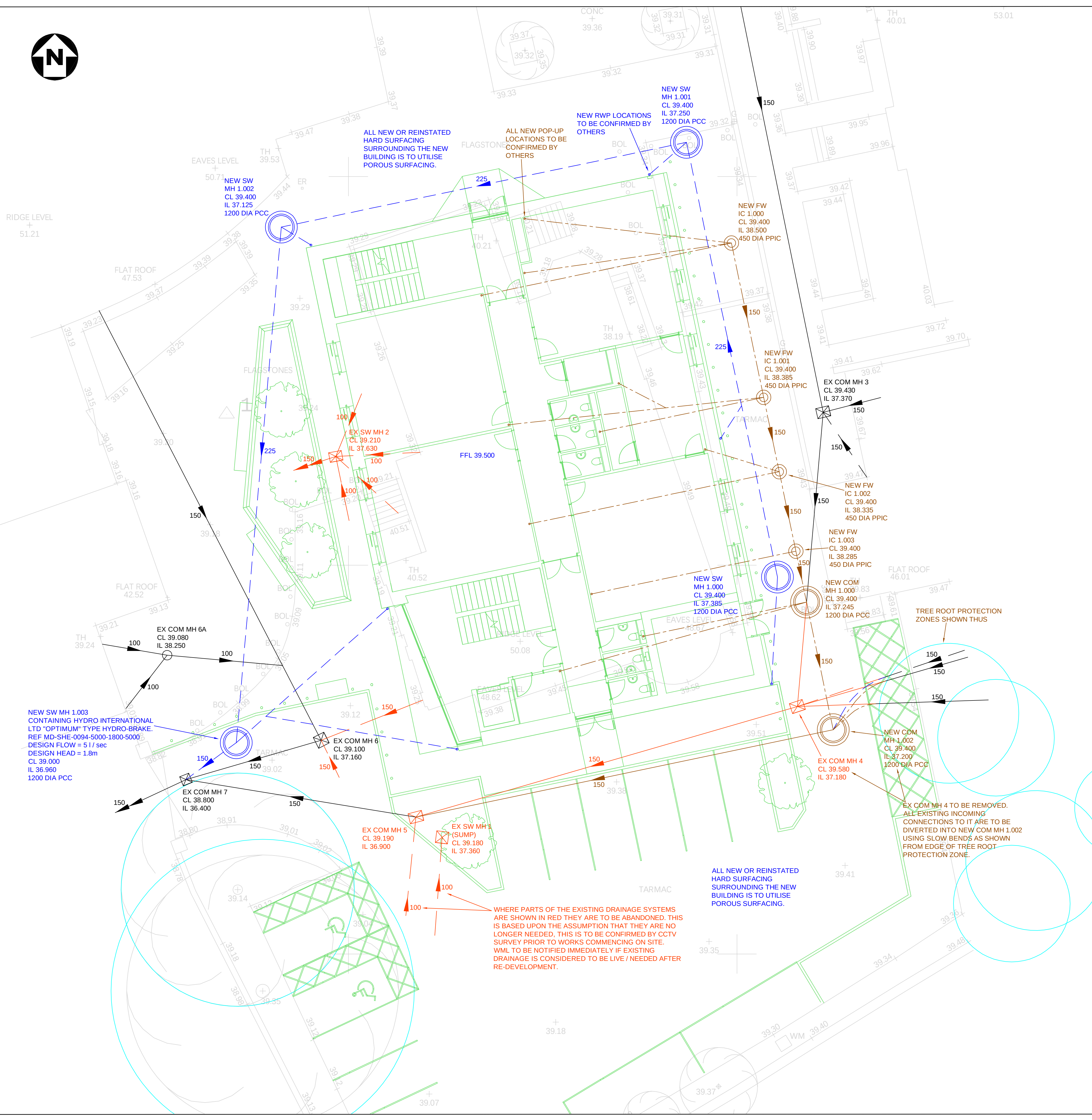
- 1. Estate Workshop / Gatehouse
Staff spaces
- 2. Sunbury
RE (Pastoral)
- 3. Xavier
Science
Lecture Theatre
- 4. Firwood (Grade II Listed)
General Teaching (main block)
Admin Spaces
Social / Dining & associated kitchens.
Chapel
- 5. Ryken
General Teaching
Main Reception
LRC (Library)
- 6. Mayfield
General Teaching
- 7. Theresa Quinn
General Teaching
- 8. The Pavilion
Social / Dining
- 9. Marylands (Grade II Listed)
General Teaching
- 10. Ward Hall (Grade II Listed)
Art / DT / Graphics
- 11. Birtles
Main Hall / Exams
Performing Arts
Sport



Google Earth View of Xaverian Campus

APPENDIX 03

Proposed drainage layout drawing



DRAINAGE STRATEGY

THE PROPOSED DEVELOPMENT IS TO BE DRAINED VIA SEPARATE FOUL AND SURFACE WATER DRAINAGE SYSTEMS.

SURFACE WATER DRAINAGE PROPOSALS

THE SURFACE WATER DRAINAGE PROPOSALS FOR THE DEVELOPMENT WILL INCORPORATE THE PRINCIPLES OF THE NPPF AND THE SUDS MANUAL.

THE PROPOSED DRAINAGE SYSTEM WILL BE DESIGNED IN ACCORDANCE WITH BS EN 752-4 AND THE BUILDING REGULATIONS APPROVED DOCUMENT H (2010), WHICH INDICATES THE FOLLOWING HIERARCHY FOR THE DISPOSAL OF SURFACE WATER DRAINAGE FROM NEW DEVELOPMENT SITES:

- DISCHARGE VIA INFILTRATION
- DISCHARGE TO WATERCOURSE
- DISCHARGE TO SEWER

THESE OPTIONS ARE DISCUSSED FURTHER BELOW.

SURFACE WATER DISCHARGE VIA INFILTRATION - THE NEAR SURFACE GROUND CONDITIONS IN THE VICINITY OF THE SITE ARE DESCRIBED AS DEVENSIAN GLACIAL TILL, MAINLY COMPRISING CLAY LOCALLY INTERBEDDED WITH SANDS AND GRAVELS.

CLAYEY GROUND CONDITIONS SUCH AS THIS TEND TO BE RELATIVELY IMPERMEABLE, HENCE IT IS CONSIDERED THAT THE USE OF SOAKAWAYS OR OTHER INFILTRATION TECHNIQUES ARE UNLIKELY TO BE APPROPRIATE FOR DISCHARGING ALL THE RUNOFF GENERATED BY THE PROPOSED BUILDING'S ROOF AREA.

HOWEVER, IT IS CONSIDERED THAT THE PROPOSED HARD LANDSCAPED AREAS COULD STILL UTILISE POROUS SURFACING, SO THAT SOME INFILTRATION WILL BE ACHIEVED.

THE GROUND CONDITIONS WILL BE CONFIRMED BY INTRUSIVE SITE INVESTIGATIONS PRIOR TO DETAILED DESIGN STAGE, AND IF, DURING THESE INVESTIGATIONS, IT APPEARS THAT THE GROUND CONDITIONS MAY SUPPORT THE USE OF INFILTRATION, THEN THIS SHOULD BE CONFIRMED BY BRE365 COMPLIANT INFILTRATION TESTING TO INFORM THE DESIGN OF INFILTRATION DEVICES.

SURFACE WATER DISCHARGE VIA WATERCOURSE - FROM THE ORDNANCE SURVEY MAPPING COVERING THE AREA AROUND THE SITE, IT CAN BE SEEN THAT THERE ARE NO EXISTING WATERCOURSES WITHIN, OR IN THE VICINITY OF THE PROPOSED DEVELOPMENT.

HENCE IT WILL NOT BE FEASIBLE TO DISCHARGE THE SURFACE WATER RUNOFF VIA THIS ROUTE.

SURFACE WATER DISCHARGE VIA THE PUBLIC SEWERAGE SYSTEM - GIVEN THE ABOVE IT IS CONSIDERED THAT IT WILL BE NECESSARY TO DISCHARGE THE SURFACE WATER RUNOFF FROM THE PROPOSED BUILDING'S ROOF AREA TO THE PUBLIC DRAINAGE SYSTEM, AS THE AREA DOES CURRENTLY.

DESIGN OF THE PROPOSED SURFACE WATER DRAINAGE SYSTEM THE EXISTING SITE IS A BROWN FIELD SITE. THEREFORE, IN LINE WITH CURRENT GUIDANCE, THE SURFACE WATER RUNOFF RATES FROM THE RE-DEVELOPED SITE SHOULD ACHIEVE A 50% BETTERMENT WHEN COMPARED AGAINST THE EXISTING SITUATION FOR ALL STORM EVENTS UP TO AND INCLUDING THE CRITICAL 1 IN 100 YEAR EVENT PLUS A 40% CLIMATE CHANGE ALLOWANCE.

TO THIS END, IT IS PROPOSED THAT THE ALLOWABLE DISCHARGE RATE FROM THE DEVELOPMENT BE RESTRICTED TO 3 l / sec FOR ALL STORM EVENTS UP TO AND INCLUDING THE CRITICAL 1 IN 100 YEAR EVENT PLUS A 40% CLIMATE CHANGE ALLOWANCE.

