8 May 2025 24-0468

Ku-ring-gai Council
818 Pacific Highway,
Gordon NSW 2072
Attention Michael Cutajar

Dear Michael,

RE: Civil Engineering Design Review and Flood Impact Assessment Certification for Norman Griffith Oval Refurbishment.

We certify that we have prepared the flood impact assessment and review of the stormwater design of the proposed **Norman Griffiths Oval Refurbishment works** as shown on the list of drawings attached in accordance with the intent of following:

- Provision of an independent review of the stormwater design on behalf of Council to confirm the performance of the OSD system and that the storage capacity is sufficient for the 100 Year storm event to not surcharge onto the oval surface

- Council request the documentation that assures the community that this sports field will work as a detention basin and is floodproof. This will require a review of the flood assessment and modelling of the entire system.

Orion have provided the Flood Impact Assessment and the stormwater review report (refer appendix A) and provided the overland flowpath in the south east corner of the oval is provided and the design detention storage is provided via the provision of stable gravel storage with the compliant void ratio, then the performance of the Oval works with respect to not making the flood conditions worse, also the condition of the detention storage not surcharging in the 100 year storm will be met, subject to suitable maintenance of the stormwater system for the oval.

Orion Group

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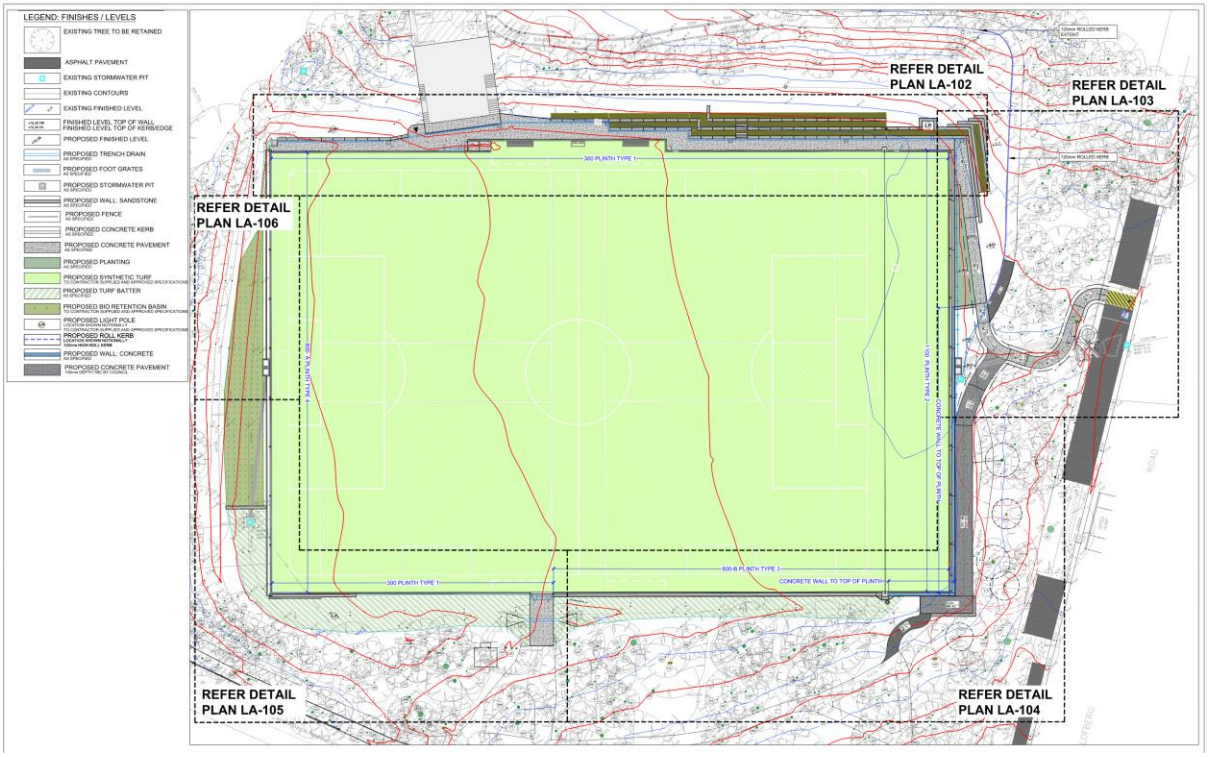

The D&C contractor is to confirm that the works have been completed in accordance with the stamped approved drawings and the overland flow path additions and levels provide to ensure the design complies.

