Perrywood Sudbury Garden Centre, Newton Road, Sudbury, Suffolk

CONSTRUCTION PHASE

SURFACE WATER MANAGEMENT PLAN

Date:

December 2023

GHB Reference:

011/2023/CSWMP

Revision:

02

Status:

Planning

Prepared By:

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On behalf of Perrywood Sudbury Limited
Perrywood Garden Centre, Kelvedon Road, Inworth, Colchester, England, CO5 9SX
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CONFIRMATORY STATEMENT

This Construction Phase Surface Water Management Plan has been prepared by G H Bullard & Associates LLP on behalf of **Perrywood Sudbury Limited** who are nominated as Principal Contractor (under The Construction (Design and Management) Regulations 2015) for the construction of the aforementioned development off **Newton Road, Sudbury, Suffolk, CO10 0PZ.**

This plan must be adopted into the working management practices of the Principal Contractor **Perrywood Sudbury Limited**.

DECLARATION:

I confirm on behalf of **Perrywood Sudbury Limited**, as Principal Contractor, that this Construction Phase Surface Water Management Plan has been reviewed and understood.

This declaration confirms that **Perrywood Sudbury Limited** intend to implement this plan and the mitigation measures outlined within it.

Signed:

On behalf of **Perrywood Sudbury Limited**

Print:

Date:

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1. AIMS AND PHILOSOPHY

1.1. **This is a live document, initially prepared by G.H Bullard & Associates LLP but to be adopted and taken forward by Perrywood Sudbury Limited as the Scheme Principal Contractor.**

1.2. This document has been prepared to vary Planning Condition 12 of Planning Application Ref: DC/22/01350, as previously discharged under DC/22/00808, for the erection of a new garden centre building and associated extension and alteration works, car parking provision and landscaping, at Perrywood Garden Centre, Newton Road, Sudbury, Suffolk and detail how surface water will be managed on the site during construction.

1.3. The aim of this CSWMP is to demonstrate how the surface water will be managed for quantity and quality during the construction phase so as not to cause increased flood risk or pollution of surface water bodies or have a significant impact on the groundwater or neighbouring sites.

1.4. The philosophy is to effectively use the existing site features and incorporate the final construction into a surface water management scheme that minimises the impact on cost, programme, water quality and flooding on and off site.

1.5. The final drainage system is designed for a 1% AEP plus 40% climate change, rainfall event. When utilised as designed during the construction phase, there should be no off-site flooding for the critical, 1% AEP plus 40% climate change, event.

1.6. The Principal Contractor for this development is **Perrywood Sudbury Limited**, referred to as Principal Contractor within this plan. This plan is subject to review and further development as part of the wider development of the Construction Procedures associated with Health, Safety and Environmental Management.

2. THE DEVELOPMENT

2.1. The proposed development comprises the construction of a new Garden Centre Building with associated canopy covered areas, glasshouse, outdoor plant storage and sales area, car park, access road and soft landscaping. The site is located off the A134 at postcode CO10 0PZ (TL902415). Refer to Figure 2.1 for the site location.

2.2. The site is brownfield and comprises an existing garden centre including single storey buildings, sheds, raised planter areas, materials storage areas, glasshouses, polytunnels, car parking areas, vehicle access routes and landscaping. It is bound by agricultural land to the north, south and east and Valley Road to the east.

2.3. The site levels range from 63.5m AOD to 55.85m AOD. The site slopes from 63.5m AOD at the north-east corner to 55.85m AOD towards the centre of the site and from 58.4m AOD at the west and 62.3m AOD at the south boundary towards the site centre. The existing developed site area is at a level of approximately 57.3-57.5m AOD in the location of the main building. Refer to the existing site layout in **Appendix A**.

2.4. The final development drainage system discharges into the existing watercourse at the eastern site boundary at a discharge rate of 13.1l/s, using a surface water system comprised of swales and an attenuation basin. The swales and attenuation basin will not be lined to allow infiltration to occur at the base where ground conditions permit low level infiltration to occur. Refer to the proposed drainage site plan in **Appendix B**.