AS THE DEVELOPMENT DOES NOT INVOLVE A SIGNIFICANT REDUCTION IN IMPERMEABLE AREA, ATTENUATION STORAGE AND FLOW CONTROL WILL BE REQUIRED TO ENSURE THE REDUCED ALLOWABLE RUNOFF RATE IS NOT EXCEEDED.

FOUL WATER DRAINAGE PROPOSALS

THE FOUL DRAINAGE FLOWS GENERATED BY THE PROPOSED DEVELOPMENT WILL BE DIRECTED TO THE EXISTING ON-SITE PRIVATE FOUL DRAINAGE SYSTEM, WHICH IN TURN DISCHARGES INTO THE PUBLIC FOUL DRAINAGE SYSTEM LOCALLY.

KEY

- EXISTING COMBINED SEWERS TO BE RETAINED SHOWN THUS
- EXISTING COMBINED SEWERS TO BE ABANDONED SHOWN THUS
- EXISTING SURFACE WATER SEWERS TO BE RETAINED SHOWN THUS
- EXISTING SURFACE WATER SEWERS TO BE ABANDONED SHOWN THUS
- PROPOSED SURFACE WATER SEWERS SHOWN THUS
- PROPOSED FOUL SEWERS SHOWN THUS

GENERAL NOTES

DO NOT SCALE FROM THIS DRAWING WORK TO FIGURED DIMENSIONS ONLY.

NO DEVIATION FROM THE DETAILS SHOWN ON THIS DRAWING IS ALLOWED WITHOUT PRIOR PERMISSION IN WRITING.

ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL ARCHITECTS, ENGINEERS AND SPECIALISTS DRAWINGS AND THE SPECIFICATION.

THE CONTRACTOR SHALL INCORPORATE ALL THE REQUIREMENTS OF THE PRE-TENDER STAGE HEALTH AND SAFETY PLAN.

FOR DETAILS OF MATERIALS AND WORKMANSHIP REFER TO THE SPECIFICATION.

MAINTENANCE OF THE BELOW GROUND DRAINAGE SYSTEM

THE BELOW DRAINAGE PROPOSALS INDICATED ARE RELATIVELY TRADITIONAL IN NATURE, AND SHOULD PROVIDE YEARS OF RELATIVELY LOW MAINTENANCE OPERATION IN RELATION TO THE ANTICIPATED LIFESPAN OF THE PROPOSED DEVELOPMENT.

IN LINE WITH CURRENT GOOD PRACTICE:-

GULLIES AND LINEAR DRAINAGE CHANNELS SHOULD BE INSPECTED AND / OR CLEANED OUT AT 6 MONTHLY INTERVALS.

INSPECTION CHAMBERS, MANHOLES, CATCHPITS, ETC. SHOULD BE INSPECTED AT 6 MONTHLY INTERVALS TO ENSURE THAT THE PIPEWORK AND AND INFILTRATION DEVICES ASSOCIATED WITH THEM ARE OPERATING EFFECTIVELY.

ANY PROBLEMS HIGHLIGHTED BY THESE INSPECTIONS WILL NEED TO BE INVESTIGATED, POSSIBLY BY CCTV SURVEY, TO CONFIRM THE NATURE OF THE PROBLEM AND TO ALLOW IT TO BE REMEDIED IN A TIMELY MANNER.

IT IS UNDERSTOOD THAT THE MONITORING AND ROUTINE MAINTENANCE OF THE BELOW GROUND DRAINAGE SYSTEM WILL BE CARRIED OUT BY THE COLLEGE'S MAINTENANCE STAFF WITH ADDITIONAL HELP PROVIDED BY EXTERNAL SPECIALIST DRAINAGE PROFESSIONALS BROUGHT IN AS REQUIRED.

THE AREAS OF POROUS SURFACING SHOULD BE REGULARLY SWEEPED, VACUUMED OR BLOWN TO REMOVE LEAVES AND OTHER DEBRIS THAT MAY LEAD TO THE PORES WITHIN THE SURFACING BECOMING BLOCKED. IT IS ANTICIPATED THAT THIS CLEANING WILL BE REQUIRED TWICE PER YEAR, HOWEVER THE EFFECTIVENESS OF THIS CLEANING FREQUENCY WILL NEED TO BE MONITORED, AND MAY NEED TO BE INCREASED. AREAS OF POROUS SURFACING SHOULD NOT BE USED FOR THE STORAGE OF ANY MATERIALS THAT MAY CLOG THE PORES WITHIN THE SURFACING. SIMILARLY THE USE OF SAND OR OTHER NON-SOLUBLE MATERIALS FOR SNOW AND ICE CONTROL SHOULD BE AVOIDED.

IT IS UNDERSTOOD THAT THE EXTERNAL AREAS OF THE SITE WILL BE ROUTINELY INSPECTED AND MAINTAINED BY BY THE COLLEGE'S MAINTENANCE STAFF, THOUGH IT MAY BE NECESSARY TO CALL IN EXTERNAL SPECIALIST CONTRACTORS IF VACUUMING OF THE SURFACINGS ARE REQUIRED.

PRELIMINARY

Rev.	Amendment	Date	By	Chkd
P04	AMENDED TO SUIT UPDATED SITE LAYOUT.	13.11.23	KPT	LOG
P03	AMENDED TO SUIT UPDATED SITE LAYOUT.	05.9.23	KPT	LOG
P02	AMENDED TO SUIT UPDATED SITE LAYOUT.	19.5.23	KPT	LOG
P01	PRELIMINARY ISSUE.	24.3.23	KPT	LOG

Project
NEW SCIENCE BLOCK

Client
XAVERIAN COLLEGE

Title
PROPOSED DRAINAGE STRATEGY

WML Job No.	Drawn	Checked	Date	Scale
10961	KPT	LOG	MARCH 2023	1:100 AT A1

WML CONSULTING
Civil, Structural & Geotechnical Engineers

No 8 Oak Green
Earl Road
Stanley Green Business Park
Cheshire SK8 6QL
Tel 0161 482 0600
Fax 0161 486 9210
e-mail info@wmlconsulting.com
www.wmlconsulting.com

Drawing No.	Project	Originator	Volume	Level	Type	Role	Number	Rev
10961	WML	00	XX	DR	C	1001	P04	

APPENDIX 04

Extract from the Phase 2 site investigation report

		Project Title: Xaverian College Science Block				WS01	
		Project Number: 10961G		Client: Xaverian College			
		GL (mAOD):		N Coord: 0		E Coord: 0	
Date: 11/05/2023		Method: Window Sample		Driller: LOT Geotechnics Ltd		Logged By: TPB	

Depth (m)	Type	Test Result	Level	Legend	Depth (m)	Description	Water	Standpipe
0.20	E				0.15	Asphalt. (MADE GROUND)		
0.30	E				0.40	Brown SAND. (MADE GROUND)		
0.50	E				0.70	Grey, sandy, angular to subangular, fine to coarse GRAVEL including brick, ash and concrete. (MADE GROUND)		
1.20	D	N=10			1.00	Brown, slightly gravelly, sandy CLAY. Gravel is subangular, fine to coarse, including sandstone and brick. (MADE GROUND)		
1.30	J				1.10	Soft, grey mottled, slightly silty, sandy CLAY. (GLACIAL TILL)		
		N=27			2.00	Firm to stiff, brown and locally grey mottled, slightly silty, slightly sandy, slightly gravelly CLAY. Gravel is subangular, fine to coarse, of mixed lithologies. (GLACIAL TILL)		
		N=50			3.00			
		pp 50/255mm			4.00			
						End Of Borehole At 4.00 m		

KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa  - Groundwater Strike  - Groundwater Level		REMARKS No Groundwater Encountered Hole refused at 4mbgl. 	Water Strikes <table border="1"> <thead> <tr> <th>Date</th> <th>Strike</th> <th>Level</th> <th>Minutes</th> <th>Casing</th> <th>Sealed</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	Date	Strike	Level	Minutes	Casing	Sealed																													
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Date	Casing	Water	From	To	Hours																																	
Date	Casing	Water	From	To	Hours																																	

Scale: 1:30

		Project Title: Xaverian College Science Block				WS02	
		Project Number: 10961G		Client: Xaverian College			
		GL (mAOD):		N Coord: 0		E Coord: 0	
Date: 11/05/2023		Method: Window Sample		Driller: LOT Geotechnics Ltd		Logged By: TPB	

Depth (m)	Type	Test Result	Level	Legend	Depth (m)	Description	Water	Standpipe
0.20	E	N=9			0.15	Concrete paving slab. (MADE GROUND)		
0.40	E				0.50	Brown SAND. (MADE GROUND)		
0.70	E				0.75	Dark grey, sandy, angular to subangular, fine to coarse GRAVEL including brick, concrete, ash and clinker. Low cobble content. Cobbles and subangular, of brick and concrete. (MADE GROUND)		
1.00	D				1.00			
1.20	J				1.15	Dark grey, slightly silty, slightly gravelly, sandy CLAY. Gravel is subangular, fine to coarse, including ash and brick. (MADE GROUND)		
		N=22				Soft, grey mottled, slightly silty, sandy CLAY. (GLACIAL TILL)		
					2.00	Firm to stiff, brown and locally grey mottled, slightly silty, slightly sandy, slightly gravelly CLAY. Gravel is subangular, fine to coarse, of mixed lithologies. (GLACIAL TILL)		
		N=51						
					3.00			
								
								
		pp 50/260mm			4.00			
								
								
								
