

Agenda Item	8.3
Report No	PLS-68-24

HIGHLAND COUNCIL

Committee: South Planning Applications Committee
Date: 19 November 2024
Report Title: 24/00370/FUL: The Highland Council
Site directly adjacent to St Valery Avenue, Inverness
Report By: Area Planning Manager – South

Purpose/Executive Summary

Description: Erection of 8No. 2 bedroomed, semi-detached houses
Ward: 14 – Inverness Central
Development category: Local
Reason referred to Committee: Number of objections

All relevant matters have been taken into account when appraising this application. It is considered that the proposal accords with the principles and policies contained within the Development Plan and is acceptable in terms of all other applicable material considerations.

Recommendation

Members are asked to agree the recommendation to **GRANT** the application as set out in section 11 of the report

1. PROPOSED DEVELOPMENT

- 1.1 The application is for the erection of 8 housing units on land to the rear of St Valery Avenue in the Dalneigh area of Inverness. The houses are provided by the Council with Plots 7 and 8 being wheelchair accessible units.
- 1.2 The houses are to be single storey, semi-detached properties
- 1.3 Pre-Application Consultation: None
- 1.4 Supporting Information:
- Air source heat pump
 - Drainage statement
 - Tree constraints survey
 - Tree schedule
 - Preliminary ecological appraisal
 - Tree planting and 5-year maintenance plan
- 1.5 Variations: Reduction from 10 to 8 units

2. SITE DESCRIPTION

- 2.1 The site is an area of open space between the rear (west) of St Valery Avenue and the Caledonian Canal. The site takes up approximately half of the area of open space which is laid to grass. There is a footpath along the northern and western boundaries of the site. Within the site lies a single set of goalposts and a number of vehicles have been informally parked.
- 2.2 The site is accessed from the north utilising a currently informal vehicle access from St Valery Park.

3. PLANNING HISTORY

- 3.1 None

4. PUBLIC PARTICIPATION

- 4.1 Advertised: Schedule 3, Unknown Neighbour
Date Advertised: 08 March 2024, 30 August 2024
Representation deadline: 13 September 2024
- Timeous representations: 5 representations (5 households)
- Late representations: None
- 4.2 Material considerations raised are summarised as follows:
- a) Loss of popular green space
 - b) Proximity of access road to neighbouring properties
 - c) Adversely impact the privacy of neighbouring houses
 - d) Security fencing during construction blocking access/egress from gardens

e) Lack of infrastructure, services and amenities in Dalneigh to support new housing

4.3 All letters of representation are available for inspection via the Council's eplanning portal which can be accessed through the internet www.wam.highland.gov.uk/wam.

5. CONSULTATIONS

5.1 **Access Officer:** Proposal suggests diverting an existing Core Path to suit the development boundary, removing one access to that Core Path and replacing it with another of indeterminate quality.

Do not believe there is enough information to satisfy either the Council's duty to protect Core Paths and public access or Policy 77 of the Highland wide Local Development Plan which says we should retain the existing path while maintaining or enhancing its amenity value or ensure alternative access provision that is no less attractive, is safe and convenient for public use and does not damage or disturb species or habitats.

Recommend that the proposal is not considered until detail on the siting, design and specifications for the alternative paths and associated drainage is received and approved along with proposals on how public access will be accommodated before, during and on completion of the development.

Subsequently to this response the scheme was amended to remove the requirement to realign the Core Path.

5.2 **Corporate Adress Gazetteer:** Advise of the Street Naming and Numbering Process.

5.3 **Development Plans Team:** The principle of housing development on the site is supported by a new allocation for housing in the IMFLDP2 which has subsequently been adopted.

It is noted that the consultation response from sportscotland considers that given the presence of a set of goal posts within the site it appears that it is used as an informal pitch and therefore the provisions of NPF4 policy 21 and HwLDP Policy 76 apply. The Council is currently undertaking a Play Sufficiency Assessment that is intended to be published in Autumn this year. The Open Space Strategy is unlikely to be available until 2025. As such these documents cannot yet be used to inform planning decisions. In terms of consultation, the site was included in the IMFLDP2 Main Issues Report and Proposed Plan. Various forms of public consultation were undertaken for both documents, including a postcard to all residential addresses and neighbour notification of neighbours of potential development sites as well as press notices and social media posts.

The justification for the proposal has been debated as part of the IMFpLDP2 Examination. The Reporter was persuaded that the loss of the open space is justified to allow for the provision of affordable homes. They considered reasonable alternative provision was provided close by that has a requirement to be improved to mitigate the loss of open space on the site, alongside the retention of the remaining part of greenspace adjacent to the site. The alterative open space provision north of the site has a number of sport and play facilities, including goal posts. The application therefore has the potential to be consistent with criteria listed in NPF4 Policy 21.

- 5.4 **Flood Risk Management Team:** “No objection to the application on grounds of flood risk following the receipt of an updated Drainage Statement setting out that surface water from the development will be attenuated on site and discharged via infiltration. Calculations have been provided to demonstrate that a 1 in 200 year plus climate change event will be managed by the drainage system with no flooding. The drainage infrastructure will remain private and be maintained by The Highland Council’s Housing Department. We are content with the drainage strategy and withdraw our objection to the application.

We request a condition that the final surface water drainage design is submitted for review. Measures should be put in place to ensure that, in the case of exceedance events or poor performance of the infiltration media, any excess water is directed away from the properties.”

- 5.5 **Historic Environment Team:** “As the canal is passing through a city, it would perhaps be unreasonable to expect all the green spaces that border it to remain so, although the change from green space to housing development can only be a negative impact upon the setting. The canal and towpath are however separated from the site by a buffer zone of trees and bushes (which hopefully is not going to be diminished in any way). We would expect this buffer zone, along with the low height of the units, to reduce the adverse impact upon the setting to a level which is not significantly adverse, and thereby could be acceptable; we would request that enhanced tree/shrub-planting (non-deciduous) is applied along the western edge of the site, to enhance this buffering. The site is suitably spaced away from the setting of Tomnahurich Garden and Design Landscape not to affect its setting.”

- 5.6 **Transport Planning Team:** The Transport Planning Team notes that in the provided document “C7584 – St Valery Park - R&C Responses to Statutory Consultee Comments” it is proposed that no RCC would be sought for the access. Any planning permission the Council may give should refer to the development access as a “private access” and not a “private road”.

Recommend conditions relating to inspection and maintenance for the access, a proposed maintenance strategy, who is responsible for conducting the required maintenance, and winter treatment proposals. The document should be provided prior to development occupation.

The Drainage Statement (rev C, 19/07/2024) proposes that the maintenance responsibility for the entirety of the surface water drainage system will fall to the Highland Council Housing Department. The Transport Planning Team recommends a condition for inspection and maintenance strategy, and who is responsible for conducting the required maintenance.

“In our previous response a number of potential issues were raised with the drainage proposal (the ability of the geocellular storage to support the road above, the location of the flow control device, the design of the filter drain). As none of the drainage system is to be adopted by the Roads Authority, it will be for the developer to accept the suitability of these drainage proposals.”

- 5.7 **Historic Environment Scotland:** “We understand the proposed development to comprise 8No. residential units in four detached single storey units on land near to,

but not bordering, the boundary of the Caledonian Canal Scheduled Monument. The proposed development is broadly in keeping with the existing housing surrounding it.

Direct impacts upon the monument are unlikely as the site is separated from the monument by up to 7m of rough ground and a pathway that is to be retained. If this pathway is rerouted to suit the development boundary (per the proposed site layout), Scheduled Monument Consent may be required for any work that physically impacts the monument.

The proposed development is four single storey buildings with roof ridges at the same or lower height than the surrounding buildings. The development site lies about 3m lower than the towpath level. While there would be an impact on the setting of the monument it would be in keeping with the existing development in the area and be readable as infilling. It would not, therefore, result in any significant impacts on the canal or its setting.”

- 5.8 **Sport Scotland:** “Proposal is on an area of greenspace to the west of St. Valery Avenue. From aerial imagery, and the presence of a set of goal posts, it appears that the site is used as an informal sports pitch.

We are guided by the provisions of NPF4 (2023) policy 21: Play, Recreation and Sport in conjunction HWLDP (2016) policy 76 Playing Fields and Sports Pitches and IMFLDP supported where the proposal:

- i. is ancillary to the principal use of the site as an outdoor sports facility; or
- ii. involves only a minor part of the facility and would not affect its use; or
- iii. meets a requirement to replace the facility which would be lost, either by a new facility or by upgrading an existing facility to provide a better-quality facility. The location will be convenient for users and the overall playing capacity of the area will be maintained; or
- iv. can demonstrate that there is a clear excess of provision to meet current and anticipated demand in the area, and that the site would be developed without detriment to the overall quality of provision.

This should be informed by an Open Space Strategy/ Play Sufficiency Assessment and in consultation with sportscotland.

No information has been submitted to justify the proposal as required by the policy set out above. Please provide additional information to justify the loss of the sports pitch. This should detail who uses the pitch and how often. Please also confirm whether members of the community/ pitch users have been consulted. Additionally, is it proposed to provide alternative provision elsewhere?”

6. DEVELOPMENT PLAN POLICY

The following policies are relevant to the assessment of the application

6.1 National Planning Framework 4 (2023) (NPF4)

Policy 1 - Tackling the Climate and Nature Crises

Policy 2 - Climate Mitigation and Adaptation

Policy 3 - Biodiversity

Policy 4 - Natural Places

Policy 6 - Forestry, Woodland and Trees

Policy 7 - Historic Assets and Places

Policy 13 - Sustainable Transport
Policy 14 - Design Quality and Place
Policy 15 - Local Living and 20 Minute Neighbourhoods
Policy 16 - Quality Homes
Policy 18 - Infrastructure First
Policy 21 - Play, Recreation and Sport
Policy 22 - Flood Risk and Water Management

6.2 **Highland Wide Local Development Plan 2012 (HwLDP)**

28 - Sustainable Design
29 - Design Quality and Place-making
30 - Physical Constraints
31 - Developer Contributions
32 - Affordable Housing
34 - Settlement Development Areas
37 - Accommodation for an Ageing Population
51 - Trees and Development
56 - Travel
57 - Natural, Built and Cultural Heritage
58 - Protected Species
59 - Other important Species
60 - Other Importance Habitats
64 - Flood Risk
65 - Waste Water Treatment
66 - Surface Water Drainage
74 - Green Networks
75 - Open Space
76 - Playing Fields and Sports Pitches

6.3 **Inner Moray Firth Local Development Plan 2 (2024) (IMFLDP2)**

INW04: West of St Valery Avenue
Policy 4 Greenspace
Policy 5 Green Networks
Policy 9 Delivering Development and Infrastructure
Policy 10 Increasing Affordable Housing

6.4 **Highland Council Supplementary Planning Policy Guidance**

Access to Single Houses and Small Housing Developments (May 2011)
Developer Contributions (March 2018)
Flood Risk and Drainage Impact Assessment (Jan 2013)
Green Networks (Jan 2013)
Highland Historic Environment Strategy (Jan 2013)
Highland's Statutorily Protected Species (March 2013)

7. **OTHER MATERIAL POLICY CONSIDERATIONS**

7.1 **Scottish Government Planning Policy and Guidance**

Designing Streets

Creating Places

8. PLANNING APPRAISAL

- 8.1 Section 25 of the Town and Country Planning (Scotland) Act 1997 requires planning applications to be determined in accordance with the development plan unless material considerations indicate otherwise.

Determining Issues

- 8.2 This means that the application requires to be assessed against all policies of the Development Plan relevant to the application, all national and local policy guidance and all other material considerations relevant to the application.

Planning Considerations

- 8.3 The key considerations in this case are:
- a) compliance with the development plan and other planning policy
 - b) siting and design
 - c) impact on open space
 - d) transport and access
 - e) flood risk and drainage
 - f) impact on cultural heritage feature
 - g) any other material considerations

Development plan/other planning policy

- 8.4 The site is allocated for housing in IMFLDP2 as INW04: West of St Valery Avenue with an indicative capacity of 16No. houses. As such the principle of erecting 8 houses within the site is considered to be acceptable, subject to the developer requirements of the site being met.
- 8.5 IMFLDP2 Policy 10 (Increasing Affordable Housing) sets out that for all proposals that create 4 or more additional residential units, the Council will expect no less than 35% affordable housing. As this application is for the erection of social housing by the Council, 100% of the units will be affordable.
- 8.5 NPF4 Policies 1-3 apply to all development proposals nationwide. When considering all development proposals, significant weight will be given to the global climate and nature crises. Development proposals will be sited and designed to minimise lifecycle greenhouse gas emissions as far as possible. Development proposals will contribute to the enhancement of biodiversity, including where relevant, restoring degraded habitats, and building and strengthening nature networks and the connections between them. Proposals should also integrate nature-based solutions where possible.
- 8.6 Policy 14 of the NPF4 (Design, Quality and Place) states that development proposals will be designed to improve the quality of an area whether in urban or rural locations

and regardless of scale a proposal will be supported where it meets the six qualities of successful places: Healthy, Pleasant, Connected, Distinctive, Sustainable and Adaptable.

- 8.7 NPF4 Policy 16 (Quality Homes) supports proposals for new homes on land allocated for housing in LDPs. Furthermore, the policy also sets out that development proposals for new homes that improve affordability and choice by being adaptable to changing and diverse needs, and which address identified gaps in provision, will be supported. This could include accessible, adaptable and wheelchair accessible homes and affordable homes. All of the homes proposed are to be affordable, with 2no units being wheelchair accessible.
- 8.8 HwLDP Policy 34 (Affordable Housing) supports proposals within Settlement Development Areas if they meet with Policy 28 (Sustainable Design) and all other relevant policies of the plan. We will also judge proposals in terms of how compatible they are with the existing pattern of development and landscape character, how they conform with existing and approved adjacent land uses, and the effect on any natural, built and cultural heritage feature.
- 8.9 It is considered that the principle of the proposal is supported by the Development Plan.

Siting and Design

- 8.10 The proposed houses are situated to the west of the existing houses at St Valery Avenue. The site is flat and set out as open grassed space with a footpath to the western edge running parallel with the Caledonian Canal. The overall layout places the buildings on a generally northwest to southeast axis.
- 8.11 The proposed houses are to be single storey, semi-detached 2 bedroomed properties measuring approximately 19.1m x 9.2m for the standard units on Plots 1–6, and approximately 22.3m x 9.2m for the wheelchair accessible units on Plots 7 and 8. The houses are to be finished in smooth white render with a pewter grey base course and anthracite grey roof tiles. Windows and doors are to be high performance uPVC with the windows in anthracite grey. The houses will benefit from an air source heat pump unit and roof mounted photovoltaic panels.
- 8.12 The houses will therefore have a similar scale and proportion to those adjacent at St Valery Park to the north. The existing housing at St Valery Avenue along the east of the site are two storey terraces. The plots are orientated within the site to both maximise the efficiency of the site layout as well as minimising any potential overlooking.
- 8.13 While the proposal will formalise the use of the land between St Valery Park and the site as a vehicular access, it is not considered that this will result in any detrimental impacts to neighbouring amenity given the existing informal use as a vehicular access. The layout will also allow for connectivity to the existing footpath network and adjacent green space to be retained.
- 8.14 Landscaping is proposed to include new tree planting to the rear/side of the proposed housing units between the houses and the footpath to the west of the site as well as

planting to supplement the existing woodland area on the western side of the footpath. It is considered that this will provide some screening to the rear of the proposed houses as well as softening the visual impact of the development.

- 8.15 The site lies adjacent to an existing established residential area, where there has been recent housing development, which this proposal is effectively an extension of. Existing local services, facilities, and education and community buildings are in close proximity (short walking distance) of the site, with the wider area generally quite level and served by bus links.
- 8.16 It is considered that the siting and design of the proposal is acceptable.

Impact on open space

- 8.17 The site forms an existing area of grassed open space, with a singular set of goalposts; the site could therefore be considered as an outdoor sports facility. However, there is no marked pitch, and it is understood that the second set of goalposts which would have formed a pitch, were lost to the previous housing development adjacent to the site and have not been replaced. Accordingly, the facility is suitable for very informal recreational use only. As such, no information is known about the frequency of use.
- 8.18 NPF4 Policy 21 (Play, Recreation and Sport) sets out that Development proposals which result in the loss of outdoor sports facilities will only be supported where the proposal:
- i. is ancillary to the principal use of the site as an outdoor sports facility; or
 - ii. involves only a minor part of the facility and would not affect its use; or
 - iii. meets a requirement to replace the facility which would be lost, either by a new facility or by upgrading an existing facility to provide a better-quality facility. The location will be convenient for users and the overall playing capacity of the area will be maintained; or
 - iv. can demonstrate that there is a clear excess of provision to meet current and anticipated demand in the area, and that the site would be developed without detriment to the overall quality of provision.
- 8.19 While the proposal will result in the reduction of the sports facility, it will not result in its loss. The applicant intends providing a new singular set of goalposts within the adjacent greenspace to the southeast, which is protected from development, thus mitigating the loss of the existing set. This can be controlled by condition. As such there will still be a sports facility available for informal use, albeit smaller than is there currently. Therefore, the proposal while not a minor reduction in the sports facility, is not considered to materially limit its contribution for informal, recreational use. Developer contributions towards Community Facilities can also be secured.
- 8.20 Furthermore, the reduction in the sports facility will be within the area that is allocated for development, thereby establishing that the principle of the development and subsequently the loss of the sports facility is deemed to be acceptable. The site also lies in close proximity (210m) to St Valery recreation grounds and sports courts to the north, which contain a number of formal and informal pitches, basketball courts

and a play area, all of which are considered to mitigate for the loss of open space as a result of the proposal.

- 8.21 On balance, it is considered that the provision of affordable housing outweighs the reduction in size of the sports facility and meets with the provisions of the Development Plan through the site being allocated for housing development.
- 8.22 The initial proposal of 10 houses suggested diverting an existing Core Path to suit the development boundary, removing one access to that Core Path and replacing it with another of indeterminate quality. The applicant has deleted 2 units which pulls the development further away from the Core Path to the west of the site and negating the need to realign it. The applicant indicates that access to the rear of the properties along St Valery Avenue is to be retained during the construction phase of the development. The existing footpath to the rear of the housing at St Valery Park will be removed, however a new path from within the site is proposed between the site and the Core Path. Conditions can be added to ensure that access to the Core Path network is retained during and after construction.

Transport and access

- 8.23 Vehicular access is to be taken from an existing informal access route from the unadopted access to No.1-6 St Valery Park. It is proposed to upgrade this as a private access with parking available for 14 vehicles to remain in the ownership of the Council.
- 8.24 The Transport Planning Team has requested conditions relating to:
- inspection and maintenance of the access being retained by the developer; and
 - inspection and maintenance of the drainage associated with the private access as the existing surface water sewer that the proposed development will discharge into is owned by the Council

It has advised that neither the proposed access, nor the associated drainage would be adopted by the Roads Authority; and that the suitability and ongoing maintenance thereof is a matter for the Housing Authority as developer and owner of the infrastructure.

- 8.25 It should be noted that the developer would have to make their own private arrangements with regards to winter maintenance and street lighting. Finally, the Transport Planning Team note that swept path analysis drawings have been provided which demonstrate that refuse collection vehicles can safely access and manoeuvre within the site.

Flood risk and drainage

- 8.26 SEPA's indicative future flood maps indicate that the site is not at risk of fluvial flooding, and it is not in close proximity to any small watercourses. The development is adjacent to, and at a lower level than, the Caledonian Canal. However, this is a man-made structure that is managed and maintained by Scottish Canals. Accordingly, it is considered that the risk of flooding is low.

8.27 Initial concerns regarding the surface water drainage have been addressed through the provision of an updated Drainage Statement provided (Proposed Residential Development at St Valery Park, Inverness. XXXX-RAC-XX-XX-RP-C-0001. Revision D. Ramsay & Chalmers. 12/09/2024). Surface water from the development will be attenuated on site and discharged via infiltration. Calculations have been provided to demonstrate that a 1 in 200 year plus climate change event will be managed by the drainage system with no flooding. The drainage infrastructure will remain private and be maintained by the developer. A condition is to be added requiring the provision of an inspection and maintenance document for the drainage system. A condition is also recommended that the final surface water drainage design is submitted for review; measures should be put in place to ensure that, in the case of exceedance events or poor performance of the infiltration media, any excess water is directed away from the properties.

Impact on cultural heritage feature

8.28 The site lies in close proximity to the Caledonian Canal, a scheduled Ancient Monument, which lies approximately 24m to the west of the site. The site sits at a lower level than the towpath and is separated by an area of trees and bushes. Direct impacts upon the monument are unlikely as the site is separated from the monument by up to 7m of rough ground and a pathway that is to be retained. While there would be an impact on the setting of the monument it is considered that the proposal would be in keeping with the existing development in the area and be readable as infill. It would not, therefore, result in any significant impacts on the monument or its setting.

8.29 Tomnahurich Cemetery Designed Landscape lies approximately 115m to the south of the site. The site is suitably spaced away from the setting of Tomnahurich Cemetery Designed Landscape, with intervening housing, not to affect its setting.

Other material considerations

8.30 None.

Non-material considerations

8.31 None

Matters to be secured by Legal Agreement / Upfront Payment

8.32 In order to mitigate the impact of the development on infrastructure and services the following matters require to be secured prior to planning permission being issued:

- a) Upfront payment of Developer Contributions for Community Facilities at £12,544 index linked.

9. CONCLUSION

9.1 The proposal is for the erection of 8 houses on land to the west side of St Valery Avenue, which is allocated for housing by the recently adopted IMFLDP2 at INW04.