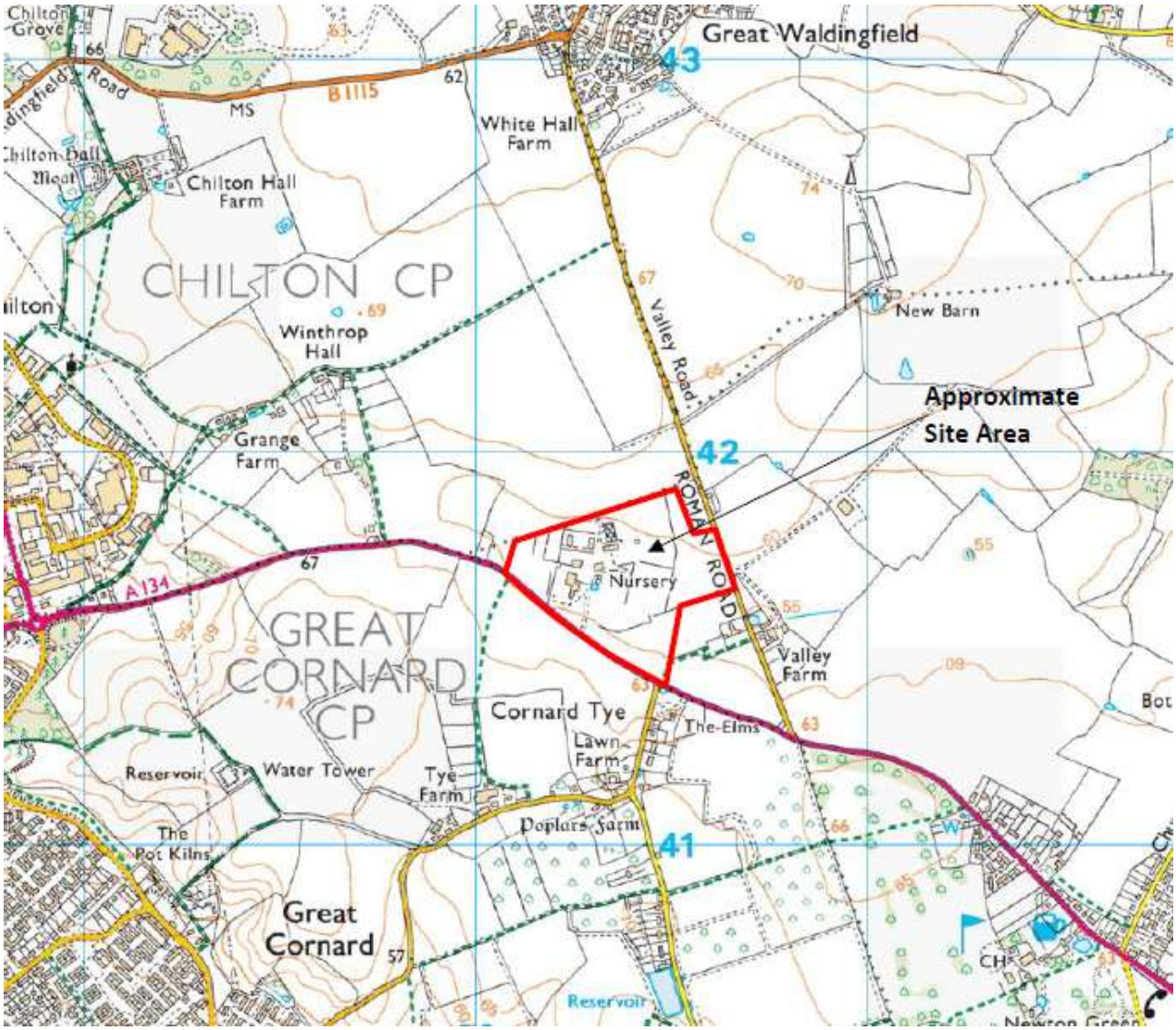

Figure 2.1 – Site Location Plan

2.5. The development involves multiple phases of work, consisting of:

1. **Enabling Works: GHB Drawing No. 011-2023-020**

- Compound, construction parking and material storage set up;
- Site access creation and site clearance;
- Earthworks; shaping and reprofiling the ground;
- Installation of SuDS features – Swales and Basin;
- Construction of sub-station;
- Installation of utilities;
- Car parking access and space construction.