								
								
								
								
								
								
								
								

		Project Title: Xaverian College Science Block				WS03	
		Project Number: 10961G		Client: Xaverian College			
		GL (mAOD):		N Coord: 0		E Coord: 0	
Date: 11/05/2023		Method: Window Sample		Driller: LOT Geotechnics Ltd		Logged By: TPB	

Depth (m)	Type	Test Result	Level	Legend	Depth (m)	Description	Water	Standpipe
0.20	E	N=11			0.15	Concrete paving slab. (MADE GROUND)		
0.30	E				0.35	Brown SAND. (MADE GROUND)		
0.50	E				0.70	Dark brownish grey, slightly sandy, angular to subangular, fine to coarse GRAVEL including brick, sandstone, ash and concrete. (MADE GROUND)		
1.30	D	N=24			1.00	Dark brown grey, slightly clayey, sandy, subangular, fine to coarse GRAVEL including ash, clinker and brick, with occasional clay pockets. (MADE GROUND)		
1.40	J				1.10			
						2.00	Brownish grey mottled, slightly gravelly, sandy CLAY. Gravel is subangular, fine to coarse, including brick. (MADE GROUND)	
		N=42				Firm to stiff, brown and locally grey mottled, slightly silty, slightly sandy, slightly gravelly CLAY. Gravel is subangular, fine to coarse, of mixed lithologies. (GLACIAL TILL)		
					3.00			
					4.00			
		pp 50/250mm				End Of Borehole At 4.00 m		

KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa  - Groundwater Strike  - Groundwater Level		REMARKS No Groundwater Encountered Hole refused at 4mbgl.	Water Strikes <table border="1"> <thead> <tr> <th>Date</th> <th>Strike</th> <th>Level</th> <th>Minutes</th> <th>Casing</th> <th>Sealed</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	Date	Strike	Level	Minutes	Casing	Sealed																		
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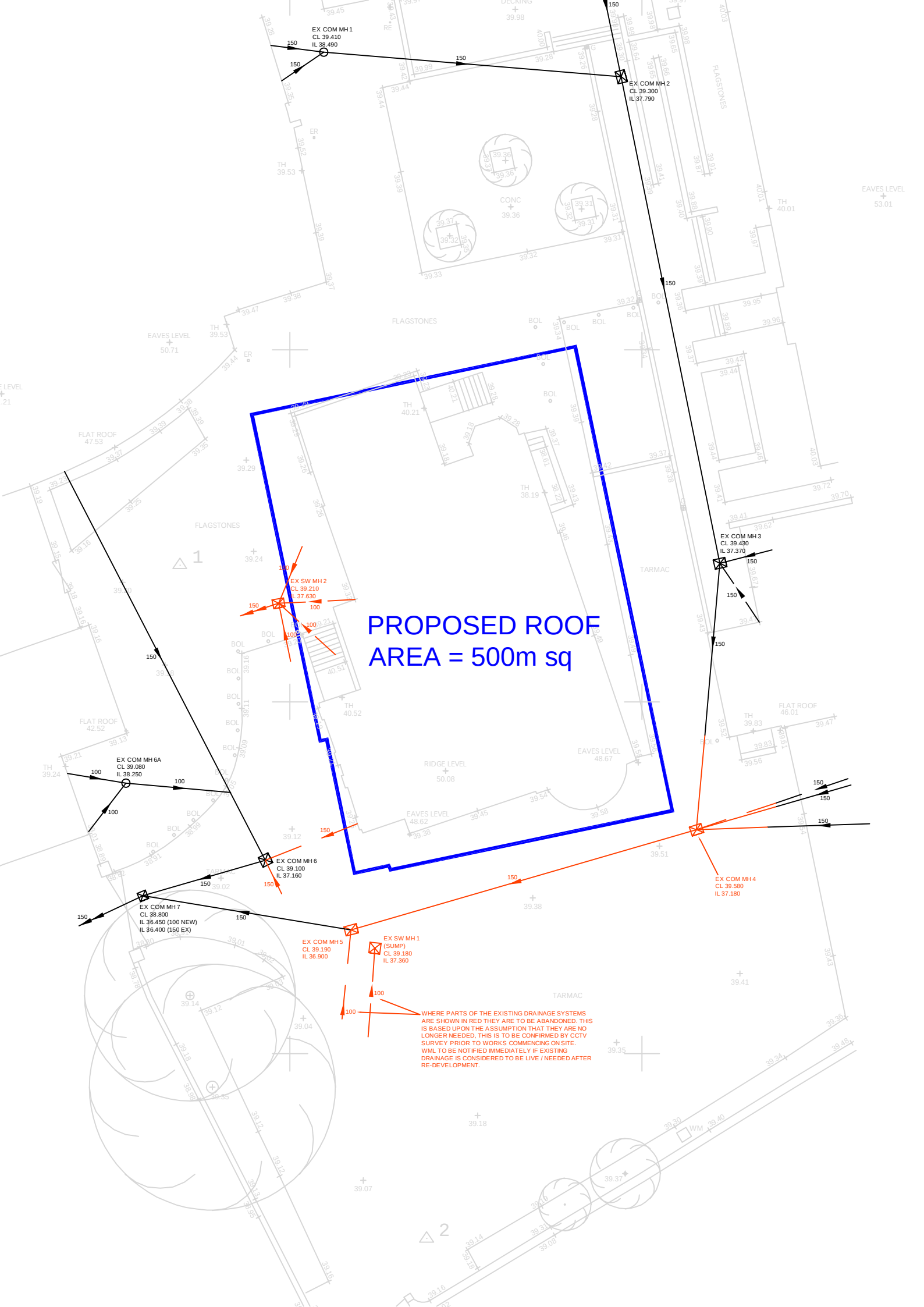
		Project Title: Xaverian College Science Block				WS04	
		Project Number: 10961G		Client: Xaverian College			
		GL (mAOD):		N Coord: 0		E Coord: 0	
Date: 11/05/2023		Method: Window Sample		Driller: LOT Geotechnics Ltd		Logged By: TPB	

Depth (m)	Type	Test Result	Level	Legend	Depth (m)	Description	Water	Standpipe
0.20	E	N=9			0.15	Asphalt. (MADE GROUND)		
					0.35	Brown SAND. (MADE GROUND)		
					0.80	Grey, slightly sandy, angular to subangular, fine to coarse GRAVEL including sandstone, limestone, brick and ash. Low cobble content. Cobbles are subangular, of brick. (MADE GROUND)		
					1.00			
					1.10	Brown, slightly gravelly, sandy CLAY. Gravel is subangular, fine to coarse, including sandstone and brick. (MADE GROUND)		
						Soft, grey mottled, slightly silty, sandy CLAY. (GLACIAL TILL)		
						Firm to stiff, brown and locally grey mottled, slightly silty, slightly sandy, slightly gravelly CLAY. Gravel is subangular, fine to coarse, of mixed lithologies. (GLACIAL TILL)		
					2.00			
					3.00			
					4.00			
						End Of Borehole At 4.00 m		

KEY D - Disturbed Sample B - Bulk Sample U - Undisturbed W - Water Sample S - Standard Penetration Test C - Cone Penetration Test N - Penetration Test 'N' Value V - Hand Shear Vane kPa ▽ - Groundwater Strike ▼ - Groundwater Level 		REMARKS No Groundwater Encountered Hole refused at 4mbgl. Scale: 1:30		Water Strikes					
				Date	Strike	Level	Minutes	Casing	Sealed
Daily Log Of Depths		Chiselling							
		Date	Casing	Water	From	To	Hours		