- 9.2 The low-density layout respects the established development pattern and layout of housing in the area, retaining the existing connectivity of vehicle access and footpaths in the area.
- 9.3 The project is on the eastern side of the Caledonian Canal, however is not considered to significantly impact on its setting. Although the proposal is on an area used for informal recreation, development includes some upgrade to this provision.
- 9.4 All technical matters can be addressed through appropriate planning conditions.
- 9.5 All relevant matters have been taken into account when appraising this application. It is considered that the proposal accords with the principles and policies contained within the Development Plan and is acceptable in terms of all other applicable material considerations

10. IMPLICATIONS

- 10.1 Resource: Not applicable
- 10.2 Legal: Not applicable
- 10.3 Community (Equality, Poverty and Rural): Not applicable
- 10.4 Climate Change/Carbon Clever: Not applicable
- 10.5 Risk: Not applicable
- 10.6 Gaelic: Not applicable

11. RECOMMENDATION

Action required before decision issued	Y
Notification to Scottish Ministers	N
Conclusion of Section 75 Obligation	Y
Revocation of previous permission	N

Subject to the above actions, it is recommended to **GRANT** the application subject to the following conditions and reasons

- The development to which this planning permission relates must commence within THREE YEARS of the date of this decision notice. If development has not commenced within this period, then this planning permission shall lapse.
Reason: In accordance with Section 58 of the Town and Country Planning (Scotland) Act 1997 (as amended).
- No development shall commence until the developer shall have provided an inspection and maintenance scheme for the private access for the approval

in writing of the Planning Authority. For the avoidance of doubt, the scheme shall detail:

- an inspection regime for the access
- maintenance strategy, including timetabling and responsibilities
- winter treatment

The development shall thereafter be undertaken in accordance with the agreed details.

Reason: To ensure that maintenance of the privately owned infrastructure is appropriately maintained.

3. No development shall commence until the developer shall have provided a surface water drainage design for the approval in writing of the Planning Authority. For the avoidance of doubt, the design shall include measures to ensure that in the case of exceedance events or poor performance of the infiltration media, any excess water is directed away from the properties. The development shall thereafter be undertaken in accordance with the agreed details and shall be completed prior to the first occupation of any of the development.

Reason: To ensure that surface water drainage is provided timeously; in order to protect the water environment.

4. No development shall commence until the developer shall have provided an inspection and maintenance scheme for the surface water drainage system for the approval in writing of the Planning Authority. For the avoidance of doubt, the scheme shall detail:

- an inspection regime for the drainage
- maintenance strategy, including timetabling and responsibilities

The development shall thereafter be undertaken in accordance with the agreed details.

Reason: To ensure that maintenance of the privately owned infrastructure is appropriately maintained.

5. No development shall commence until the developer shall have provided details of the set of goalposts to be erected on the adjacent land within the applicant's ownership as shown on Proposed Site Layout Plan DIHD23030-THC-XX-XX-DR-A-PM-60-10-0003 Rev B for the agreement of the Planning Authority. Thereafter the goalposts shall be installed prior to the occupation of the last house within the development.

Reason: To ensure that the sports facility is installed in an appropriate and timely manner.

6. Public access to any Core Path within, or adjacent to, the application site shall at no time be obstructed or deterred by construction-related activities,

unless otherwise approved in writing by the Planning Authority as a temporary measure required for health and safety or operational purposes. Under such circumstances, any temporary obstruction or deterrent shall cover only the smallest area practicable and for the shortest duration possible, with waymarked diversions provided as necessary.

Reason: In order to ensure that access to the Core Path network is not obstructed as a result of this development.

7. The path running to the rear of the properties at St Valery Avenue shall remain accessible and free from obstruction throughout the construction phase of the development.

Reason: In order to safeguard public access both during and after the construction phase of the development.

8. All landscaping works shall be carried out in accordance with the scheme and plans approved as part of this permission. All planting, seeding or turfing shall be carried out in the first planting and seeding seasons following the commencement of the development, unless otherwise stated in the approved scheme. Any trees or plants which within a period of five years from the completion of the development die, for whatever reason are removed or damaged shall be replaced by the developer and to the satisfaction in writing of the Planning Authority within the next planting season with others of the same size and species.

Reason: In order to ensure that the approved landscaping works are properly undertaken on site.

REASON FOR DECISION

All relevant matters have been taken into account when appraising this application. It is considered that the proposal accords with the principles and policies contained within the Development Plan and is acceptable in terms of all other applicable material considerations.

INFORMATIVES

Initiation and Completion Notices

The Town and Country Planning (Scotland) Act 1997 (as amended) requires all developers to submit notices to the Planning Authority prior to, and upon completion of, development. These are in addition to any other similar requirements (such as Building Warrant completion notices) and failure to comply represents a breach of planning control and may result in formal enforcement action.

1. The developer must submit a Notice of Initiation of Development in accordance with Section 27A of the Act to the Planning Authority prior to work commencing on site.

2. On completion of the development, the developer must submit a Notice of Completion in accordance with Section 27B of the Act to the Planning Authority.

Copies of the notices referred to are attached to this decision notice for your convenience.

Flood Risk

It is important to note that the granting of planning permission does not imply there is an unconditional absence of flood risk relating to (or emanating from) the application site. As per Scottish Planning Policy (paragraph 259), planning permission does not remove the liability position of developers or owners in relation to flood risk.

Scottish Water

You are advised that a supply and connection to Scottish Water infrastructure is dependent on sufficient spare capacity at the time of the application for connection to Scottish Water. The granting of planning permission does not guarantee a connection. Any enquiries with regards to sewerage connection and/or water supply should be directed to Scottish Water on 0845 601 8855.

Local Roads Authority Consent

In addition to planning permission, you may require one or more separate consents (such as road construction consent, dropped kerb consent, a road openings permit, occupation of the road permit etc.) from the Area Roads Team prior to work commencing. These consents may require additional work and/or introduce additional specifications and you are therefore advised to contact your local Area Roads office for further guidance at the earliest opportunity.

Failure to comply with access, parking and drainage infrastructure requirements may endanger road users, affect the safety and free-flow of traffic and is likely to result in enforcement action being taken against you under both the Town and Country Planning (Scotland) Act 1997 and the Roads (Scotland) Act 1984.

Further information on the Council's roads standards can be found at: <http://www.highland.gov.uk/yourenvironment/roadsandtransport>

Application forms and guidance notes for access-related consents can be downloaded from:

http://www.highland.gov.uk/info/20005/roads_and_pavements/101/permits_for_working_on_public_roads/2

Mud and Debris on Road

Please note that it is an offence under Section 95 of the Roads (Scotland) Act 1984 to allow mud or any other material to be deposited, and thereafter remain, on a public road from any vehicle or development site. You must, therefore, put in place a strategy for dealing with any material deposited on the public road network and maintain this until development is complete.

Construction Hours and Noise-Generating Activities

You are advised that construction work associated with the approved development (incl. the loading/unloading of delivery vehicles, plant or other machinery), for which noise is audible at the boundary of the application site, should not normally take place outwith the hours of 08:00 and 19:00 Monday to Friday, 08:00 and 13:00 on Saturdays or at any time on a Sunday or Bank Holiday in Scotland, as prescribed in Schedule 1 of the Banking and Financial Dealings Act 1971 (as amended).

Work falling outwith these hours which gives rise to amenity concerns, or noise at any time which exceeds acceptable levels, may result in the service of a notice under Section 60 of the Control of Pollution Act 1974 (as amended). Breaching a Section 60 notice constitutes an offence and is likely to result in court action.

If you wish formal consent to work at specific times or on specific days, you may apply to the Council's Environmental Health Officer under Section 61 of the 1974 Act. Any such application should be submitted after you have obtained your Building Warrant, if required, and will be considered on its merits. Any decision taken will reflect the nature of the development, the site's location and the proximity of noise sensitive premises. Please contact env.health@highland.gov.uk for more information.

Protected Species – Halting of Work

You are advised that work on site must stop immediately, and NatureScot must be contacted, if evidence of any protected species or nesting/breeding sites, not previously detected during the course of the application and provided for in this permission, are found on site. For the avoidance of doubt, it is an offence to deliberately or recklessly kill, injure or disturb protected species or to damage or destroy the breeding site of a protected species. These sites are protected even if the animal is not there at the time of discovery. Further information regarding protected species and developer responsibilities is available from NatureScot: <https://www.nature.scot/professional-advice/protected-areas-and-species/protected-species>

Signature: David Mudie

Designation: Area Planning Manager – South

Author: Jennifer Mair

Background Papers: Documents referred to in report and in case file.

Relevant Plans:

Plan 1 - Location Plan DIHD23030-THC-XX-XX-DR-A-PM-60-10-0001-A

Plan 2 - Proposed Site Layout DIHD23030-THC-XX-XX-DR-A-PM-60-10-0003 Rev B

Plan 3 - Floor Plan DIHD23030-THC-ZZ-ZZ-DR-A-ZZ-70-60-0005 Rev A

Plan 4 - Elevation Plan DIHD23030-THC-ZZ-ZZ-DR-A-ZZ-70-60-0006

Plan 5 - Floor Plan DIHD-THC-ZZ-ZZ-DR-A-ZZ-70-60-0009

Plan 6 - Elevation Plan DIHD23030-THC-ZZ-ZZ-DR-A-ZZ-70-60-0010 Rev A

Plan 7 - Visual Information - 3D Images DIHD23030-THC-XX-XX-DR-A-PM-60-10-0004 Rev A

Plan 8 - Tree Protection Plan TPP_HC_210524-1 REV A

Plan 9 - Tree Protection Plan TPP_HC_210524-2 REV A

Plan 10 - Drainage Layout Plan XXX-RAC-ZZ-XX-DR-C-0100 REV F

Plan 11 - Proposed Drainage Details XXX-RAC-ZZ-XX-DR-C-0101 REV C

Plan 12 - Proposed Drainage Details XXX-RAC-ZZ-XX-DR-C-0102 REV C

Plan 13 – Access Layout Plan XXX-RAC-ZZ-XX-DR-C-0110 REV C

Plan 14 – Supporting Information AIR SOURCE HEAT PUMP - WARMFLOW R32 ASHP
MANUAL ISS2

Plan 15 - Supporting Information Tree Planting and 5yr Maintenance Plan

Plan 16 - Supporting Information Drainage Statement

Appendix 2

Type	COMPLETE FOR LEGAL AGREEMENTS AND UPFRONT PAYMENTS				REQUIRED FOR LEGAL AGREEMENTS ONLY				
	Contribution	Rate (per house)	Rate (per flat)	Total Amount*1	Index Linked ¹	Base Date*2	Payment Trigger*3	Accounting Dates*4	Clawback Period*5
Schools²									
Primary – Build Costs	Insert what contribution is for	£0.00	£0.00	£0.00	BCIS	Q2 2018	TOC/CC	Apr/Oct	15 or 20
Primary – Land Costs	Insert what contribution is for	£0.00	£0.00	£0.00	BCIS	Q2 2018	TOC/CC	Apr/Oct	15 or 20
Secondary – Build Costs	Insert what contribution is for	£0.00	£0.00	£0.00	BCIS	Q2 2018	TOC/CC	Apr/Oct	15 or 20
Secondary – Land Costs	Insert what contribution is for	£0.00	£0.00	£0.00	No		TOC/CC	Apr/Oct	15 or 20
Community Facilities	Insert what contribution is for	£1,568	£0.00	£12,544	BCIS	Q2 2018	TOC/CC	Apr/Oct	15 or 20

*1 Adjust total to take account of flat exemptions

*2 Base Date – Set out in Supplementary Guidance on Developer Contributions

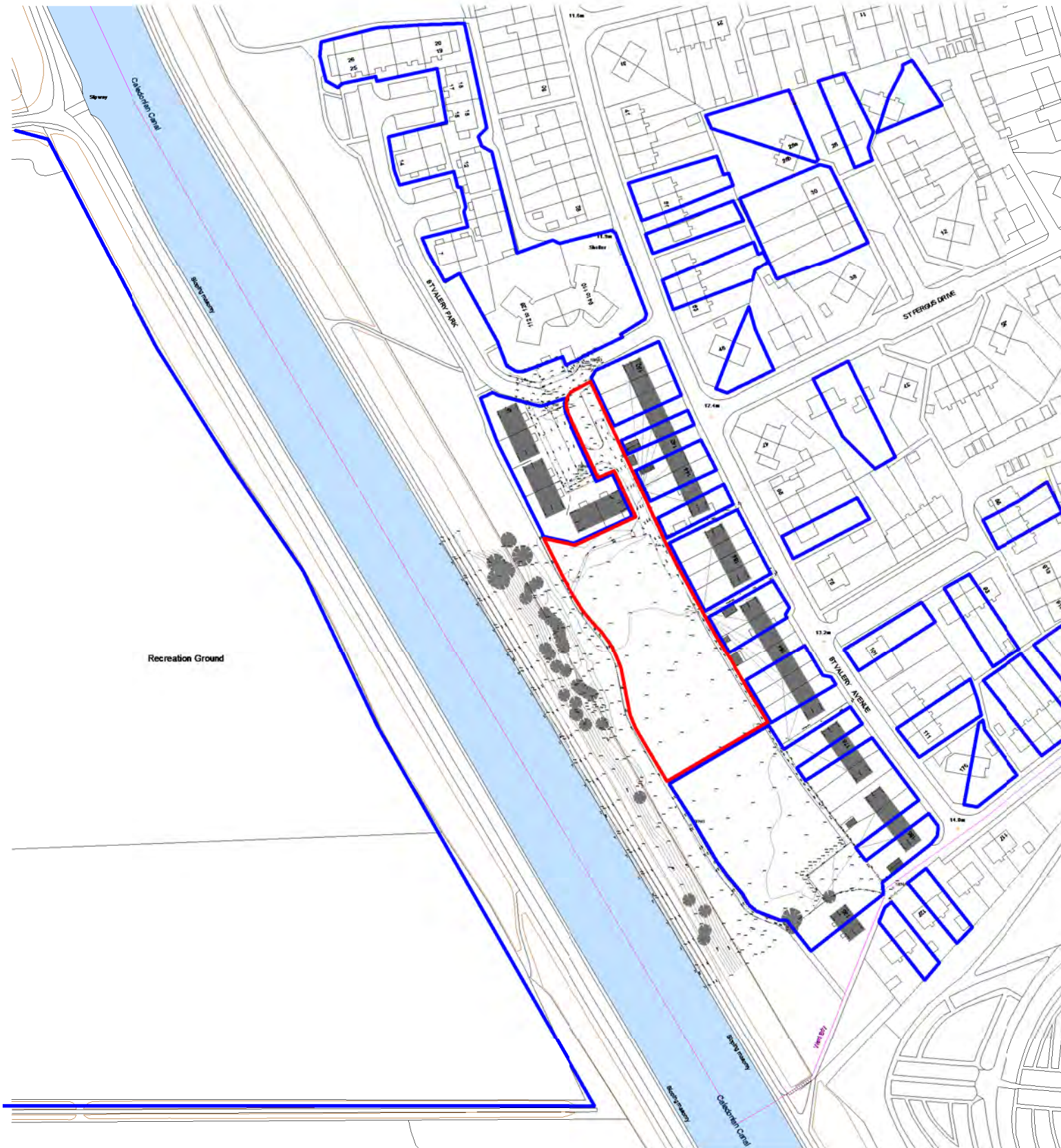
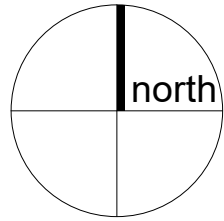
*3 TOC/CC – The earlier of the issue of either a temporary occupation certificate or a completion certificate – or specify alternative time if appropriate

*4 Accounting dates - 1 April and 1 October each year of development (if the contribution is to be paid on a basis other than related to units completed in the preceding 6 months (e.g. lump sum on a specific date) then indicate this instead of the Apr/Oct payment dates)

*5 Clawback – 15 years for Major development; 20 years for Local development

¹ If the contribution is to be used towards infrastructure projects involving building e.g. new school, new cycle route etc BCIS ALL IN TENDER will be the index, if it doesn't involve building then another appropriate index may need to be chosen with the agreement of Team Leader

² Indicate whether or not 1 bed houses/flats are exempt

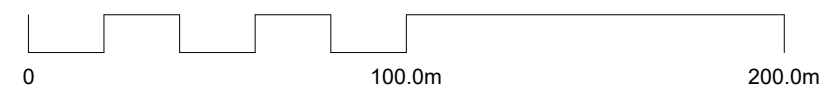


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Location Plan

1 : 2000

Scale: 1 to 2000



Key

- Red Line Boundary
- Land in Highland Council Ownership
- Existing Buildings

Site Address:

St Valery Park,
Dalneigh
Highlands
Inverness
IV3 5BB

X (Easting) - 265254
Y (Northing) - 844462

NH 652444

Rev.	Description	By	Date
A	Site Boundary revised to omit existing path from development.		03/07/24

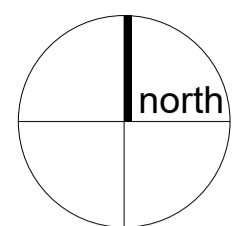
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HOUSING AND
PROPERTY SERVICE

CLIENT	The Highland Council	SCALE	As indicated
PROJECT	8no Residential Units, St. Valery Park, Inverness	DATE	
CONTACT	Allan Watson	DRAWN BY	MB
DRAWING TITLE	Location Plan	CHECKED BY	AW
PURPOSE OF ISSUE	Planning	PAPER SIZE	A3

PROJECT NUMBER	ORIGINATOR	VOLUME OR SYSTEM	LEVELS AND LOCATIONS	TYPE	ROLE	CLASSIFICATION	NUMBER	REV
DIHD23030	THC	XX	XX	DR	A	PM-60-10	0001	A



- Key**
- Red Line Boundary
 - Land in Highland Council ownership/ tenancy
 - Existing Buildings
 - Communal Landscaping
 - Garden Soft Landscaping
 - Hard Landscaping
 - Driveway Pavours
 - Existing Tree Locations
 - Proposed Trees/Shrubbery (As noted on Landscape Plan)
 - Existing Footpath routes & access retained throughout construction period.
 - Newly Formed Footpath routes, connecting core paths to new development.

NEW ROAD ACCESS FORMED FROM EXISTING ROAD LV

EXTEND EXISTING FOOTPATH AND FORM NEW FOOTPATH AROUND DEVELOPMENT

CROSSING POINTS TO BE FORMED AT DEVELOPMENT ENTRANCE

TOTAL OF 8NO PARKING SPACE - 2NO PARKING SPACES PER UNIT.

1M WIDE FOOTPATH ACCESS ROUTE TO EXISTING REAR GARDENS TO BE MAINTAINED THROUGHOUT CONSTRUCTION PERIOD.

FOOTPATH ACCESS TO REAR GARDENS RETAINED.

BIN STORAGE AREA TO REAR GARDEN & DRYING LINE

1.8M HIGH FENCE TO ALL REAR GARDEN BOUNDARIES. SEE FENCE DRAWING FOR DETAILS

COMMUNAL SPRINKLER TANK HOUSING UNIT - TO SUPPLY ALL 8NO FLATS.

NEW FOOTPATH TO BE BITMAC CONSTRUCTION WITH CONCRETE UPSTANDS.

APPROX LOCATION OF PROPOSED NEW GOAL POSTS, OUTWITH SITE BOUNDARY, IN PLAYING FIELD.

Rev.	Description	By	Date

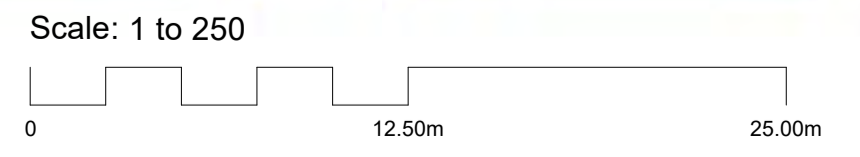


HOUSING AND PROPERTY SERVICE

CLIENT	The Highland Council	SCALE	As indicated
PROJECT	8no Residential Units, St. Valery Park, Inverness	DATE	
CONTACT	Allan Watson	DRAWN BY	MB
DRAWING TITLE	Proposed Site Plan	CHECKED BY	AW
PURPOSE OF ISSUE	Planning	PAPER SIZE	A1

PROJECT NUMBER	ORIGINATOR	VOLUME OR SYSTEM	LEVELS AND LOCATIONS	TYPE	ROLE	CLASSIFICATION	NUMBER	REV
DIHD23030	THC	XX	XX	DR	A	PM-60-10	0003	B