2. **Phase 1: GHB Drawing No. 011-2023-021**

- Relocation of material storage and construction parking;
- Earthworks;
- Additional car parking access and space construction to the north;
- Full construction of main garden centre building, canopy and associated hardstanding areas;
- Installation of utilities.

3. **Phase 2: GHB Drawing No. 011-2023-022**

- Relocation of site compound and material storage;
- Earthworks;
- Additional car parking access and space construction to the southwest ;
- Extension of concrete yard;
- Full construction of garden centre extension, compost canopy and associated hardstanding areas;
- Installation of utilities.

4. **Phase 3: GHB Drawing No. 011-2023-023**

- Relocation of site compound and material storage;
- Earthworks;
- Additional car parking construction to the west of the access road;
- Full construction of restaurant, potting shed and associated hardstanding areas;
- Installation of utilities;
- Removal of site compound, material storage, and construction parking;
- Removal of temporary interception/filtration devices.

3. POTENTIAL IMPACTS

3.1. The construction of the development will alter the geomorphology of the site which could, without mitigation measures in place, have an impact on the groundwater quality and the surface water runoff in terms of increase in water pollution and sediment laden runoff at various stages of the construction process. Several land-based activities associated with both the enabling works and construction could potentially impact on surface and ground waters in and around the site, including:

- Site Setup/Clearance.
- Drainage works.
- Installation of utilities.
- Construction materials handling, including the storage and use of fuels and oils and other potentially contaminated material.
- Handling of potentially polluting silt-laden runoff and excavation dewatering from construction activities and site compounds.
- Spillage or uncontrolled release of potentially polluting material such as cement, concrete, diesel, hydraulic fluid or paint.

3.2. Silty water can arise from earthworks, exposed ground, water collecting in excavations, stockpiled materials, plant and wheel washing facilities and site roads. As such there is potential for polluted

runoff from the construction activities to enter any localised sewers, watercourses or adjacent sites, particularly during the initial earthwork stages of the scheme.

3.3. Other pollutants, such as construction chemicals or fuels, may be carried in the drainage system. Unless managed appropriately, the pollutants, including sediment, could be washed into foul and surface water sewers or watercourses, or into the below ground strata resulting in groundwater contamination.

3.4. Sediment deposited in the sewer system can result in (either downstream or within the site):

i) a restriction within the sewer pipes, reducing the capacity flow and causing blockages.
ii) the potential for discharge of pollution.

4. PROGRAMME OF WORKS AND TEMPORARY DRAINAGE

REFER TO GHB DRAWING NOs. 011/2023/020 – 011/2023/024 (APPENDIX C)

Phasing

During the construction, a well-planned programme of works will ensure that at any time during the works, the impact of rainfall is minimised so that those on and off site are protected from flood water and the surface water system is protected from potential pollution. The proposed construction programme will be to set up the site compound and materials storage area (and associated temporary filtration bund) followed by the installation of the proposed permanent swales and basin for the entirety of the development, including for temporary sediment protection, at the outfall into the existing watercourse to the east of the site. As part of the construction of these features, an existing culverted watercourse is to be connected into a proposed open watercourse diversion aligned along the south of the site. Following on from this there will be three construction phases which will consist of similar activities, such as earthworks, building construction, external surfacing ad hardstanding, installation of utilities and drainage. The drawings within Error! Reference source not found. **C** provide further clarification as to which specific activities are occurring at each respective phase.

4.1. The surface water runoff from the site will pass through temporary filtration bunds, silt fencing and temporary geotextiles installed prior to each phase of works to prevent silt and potentially polluted water entering the swale/basin system.

4.2. The temporary drainage features will be retained until silt producing activities cease in the associated areas, the multiple roof runoffs are discharging to the permanent drainage network as designed and the site compound has been relocated/removed.