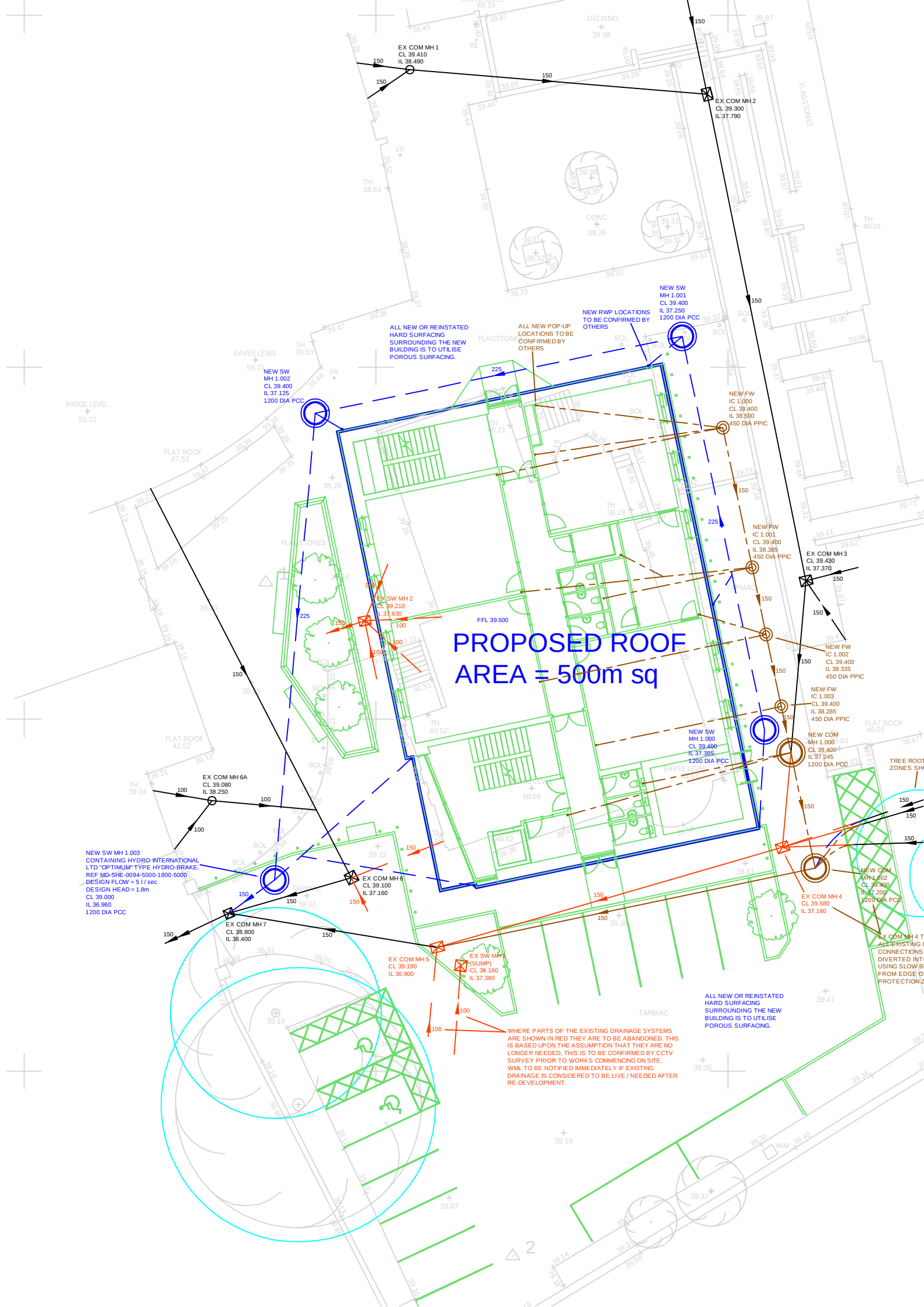
APPENDIX 05

Existing impermeable area plan



APPENDIX 06

Proposed impermeable area plan



PROPOSED ROOF
AREA = 500m sq

ALL NEW OR REINSTATED
HARD SURFACING
SURROUNDING THE NEW
BUILDING IS TO UTILISE
POROUS SURFACING.

ALL NEW POP-UP
LOCATIONS TO BE
CONFIRMED BY
OTHERS

NEW RWP LOCATIONS
TO BE CONFIRMED BY
OTHERS

ALL NEW OR REINSTATED
HARD SURFACING
SURROUNDING THE NEW
BUILDING IS TO UTILISE
POROUS SURFACING.

WHERE PARTS OF THE EXISTING DRAINAGE SYSTEMS
ARE SHOWN IN RED THEY ARE TO BE ABANDONED. THIS
IS BASED UPON THE ASSUMPTION THAT THEY ARE NO
LONGER NEEDED. THIS IS TO BE CONFIRMED BY CCTV
SURVEY PRIOR TO WORKS COMMENCING ON SITE.
WML TO BE NOTIFIED IMMEDIATELY IF EXISTING
DRAINAGE IS CONSIDERED TO BE LIVE / NEEDED AFTER
RE-DEVELOPMENT.

NEW SW MH 1.003
CONTAINING HYDRO INTERNATIONAL
LTD 'OPTIMUM' TYPE HYDRO-BRAKE.
REF MD-SHE-0094-5000-1800-5000
DESIGN FLOW = 5 l/sec
DESIGN HEAD = 1.8m
CL 39.000
IL 38.960
1200 DIA PCC

EX COM MH 4 T
ALL EXISTING
CONNECTIONS
DIVERTED INTO
USING SLOW/B
FROM EDGE OF
PROTECTION 2

APPENDIX 07

Surface water drainage calculations

WML Consulting Ltd		Page 1
No. 8 Oak Green Stanley Green Business Park Earl Rd, Cheadle Hulme, SK8	10961 - XAVERIAN COLLEGE SURFACE WATER DRAINAGE DESIGN REV 03	
Date 13/11/2023 16:12 File 10961 - SW - 03.MDX	Designed by KPT Checked by LOG	
Innovyze		Network 2020.1.3

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	100	PIMP (%)	100
M5-60 (mm)	18.000	Add Flow / Climate Change (%)	0
Ratio R	0.359	Minimum Backdrop Height (m)	0.200
Maximum Rainfall (mm/hr)	250	Maximum Backdrop Height (m)	1.500
Maximum Time of Concentration (mins)	30	Min Design Depth for Optimisation (m)	1.200
Foul Sewage (l/s/ha)	0.000	Min Vel for Auto Design only (m/s)	1.00
Volumetric Runoff Coeff.	0.750	Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Time Area Diagram for Storm

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.036	4-8	0.014

Total Area Contributing (ha) = 0.050

Total Pipe Volume (m³) = 2.876

Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
S1.000	23.000	0.135	170.4	0.025	5.00	0.0	0.600	o	225	Pipe/Conduit	
S1.001	21.000	0.125	168.0	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
S1.002	27.000	0.165	163.6	0.025	0.00	0.0	0.600	o	225	Pipe/Conduit	
S1.003	3.000	0.560	5.4	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S1.000	133.82	5.38	37.385	0.025	0.0	0.0	0.0	1.00	39.7	9.1
S1.001	130.72	5.73	37.250	0.025	0.0	0.0	0.0	1.01	40.0	9.1
S1.002	127.04	6.17	37.125	0.050	0.0	0.0	0.0	1.02	40.5	17.2
S1.003	126.95	6.18	36.960	0.050	0.0	0.0	0.0	4.38	77.5	17.2

WML Consulting Ltd		Page 2
No. 8 Oak Green Stanley Green Business Park Earl Rd, Cheadle Hulme, SK8	10961 - XAVERIAN COLLEGE SURFACE WATER DRAINAGE DESIGN REV 03	
Date 13/11/2023 16:12 File 10961 - SW - 03.MDX	Designed by KPT Checked by LOG	

Innovyze Network 2020.1.3

Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	Backdrop (mm)
S1	39.400	2.015	Open Manhole	1200	S1.000	37.385	225				
S2	39.400	2.150	Open Manhole	1200	S1.001	37.250	225	S1.000	37.250	225	
S3	39.400	2.275	Open Manhole	1200	S1.002	37.125	225	S1.001	37.125	225	
S4	39.000	2.040	Open Manhole	1200	S1.003	36.960	150	S1.002	36.960	225	
S	39.000	2.600	Open Manhole	0		OUTFALL		S1.003	36.400	150	

No coordinates have been specified, layout information cannot be produced.

WML Consulting Ltd		Page 3
No. 8 Oak Green Stanley Green Business Park Earl Rd, Cheadle Hulme, SK8	10961 - XAVERIAN COLLEGE SURFACE WATER DRAINAGE DESIGN REV 03	
Date 13/11/2023 16:12 File 10961 - SW - 03.MDX	Designed by KPT Checked by LOG	
Innovyze	Network 2020.1.3	

Online Controls for Storm

Hydro-Brake® Optimum Manhole: S4, DS/PN: S1.003, Volume (m³): 3.3

Unit Reference	MD-SHE-0094-5000-1800-5000
Design Head (m)	1.800
Design Flow (l/s)	5.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	94
Invert Level (m)	36.960
Minimum Outlet Pipe Diameter (mm)	150
Suggested Manhole Diameter (mm)	1200

Control Points	Head (m)	Flow (l/s)	Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.800	5.0	Kick-Flo®	0.838	3.5
Flush-Flo™	0.411	4.4	Mean Flow over Head Range	-	4.1

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	3.0	1.200	4.1	3.000	6.3	7.000	9.5
0.200	4.0	1.400	4.4	3.500	6.8	7.500	9.8
0.300	4.3	1.600	4.7	4.000	7.3	8.000	10.1
0.400	4.4	1.800	5.0	4.500	7.7	8.500	10.4
0.500	4.4	2.000	5.2	5.000	8.1	9.000	10.7
0.600	4.3	2.200	5.5	5.500	8.4	9.500	11.0
0.800	3.7	2.400	5.7	6.000	8.8		
1.000	3.8	2.600	5.9	6.500	9.1		

for Storm

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m ³ /ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coeffiecient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Number of Input Hydrographs	0	Number of Storage Structures	0
Number of Online Controls	1	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Rainfall Model	FSR	Ratio R	0.359
Region	England and Wales	Cv (Summer)	0.750
M5-60 (mm)	18.000	Cv (Winter)	0.840

```
Margin for Flood Risk Warning (mm) 300.0      DVD Status OFF
      Analysis Timestep   Fine Inertia Status OFF
      DTS Status         ON
```