Proposed Site Layout
1:250





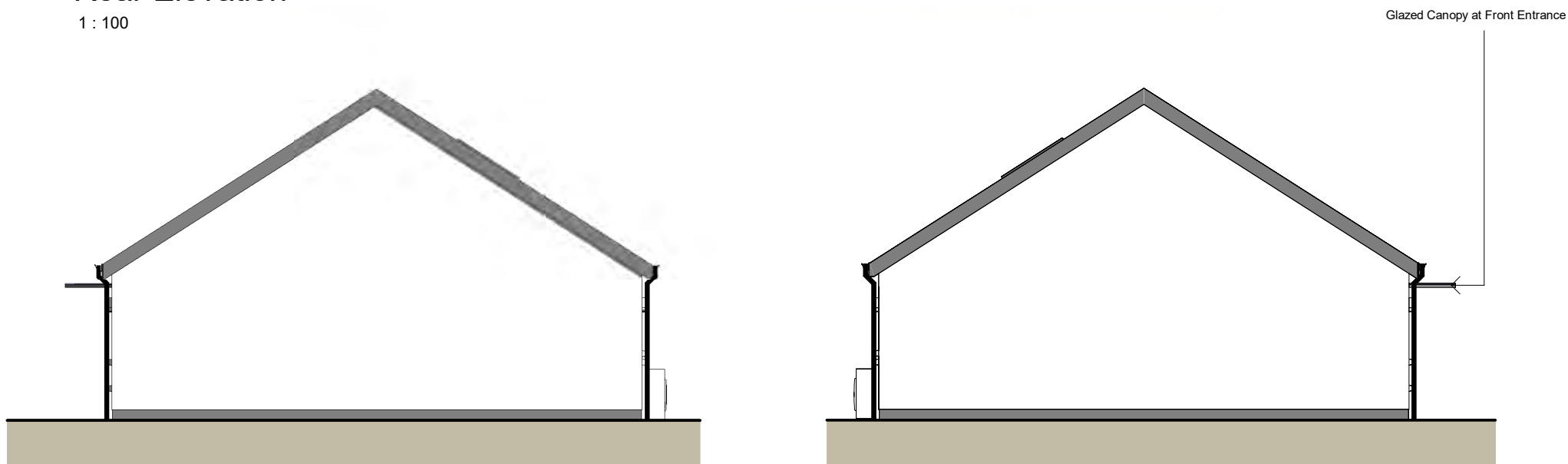
Front Elevation

1 : 100



Rear Elevation

1 : 100



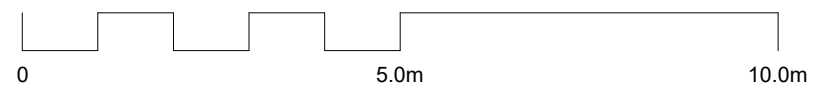
Side Elevation A

1 : 100

Side Elevation B

1 : 100

Scale: 1 to 100



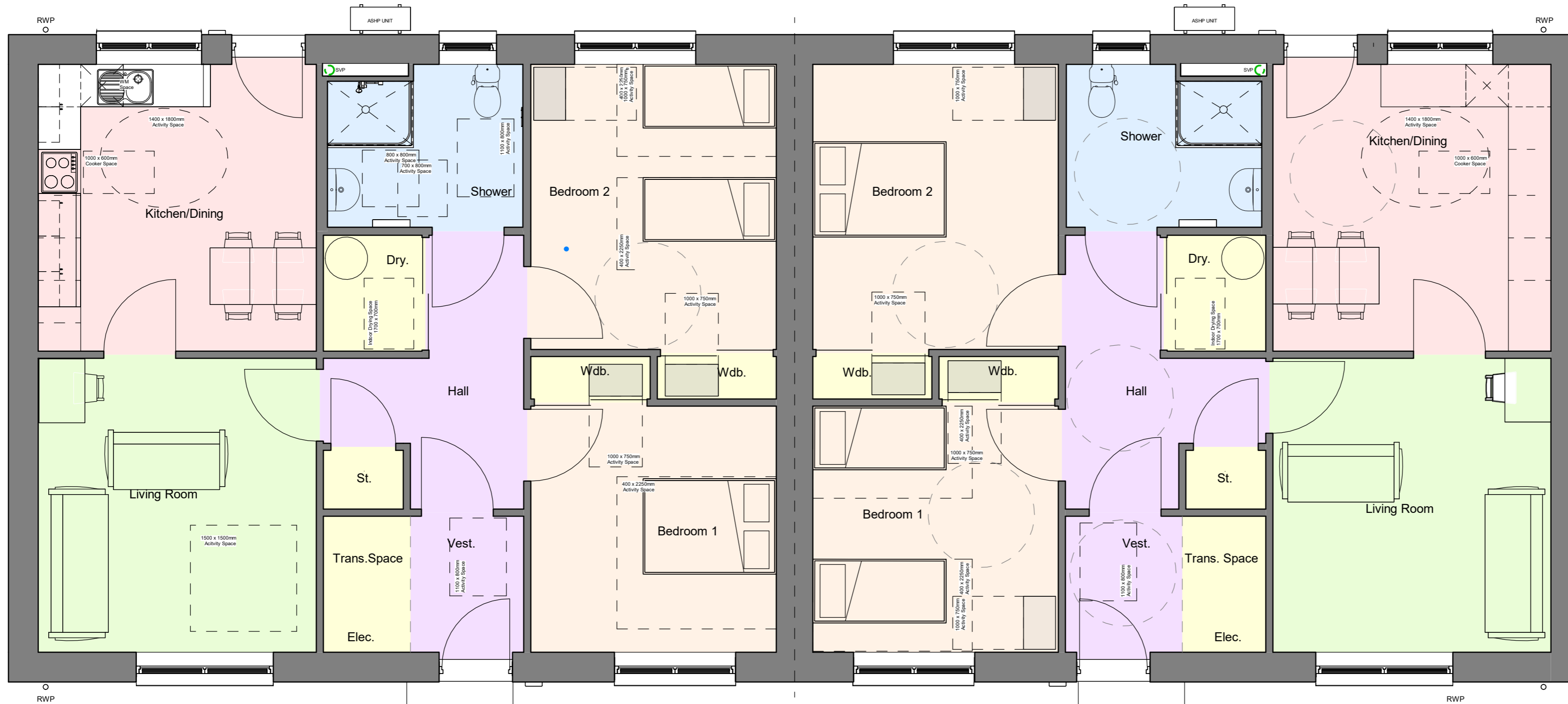
Rev.	Description	By	Date



HOUSING AND PROPERTY SERVICE

CLIENT	The Highland Council	SCALE	1 : 100
PROJECT	10no. 2 Bedroom Bungalows, St. Valery Park, Inverness	DATE	19/01/2024
CONTACT	Allan Watson	DRAWN BY	MB
DRAWING TITLE	Proposed Elevations - 2B4P - Semi Detached Unit	CHECKED BY	AW
PURPOSE OF ISSUE	Planning	PAPER SIZE	A3

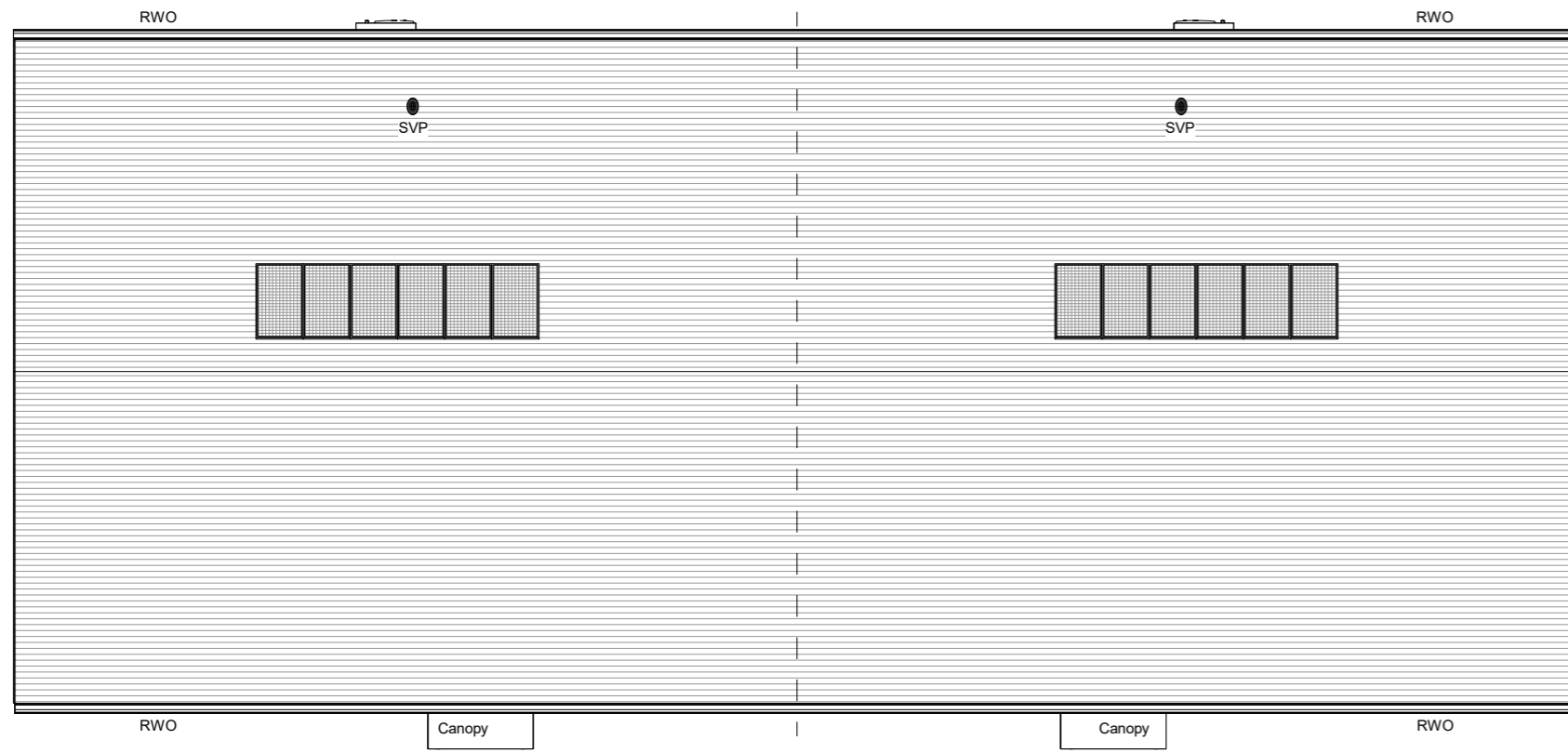
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DIHD23030 - THC	-	ZZ	-	ZZ	-	DR - A	-	Zz_70_60- 0006 -



PRINCIPAL ENTRANCE
GIFA 86.5m²

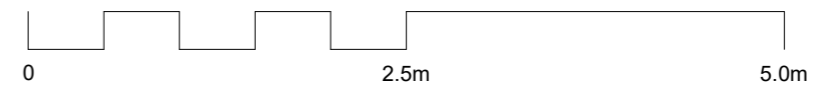
PRINCIPAL ENTRANCE
GIFA 86.5m²

Proposed Ground Floor Plan
1 : 50

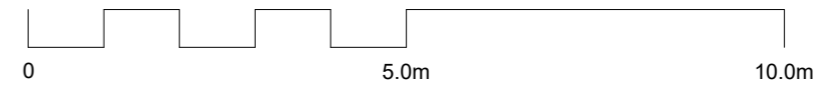


Roof Plan
1 : 100

Scale: 1 to 50



Scale: 1 to 100



Rev.	Description	By	Date



HOUSING AND PROPERTY SERVICE

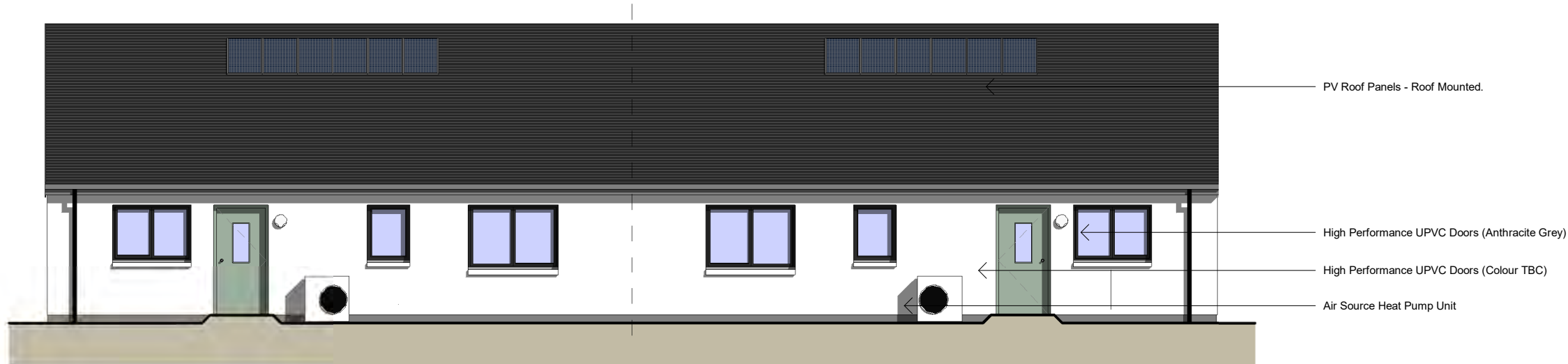
CLIENT	The Highland Council	SCALE	As indicated
PROJECT	8no. 2 Bedroom Bungalows, St. Valery Park, Inverness	DATE	12/03/2024
CONTACT	Allan Watson	DRAWN BY	MB
DRAWING TITLE	Proposed Floor Plans - 2B4P - Semi Detached W/C Unit	CHECKED BY	AW
PURPOSE OF ISSUE	Planning	ISSUED BY	AZ

PROJECT NUMBER	ORIGINATOR	VOLUME OR SYSTEM	LEVEL AND LOCATION	TYPE	SCALE	CLASSIFICATION	NUMBER	REV
DIHD23030 - THC -	ZZ	ZZ	- DR - A -	Zz_70_60-	0009 -			



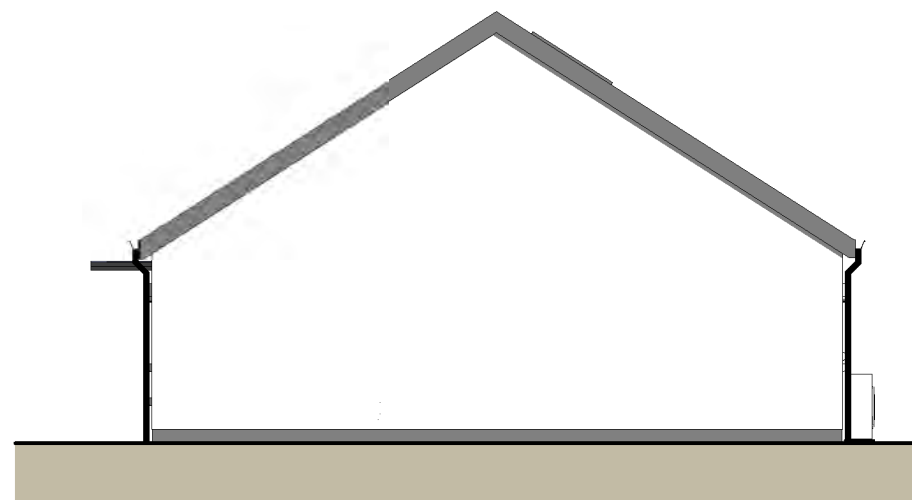
Front Elevation

1 : 100



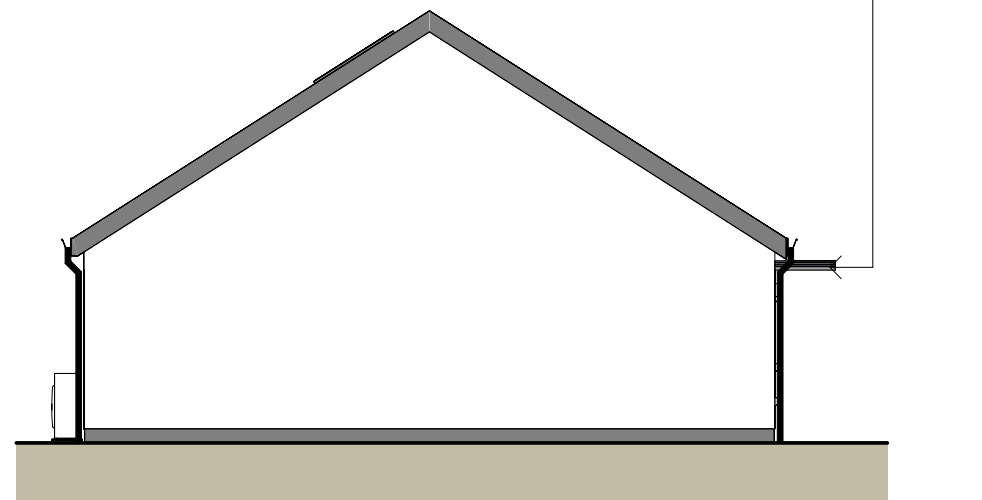
Rear Elevation

1 : 100



Side Elevation A

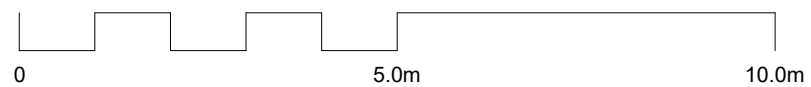
1 : 100



Side Elevation B

1 : 100

Scale: 1 to 100



Rev.	Description	By	Date
A	Drawing renamed	AW	16.09.24



HOUSING AND PROPERTY SERVICE

CLIENT	The Highland Council	SCALE	1 : 100
PROJECT	8no. 2 Bedroom Bungalows, St. Valery Park, Inverness	DATE	12/03/2024
CONTACT	Allan Watson	DRAWN BY	MB
DRAWING TITLE	Proposed Elevations - 2B4P - Semi Detached WC Unit	CHECKED BY	AW
PURPOSE OF ISSUE	Planning	PAPER SIZE	A3

PROJECT NUMBER	ORIGINATOR	VOLUME OR SYSTEM	LEVELS AND LOCATIONS	TYPE	ROLE	CLASSIFICATION	NUMBER	REV
DIHD23030 - THC	-	ZZ	-	ZZ	-	DR - A	-	Zz_70_60- 0010 - A



View from northwest of site



View from canal towpath (trees hidden)



View from southeast of site

A	Proposed Views updated to reflect revised site layout.	MB	03/07/24
Rev.	Description	By	Date

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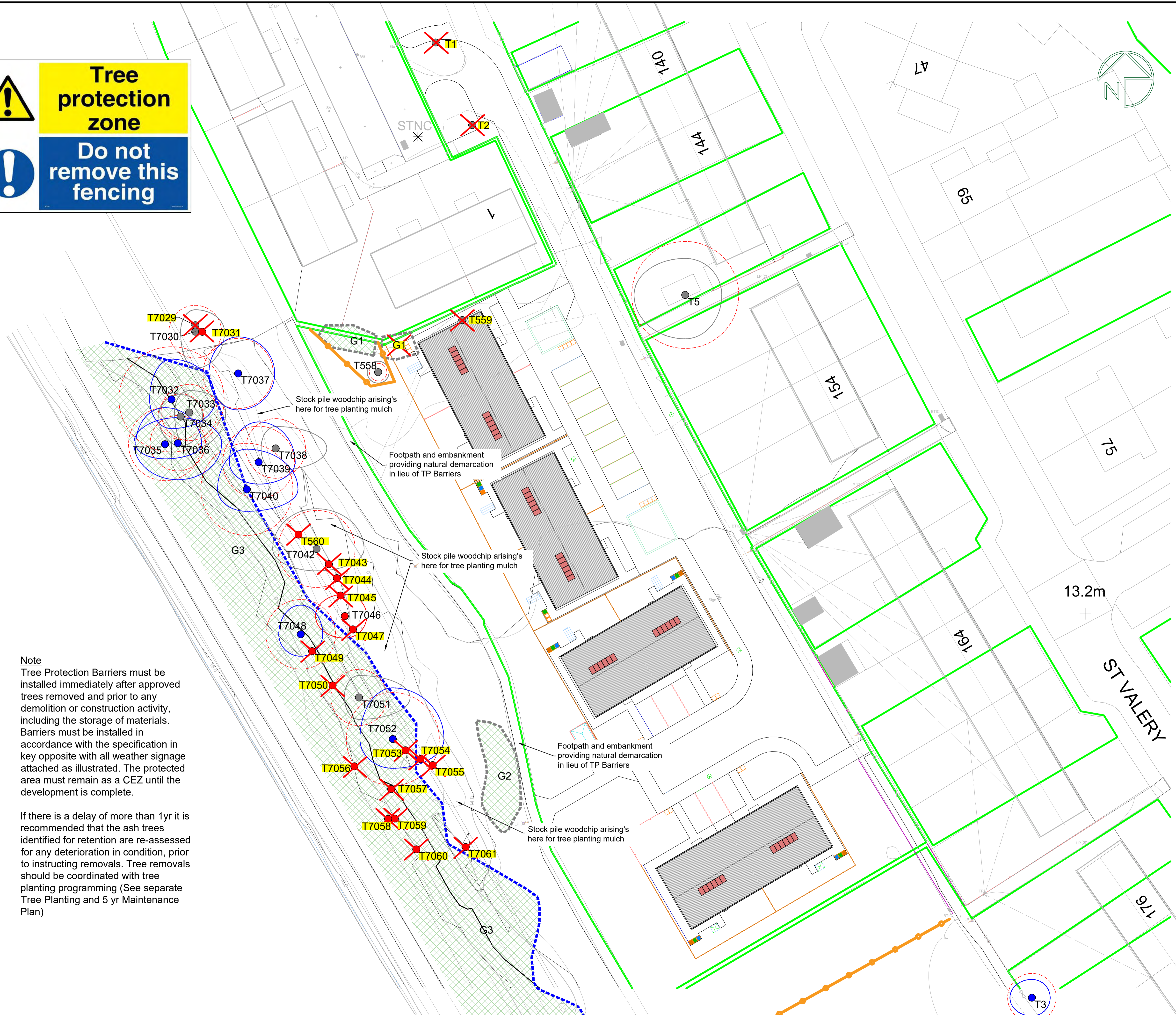


HOUSING AND PROPERTY SERVICE

CLIENT	The Highland Council	SCALE	
PROJECT	8no Residential Units, St. Valery Park, Inverness	DATE	
CONTACT	Allan Watson	DRAWN BY	AW
DRAWING TITLE	Proposed 3D Images	CHECKED BY	AW
PURPOSE OF ISSUE	Planning	PAPER SIZE	A3

PROJECT NUMBER	ORIGINATOR	VOLUME OR SYSTEM	LEVELS AND LOCATIONS	TYPE	ROLE	CLASSIFICATION	NUMBER	REV
DIHD23030	THC	XX	XX	DR	A	PM-60-10	0004	A

Tree protection zone
Do not remove this fencing



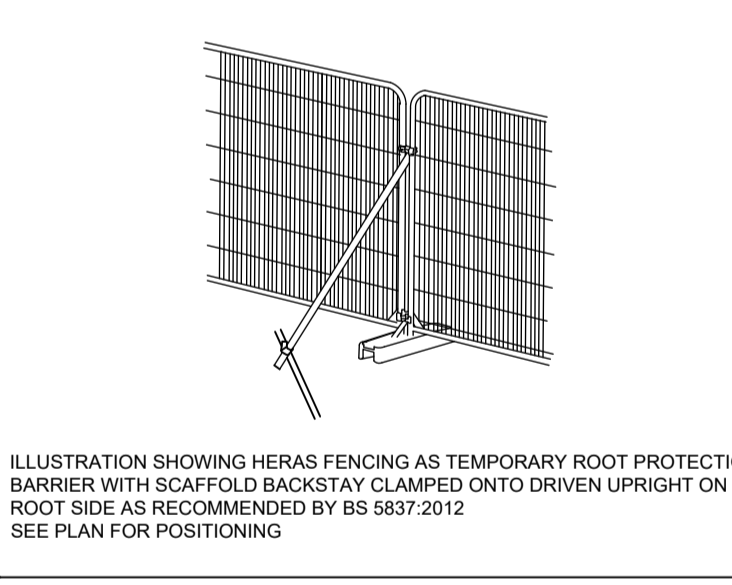
Note
Tree Protection Barriers must be installed immediately after approved trees removed and prior to any demolition or construction activity, including the storage of materials. Barriers must be installed in accordance with the specification in key opposite with all weather signage attached as illustrated. The protected area must remain as a CEZ until the development is complete.