4.3. Refer to the drawing in **Appendix C** for the detailed phasing of the drainage construction works.

Site Clearance and Compound Setup

4.4. The proposal is to clear the vegetation and establish the site welfare facilities and compound. To mitigate the potential for polluted runoff from the area, filtration bunds at appropriate locations

around the compound and parking perimeters will be established, which will filter the runoff leaving the compound before it discharges into the swale/basin system. The filtration bunds will remain in place until the compound is relocated/removed. Typical details of the filtration bund are shown on drawing 011/2023/024 attached in **Appendix C**.

Earthworks

4.5. The topsoil will be stripped, and the subsoil shaped to the general profile of the development. The arisings will be redistributed for profiling or removed from site. It should be endeavoured to retain topsoil in-situ as far as possible until absolutely necessary for the earthworks to be completed in a particular area. Any stockpiles should be protected with a suitable geotextile or, if to be stockpiled for a considerable period of time, seeded with grass to minimise the risk of sediments washing out of stockpiles.

Silt Fencing and Filtration Bunds

4.6. Silt fencing and filtration bunds will attenuate and slow the flow to allow sedimentation and filter suspended solids. The geotextile and/or straw will also filter any oils. Refer to GHB Drawing No. 011/2023/024 in **Appendix C** for the typical construction details of suitable filtration bunds.

Installation of New Drainage System and External Surfacing

4.7. The final drainage scheme will be constructed as per the proposed scheme outlined on the drawings in **Appendix B** and in accordance with the phasing indicated in the drawings within **Appendix C**. The basin to the east of the site will be installed initially, followed by the construction of the swales to convey surface water into the basin.

4.8. The access roads and parking spaces have been designed to discharge into the swales via a combination of gullies, channels, chambers, pipework and swale inlets. When the surfacing for each phase is complete and construction traffic is no longer passing over the area, the associated roof drainage has been connected to the outfall and the landscaping adjacent to the swales has been completed then the temporary filtration measures for the phase can be removed.

Flood Risk

4.9. The proposed permanent drainage scheme is designed to attenuate, convey and discharge the runoff associated with up to the 1 in 100-year (1% AEP) rainfall event plus 40% climate change. Any exceedance runoff will flow east away from the site, as currently occurs.

4.10. In order to predict inclement weather, the Principal Contractor will monitor the weather via the Environment Agency flood alert or the met office website (refer to **Appendix D**).

5. CONSTRUCTION OF SPECIFIC SURFACE WATER CONTROL MEASURES

5.1. Waste materials shall be removed from site at earliest opportunity and not stored unnecessarily on site.

5.2. Any storage areas are to be bunded to accommodate 110% (minimum) of the stored volumes for containment purposes in the event of a spillage. No materials will be stored within 8 metres of any watercourse or water body.

5.3. The foul effluent from the welfare facilities shall be removed from site and no discharge will be permitted into the foul system unless separate specific agreement is sought directly with the Statutory Sewerage Undertaker. The removal shall be carried out by an approved waste disposal company.

5.4. Spill kits are to be positioned on site in areas appropriate to the risks. This is likely to be adjacent to any diesel/oil storage and furthermore at a close distance to any concrete wash out/wheel wash areas.

5.5. Operatives having access to the kits will have received training on the use of the spill kits to contain any type of potentially environmentally harmful spill.

5.6. Flow paths through the site will be identified and kept clear.

5.7. Toolbox talks will include surface water management awareness and any current weather warnings highlighted in the appropriate way.

6. RESPONSIBILITIES & MONITORING

6.1. During the construction phase, the Principal Contractor will be responsible for setting the control systems in place, with regular monitoring and a 24hr on call emergency contact.

6.2. A method statement schedule has been prepared to identify construction activities that affect the surface water during construction and their associated method statement. Also included is an outline programme, listing the schedule of works and the estimated time to construct. The schedule will be revised and updated as the works progress. The schedule is shown in **Appendix E.**

6.3. The Principal Contractor will sign up to the Met Office weather warning system to allow for advanced warning and preparation for inclement weather. They will also raise awareness of surface water management, particularly during inclement weather. Guidance is provided within **Appendix D**.

6.4. Monitoring of the system during construction will continue and silt/pollutants removed as appropriate to ensure a clean flow of water is maintained.