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080
Return Period(s) (years)	1, 30, 100
Climate Change (%)	0, 0, 45

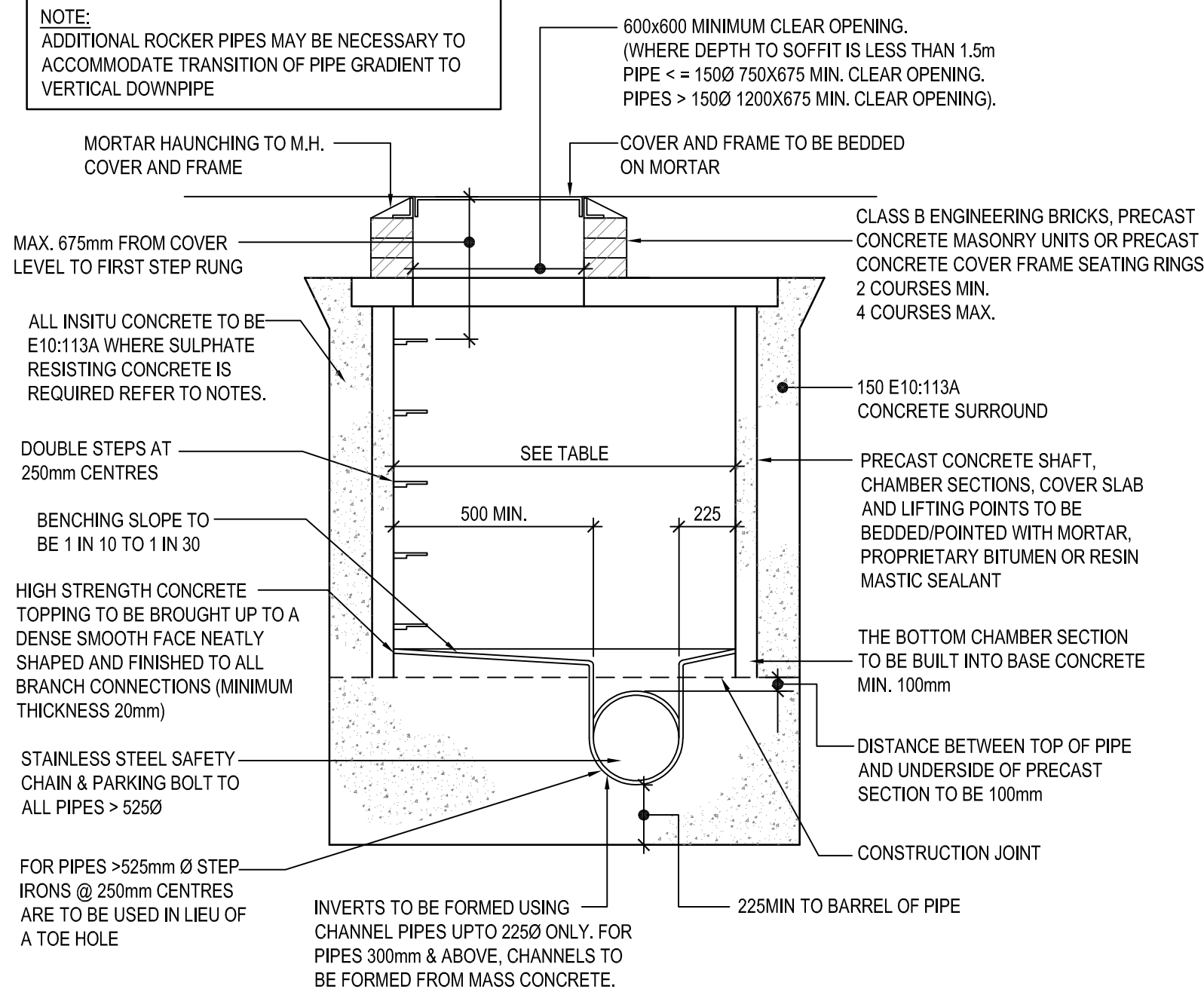
PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
S1.000	S1	15 Winter	1	+0%	100/15 Summer				37.428
S1.001	S2	15 Winter	1	+0%	30/15 Winter				37.293
S1.002	S3	15 Winter	1	+0%	30/15 Summer				37.182
S1.003	S4	15 Winter	1	+0%	1/15 Summer				37.135

PN	US/MH Name	Surcharged	Flooded	Flow / Cap.	Overflow (l/s)	Half Drain	Pipe	Status	Level Exceeded
		Depth (m)	Volume (m³)			Time (mins)	Flow (l/s)		
S1.000	S1	-0.182	0.000	0.08			3.0	OK	
S1.001	S2	-0.182	0.000	0.08			2.9	OK	
S1.002	S3	-0.168	0.000	0.14			5.3	OK	
S1.003	S4	0.025	0.000	0.08			3.9	SURCHARGED	

APPENDIX 08

Typical detail drawing

NOTE:
ADDITIONAL ROCKER PIPES MAY BE NECESSARY TO
ACCOMMODATE TRANSITION OF PIPE GRADIENT TO
VERTICAL DOWNPIPE



TYPICAL MANHOLE DETAIL TYPE B (SECTION)

[SCALE 1:20]

JOINT TO BE AS CLOSE AS POSSIBLE TO FACE
OF MANHOLE TO PERMIT SATISFACTORY JOINT
AND SUBSEQUENT MOVEMENT

MANHOLES WITH OUTGOING PIPES
GREATER THAN 525mm DIA. SHALL
BE FITTED WITH GUARD BARS,
SAFETY CHAINS OR OTHER
SAFETY DEVICES

PIPE JOINT WITH CHANNEL
TO BE LOCATED MIN.
100mm INSIDE FACE OF
CHAMBER

ROCKER PIPE
SEE TABLE ABOVE

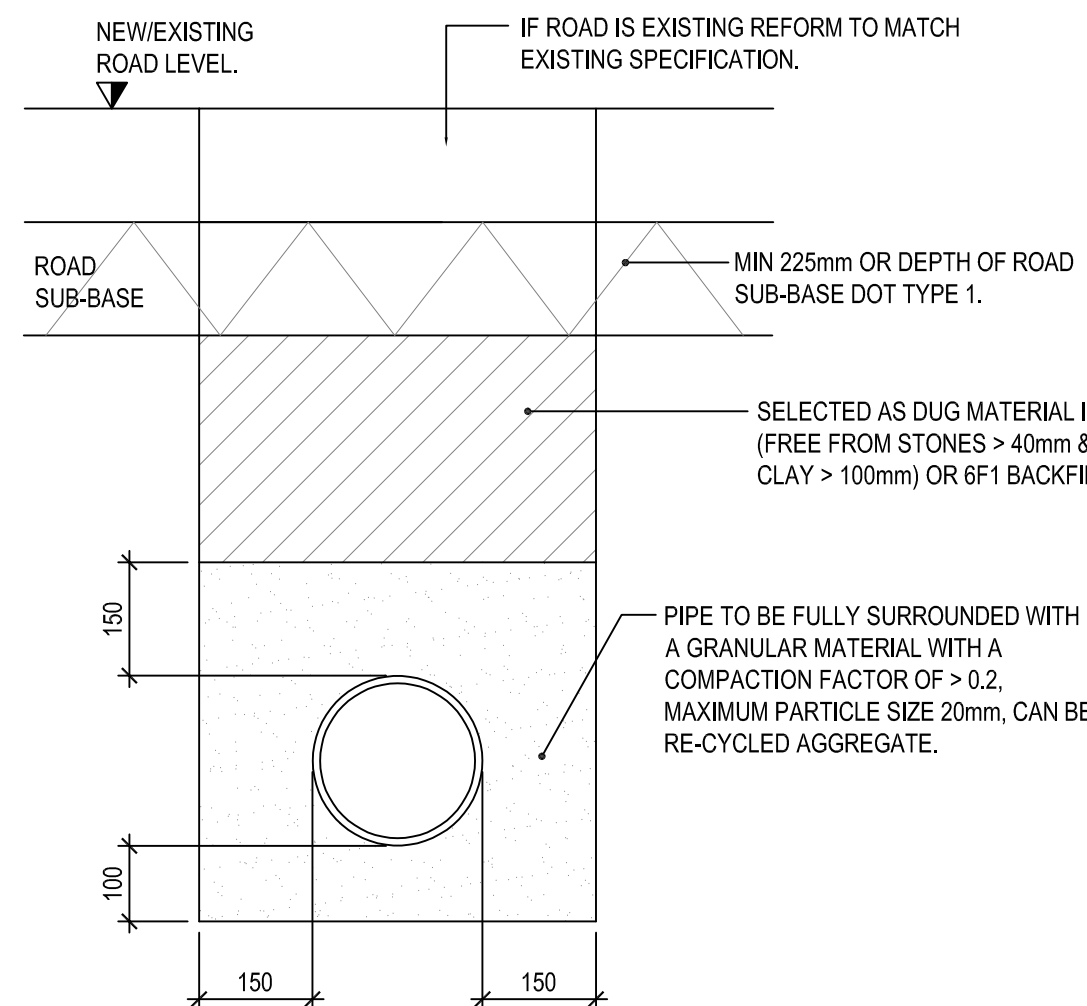
NOMINAL DIA. (mm)	EFFECTIVE LENGTH (m)
150 TO 600	0.6
675 TO 750	1.0
825 & OVER	1.25

DIAMETER OF LARGEST PIPE IN MANHOLE (mm)	MIN. MANHOLE INTERNAL DIAMETER (mm)
< = 300mm (< 1.5M DEEP TO SOFFIT)	1200
> 300mm (< 1.5M DEEP TO SOFFIT)	THE LARGER OF 1800 OR (DN + 775)
< = 450mm	1200
> 450mm	THE LARGER OF 1800 OR (DN + 775)

P.C.C. CHAMBER RINGS USED FOR MANHOLES LESS THAN 1500 TO SOFFIT WITHIN
HIGHWAYS FOR LOAD CLASS D 400 SHALL BE 600mm x 600mm CLEAR OPENING. ALL
MAINTENANCE SHALL BE CARRIED OUT FROM THE SURFACE. NO STEP RUNGS SHALL BE
PROVIDED. THE COVER OPENING SHALL BE LOCATED OVER THE OUTGOING PIPE.