If there is a delay of more than 1yr it is recommended that the ash trees identified for retention are re-assessed for any deterioration in condition, prior to instructing removals. Tree removals should be coordinated with tree planting programming (See separate Tree Planting and 5 yr Maintenance Plan)

Tree Protection Plan

Detail of trees for removal and protection measures for retained trees

- Tree**
Showing Canopy extents, category colour, RPA circle (BS5837), tag number
- Category A**
Trees of high quality with an estimated remaining life expectancy of at least 40 years
- Category B**
Trees of moderate quality with an estimated remaining life expectancy of at least 20 years
- Category C**
Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm
- Category U**
Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years
- Group**
Showing canopy extents and category colour which will also represent RPA unless detailed separately
- T168** Tree proposed for removal
- Tree Protection Barriers
- Specialist construction methods (Cellular Containment System) for root protection



Treetek

Treetek, Woodland Park, Contin, Ross-shire. IV14 9EU
Tel: 07857 145226 Email: Lawrence@treetek.co.uk

Client: Highland Council

Project: St Valery Park

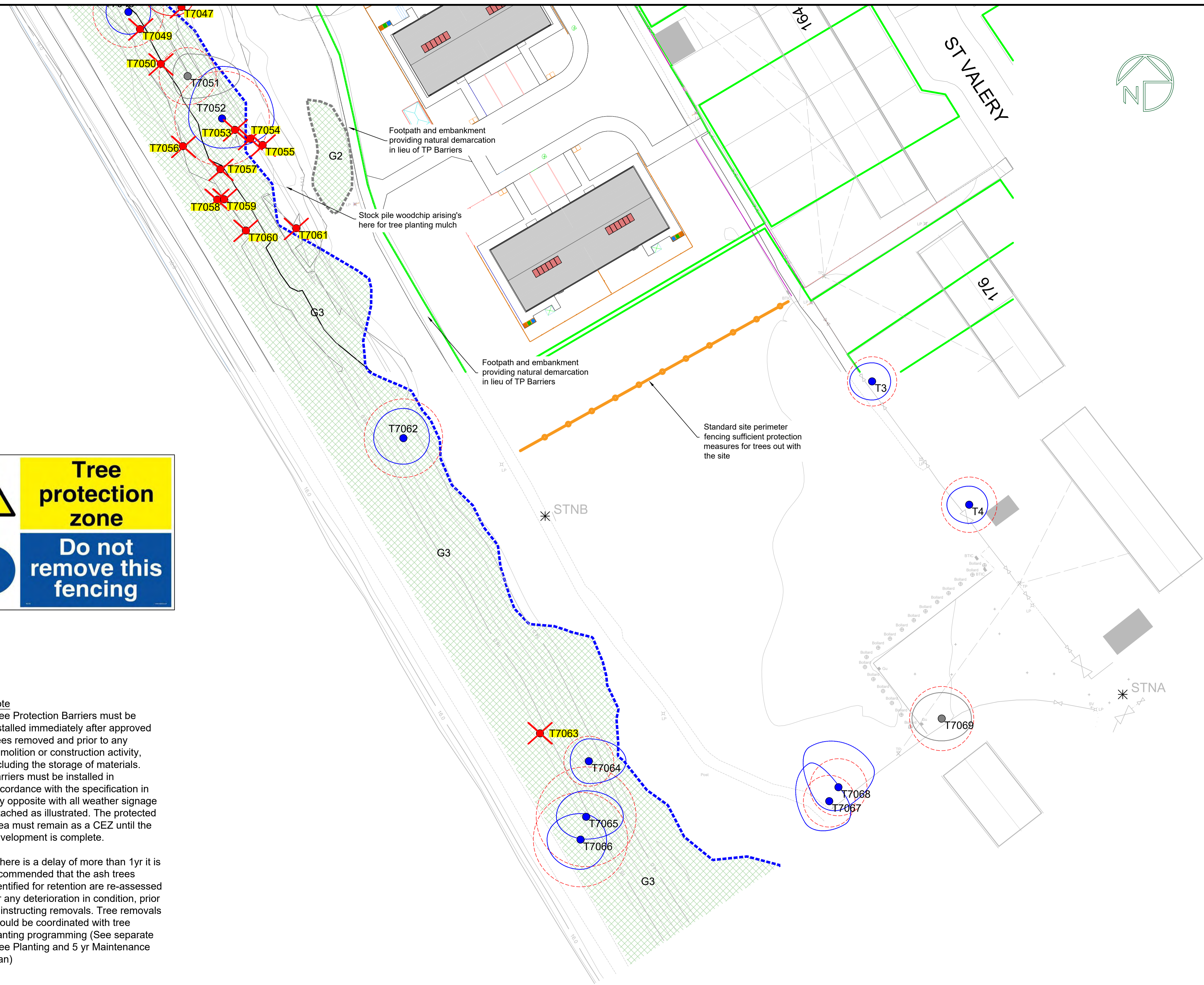
Drawing Title: Tree Protection Plan

Scale: 1:250 @ A1	Date: 3rd August 2024	DB: LM
Drawing Number: TPP_HC_210524-1	Rev: A	Sheet: 1 of 2



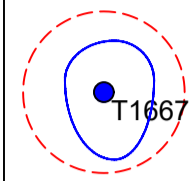
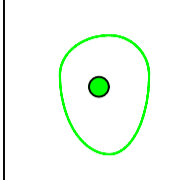
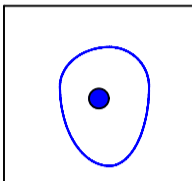
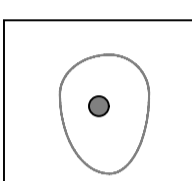
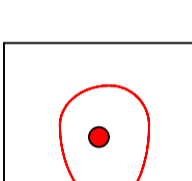
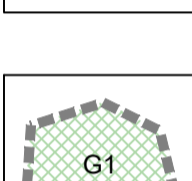
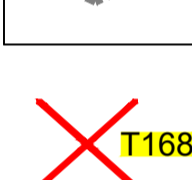

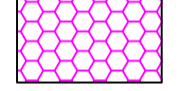
Note
 Tree Protection Barriers must be installed immediately after approved trees removed and prior to any demolition or construction activity, including the storage of materials. Barriers must be installed in accordance with the specification in key opposite with all weather signage attached as illustrated. The protected area must remain as a CEZ until the development is complete.

If there is a delay of more than 1yr it is recommended that the ash trees identified for retention are re-assessed for any deterioration in condition, prior to instructing removals. Tree removals should be coordinated with tree planting programming (See separate Tree Planting and 5 yr Maintenance Plan)



Tree Protection Plan

Detail of trees for removal and protection measures for retained trees

-  **Tree**
Showing Canopy extents, category colour, RPA circle (BS5837), tag number
-  **Category A**
Trees of high quality with an estimated remaining life expectancy of at least 40 years
-  **Category B**
Trees of moderate quality with an estimated remaining life expectancy of at least 20 years
-  **Category C**
Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm
-  **Category U**
Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years
-  **Group**
Showing canopy extents and category colour which will also represent RPA unless detailed separately
-  **T168** Tree proposed for removal
-  Tree Protection Barriers
-  Specialist construction methods (Cellular Containment System) for root protection

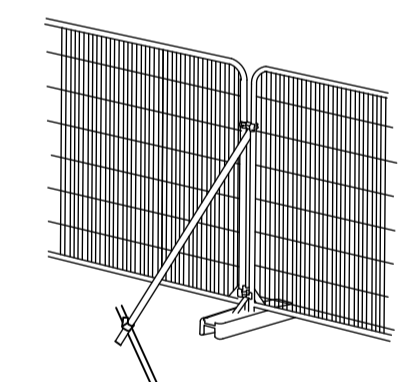


ILLUSTRATION SHOWING HERAS FENCING AS TEMPORARY ROOT PROTECTION BARRIER WITH SCAFFOLD BACKSTAY CLAMPED ONTO DRIVEN UPRIGHT ON ROOT SIDE AS RECOMMENDED BY BS 5837:2012 SEE PLAN FOR POSITIONING

Treetek

Treetek, Woodland Park, Contin, Ross-shire. IV14 9EU

Tel: 07857 145226 Email: Lawrence@treetek.co.uk

Client
Highland Council

Project
St Valery Park

Drawing Title
Tree Protection Plan

Scale: 1:250 @ A1	Date: 3rd August 2024	DB LM
Drawing Number TPP_HC_210524-2	Rev A	Sheet 2 of 2



DRAINAGE LEGEND	
	DENOTES SURFACE WATER SEWER.
	DENOTES FOUL WATER SEWER.
	DENOTES COMBINED SEWER.
	DENOTES FOUL RISING MAIN.
	DENOTES SURFACE WATER MANHOLE.
	DENOTES FOUL WATER MANHOLE.
	DENOTES COMBINED MANHOLE.
	DENOTES EXISTING SURFACE WATER SEWER.
	DENOTES EXISTING FOUL WATER SEWER.
	DENOTES EXISTING COMBINED SEWER.
	DENOTES EXISTING MANHOLE.
	DENOTES SILT TRAP MANHOLE.
	DENOTES SURFACE WATER RODDING EYE.
	DENOTES FOUL WATER RODDING EYE.
	DENOTES RAINWATER DOWNPIPE.
	DENOTES GULLY AND TAIL.
	DENOTES ACO-CHANNEL.
	DENOTES SURFACE WATER DISCONNECTION MANHOLE.
	DENOTES FOUL WATER DISCONNECTION MANHOLE.

NOTE

DRAWING IS BASED ON "THE HIGHLAND COUNCIL" INFORMATION "1003 - Proposed Site Plan" ISSUED TO RAMSAY AND CHALMERS ON 04.04.2024.

TOPOGRAPHICAL SURVEY IS BASED ON "PALS" INFORMATION "1146300" ISSUED TO RAMSAY AND CHALMERS ON 21.09.2023.

NOTE

EXISTING DRAINAGE AND FLOW PATHWAYS TAKEN FROM UMS CCTV DRAINAGE SURVEY "9509-Ramsay Chalmers-St Valery Park-Inverness" RECEIVED ON 17.05.2024. EXISTING MANHOLE DEPTHS TO BE CONFIRMED BY CONTRACTOR ON SITE.

NOT FOR CONSTRUCTION

GENERAL NOTES:-

THE CONTRACTOR MUST CONSULT THE CIVIL/STRUCTURAL DESIGN ENGINEER IMMEDIATELY IF:

- GROUND CONDITIONS VARY ON SITE.
- EXISTING BUILDINGS VARY ON SITE.
- DIMENSIONS OR LEVELS SHOWN ARE CHANGED BY ANYONE ON SITE.
- COMPLETE OR PARTIALLY COMPLETE STRUCTURES ARE TO BE SUBJECT TO CONSTRUCTION LOADING OR AFFECTED BY TEMPORARY WORKS.

DO NOT SCALE - IF IN DOUBT, ASK.

LARGE SCALE DETAILS TAKE PRECEDENCE OVER SMALL SCALE DETAILS.

ALL MATERIALS ARE TO BE USED STRICTLY IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.

THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL COSTS INVOLVED IN CHANGES OR MODIFICATIONS REQUESTED AND APPROVED, TO SUIT HIS PREFERRED WORK METHOD.

ALL NECESSARY METHOD STATEMENTS MUST BE PROVIDED PRIOR TO COMMENCEMENT OF ASSOCIATED SITE OPERATIONS.

THIS DRAWING SHOULD ONLY BE USED FOR CONSTRUCTION PURPOSES WHEN THE ISSUE STATUS IS "FOR CONSTRUCTION".

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE STATED.

ALL LEVELS ARE IN METERS UNLESS OTHERWISE STATED.

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Rev.	By	App.	Description	Date
F	JCB	MJD	CELLULAR SOAKAWAY ADDED.	10.09.2024
E	MJD		EXISTING DRAINAGE NOTES REVISED FOR CLARITY OF PROPOSALS.	07.08.2024
D	MJD		PUMPING STATION LOCATION REVISED.	18.07.2024
C	JCB	MJD	UPDATED TO LATEST ARCHITECTS LAYOUT.	02.07.2024
B	JCB	MJD	UPDATED AS PER THE HIGHLAND COUNCIL COMMENTS.	25.06.2024
A	MJD		INITIAL ISSUE.	19.02.2024

RESIDENTIAL DEVELOPMENT AT ST VALERY PARK, INVERNESS.

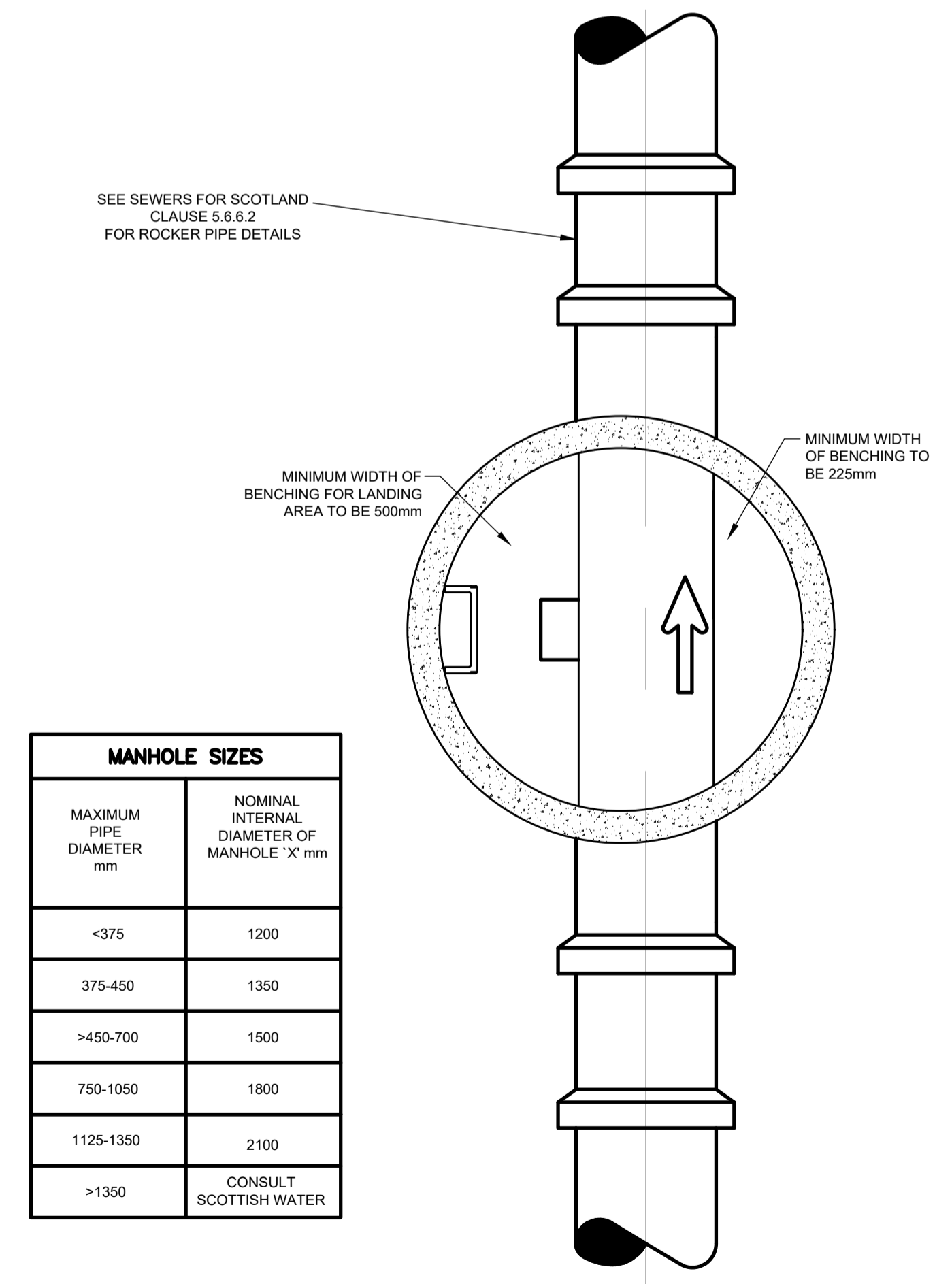
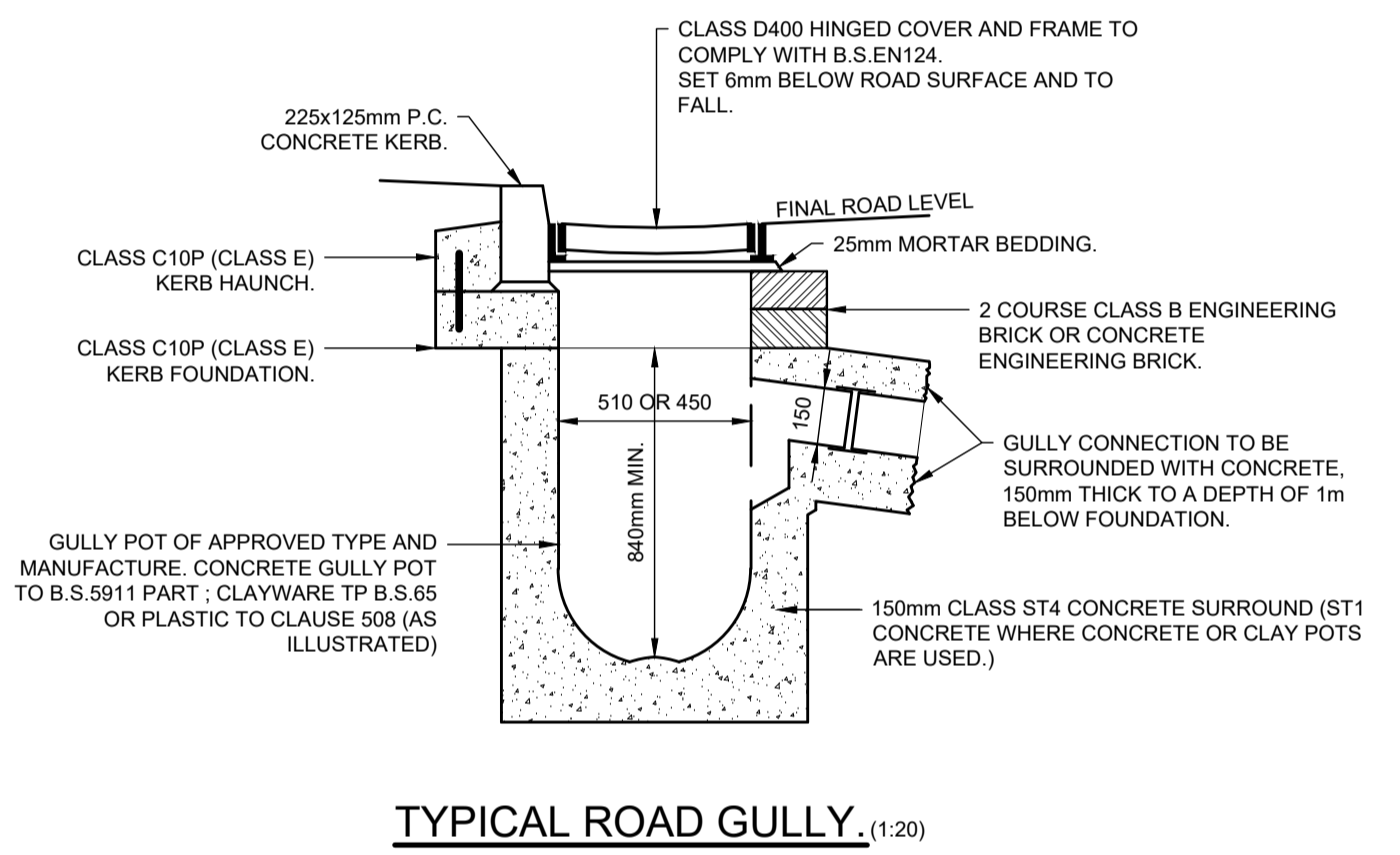
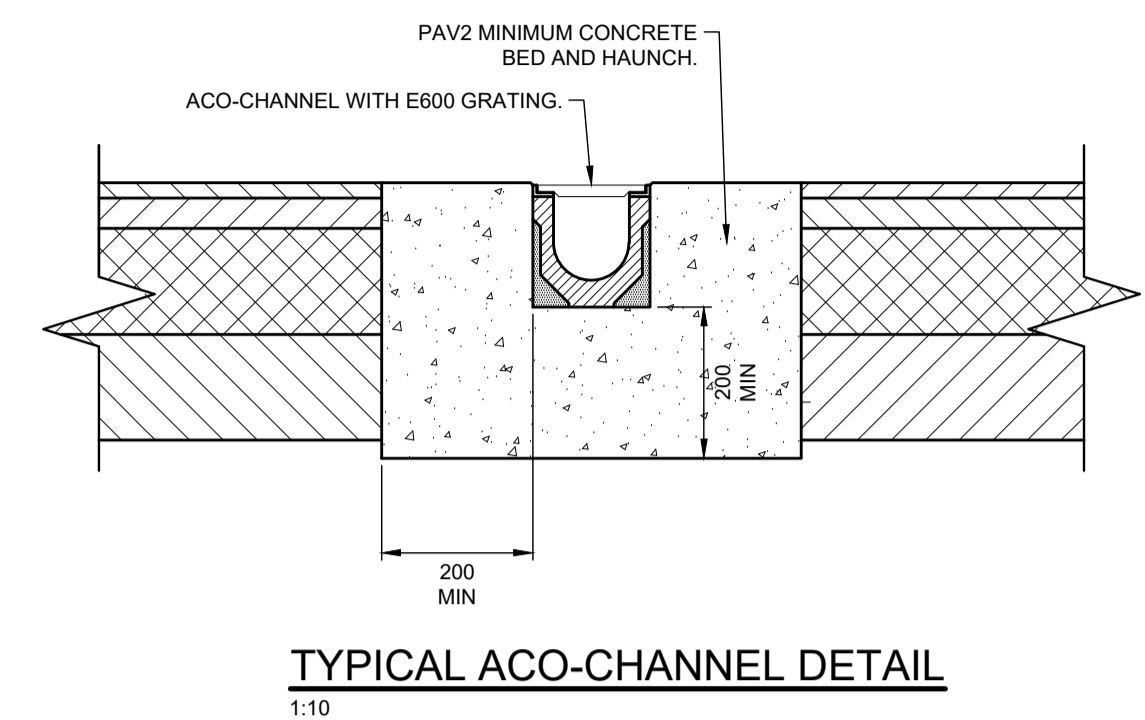
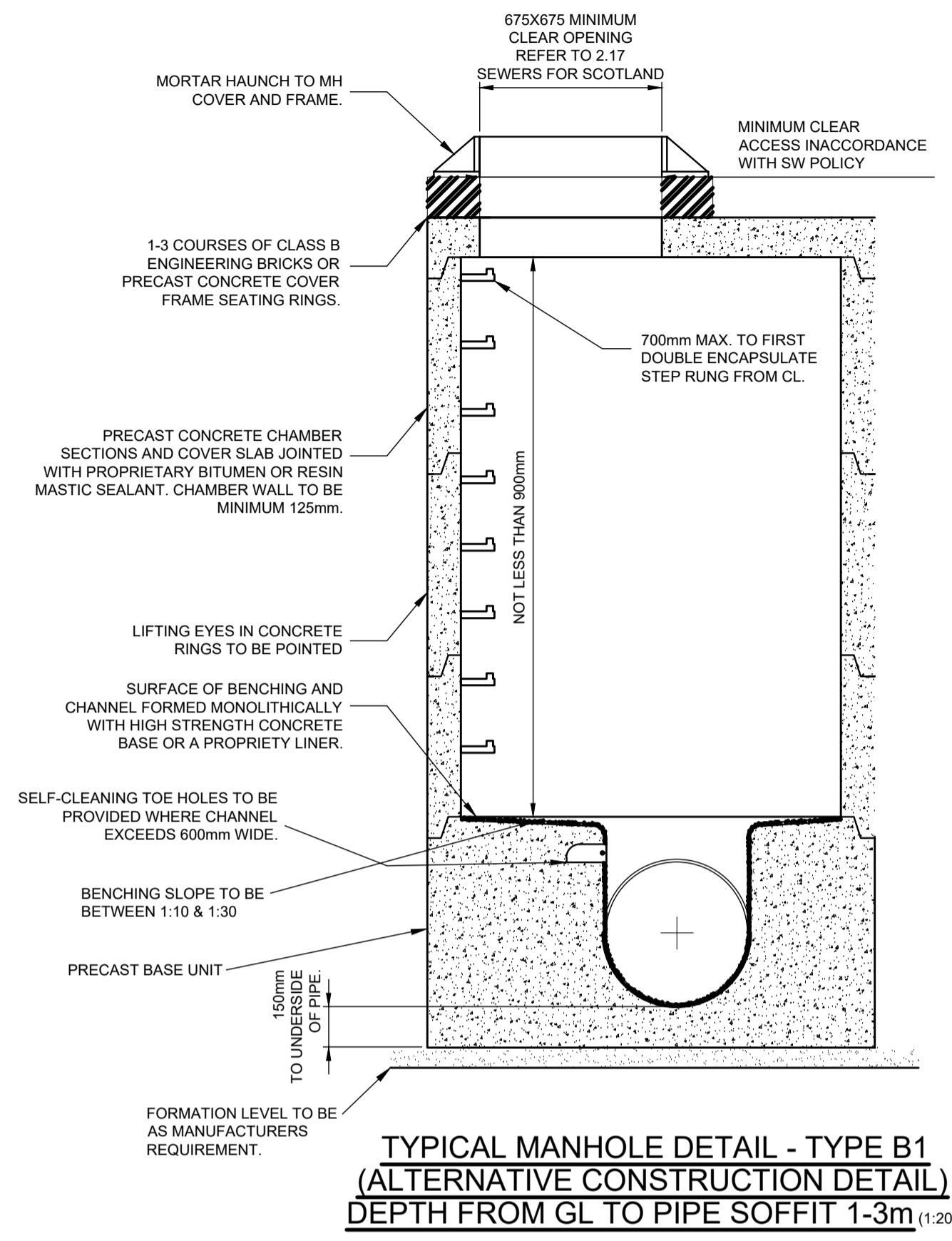
Drawing Title
PROPOSED DRAINAGE LAYOUT