6.5. The layout of key interim drainage components, details and monitoring points have been shown on GHB Drawing Nos. 011/2023/020 – 011/2023/024 (**Appendix C**) and an example Monitoring & Maintenance Record Sheet is attached in **Appendix F**. The exact position and number of treatment components and monitoring points will constantly change as the build progresses and transforms from the temporary to permanent state.

7. PHASE COMPLETION

7.1. Before completion of each individual phase, the new drainage system inlets will be inspected and surveyed to ensure all debris has been removed so the drainage system can function as designed.

7.2. All temporary measures will be deconstructed. Any sediment build-up within the permanent system removed and flushed as necessary prior to filtration bunds being removed.

7.3. Any remedial works will need to be carried out in line with the maintenance period of the works, unless they pose a flood risk and will need to be resolved immediately.

7.4. All information regarding the drainage system, maintenance and proprietary systems will need to be included within the site-specific Operations and Maintenance (O&M) file.

APPENDICES

Appendix A – Existing Site Layout Drawing 011/2023/010

Appendix B – Proposed Drainage Strategy Drawing 011/2023/110

Appendix C – CSWMP Drawing Numbers 011/2023/20 to 011/2023/24

Appendix D - Flood Alerts and Weather Warning System

Appendix E - Method Statement and Works Schedule

Appendix F - Monitoring and Maintenance Record Sheet

APPENDIX A

Existing Site Layout Drawing 011/2023/010

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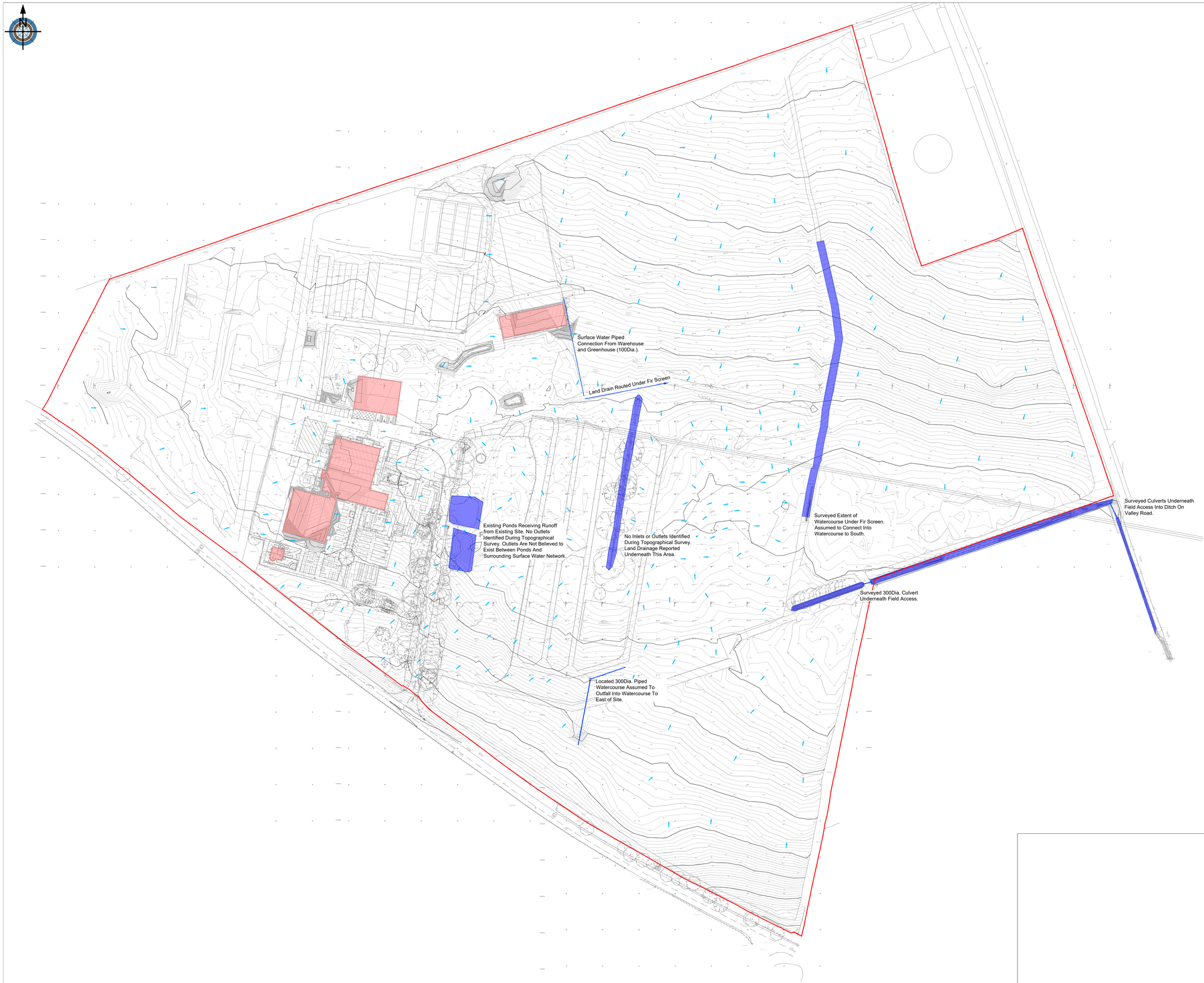