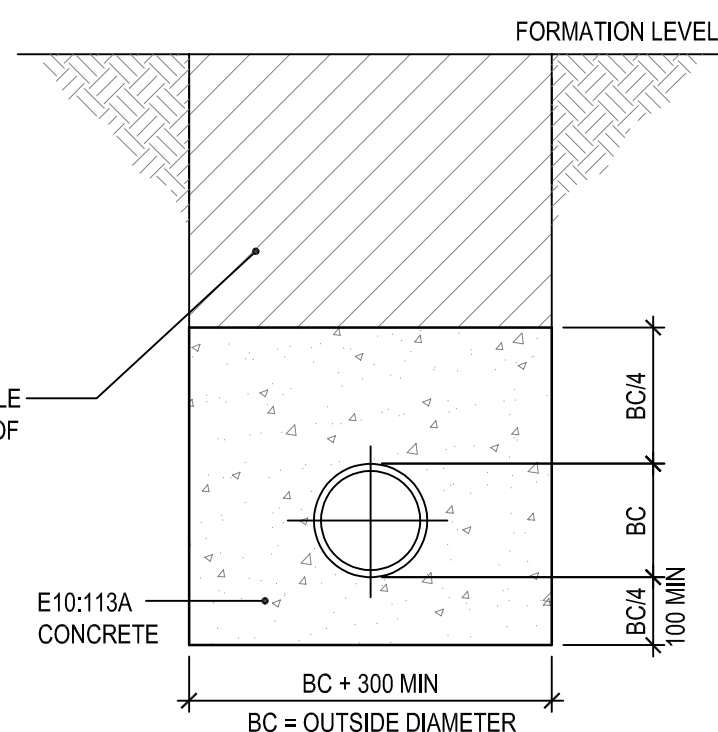
TYPICAL MANHOLE DETAIL TYPE B (E/F)
DEPTH TO SOFFIT OF PIPE 1.5m* TO 3.0m

[SCALE 1:20]



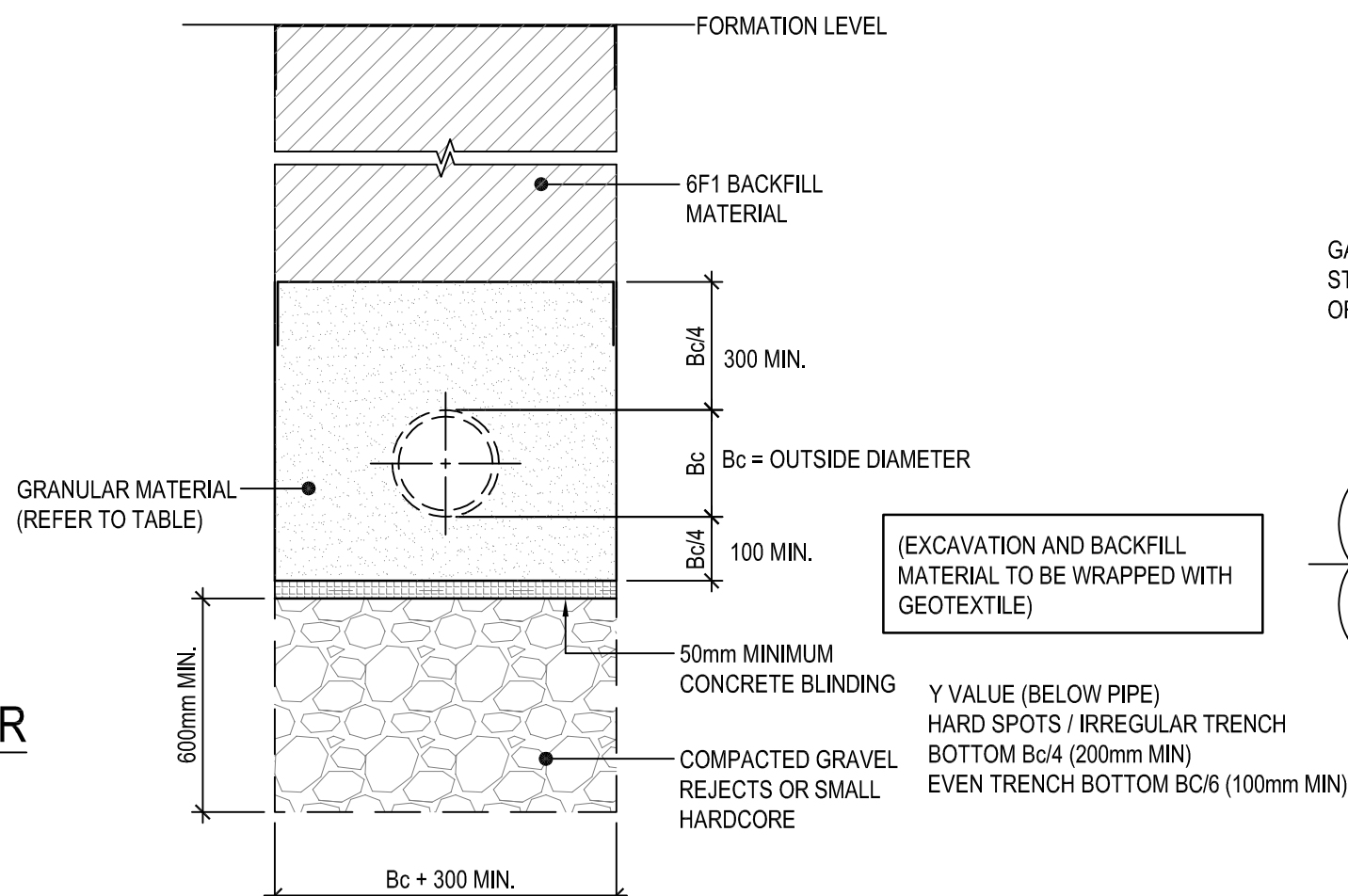
PIPE BEDDING DETAIL
(BEDDING CLASS S)

[SCALE 1:10 @ A1]



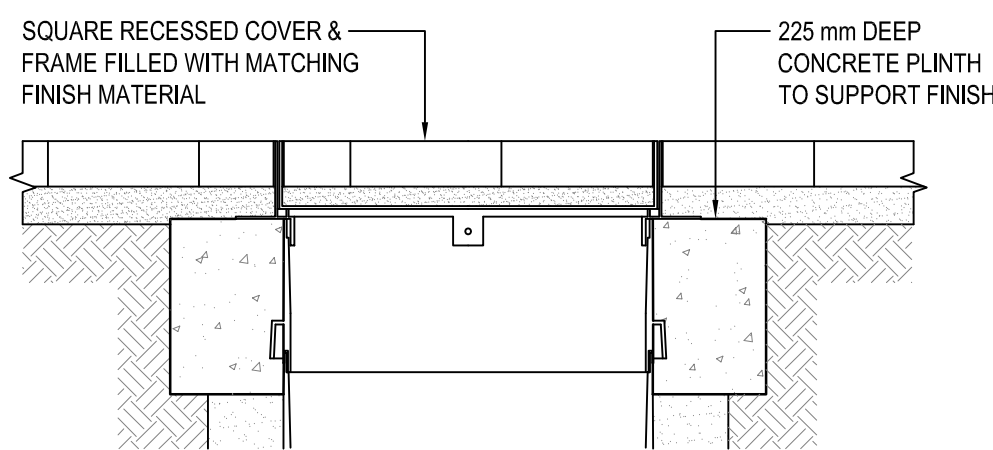
PIPE BEDDING DETAIL WHERE COVER
TO PIPE IS LESS THAN 900mm
(BEDDING CLASS Z)

[SCALE 1:10 @ A1]