Architect
THE HIGHLAND COUNCIL

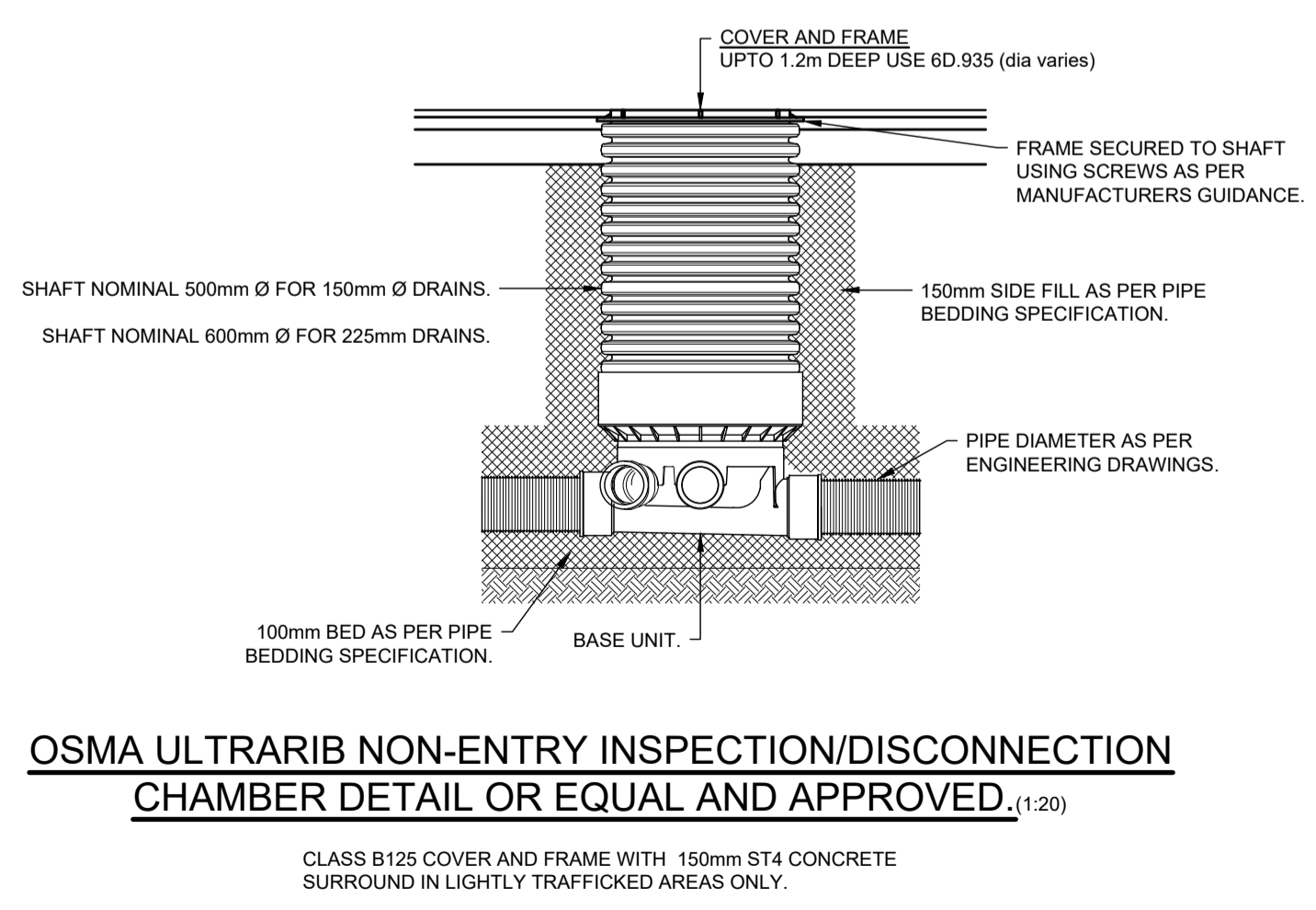
Drawing ID
XXX-RAC-ZZ-XX-DR-C-0100-F

Job No. C7584	Scale 1:250 - A1 1:500 - A3	Issue Status FOR PLANNING
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Consulting Structural & Civil Engineers
Chattan Mews Offices, 18 Chattan Place, Aberdeen, AB10 6RD
01224 560700
www.ramsaychalmers.co.uk



MANHOLE SIZES	
MAXIMUM PIPE DIAMETER mm	NOMINAL INTERNAL DIAMETER OF MANHOLE 'X' mm
<375	1200
375-450	1350
>450-700	1500
750-1050	1800
1125-1350	2100
>1350	CONSULT SCOTTISH WATER



NOT FOR CONSTRUCTION

GENERAL NOTES:-

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- b) EXISTING BUILDINGS VARY ON SITE.
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C	JCB	MJD	CONTROL MANHOLE DETAIL REMOVED.	12.09.2024
B	JCB	MJD	ISSUED FOR PLANNING	26.06.2024
A	MJD		INITIAL ISSUE	19.02.2024
Rev.	By	App.	Description	Date

Project

RESIDENTIAL DEVELOPMENT AT ST VALERY PARK, INVERNESS.

Drawing Title

PROPOSED DRAINAGE DETAILS - SHEET 1 OF 2.

Architect

THE HIGHLAND COUNCIL

Drawing ID

XXX-RAC-ZZ-XX-DR-C-0101-C

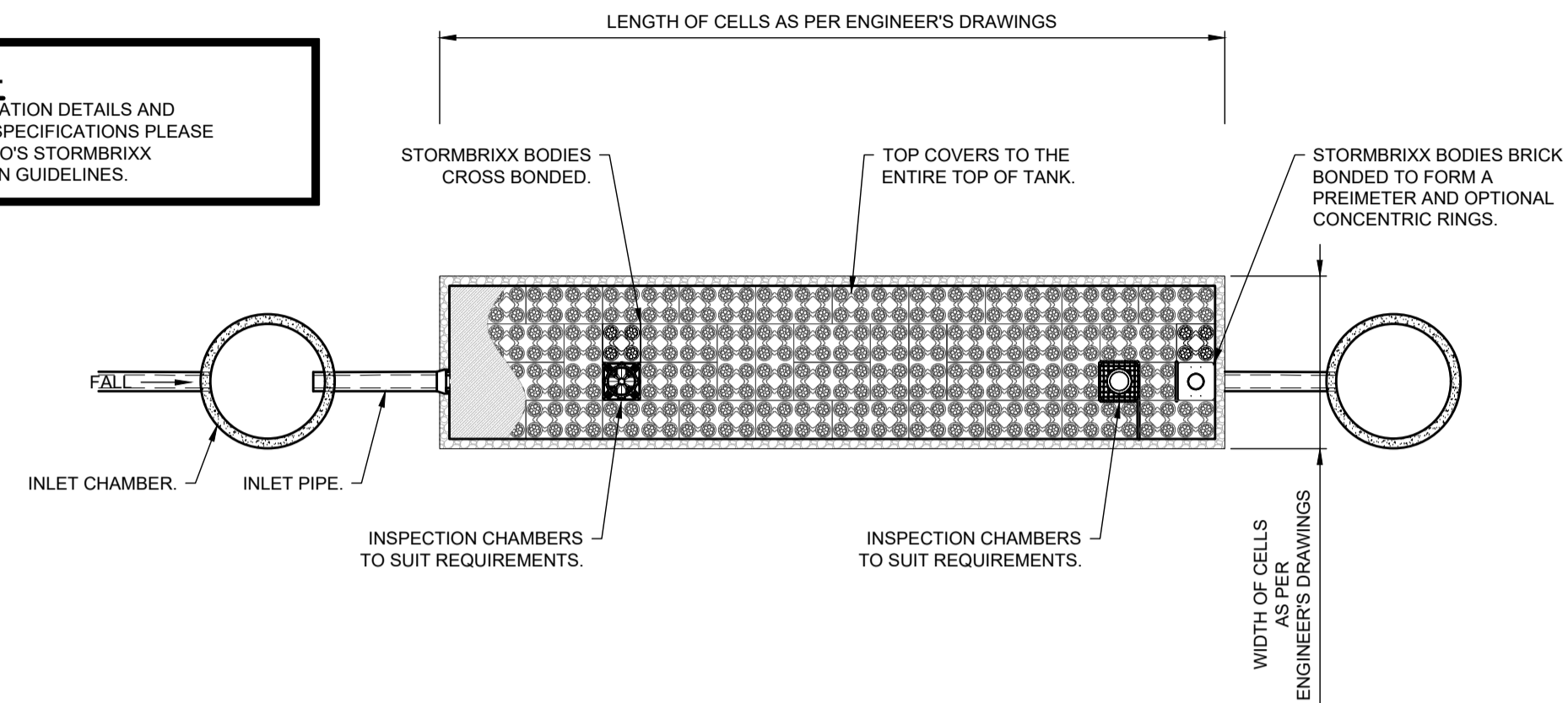
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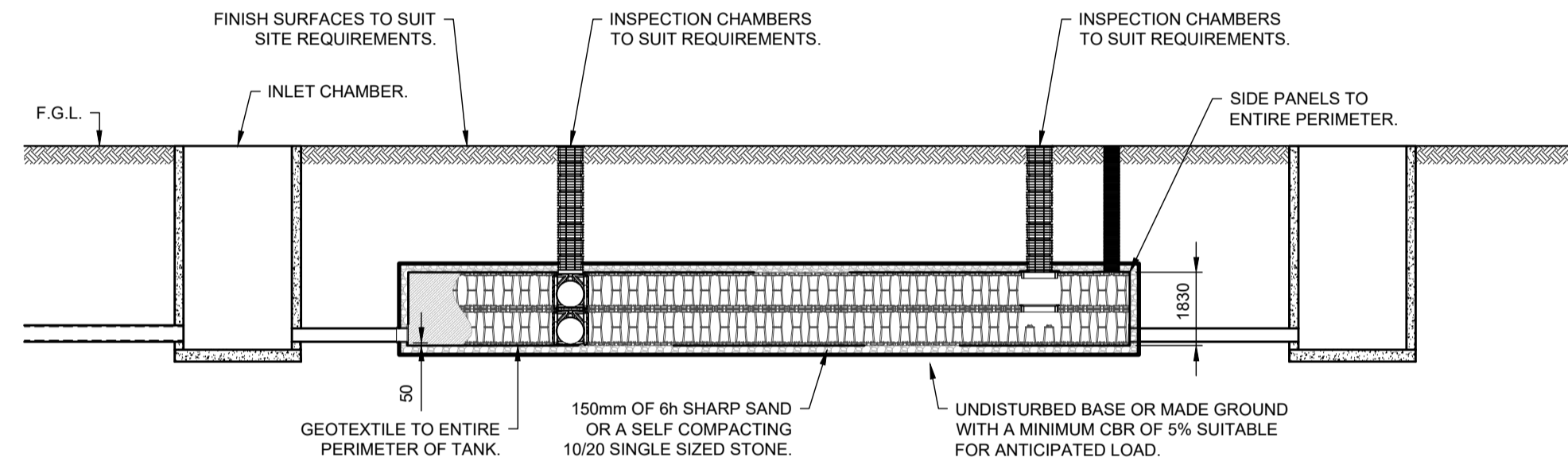
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NOTE:-
FOR INSTALLATION DETAILS AND TECHNICAL SPECIFICATIONS PLEASE CONSULT ACO'S STORMBRIXX INSTALLATION GUIDELINES.



TYPICAL PLAN ON "STORMBRIXX" CELLULAR SOAKAWAY. (1:100)



TYPICAL SECTION X-X THROUGH "STORMBRIXX" CELLULAR SOAKAWAY. (1:100)

GEOCELLULAR SYSTEMS OPERATION AND MAINTENANCE REQUIREMENTS		
MAINTENANCE SCHEDULE	REQUIRED ACTIONS	FREQUENCY
REGULAR MAINTENANCE	INSPECT AND IDENTIFY ANY AREAS THAT ARE NOT OPERATING CORRECTLY. IF REQUIRED, TAKE REMEDIAL ACTION	MONTHLY FOR 3 MONTHS, THEN SIX MONTHLY
	DEBRIS REMOVAL FROM CATCHMENT SURFACE (WHERE MAY CAUSE RISKS TO PERFORMANCE)	MONTHLY
	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	MONTHLY (AND AFTER LARGE STORMS)
REMEDIAL ACTIONS	REMOVE SEDIMENT FROM PRE-TREATMENT STRUCTURES	ANNUALLY, OR AS REQUIRED
	REPAIR/REHABILITATION OF INLETS, OUTLET, OVERFLOWS AND VENTS	AS REQUIRED
MONITORING	INSPECT/CHECK ALL INLETS, OUTLETS, VENTS AND OVERFLOWS TO ENSURE THAT THEY ARE IN GOOD CONDITION AND OPERATING AS DESIGNED	ANNUALLY AND AFTER LARGE STORMS

NOT FOR CONSTRUCTION

GENERAL NOTES:-
 THE CONTRACTOR MUST CONSULT THE CIVIL/STRUCTURAL DESIGN ENGINEER IMMEDIATELY IF:
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C	JCB	MJD	FILTER TRENCH DETAIL AND MAINTENANCE TABLE REMOVED.	11.09.2024
B	JCB	MJD	ISSUED FOR PLANNING.	26.06.2024
A	MJD		INITIAL ISSUE.	19.02.2024

Project
RESIDENTIAL DEVELOPMENT AT ST VALERY PARK, INVERNESS.

Drawing Title
PROPOSED DRAINAGE DETAILS - SHEET 2 OF 2.

Architect
THE HIGHLAND COUNCIL

Drawing ID
XXX-RAC-ZZ-XX-DR-C-0102-C

Job No.	Scale	Issue Status
C7584	AS SHOWN AT A1	FOR PLANNING

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SURFACES LEGEND	
	DENOTES EXTENT OF PROPOSED PRIVATE ACCESS.
	DENOTES EXTENT OF PROPOSED PRIVATE PAVEMENT.
	DENOTES EXTENT OF PROPOSED PRIVATE PARKING.
	DENOTES EXTENT OF PROPOSED PRIVATE VERGE.
	DENOTES EXTENT OF PROPOSED GRASSCRETE.
	DENOTES EXTENT OF EXISTING ROAD.
	DENOTES EXTENT OF EXISTING PAVEMENT.
	DENOTES EXTENT OF EXISTING PARKING.
	DENOTES EXTENT OF EXISTING GREEN OPEN SPACE.

NOTE

DRAWING IS BASED ON "THE HIGHLAND COUNCIL" INFORMATION "1003 - Proposed Site Plan" ISSUED TO RAMSAY AND CHALMERS ON 04.04.2024.

TOPOGRAPHICAL SURVEY IS BASED ON "FALS" INFORMATION "1146300" ISSUED TO RAMSAY AND CHALMERS ON 21.09.2023.

NOTE:
VISIBILITY SPLAYS.

ENSURE THAT ANY VEGETATION OR TREES ARE CUT BACK SUCH THAT THE FOLLOWING VISIBILITY SPLAYS CAN BE ACHIEVED:

- 1. 2.4m x 2.5m AT THE JUNCTION WITH ST VALERY PARK.
- 2. 2.4m x 2.5m AT THE ROAD JUNCTION WITHIN THE PROPOSED DEVELOPMENT.

NOT FOR CONSTRUCTION

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Rev.	By	App.	Description	Date
C	JCB	MJD	REVISED AS PER PLANNING COMMENTS.	10.09.2024
B	JCB	MJD	UPDATED AS PER LATEST ARCHITECTS LAYOUT.	02.07.2024
A	JCB	MJD	INITIAL ISSUE.	25.06.2024

Project
RESIDENTIAL DEVELOPMENT AT ST VALERY PARK, INVERNESS.

Drawing Title
PROPOSED ACCESS LAYOUT

Architect
THE HIGHLAND COUNCIL

Drawing ID
XXX-RAC-ZZ-XX-DR-C-0110-C

Job No. C7584	Scale 1:250 - A1 1:500 - A3	Issue Status FOR PLANNING
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High Efficiency Variable Speed Air Source Heat Pumps

Models covered by this manual:

A-Series

Air Source

AS01-R32

AS02-R32

AS03-R32



Incorporating:

User Instructions
Installation Instructions
Service Instructions
Guarantee Terms & Conditions



Heat is extracted from the air by blowing air through a finned radiator, known as the evaporator, with a fan. The extracted energy from the air is transferred into the refrigerant which circulates around the evaporator. The heat pump then converts this low grade heat to a high grade by compressing the refrigerant using the compressor. The compression of the refrigerant increases the pressure and the temperature. This high grade heat is then transferred to the heating system via another heat exchanger known as the condenser. The heat can now be used to provide space heating and DHW. The pressure of the refrigerant is then released through a throttling valve known as the expansion valve which also causes the temperature to drop and allows the cycle to start over again.

1.4 Product Data

Table 1 Product data

Product Data		AS01-R32	AS02-R32	AS03-R32
Dimensions (mm)	Width	1002	953	997
	Depth	490	460	437
	Height	805	915	1315
Weight (kg)		90	108	140
Electrical Supply		230V Single Phase @50Hz	230V Single Phase @50Hz	230V Single Phase @50Hz
Maximum Current (Amps)		13	22	33
Nominal Sound Level (dBA)*		37 - 54	42 - 55	44 - 58
Performance	COP @ A7W35	4.58	4.35	4.67
	COP @ A2W30	4.18	3.46	3.74
	COP @ A7W27	6.10	5.76	5.37
	COP @ A12W24	8.58	8.39	7.37
	COP @ A-7W34	3.11	2.95	2.71
	COP @ A7W55	2.68	2.67	2.51
	COP @ A-10W55	1.90	1.69	1.94
	Heat Output Range	2 - 8kW	5 - 12kW	7 - 20kW
	ErP Efficiency Class (35°C / 55°C)^	A+++ / A++	A++ / A++	A++ / A++
Operating Temp. (°C)	Ambient Air, min/max	-25/43	-25/52	-25/52
	Heating Flow, min/max	20/65	20/65	20/65
Flow Rates (l/m)	Heating, min/max	10/20	16/30	28/60
Fluid Content (l)		1.0	1.53	2.51
Refrigerant	Type	R32	R32	R32
	Charge (kg)	1.30	1.70	2.00
Connections	Heating Flow & Return	1" female BSP	1" female BSP	1 ¼" female BSP

*Nominal Sound Levels have been independently tested in accordance with EN 12102.

^ ErP ratings have been independently tested in accordance with EN 14825.