NOTES:

1. This drawing is to be read in conjunction with GHB series 011/2023 drawings and documents and any other relevant project team documents.
2. Preliminary Issue - This drawing is not to be used for construction or detailed pricing purposes. Any work undertaken before approvals are received (in writing) are at risk of abortive works.
3. This drawing has been produced based upon the following information:
   Topographical Survey by Survey Solutions (Ref. 36431IPLS-03_09E dated 14/04/2022) To OS Grid and Datum.
   Drone Topographical Survey of Cleared site and aggregate heaps by Ashwell Construction Ltd (Ref. N/A dated 19/08/2022) To OS Grid and Datum.
   Architectural Layout by Pleydell Smithyman (Ref. site plan base (bind) dated 27/06/23).
4. This drawing has been prepared solely for the purpose of obtaining a Planning Consent based on information available and planning requirements at the date of issue only.

Rev	Rev Date	Description	Drawn	Chck'd
P3	18/12/23	Revised to Include Additional Existing Features, As Per Client Advice	BAF	DJB
P2	13/12/23	Revised for Inclusion In Drainage Strategy for Planning	BAF	DJB
P1	27/02/23	Initial Issue	BAF	JAH

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Partnership No. OC383830, Registered in England and Wales

Client: PERRYWOOD GARDEN CENTRE

Project: PERRYWOOD GARDEN CENTRE, SUDBURY