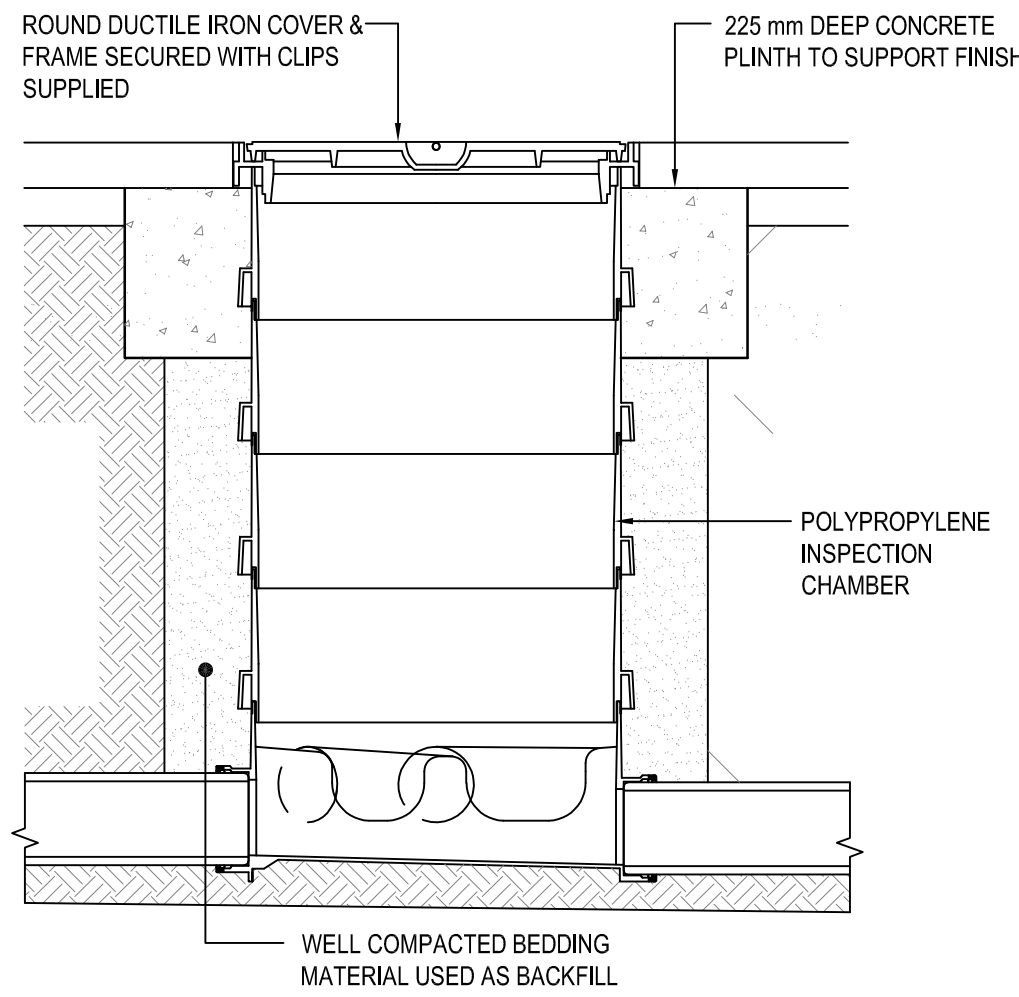


PIPE BEDDING DETAIL
IN SOFT GROUND

[SCALE 1:20]



SITED IN HARD LANDSCAPED AREAS WITH
RECESSED COVER

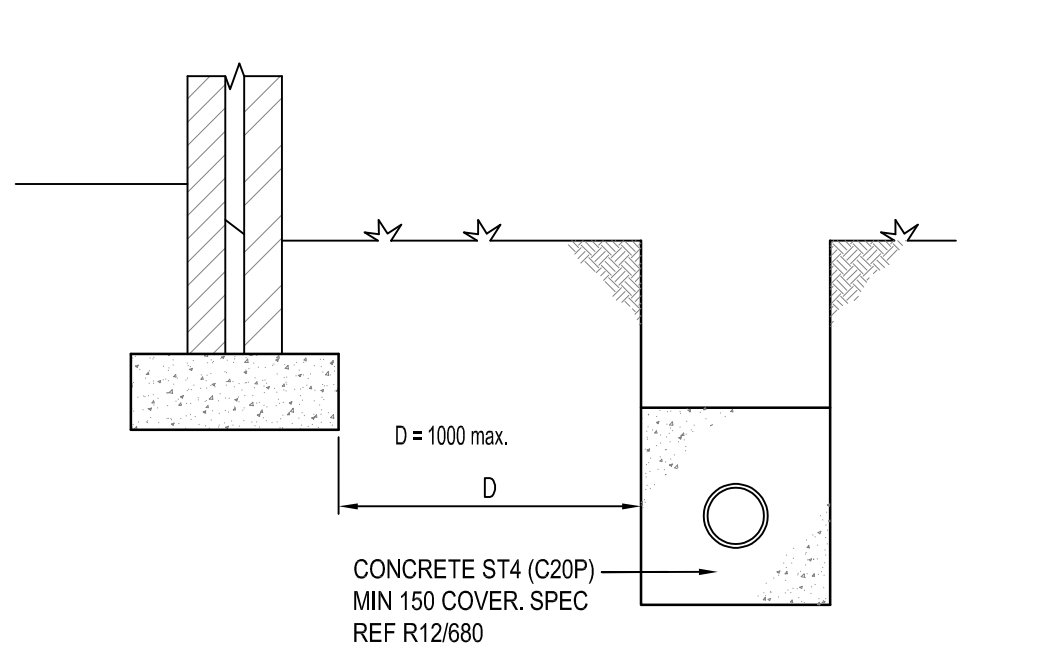


NB - UNIVERSAL PRODUCT - ADAPTOR TO PVC-U PIPE INCLUDED

SITED IN DRIVEWAYS / HARD LANDSCAPED AREAS
WITH STANDARD ROUND COVER

POLYPROPYLENE INSPECTION CHAMBER
INSTALLATION DETAIL (450Ø UPTO 1.2m DEEP)

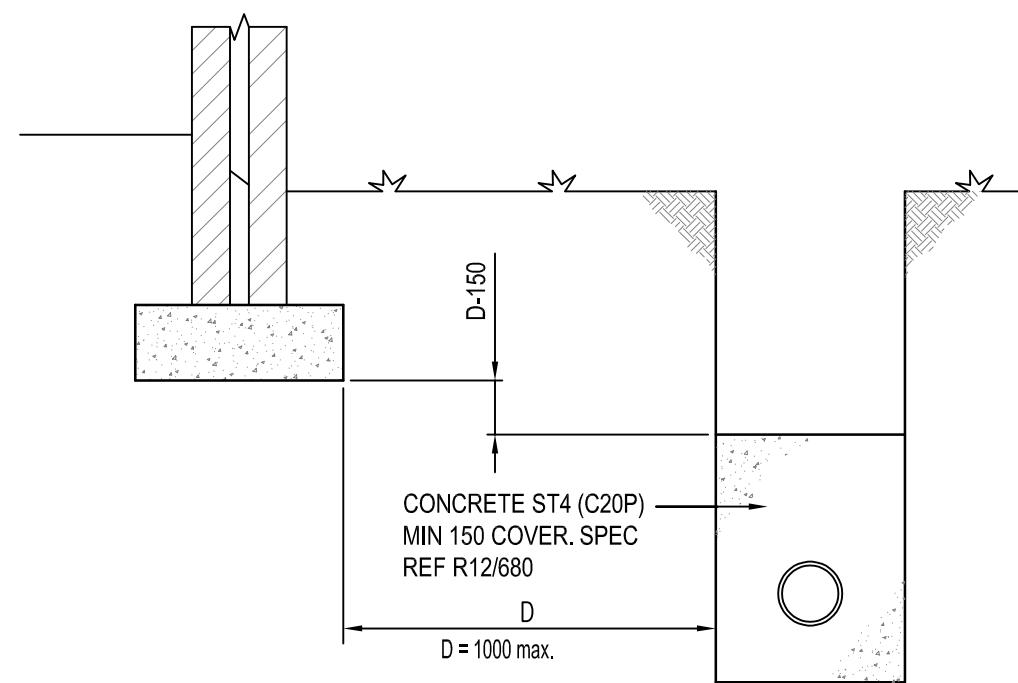
[SCALE 1:20]



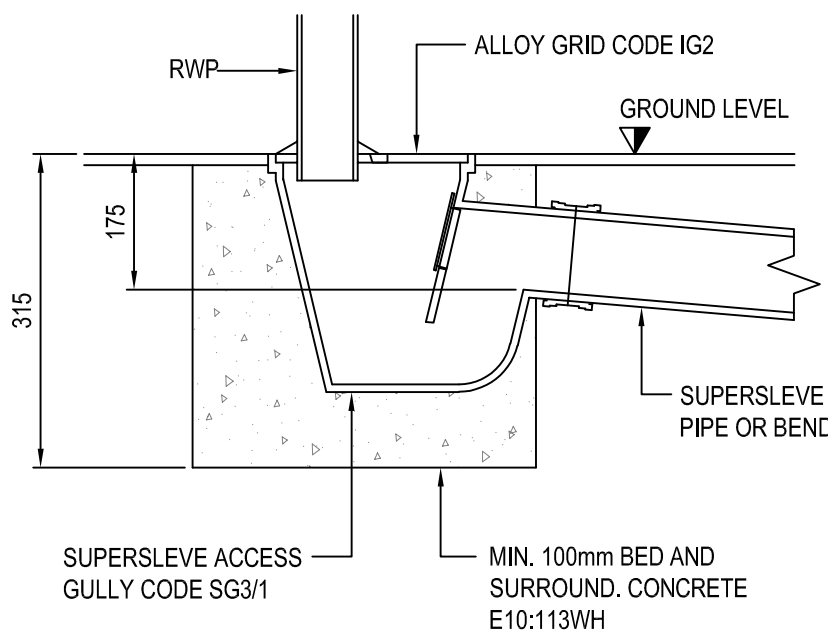
WHERE BOTTOM OF TRENCH IS LOWER THAN BOTTOM OF FOUNDATIONS USE
CONCRETE SURROUND. TOP OF CONCRETE NOT TO BE LOWER THAN BOTTOM OF
FOUNDATIONS