Tree Planting and 5yr Maintenance Plan

REVISION A

Prepared for: The Highland Council
Date: 30th July 2024
Site details: St Valery Park
Dalneigh, Inverness
IV3 5BB
Grid Ref: NH 65280 44396

To be used in conjunction with Compensatory Planting Plan CPP-HC-210524

1.0 Planting

1.1 Timing

Trees will be planted during the first planting season (October – March) after development has been completed, into ground that is friable and must not be frozen. Trees should not be planted during periods of hard frost or high winds (to avoid desiccation).

All tree removals should be conducted prior to planting (*see Tree Protection Plan TPP_HC_210524*) to avoid damage to newly planted stock. If there is delay of more than 12 months from the date of this report, it is recommended that the retained ash trees on site are re-assessed for any deterioration in condition as this may result in additional removals for the tree cutting contractor. To this end there should be co-ordination between timings of the tree cutting and planting contractors (*see 1.3 Ground Preparation below*)

1.2 Taking Delivery of Stock

Tree should be organized to arrive immediately prior to planting. It is important that trees are not allowed to dry out, with bare-root stock being particularly vulnerable to desiccation. Bare root trees should be kept within the bagged bundles that they arrive, and not stored in direct sunlight or exposed to winds or frost. Container and rootball trees may require watering if severe delay occurs between delivery and planting. Trees must be undamaged, healthy and of good vigor with no elongated shoots, and free from pest and diseases or discoloration. Container grown trees must not show any signs of being pot bound or waterlogged.

1.3 Ground Preparation

The woodland enhancement planting areas are given over to significant amounts of ground vegetation, such as brambles, thistles, ground elder and field bindweed, the latter which can be problematic for young trees due to its climbing habit. The top of the embankment / bund has been identified for new planting, where the ground cover is at its lowest height, in gaps beneath the former canopies of the many dead elms. All of the ground cover will need to be removed, with use of a clearing saw initially followed by a mini-excavator to grub out the roots of the bindweed and create a good planting medium recommended. It is important that no excavation works is conducted within the canopy drip line of any retained trees.

This work should be done in conjunction with the tree removals, to enable stock piling of woodchips which can be spread in the planting areas as a weed suppressant, once surface vegetation removed and immediate prior to planting.

1.4 Planting Technique

Feathered Whips to be slit planted and heeled in, with biodegradable mulch mat installed and secured with ground pins.

Standards to be planted in locations as indicated by the compensatory planting plan, in prepared pits, 450mm x 450mm x 450mm deep with base broken for a further 150mm. Pits to be backfilled with premium quality topsoil mixed with compost (1 part compost to 4 part soil) and 1m diameter mulch area added around stems.

All trees must be planted no deeper than the nursery soil level.

1.5 Protection

'Feathered Whips' to be individually protected by 1.8m high tree tubes (to clear ground vegetation should it return) secured to 25mm x 25mm x 1.5m square wooden stakes, or 50mm machine round stakes.

'Standard trees' to be secured with 2 x 50mm diameter machine rounded stakes driven into the base of the planting pit ensuring not to damage tree roots. Trees secured to stakes with tree friendly releasable tree ties (to ensure no rubbing of tree stem on welded mesh) and 1200mm x 450mm welded wire mesh guard to protect from browsing, strimmer and vandalism damage.

1.6 Root Barriers

It will be necessary to install a vertical root barrier membrane, such as ReRoot Flat available from GreenBlue Urban or similar, to prevent future root damage to new and existing footpaths, which often results in eventual loss of the tree.

Root barriers should be installed in accordance with the manufacturer's guidelines, usually installed vertically at a depth of 1000mm and set back 300mm from the footpath edge. Refer to the accompanying compensatory planting plan for recommended location of root barriers.

2.0 Maintenance

The newly planted trees will be subject to a 5yr maintenance regime.

2.1 Weeding

Weeding will be required twice during the summer months to reduce competition from weeds and grasses, with a weed free zone of minimum 100cm diameter maintained around each tree. This can be achieved by use of non-residual glyphosate herbicide, such as Roundup Proactive, provided it is used by trained and competent operators with a knapsack sprayer following industry best practice and not applied during windy weather due to risk of drift.

2.2 Monitoring

Monitoring must be carried out at least twice per annum, with checks being made during weeding maintenance and at least one more during the winter months.

- Trees, tree tubes, stakes and guards to remain in firm positions within the ground.
- Tree ties on standards to be regularly checked fit for slackness and not causing abrasion, and ensure no rubbing of stems on wire mesh guards.
- All trees inspected for browsing damage, with appropriate action taken if found.

2.3 Replacements

Any trees that within the period of 5 years, die, are removed or become seriously damaged or diseased must be replaced with others of similar size and species in the following planting season by the implementing contractor.

If high levels of trees are being lost (>20%) then steps should be taken to identify the problem; if it is a single species it may be that it is not suited to the site and alternative species should be selected for replacements.

2.4 Removal of Tree Shelters

Trees protected by individual tree tubes should have them removed in year 5, provided the trees are not suffering with browsing damage.

2.5 5 yr Maintenance Program Table

Maintenance Operation	Timing	Year 1	Year 2	Year 3	Year 4	Year 5
Herbicide spot application	May	✓	✓	✓	✓	✓
	August	✓	✓	✓	✓	✓
Inspect for browsing damage	Summer	✓	✓	✓	✓	✓
	Winter	✓	✓	✓	✓	✓
Inspect and repair stock fencing where relevant	Summer	✓	✓	✓	✓	✓
	Winter	✓	✓	✓	✓	✓
Firming in of trees if necessary	Summer	✓	✓	✓	✓	✓
	Winter	✓	✓	✓	✓	✓
Check tree ties, tubes and mesh guards and fix, ensure no abrasion on parts of plants as they increase in size	Summer	✓	✓	✓	✓	✓
	Winter	✓	✓	✓	✓	✓
Survey stock to identify condition, P+D and inform replacements required. Identify cause if excessive loss's encountered.	Summer	✓	✓	✓	✓	✓
Plant replacement trees	Nov - March	-	✓	✓	✓	✓
Tree tube and stake removal	Summer	-	-	-	-	✓

JOB NUMBER: C7584

PROJECT TITLE: PROPOSED RESIDENTIAL DEVELOPMENT AT ST VALERY PARK, INVERNESS

REPORT TITLE: DRAINAGE STATEMENT

REPORT NUMBER: XXXX-RAC-XX-XX-RP-C-0001

DATE: 12/09/2024



Revision	Date	Originator	Checker	Approver	Issue Description
A	23/02/2024	MJD	MJD	EFS	FIRST ISSUE
B	04/07/2024	JCB	MJD	EFS	SECOND ISSUE
C	19/07/2024	MJD	MJD	EFS	PS RELOCATED
D	12/09/2024	JCB	MJD	EFS	DRAINAGE UPDATE

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DRAINAGE STATEMENT

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APPENDICES

APPENDIX 1 – DRAWINGS

- C7854 – XXX-RAC-ZZ-XX-DR-C-0001-A – SITE LOCATION PLAN
- C7854 – XXX-RAC-ZZ-XX-DR-C-0100-F – PROPOSED DRAINAGE LAYOUT
- C7854 – XXX-RAC-ZZ-XX-DR-C-0101-C – PROPOSED DRAINAGE DETAILS (1 OF 2)
- C7854 – XXX-RAC-ZZ-XX-DR-C-0102-C – PROPOSED DRAINAGE DETAILS (2 OF 2)

APPENDIX 2 – FLOW REPORT

APPENDIX 3 – SCOTTISH WATER INFRASTRUCTURE PLAN

APPENDIX 4 – SUDS HAZARD RISK INDICES

C7584 – PROPOSED RESIDENTIAL DEVELOPMENT AT ST VALERY PARK,
INVERNESS
DRAINAGE STATEMENT – SEPTEMBER 2024

1. DEVELOPMENT DESCRIPTION

It is proposed to construct a new housing development of 8 No. properties at St Valery Park, Inverness. The site is currently a greenfield site (OS Grid Ref: 265252E, 844443N) which is bounded by the Caledonian Canal to the west, residential and commercial properties to the north, residential properties to the east and a playing field to the south.

The whole site has a total approximate area of 4243m². The total proposed hardstanding area has been calculated as 2272m² including building roofs, footpaths, car parking and the access.

A copy of Ramsay and Chalmers drawing C7854–XXX-RAC-ZZ-XX-DR-C-0001-A – Site Location Plan has been included in Appendix 1.

2. SURFACE WATER DRAINAGE PROPOSALS

The rainwater from the proposed houses will be captured via gutters and downpipes. The downpipes will discharge to the proposed surface water network via disconnection chambers. The rainwater from the proposed parking spaces will be captured via a linear drainage channel located at the low end. The linear drainage channels will discharge to the proposed surface water sewer network located under the proposed access. The rainwater from the proposed access will be captured via gullies. The gullies will discharge to the proposed surface water sewer network.

It is proposed to have two separate drainage systems on this site, one for the north section of the access and another for the remaining hardstanding. Both systems discharge to cellular soakaways, one located north of the proposed access and the other located to the rear of the properties along the west boundary of the site.

The soils beneath the proposed soakaways will provide the required treatment. Sumps within the chambers and within the cells assist with suspended solids and allow for easier removal of silt.

A copy of Ramsay and Chalmers drawing C7584–XXX-RAC-ZZ-XX-DR-C-0100-F - Proposed Drainage Layout has been included in Appendix 1.

A copy of Ramsay and Chalmers Flow Report has been included in Appendix 2.

3. FOUL WATER DRAINAGE PROPOSALS

A foul drainage network will be installed to serve the proposed development. Wastewater will be collected and conveyed by gravity sewers to a disconnection chamber at each property boundary. The foul disconnection chamber will be discharged into the proposed foul drainage network under the proposed access.

The proposed foul drainage network will discharge into a proposed foul pumping station located southwest of the site, at the end of the proposed turning head. The foul rising main from the pumping station will run along the east of the site up to the proposed break chamber manhole located at the site entrance.

The break pressure chamber manhole will discharge to the existing Highland Council foul water sewer located west of the site entrance which ultimately discharges to an existing Scottish Water combined sewer located on St Valery Avenue. Discharge to the sewer will need to be agreed with Scottish Water.

A copy of Ramsay and Chalmers drawing C7584–XXX-RAC-ZZ-XX-DR-C-0100-F - Proposed Drainage Layout has been included in Appendix 1.

4. MAINTENANCE

Drainage Item	Maintenance Responsibility
Surface Water Sewers	The Highland Council Housing
Foul Water Sewers	The Highland Council Housing
On Plot Surface Water Sewers	The Highland Council Housing
On Plot Foul Water Sewers	The Highland Council Housing
Cellular Soakaways	The Highland Council Housing
Pumping Station	The Highland Council Housing
Foul Rising Main	The Highland Council Housing

5. SUBSOIL POROSITY.

A site investigation was undertaken by Greencat Geotechnical in June 2024.

The site investigation confirmed that the subsoils are suitable for the disposal of water using infiltration methods.

A copy of the site investigation can be provided upon request.

6. SCOTTISH WATER SEWER INFORMATION.

We have attached the Scottish Water records of existing sewers. Refer to Appendix 3.

7. FLOODING.

The site is located next to the Caledonian Canal and located approximately 1.12km west from the River Ness.

The flood history has been researched and there are existing small pockets of medium and low surface water flood risks shown on the SEPA Flood Maps within the existing park and to the south of the proposed site. The positive adjustments to the surface water drainage that have been proposed are expected to improve/remove any small pockets of ponding on the site.

8. SUDS HAZARD RISK INDICES.

The proposed development requires that SUDS measures are designed in accordance with CIRIA C753: The SUDS Manual. The SUDS design is required to be based on the pollution hazard level, using the simple index approach. The proposals are in compliance with the standards for Metals and Hydrocarbons. The proposals are not in compliance with the standards for suspended solids. However, sumps within the chambers and within the cells assist with suspended solids and allow for easier removal of silt.

A copy of the summary review is available in Appendix 4.

APPENDIX 1
DRAWINGS



NOT FOR CONSTRUCTION		Project VARIOUS HOUSING DEVELOPMENTS AT INVERNESS, DURNESS & LOCHINVER.											
© THE COPYRIGHT OF THIS DRAWING SUBSISTS WITH RAMSAY & CHALMERS		<table border="1"> <tr> <td>Rev</td> <td>By</td> <td>App</td> <td>Description</td> <td>Date</td> </tr> <tr> <td>A</td> <td>JCS</td> <td>MD</td> <td>INITIAL ISSUE</td> <td>10.11.2023</td> </tr> </table>		Rev	By	App	Description	Date	A	JCS	MD	INITIAL ISSUE	10.11.2023
Rev	By	App	Description	Date									
A	JCS	MD	INITIAL ISSUE	10.11.2023									
Ramsay & Chalmers Consulting Structural & Civil Engineers Chattan Mews Offices, 18 Chattan Place, Aberdeen, AB10 6RD 01224 560700 www.ramsaychalmers.co.uk		Drawing Title ST VALERY PARK - SITE LOCATION PLAN. Drawing ID XXX-RAC-ZZ-XX-DR-C-0001-A											
Client THE HIGHLAND COUNCIL.		Job No. C7584	Scale NTS - A3	Issue Status FOR INFORMATION									



DRAINAGE LEGEND	
	DENOTES SURFACE WATER SEWER.
	DENOTES FOUL WATER SEWER.
	DENOTES COMBINED SEWER.
	DENOTES FOUL RISING MAIN.
	DENOTES SURFACE WATER MANHOLE.
	DENOTES FOUL WATER MANHOLE.
	DENOTES COMBINED MANHOLE.
	DENOTES EXISTING SURFACE WATER SEWER.
	DENOTES EXISTING FOUL WATER SEWER.
	DENOTES EXISTING COMBINED SEWER.
	DENOTES EXISTING MANHOLE.
	DENOTES SILT TRAP MANHOLE.
	DENOTES SURFACE WATER RODDING EYE.
	DENOTES FOUL WATER RODDING EYE.
	DENOTES RAINWATER DOWNPIPE.
	DENOTES GULLY AND TAIL.
	DENOTES ACO-CHANNEL.
	DENOTES SURFACE WATER DISCONNECTION MANHOLE.
	DENOTES FOUL WATER DISCONNECTION MANHOLE.

NOTE

DRAWING IS BASED ON "THE HIGHLAND COUNCIL" INFORMATION "1003 - Proposed Site Plan" ISSUED TO RAMSAY AND CHALMERS ON 04.04.2024.

TOPOGRAPHICAL SURVEY IS BASED ON "PALS" INFORMATION "1146300" ISSUED TO RAMSAY AND CHALMERS ON 21.09.2023.

NOTE

EXISTING DRAINAGE AND FLOW PATHWAYS TAKEN FROM UMS CCTV DRAINAGE SURVEY "9509-Ramsay Chalmers-St Valery Park-Inverness" RECEIVED ON 17.05.2024. EXISTING MANHOLE DEPTHS TO BE CONFIRMED BY CONTRACTOR ON SITE.

NOT FOR CONSTRUCTION

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Rev.	By	App.	Description	Date
F	JCB	MJD	CELLULAR SOAKAWAY ADDED.	10.09.2024
E	MJD		EXISTING DRAINAGE NOTES REVISED FOR CLARITY OF PROPOSALS.	07.08.2024
D	MJD		PUMPING STATION LOCATION REVISED.	18.07.2024
C	JCB	MJD	UPDATED TO LATEST ARCHITECTS LAYOUT.	02.07.2024
B	JCB	MJD	UPDATED AS PER THE HIGHLAND COUNCIL COMMENTS.	25.06.2024
A	MJD		INITIAL ISSUE.	19.02.2024

RESIDENTIAL DEVELOPMENT AT ST VALERY PARK, INVERNESS.