Drawing Title: EXISTING SITE DRAINAGE STRATEGY

Status: FOR INFORMATION

Scale: 1:1000 @ A1

Created: FEB 2023

Drawn: BAF

DWG Reference: 011-2023.DWG

Checked: JAH

Drawing Number: 011/2023/010

Revision: P3

P# = Preliminary, C# = Construction, AB# = As Built

APPENDIX B

Proposed Drainage Strategy Drawing 011/2023/110

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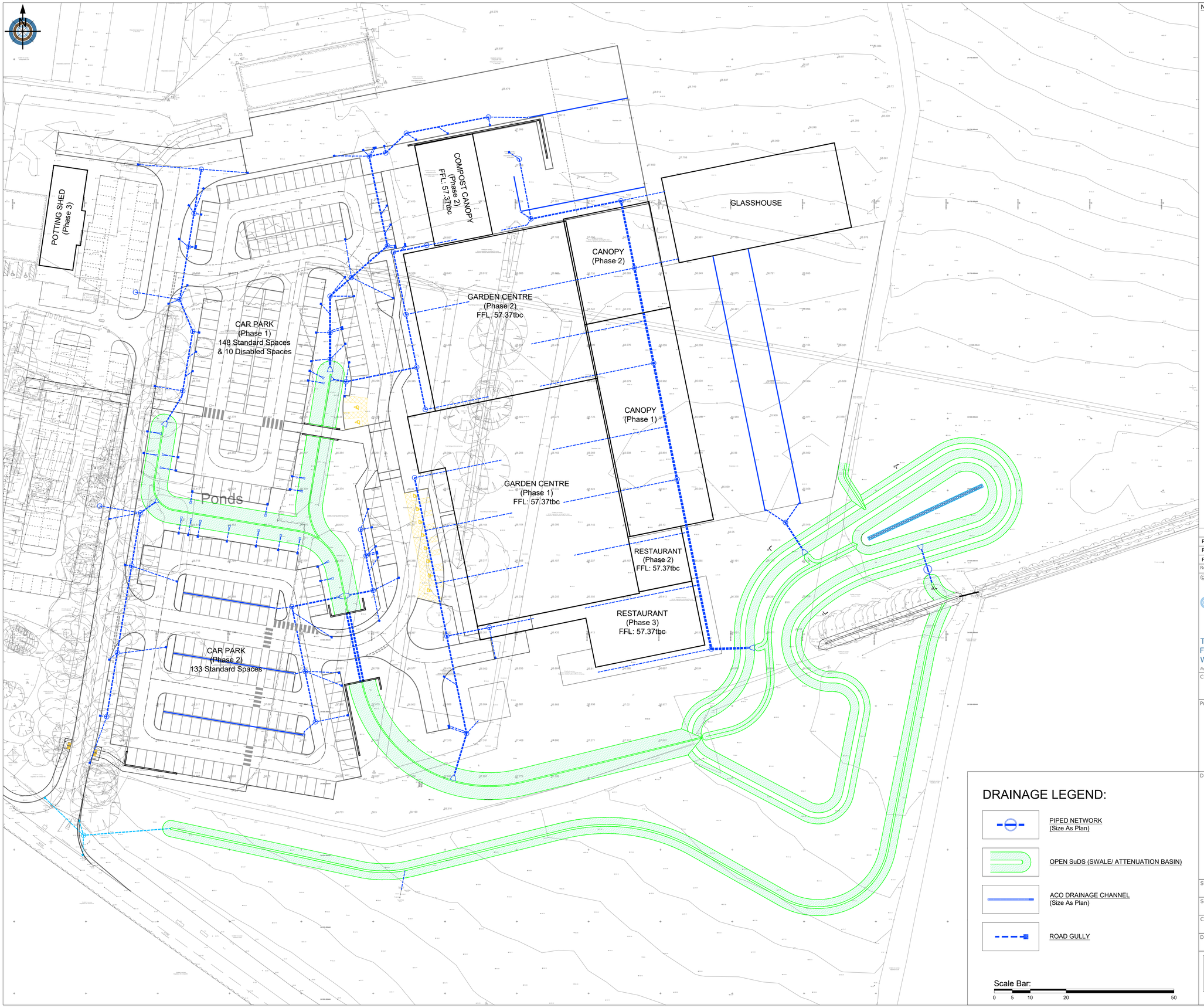

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DRAINAGE LEGEND:

- PIPED NETWORK (Size As Plan)
- OPEN SuDS (SWALE/ ATTENUATION BASIN)
- ACO DRAINAGE CHANNEL (Size As Plan)
- ROAD GULLY

Scale Bar:

0 5 10 20 50

Rev	Rev Date	Description	Drawn	Chck'd
P3	13/12/23	Revised to Accommodate Drainage and Layout Adjustments	BAF	DJB
P2	21/11/23	Drainage Strategy Revised to Accommodate Adjusted Layout	BAF	DJB
P1	31/07/23	Initial Issue	BAF	DJB

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Partnership No. OC383830, Registered in England and Wales

Client: PERRYWOOD GARDEN CENTRE

Project: PERRYWOOD GARDEN CENTRE SUDBURY

Drawing Title: SURFACE WATER DRAINAGE OVERALL SITE PLAN LAYOUT

Status: FOR INFORMATION

Scale: 1:500 @ A1

Created: JUL 2023 | Drawn: BAF

DWG Reference: 011-2023.DWG | Checked: DJB

Drawing Number: 011/2023/110 | Revision: P3

P# = Preliminary, C# = Construction, AB# = As Built