PIPES NEAR FOUNDATIONS

[SCALE 1:20]

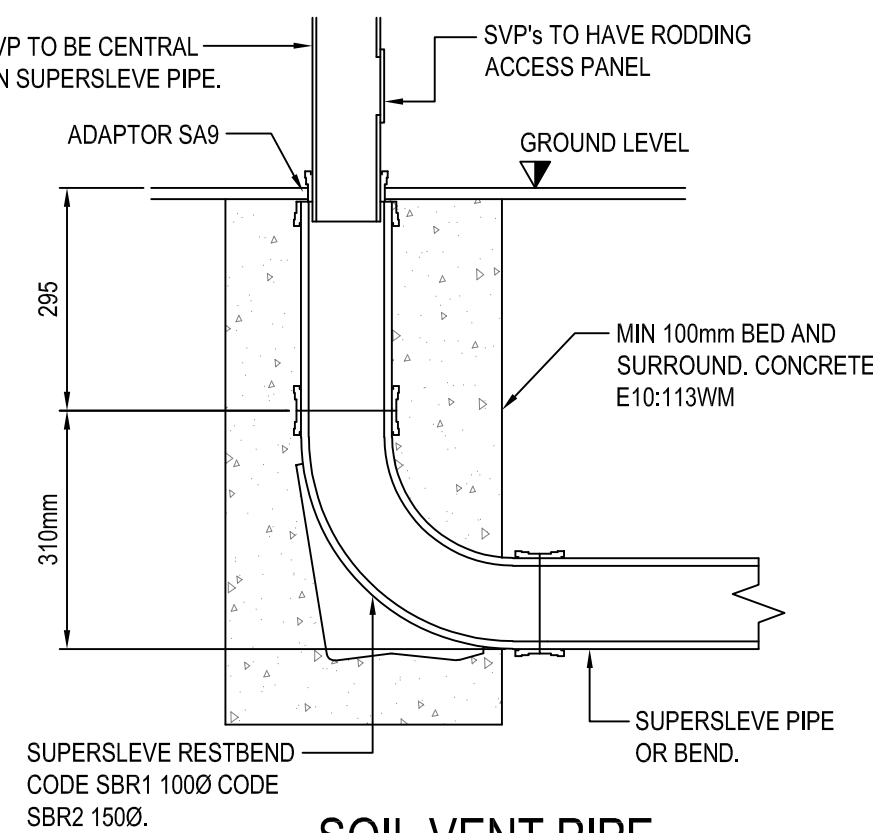


WHERE BOTTOM OF TRENCH IS LOWER THAN A CRITICAL LEVEL USE CONCRETE
SURROUND. TOP OF CONCRETE TO BE AS DEFINED BELOW.



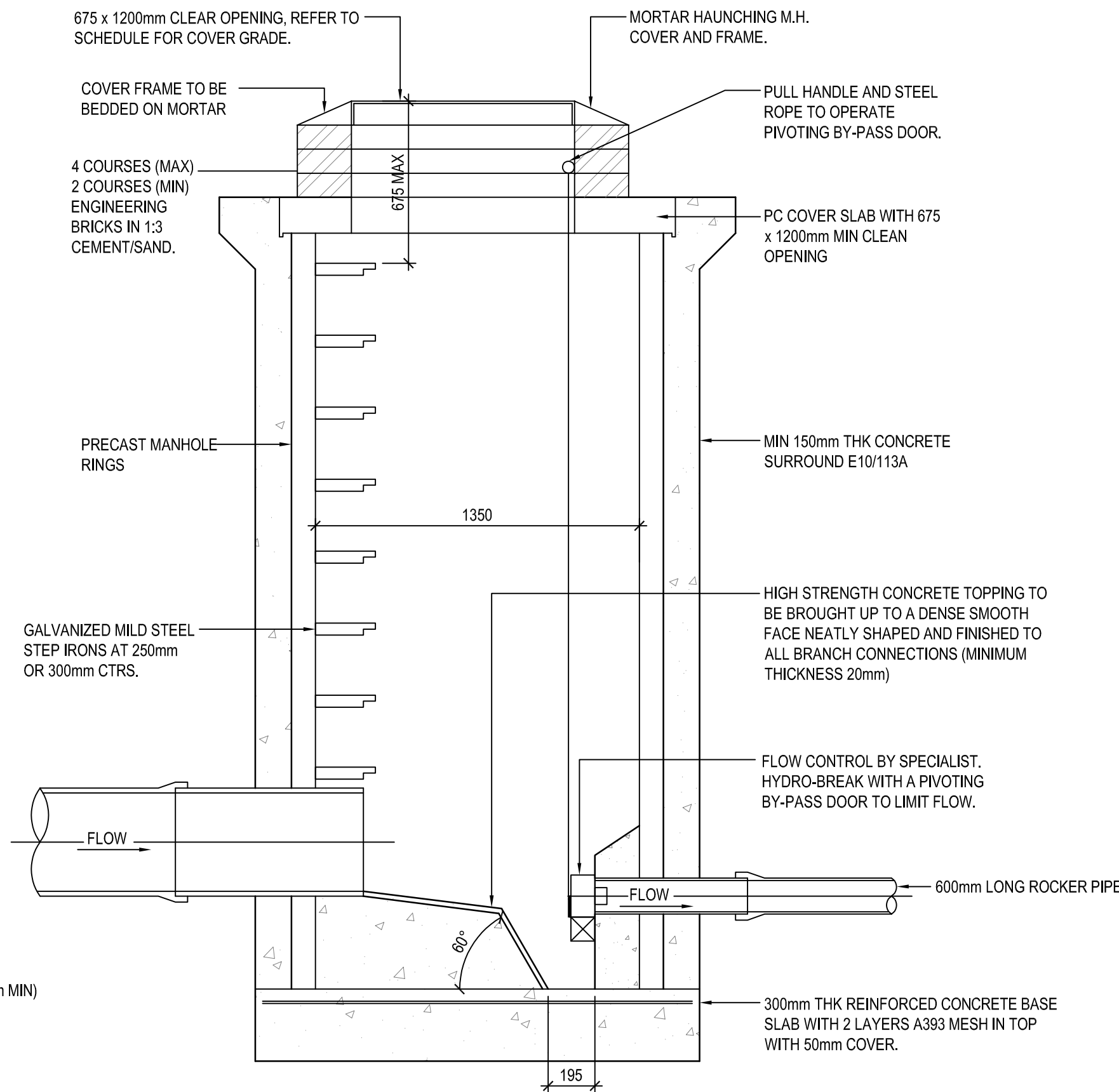
RWP DETAIL

[SCALE 1:10]



SOIL VENT PIPE

[SCALE 1:10]



NEW HYDRO-BRAKE CHAMBER

[SCALE 1:20]

GENERAL NOTES

DO NOT SCALE FROM THIS DRAWING WORK TO FIGURED DIMENSIONS ONLY.

NO DEVIATION FROM THE DETAILS SHOWN ON THIS DRAWING IS ALLOWED WITHOUT
PRIOR PERMISSION IN WRITING.

ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL ARCHITECTS,
ENGINEERS AND SPECIALISTS DRAWINGS AND THE SPECIFICATION.

THE CONTRACTOR SHALL INCORPORATE ALL THE REQUIREMENTS OF THE
PRE-TENDER STAGE HEALTH AND SAFETY PLAN.

FOR DETAILS OF MATERIALS AND WORKMANSHIP REFER TO THE SPECIFICATION.

RESIDUAL RISKS

IN ADDITION TO THE HAZARDS / RISKS NORMALLY ASSOCIATED WITH THE TYPE
OF WORKS INDICATED. NOTE THE FOLLOWING:-

PRELIMINARY

P01	PRELIMINARY ISSUE.	19.5.23	KPT	LOG
Rev.	Amendment	Date	By	Chkd

Project NEW SCIENCE BLOCK				
Client XAVERIAN COLLEGE				
Title TYPICAL DRAINAGE DETAILS				

WML Job No. 10961	Drawn KPT	Checked LOG	Date MAY 2023	Scale AS SHOWN
WML CONSULTING Civil, Structural & Geotechnical Engineers				
No 8 Oak Green Earl Road Stanley Green Business Park Cheshire SK6 6QL Tel 0161 482 0600 Fax 0161 486 9210 e-mail info@wmlconsulting.com www.wmlconsulting.com				

Drawing No.	Project	Originator	Volume	Level	Type	Role	Number	Rev
10961	WML	00	XX	DR	C	1002	P01	