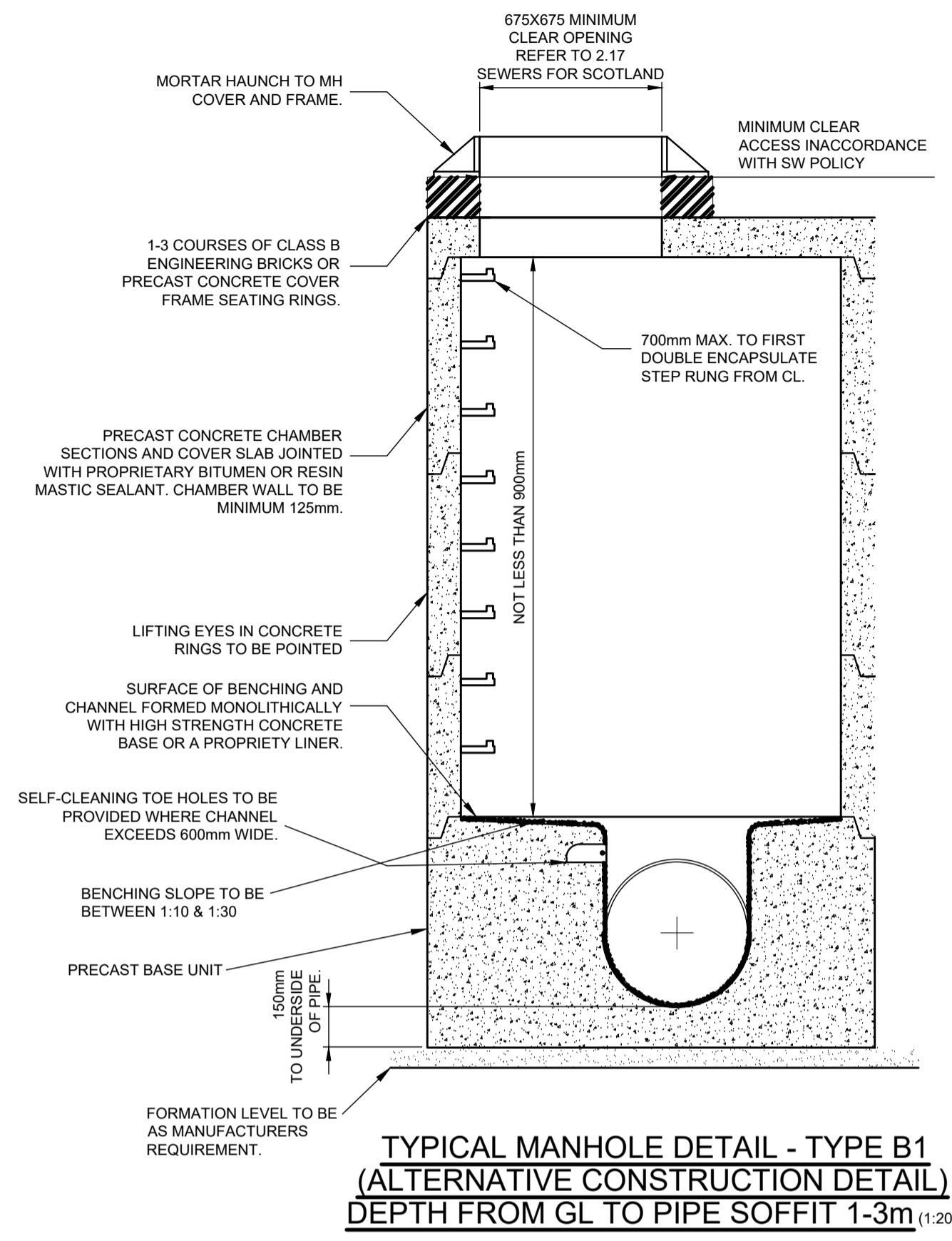
Drawing Title
PROPOSED DRAINAGE LAYOUT

Architect
THE HIGHLAND COUNCIL

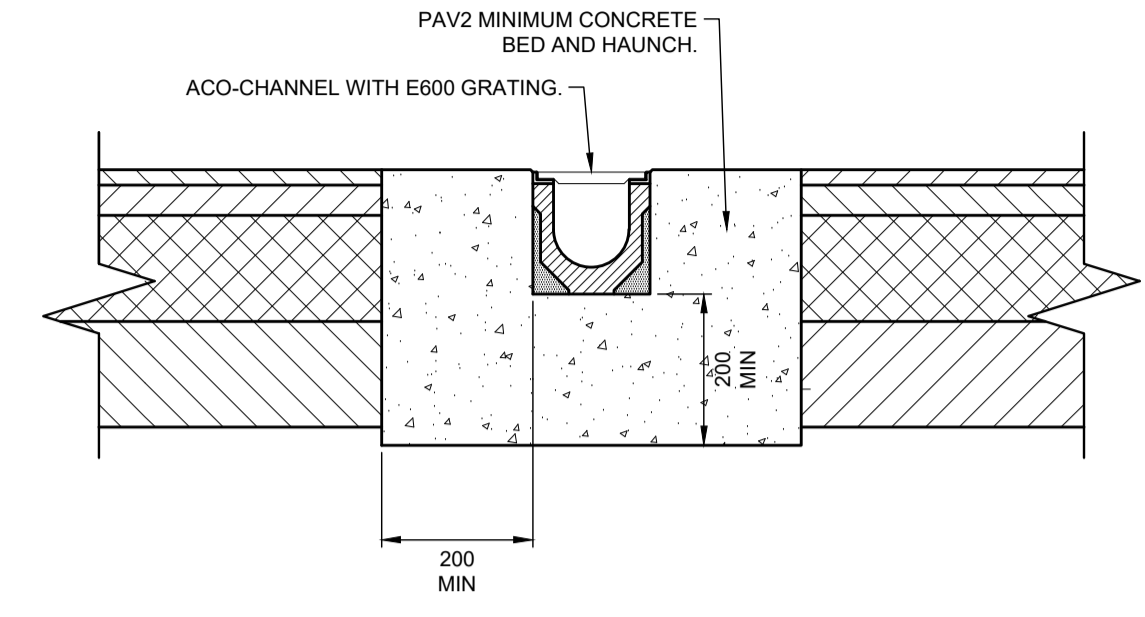
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Job No. C7584	Scale 1:250 - A1 1:500 - A3	Issue Status FOR PLANNING
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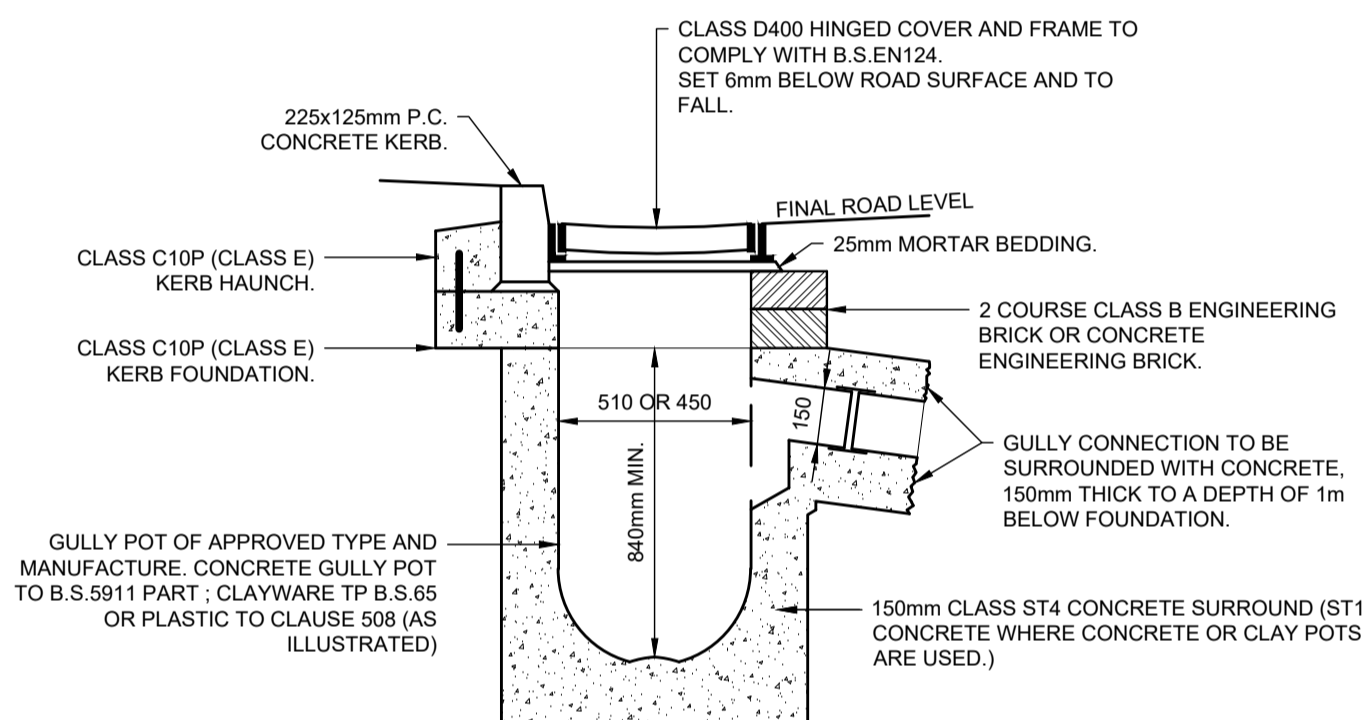
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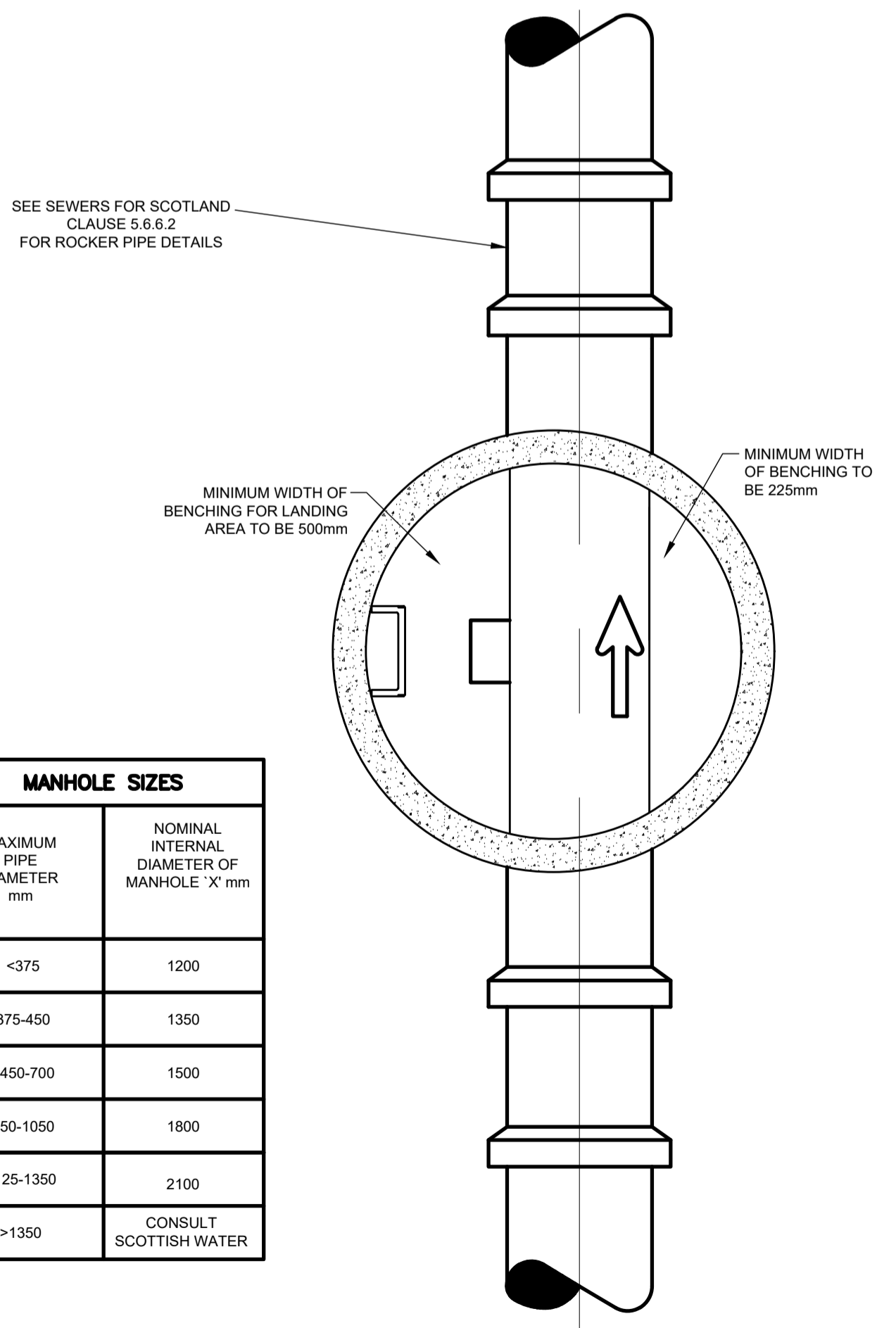
TYPICAL MANHOLE DETAIL - TYPE B1 (ALTERNATIVE CONSTRUCTION DETAIL)
DEPTH FROM GL TO PIPE SOFFIT 1-3m (1:20)



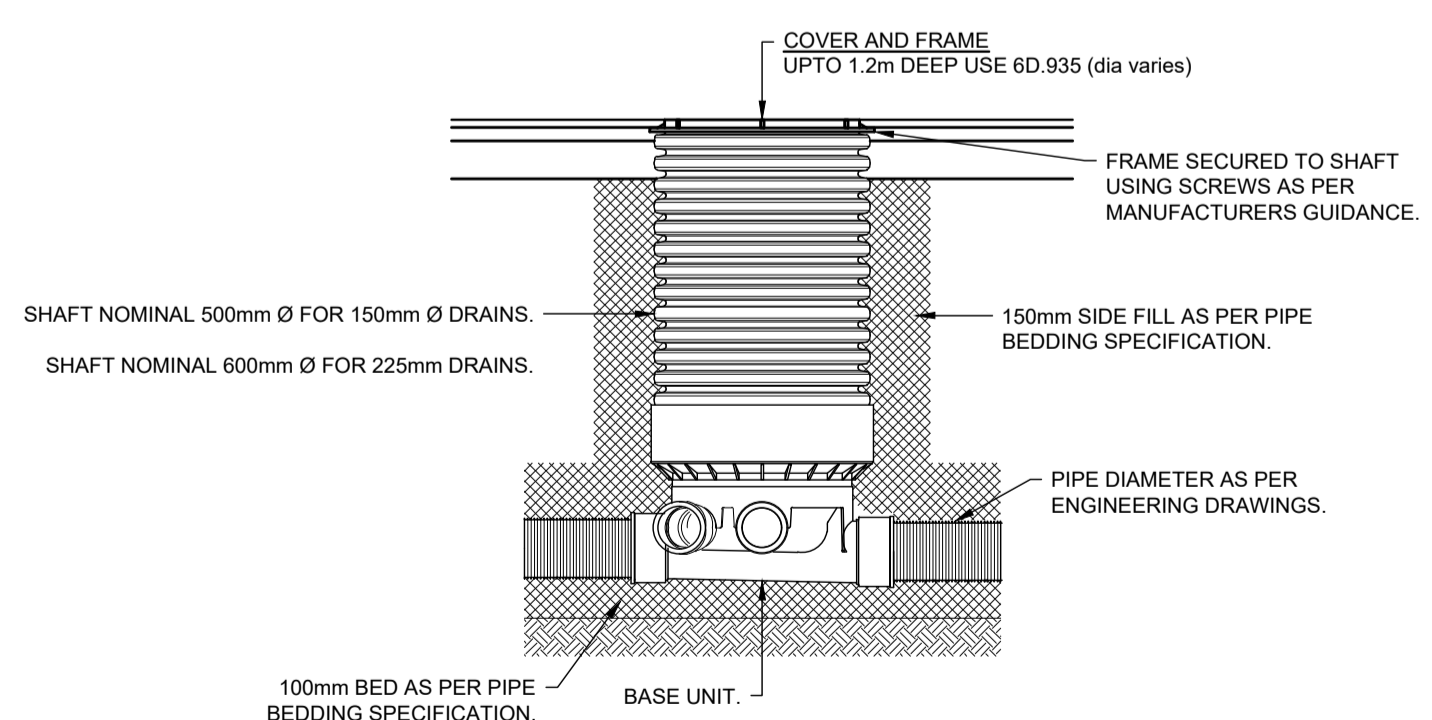
TYPICAL ACO-CHANNEL DETAIL
1:10



TYPICAL ROAD GULLY (1:20)



MANHOLE SIZES	
MAXIMUM PIPE DIAMETER mm	NOMINAL INTERNAL DIAMETER OF MANHOLE 'X' mm
<375	1200
375-450	1350
>450-700	1500
750-1050	1800
1125-1350	2100
>1350	CONSULT SCOTTISH WATER



OSMA ULTRARIB NON-ENTRY INSPECTION/DISCONNECTION CHAMBER DETAIL OR EQUAL AND APPROVED (1:20)

CLASS B125 COVER AND FRAME WITH 150mm ST4 CONCRETE SURROUND IN LIGHTLY TRAFFICKED AREAS ONLY.

NOT FOR CONSTRUCTION

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C	JCB	MJD	CONTROL MANHOLE DETAIL REMOVED.	12.09.2024
B	JCB	MJD	ISSUED FOR PLANNING	26.06.2024
A	MJD		INITIAL ISSUE	19.02.2024
Rev.	By	App.	Description	Date

Project

RESIDENTIAL DEVELOPMENT AT ST VALERY PARK, INVERNESS.

Drawing Title

PROPOSED DRAINAGE DETAILS - SHEET 1 OF 2.

Architect

THE HIGHLAND COUNCIL

Drawing ID

XXX-RAC-ZZ-XX-DR-C-0101-C

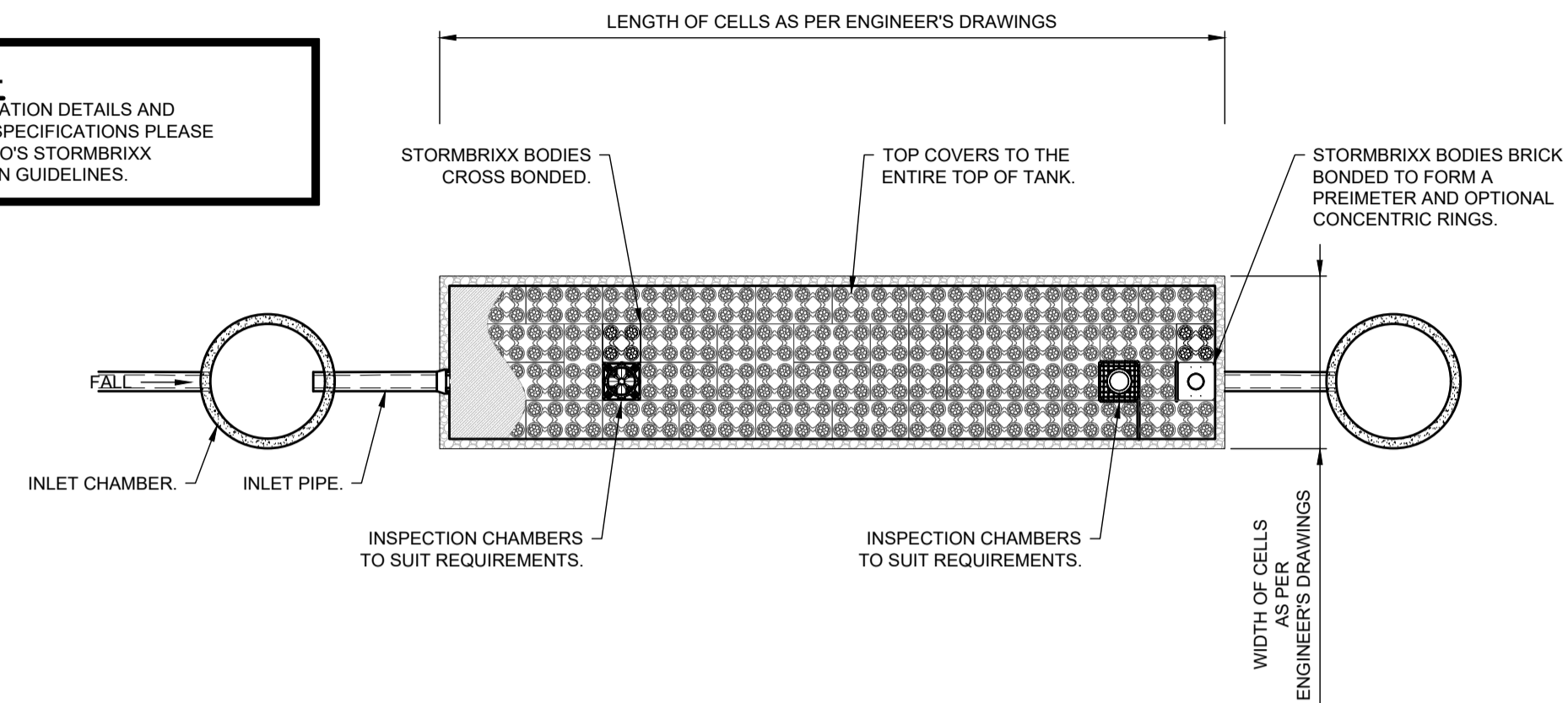
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C7584	AS SHOWN AT A1	FOR PLANNING

Ramsay & Chalmers

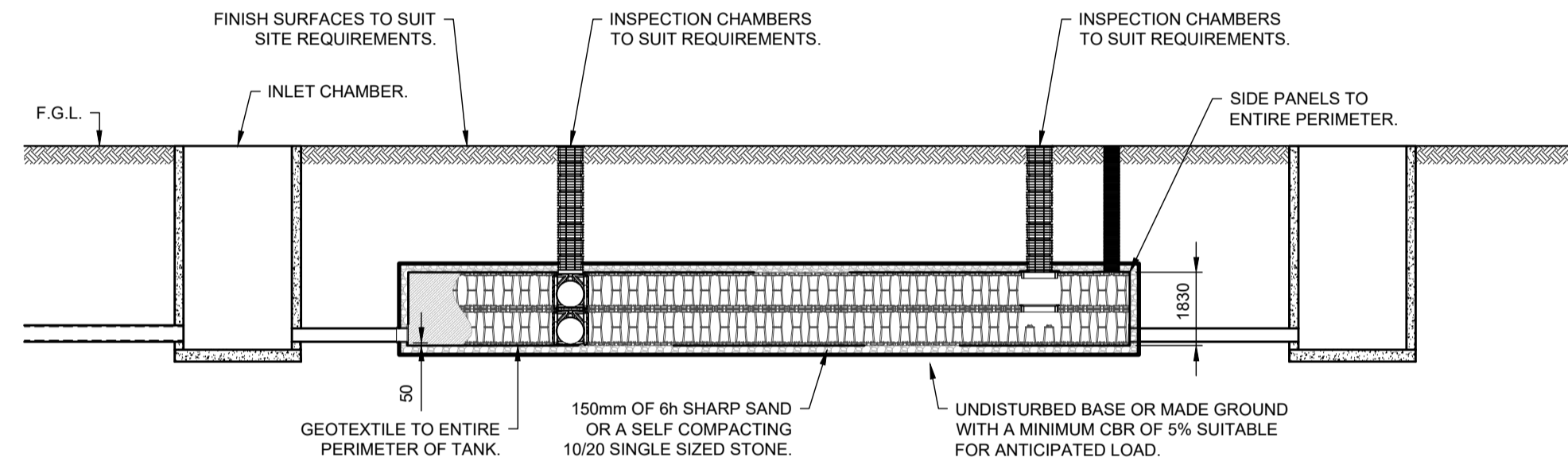
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01224 560700
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NOTE:-
FOR INSTALLATION DETAILS AND TECHNICAL SPECIFICATIONS PLEASE CONSULT ACO'S STORMBRIXX INSTALLATION GUIDELINES.



TYPICAL PLAN ON "STORMBRIXX" CELLULAR SOAKAWAY. (1:100)



TYPICAL SECTION X-X THROUGH "STORMBRIXX" CELLULAR SOAKAWAY. (1:100)

GEOCELLULAR SYSTEMS OPERATION AND MAINTENANCE REQUIREMENTS		
MAINTENANCE SCHEDULE	REQUIRED ACTIONS	FREQUENCY
REGULAR MAINTENANCE	INSPECT AND IDENTIFY ANY AREAS THAT ARE NOT OPERATING CORRECTLY. IF REQUIRED, TAKE REMEDIAL ACTION	MONTHLY FOR 3 MONTHS, THEN SIX MONTHLY
	DEBRIS REMOVAL FROM CATCHMENT SURFACE (WHERE MAY CAUSE RISKS TO PERFORMANCE)	MONTHLY
	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	MONTHLY (AND AFTER LARGE STORMS)
REMEDIAL ACTIONS	REMOVE SEDIMENT FROM PRE-TREATMENT STRUCTURES	ANNUALLY, OR AS REQUIRED
	REPAIR/REHABILITATION OF INLETS, OUTLET, OVERFLOWS AND VENTS	AS REQUIRED
MONITORING	INSPECT/CHECK ALL INLETS, OUTLETS, VENTS AND OVERFLOWS TO ENSURE THAT THEY ARE IN GOOD CONDITION AND OPERATING AS DESIGNED	ANNUALLY AND AFTER LARGE STORMS

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Rev.	By	App.	Description	Date
C	JCB	MJD	FILTER TRENCH DETAIL AND MAINTENANCE TABLE REMOVED.	11.09.2024
B	JCB	MJD	ISSUED FOR PLANNING.	26.06.2024
A	MJD		INITIAL ISSUE.	19.02.2024

Project
RESIDENTIAL DEVELOPMENT AT ST VALERY PARK, INVERNESS.

Drawing Title
PROPOSED DRAINAGE DETAILS - SHEET 2 OF 2.

Architect
THE HIGHLAND COUNCIL

Drawing ID
XXX-RAC-ZZ-XX-DR-C-0102-C

Job No. C7584	Scale AS SHOWN AT A1	Issue Status FOR PLANNING
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APPENDIX 2
FLOW REPORT



Design Settings

Rainfall Methodology	FEH-22	Maximum Time of Concentration (mins)	30.00	Preferred Cover Depth (m)	1.200
Return Period (years)	30	Maximum Rainfall (mm/hr)	50.0	Include Intermediate Ground	✓
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00	Enforce best practice design rules	x
CV	0.750	Connection Type	Level Soffits		
Time of Entry (mins)	5.00	Minimum Backdrop Height (m)	0.200		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
MHS10	0.042	5.00	12.652	1200	265254.439	844463.759	1.050
MHS11			13.062	1200	265267.690	844439.444	1.645
MHS01	0.011	5.00	12.684	1200	265261.254	844464.715	1.139
MHS02			13.179	1200	265273.159	844442.356	1.803
MHS03			13.210	1200	265285.137	844421.880	1.992
ICS04			13.195	1200	265253.519	844403.348	2.221
MHS15	0.008	5.00	12.590	1200	265256.074	844479.449	1.792
ICS16			12.340	1200	265237.948	844517.025	1.820



Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.000	MHS10	MHS11	27.691	0.600	11.602	11.417	0.185	149.7	150	5.56	50.0
1.001	MHS11	MHS02	6.196	0.600	11.417	11.376	0.041	151.1	150	5.69	50.0
2.000	MHS01	MHS02	25.331	0.600	11.545	11.376	0.169	149.9	150	5.52	50.0
1.002	MHS02	MHS03	23.722	0.600	11.376	11.218	0.158	150.1	150	6.17	50.0
1.003	MHS03	ICS04	36.649	0.600	11.218	10.974	0.244	150.2	225	6.75	50.0
3.000	MHS15	ICS16	41.719	0.600	10.798	10.520	0.278	150.1	150	5.85	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.000	0.819	14.5	8.2	0.900	1.495	0.060	0.0	81	0.843
1.001	0.815	14.4	8.2	1.495	1.653	0.060	0.0	81	0.841
2.000	0.818	14.5	2.5	0.989	1.653	0.019	0.0	42	0.616
1.002	0.818	14.4	14.2	1.653	1.842	0.105	0.0	121	0.930
1.003	1.064	42.3	26.1	1.767	1.996	0.193	0.0	128	1.118
3.000	0.818	14.5	4.7	1.642	1.670	0.034	0.0	58	0.728

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	27.691	149.7	150	Circular	12.652	11.602	0.900	13.062	11.417	1.495
1.001	6.196	151.1	150	Circular	13.062	11.417	1.495	13.179	11.376	1.653
2.000	25.331	149.9	150	Circular	12.684	11.545	0.989	13.179	11.376	1.653
1.002	23.722	150.1	150	Circular	13.179	11.376	1.653	13.210	11.218	1.842

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	MHS10	1200	Manhole	Adoptable	MHS11	1200	Manhole	Adoptable
1.001	MHS11	1200	Manhole	Adoptable	MHS02	1200	Manhole	Adoptable
2.000	MHS01	1200	Manhole	Adoptable	MHS02	1200	Manhole	Adoptable
1.002	MHS02	1200	Manhole	Adoptable	MHS03	1200	Manhole	Adoptable




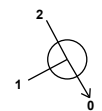
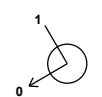


Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.003	36.649	150.2	225	Circular	13.210	11.218	1.767	13.195	10.974	1.996
3.000	41.719	150.1	150	Circular	12.590	10.798	1.642	12.340	10.520	1.670




Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.003	MHS03	1200	Manhole	Adoptable	ICS04	1200	Manhole	Adoptable
3.000	MHS15	1200	Manhole	Adoptable	ICS16	1200	Manhole	Adoptable

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
MHS10	265254.439	844463.759	12.652	1.050	1200		0	1.000	11.602	150
MHS11	265267.690	844439.444	13.062	1.645	1200		1	1.000	11.417	150
							0	1.001	11.417	150
MHS01	265261.254	844464.715	12.684	1.139	1200		0	2.000	11.545	150
MHS02	265273.159	844442.356	13.179	1.803	1200		1	1.001	11.376	150
							2	2.000	11.376	150
							0	1.002	11.376	150
MHS03	265285.137	844421.880	13.210	1.992	1200		1	1.002	11.218	150
							0	1.003	11.218	225



Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
ICS04	265253.519	844403.348	13.195	2.221	1200	 1	1.003	10.974	225
MHS15	265256.074	844479.449	12.590	1.792	1200	 0	3.000	10.798	150
ICS16	265237.948	844517.025	12.340	1.820	1200	 1	3.000	10.520	150

Simulation Settings

Rainfall Methodology	FEH-13	Skip Steady State	x	Check Discharge Rate(s)	✓
Summer CV	0.750	Drain Down Time (mins)	240	Check Discharge Volume	✓
Analysis Speed	Normal	Additional Storage (m ³ /ha)	20.0	100 year 360 minute (m ³)	202

Storm Durations

15	60	180	360	600	960	2160	4320	7200	10080
30	120	240	480	720	1440	2880	5760	8640	

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)	Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
30	40	0	0	200	40	0	0
100	40	0	0				

Pre-development Discharge Rate

Site Makeup	Greenfield	SAAR (mm)	750	Region	1
Greenfield Method	IH124	Soil Index	1	Betterment (%)	0
Positively Drained Area (ha)	2.286	SPR	0.15	QBar	1.0



Pre-development Discharge Volume

Site Makeup	Greenfield	Soil Index	1	Return Period (years)	100	Betterment (%)	0
Greenfield Method	FSR/FEH	SPR	0.15	Climate Change (%)	0	PR	0.153
Positively Drained Area (ha)	2.286	CWI	112.593	Storm Duration (mins)	360	Runoff Volume (m ³)	202

Node ICS16 Soakaway Storage Structure

BRE-365: Volume (m ³)	0.210	Base Inf Coefficient (m/hr)	0.95455	Invert Level (m)	10.520	Depth (m)	1.220
BRE-365: Area (m ²)	2.200	Side Inf Coefficient (m/hr)	0.95455	Time to half empty (mins)	55	Inf Depth (m)	
BRE-365: Time (hrs)	0.100	Safety Factor	2.0	Pit Width (m)	6.000	Number Required	1
BRE-365: Inf Coef (m/hr)	0.95455	Porosity	1.00	Pit Length (m)	6.000		

Node ICS04 Soakaway Storage Structure

BRE-365: Volume (m ³)	0.100	Base Inf Coefficient (m/hr)	0.66667	Invert Level (m)	10.974	Depth (m)	1.220
BRE-365: Area (m ²)	1.500	Side Inf Coefficient (m/hr)	0.66667	Time to half empty (mins)	72	Inf Depth (m)	
BRE-365: Time (hrs)	0.100	Safety Factor	2.0	Pit Width (m)	2.400	Number Required	1
BRE-365: Inf Coef (m/hr)	0.66667	Porosity	1.00	Pit Length (m)	91.200		

Other (defaults)

Entry Loss (manhole)	0.250	Entry Loss (junction)	0.000	Apply Recommended Losses	x
Exit Loss (manhole)	0.250	Exit Loss (junction)	0.000	Flood Risk (m)	0.300

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
30 year +40% CC 15 minute summer	278.624	78.841	30 year +40% CC 480 minute summer	31.425	8.305
30 year +40% CC 30 minute summer	194.485	55.032	30 year +40% CC 600 minute summer	25.640	7.013
30 year +40% CC 60 minute summer	139.786	36.941	30 year +40% CC 720 minute summer	22.773	6.103
30 year +40% CC 120 minute summer	86.197	22.779	30 year +40% CC 960 minute summer	18.613	4.901
30 year +40% CC 180 minute summer	66.301	17.062	30 year +40% CC 1440 minute summer	13.332	3.573
30 year +40% CC 240 minute summer	52.452	13.861	30 year +40% CC 2160 minute summer	9.478	2.619
30 year +40% CC 360 minute summer	40.036	10.303	30 year +40% CC 2880 minute summer	7.885	2.113



Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
30 year +40% CC 4320 minute summer	6.018	1.573	100 year +40% CC 8640 minute summer	4.746	1.211
30 year +40% CC 5760 minute summer	5.030	1.288	100 year +40% CC 10080 minute summer	4.327	1.104
30 year +40% CC 7200 minute summer	4.357	1.111	200 year +40% CC 15 minute summer	450.955	127.605
30 year +40% CC 8640 minute summer	3.884	0.991	200 year +40% CC 30 minute summer	318.976	90.259
30 year +40% CC 10080 minute summer	3.541	0.903	200 year +40% CC 60 minute summer	230.796	60.993
100 year +40% CC 15 minute summer	380.271	107.604	200 year +40% CC 120 minute summer	137.719	36.395
100 year +40% CC 30 minute summer	268.610	76.007	200 year +40% CC 180 minute summer	103.676	26.679
100 year +40% CC 60 minute summer	193.682	51.185	200 year +40% CC 240 minute summer	80.681	21.321
100 year +40% CC 120 minute summer	117.540	31.062	200 year +40% CC 360 minute summer	60.060	15.455
100 year +40% CC 180 minute summer	89.153	22.942	200 year +40% CC 480 minute summer	46.406	12.264
100 year +40% CC 240 minute summer	69.763	18.436	200 year +40% CC 600 minute summer	37.426	10.237
100 year +40% CC 360 minute summer	52.436	13.494	200 year +40% CC 720 minute summer	32.933	8.826
100 year +40% CC 480 minute summer	40.724	10.762	200 year +40% CC 960 minute summer	26.501	6.978
100 year +40% CC 600 minute summer	32.958	9.015	200 year +40% CC 1440 minute summer	18.742	5.023
100 year +40% CC 720 minute summer	29.078	7.793	200 year +40% CC 2160 minute summer	13.145	3.633
100 year +40% CC 960 minute summer	23.501	6.188	200 year +40% CC 2880 minute summer	10.830	2.903
100 year +40% CC 1440 minute summer	16.709	4.478	200 year +40% CC 4320 minute summer	8.195	2.142
100 year +40% CC 2160 minute summer	11.774	3.254	200 year +40% CC 5760 minute summer	6.822	1.746
100 year +40% CC 2880 minute summer	9.728	2.607	200 year +40% CC 7200 minute summer	5.899	1.505
100 year +40% CC 4320 minute summer	7.380	1.930	200 year +40% CC 8640 minute summer	5.257	1.341
100 year +40% CC 5760 minute summer	6.152	1.575	200 year +40% CC 10080 minute summer	4.791	1.222
100 year +40% CC 7200 minute summer	5.324	1.358			



Results for 30 year +40% CC Critical Storm Duration. Lowest mass balance: 99.85%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m ³)	Flood (m ³)	Status
15 minute summer	MHS10	12	11.874	0.272	14.2	0.5232	0.0000	SURCHARGED
15 minute summer	1.000:50%	13	11.822	0.312	18.4	1.8096	0.0000	SURCHARGED
15 minute summer	MHS11	13	11.747	0.330	12.2	0.3736	0.0000	SURCHARGED
15 minute summer	MHS01	13	11.709	0.164	3.8	0.2175	0.0000	SURCHARGED
15 minute summer	2.000:50%	13	11.708	0.248	11.3	2.0831	0.0000	SURCHARGED
15 minute summer	MHS02	13	11.704	0.328	17.0	0.3710	0.0000	SURCHARGED
15 minute summer	1.002:50%	11	11.637	0.340	19.2	1.5206	0.0000	SURCHARGED
15 minute summer	MHS03	9	11.576	0.358	23.3	0.4051	0.0000	SURCHARGED
15 minute summer	1.003:50%	9	11.566	0.470	46.3	0.0000	0.0000	SURCHARGED
60 minute summer	ICS04	44	11.058	0.084	42.1	18.4643	0.0000	OK
15 minute summer	MHS15	10	10.842	0.044	2.8	0.0541	0.0000	OK
15 minute summer	3.000:50%	10	10.770	0.111	11.6	0.0000	0.0000	OK
30 minute summer	ICS16	22	10.598	0.078	11.4	2.9008	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m ³)
15 minute summer	MHS10	1.000	1.000:50%	12.3	0.772	0.851	0.2438
15 minute summer	MHS10	1.000	MHS11	12.2	0.777	0.841	0.2438
15 minute summer	MHS11	1.001	MHS02	12.1	0.689	0.843	0.1091
15 minute summer	MHS01	2.000	2.000:50%	3.3	0.486	0.231	0.2230
15 minute summer	MHS01	2.000	MHS02	8.0	0.492	0.556	0.2230
15 minute summer	MHS02	1.002	1.002:50%	17.4	0.987	1.203	0.2088
15 minute summer	MHS02	1.002	MHS03	23.3	1.337	1.614	0.2088
15 minute summer	MHS03	1.003	1.003:50%	26.1	0.957	0.616	0.7288
15 minute summer	MHS03	1.003	ICS04	48.3	1.873	1.141	0.4213
60 minute summer	ICS04	Infiltration		21.7			
15 minute summer	MHS15	3.000	3.000:50%	2.8	0.308	0.191	0.1904
15 minute summer	MHS15	3.000	ICS16	11.6	1.343	0.805	0.1950
30 minute summer	ICS16	Infiltration		5.0			



Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.85%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	MHS10	12	12.044	0.442	19.3	0.8488	0.0000	SURCHARGED
15 minute summer	1.000:50%	13	11.945	0.435	25.2	3.5134	0.0000	SURCHARGED
15 minute summer	MHS11	14	11.846	0.429	14.0	0.4854	0.0000	SURCHARGED
15 minute summer	MHS01	14	11.797	0.252	5.1	0.3342	0.0000	SURCHARGED
15 minute summer	2.000:50%	14	11.797	0.337	13.0	3.8467	0.0000	SURCHARGED
15 minute summer	MHS02	14	11.791	0.415	19.1	0.4698	0.0000	SURCHARGED
15 minute summer	1.002:50%	12	11.726	0.429	21.1	2.4226	0.0000	SURCHARGED
15 minute summer	MHS03	10	11.633	0.415	26.9	0.4689	0.0000	SURCHARGED
15 minute summer	1.003:50%	9	11.624	0.528	55.7	0.0000	0.0000	SURCHARGED
60 minute summer	ICS04	48	11.103	0.129	51.7	28.3706	0.0000	OK
15 minute summer	MHS15	10	10.850	0.052	3.8	0.0633	0.0000	OK
15 minute summer	3.000:50%	10	10.801	0.142	15.9	0.0000	0.0000	OK
60 minute summer	ICS16	40	10.644	0.124	12.5	4.6108	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute summer	MHS10	1.000	1.000:50%	16.9	0.960	1.168	0.2438
15 minute summer	MHS10	1.000	MHS11	14.0	0.803	0.970	0.2438
15 minute summer	MHS11	1.001	MHS02	13.9	0.788	0.963	0.1091
15 minute summer	MHS01	2.000	2.000:50%	3.9	0.513	0.270	0.2230
15 minute summer	MHS01	2.000	MHS02	9.2	0.597	0.633	0.2230
15 minute summer	MHS02	1.002	1.002:50%	19.5	1.108	1.350	0.2088
15 minute summer	MHS02	1.002	MHS03	26.9	1.526	1.859	0.2088
15 minute summer	MHS03	1.003	1.003:50%	28.4	1.025	0.671	0.7288
15 minute summer	MHS03	1.003	ICS04	57.3	2.131	1.355	0.4420
60 minute summer	ICS04	Infiltration		22.5			
15 minute summer	MHS15	3.000	3.000:50%	3.7	0.319	0.258	0.2359
15 minute summer	MHS15	3.000	ICS16	15.9	1.352	1.097	0.2674
60 minute summer	ICS16	Infiltration		5.2			

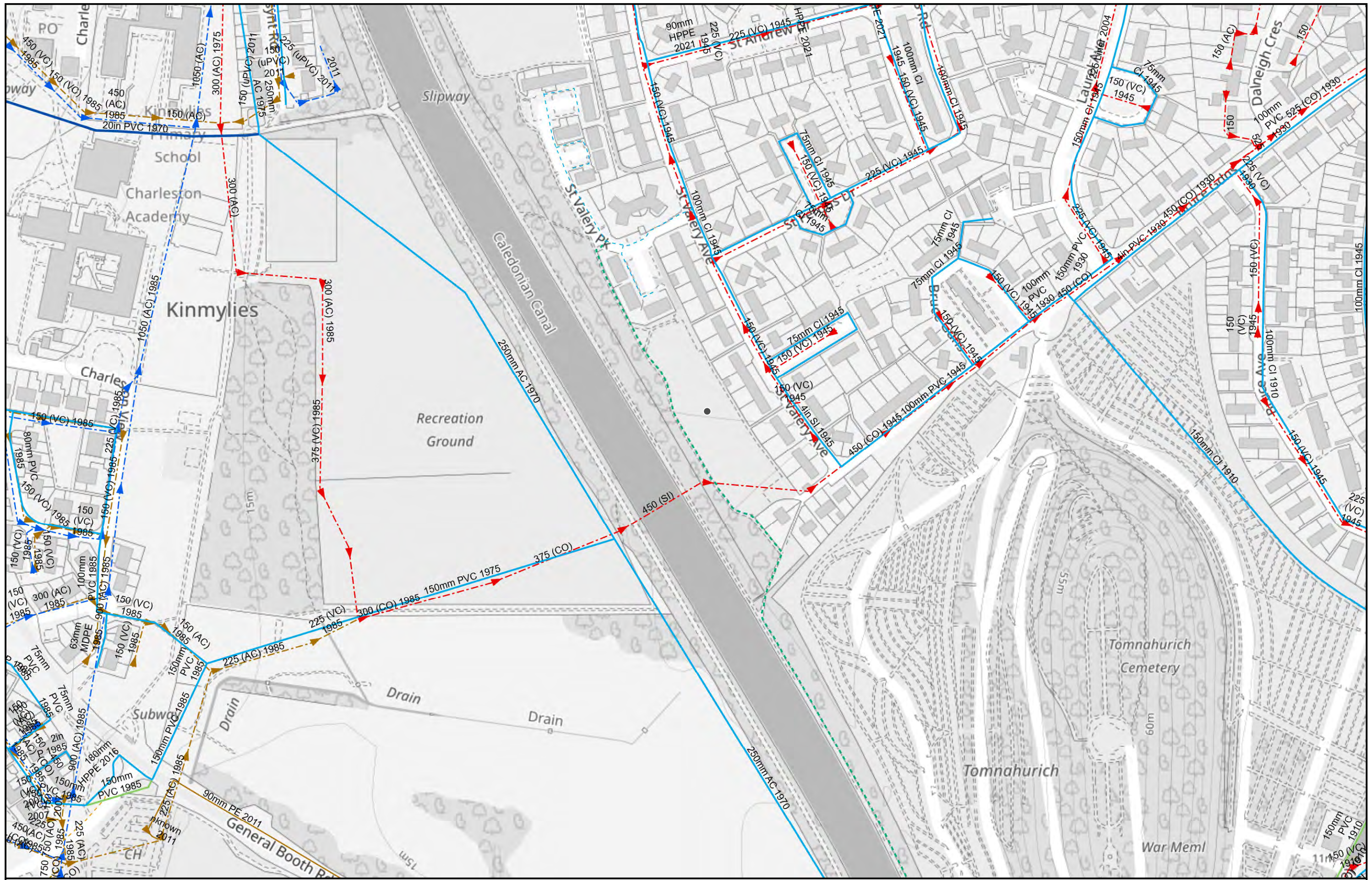


Results for 200 year +40% CC Critical Storm Duration. Lowest mass balance: 99.85%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	MHS10	12	12.163	0.561	22.9	1.0792	0.0000	SURCHARGED
15 minute summer	1.000:50%	13	12.019	0.510	29.9	4.8187	0.0000	SURCHARGED
15 minute summer	MHS11	14	11.909	0.492	15.0	0.5560	0.0000	SURCHARGED
15 minute summer	MHS01	15	11.851	0.306	6.1	0.4053	0.0000	SURCHARGED
15 minute summer	2.000:50%	15	11.851	0.390	15.9	5.1695	0.0000	SURCHARGED
15 minute summer	MHS02	14	11.845	0.469	20.3	0.5307	0.0000	SURCHARGED
15 minute summer	1.002:50%	12	11.787	0.490	21.9	3.1657	0.0000	SURCHARGED
15 minute summer	MHS03	10	11.693	0.475	28.0	0.5370	0.0000	SURCHARGED
15 minute summer	1.003:50%	10	11.681	0.585	61.8	0.0000	0.0000	SURCHARGED
60 minute summer	ICS04	52	11.136	0.162	57.3	35.5437	0.0000	OK
15 minute summer	MHS15	11	10.885	0.087	4.5	0.1064	0.0000	OK
15 minute summer	3.000:50%	11	10.877	0.218	18.0	0.0000	0.0000	SURCHARGED
60 minute summer	ICS16	41	10.683	0.163	14.7	6.0627	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute summer	MHS10	1.000	1.000:50%	20.1	1.139	1.386	0.2438
15 minute summer	MHS10	1.000	MHS11	15.0	0.853	1.037	0.2438
15 minute summer	MHS11	1.001	MHS02	14.8	0.841	1.028	0.1091
15 minute summer	MHS01	2.000	2.000:50%	5.0	0.469	0.349	0.2230
15 minute summer	MHS01	2.000	MHS02	9.6	0.568	0.665	0.2230
15 minute summer	MHS02	1.002	1.002:50%	20.7	1.176	1.432	0.2088
15 minute summer	MHS02	1.002	MHS03	28.0	1.591	1.939	0.2088
15 minute summer	MHS03	1.003	1.003:50%	31.0	1.054	0.733	0.7288
15 minute summer	MHS03	1.003	ICS04	63.2	2.298	1.493	0.4729
60 minute summer	ICS04	Infiltration		23.1			
15 minute summer	MHS15	3.000	3.000:50%	5.0	0.329	0.344	0.2942
15 minute summer	MHS15	3.000	ICS16	17.6	1.354	1.221	0.3181
60 minute summer	ICS16	Infiltration		5.3			

APPENDIX 3
SCOTTISH WATER INFRASTRUCTURE PLANS



Warning! Damaging a large diameter trunk main (12"/300mm and above) can result in loss of life and major water supply and water quality problems. If you're planning any extension work in the vicinity of any large diameter mains shown on our maps, you must contact Scottish Water to arrange a site visit 08000 778 778 WELL IN ADVANCE OF THE WORKS

Plotted By: jbutler@ramsayschalmers.co.uk



The representation of physical assets and the boundaries of areas in which Scottish Water and others have an interest does not necessarily imply their true positions. For further details contact the appropriate District office.

Date: 09/11/2023

C7584 - St Valery Park

0 12.5 25 50 Meters

SCALE: 1:2,646

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APPENDIX 4
SUDS HAZARD RISK INDICES

SUMMARY TABLE		DESIGN CONDITIONS			
		1	2	3	4
Land Use Type Pollution Hazard Level Pollution Hazard Indices TSS Metals Hydrocarbons	Low traffic roads (e.g. residential roads and general access roads, < 300 traffic movements/day) Low 0.5 0.4 0.4				
SuDS components proposed					
Component 1	None				
Component 2	None				
Component 3	None				
SuDS Pollution Mitigation Indices					
TSS		0			
Metals		0			
Hydrocarbons		0			
Groundwater protection type	Infiltration trench with suitable depth of filtration material underlain by 300 mm minimum depth of soils with good contamination attenuation potential	All designs must include a minimum of 1 m unsaturated depth of subsoil or aquifer material between the infiltration surface and the maximum likely groundwater level. Infiltration components should always be preceded by upstream component(s) that trap(s) silt, or designed specifically to retain sediment in a separate lined zone, easily accessible for maintenance, such that the sediment will not be re-suspended in subsequent events	The infiltration trench must include a suitable depth filtration layer that provides treatment (ie graded gravel with sufficient smaller particles but not single size coarse aggregate such as 20mm gravel). The underlying soils must provide good contaminant attenuation potential (eg as recommended in Sniffer 2008 (a) and (b) / Scott Wilson (2010) or other appropriate guidance). Alternative depth and soil combinations must provide equivalent protection to the underlying groundwater		
Groundwater protection Pollution Mitigation Indices					
TSS	0.4				
Metals	0.4				
Hydrocarbons	0.4				
Combined Pollution Mitigation Indices					
TSS		0.4			
Metals		0.4			
Hydrocarbons		0.4			
Acceptability of Pollution Mitigation					
TSS	Additional TSS Mitigation Required	Reference to local planning documents should also be made to identify any additional protection required for sites due to habitat conservation (see Chapter 7 The SuDS design process). The implications of developments on or within close proximity to an area with an environmental designation, such as a Site of Special Scientific Interest (SSSI), should be considered via consultation with relevant conservation bodies such as Natural England			
Metals	Sufficient				
Hydrocarbons	Sufficient				