Yours Faithfully

Orion Consulting Engineers Pty Ltd
Technical Director | Stephen Brain
BE Civil (hons), MIE Aust, CPEng, NER 474 118, PRE0000910, DEP0001178, PDP0000390

Appendix A – Flood Impact Assessment and Stormwater Detention System Review Report

Detailed Flood Impact Assessment and independent sign off

Norman Griffiths Oval Upgrade Works

Prepared by Orion Group for

Ku-ring-gai Council

September 2024

24-0468

ORION

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Document Control

Revision	Prepared by:	Approved by:	Date:	Description:
001	Stephen Brain	Stephen Brain	29/8/2024	Issue for review
002	Stephen Brain	Stephen Brain	19/9/2024	Independent review issue

Contents

List of Figures

1. Executive Summary

Preliminary Flood impact Report

. Need for an independent sign off

Council have not had an independent flood specialist confirm the design will work as a detention tank nor be flood proof.

Council requires an independent sign off that the completed Norman Griffiths Oval development will work as a detention system, and that the oval is not inundated in storm events up to the 1% AEP event.

Council commissioned Orion to provide an initial flood and drainage modelling review which identifies compliance with catchment assessment practice flood modelling and detention modelling.

Orion undertook to identify areas of additional work required for the TUFLOW flood model using the proposed oval development and the drains model to enable a clear analysis of the predevelopment flood condition versus the post development condition.

This work stage included a review of the detention volume provided in the subsurface system and any amplification recommended.

Detailed Flood Assessment

Stage 2. In This report Orion has provided an independent analysis to allow sign-off of the Normal Griffiths oval works in terms of its flood protection level, and the compliance of the on-site stormwater detention volume provided in the design and that constructed by close analysis of the Tuflow model and drains models as recommended in stage 1 and close analysis of the as built site records.

PMF Analysis

Stage 3. Provide PMF analysis in TUFLOW and afflux analysis to identify the impact caused by the works under construction

Outcome

As a result of our analysis, we are willing to sign off on

1. the diversion of the overland flow flood risk in the 1% AEP storm event from the upstream catchment east of Lofberg Road Quarry creek around the oval site, provided

   a. the 3m wide concrete pathway specified at the levels specified is constructed in accordance with our markups to ensure sufficient capacity is provided for the overflow occurring in this flood event.
   b. The diversion wall is constructed to the top of wall levels we have specified
   c. The drainage at the base of the bleachers is installed and maintained.

2. The compliance of the on site detention storage under construction provided
   a. the specified volume is achieved which will remain below the playing surface level in the 1% AEP storm event.
   b. We can rely on the site based testing results provided by JK geotechnical engineers on the void ratio for the detention storage rockfill at 36% versus the 40% specified in the Stamped approved drawings.

3. Our recommendation to address the settlement risk of the field drainage media and playing surface bedding media is addressed by the addition of a bidim later between the detention storage rockfill and the bedding layer for the shockpad and playing surface to limit settlement of the playing surface via material loss from the bedding layer into the detention storage layer, **or** a suitable guarantee is provided that the contractor will make good on settlement defect for the period of the defects liability period.

2. Introduction

Orion has been engaged by Kuring-Gai Council to provide flood impact advice for the Norman Griffiths Oval Redevelopment works

As the analysis completed to date did not have detailed modelling of the proposed works in QGIS and modelling in Tuflow, we were not able to assess the HGL level in front of the wall, other than identifying that the overflow over Lofberg road is over 2cum/s and the capacity of the void behind the wall constructed will not accommodate over 2 cum/s.

The options considered were

1. widening the overflow channel
2. raising the proposed retaining wall west of Lofberg Road.
3. allowing flow over the wall and onto the oval in storms less than the 1% AEP event.
4. Tuflow confirmation recommended for upstream effects of the constructed wall and to assess the overland flow path capacity.

Our flood preliminary advice report for the proposed oval redevelopment works included.

• Reviewing existing information including Council flood maps and studies, stormwater asset maps, survey and as-built information where available.

• Detailed study to review available data/model(s), Council information and the Council Flood Model and all relevant data and models. Include information of the existing situation as well as the future situation, after development of the area.

• Assess Flood Planning Level (FPL) and freeboard requirements in accordance with Council policy; and · Determine catchment hydrology.

• Recommendations to mitigate potential risks to overland flow and to meet the requested 1%AEP protection of the Oval.

Figure 1 – Norman Griffiths Oval – Six Maps

Figure 2 – Norman Griffiths Oval – Nearmap 14 July 2024

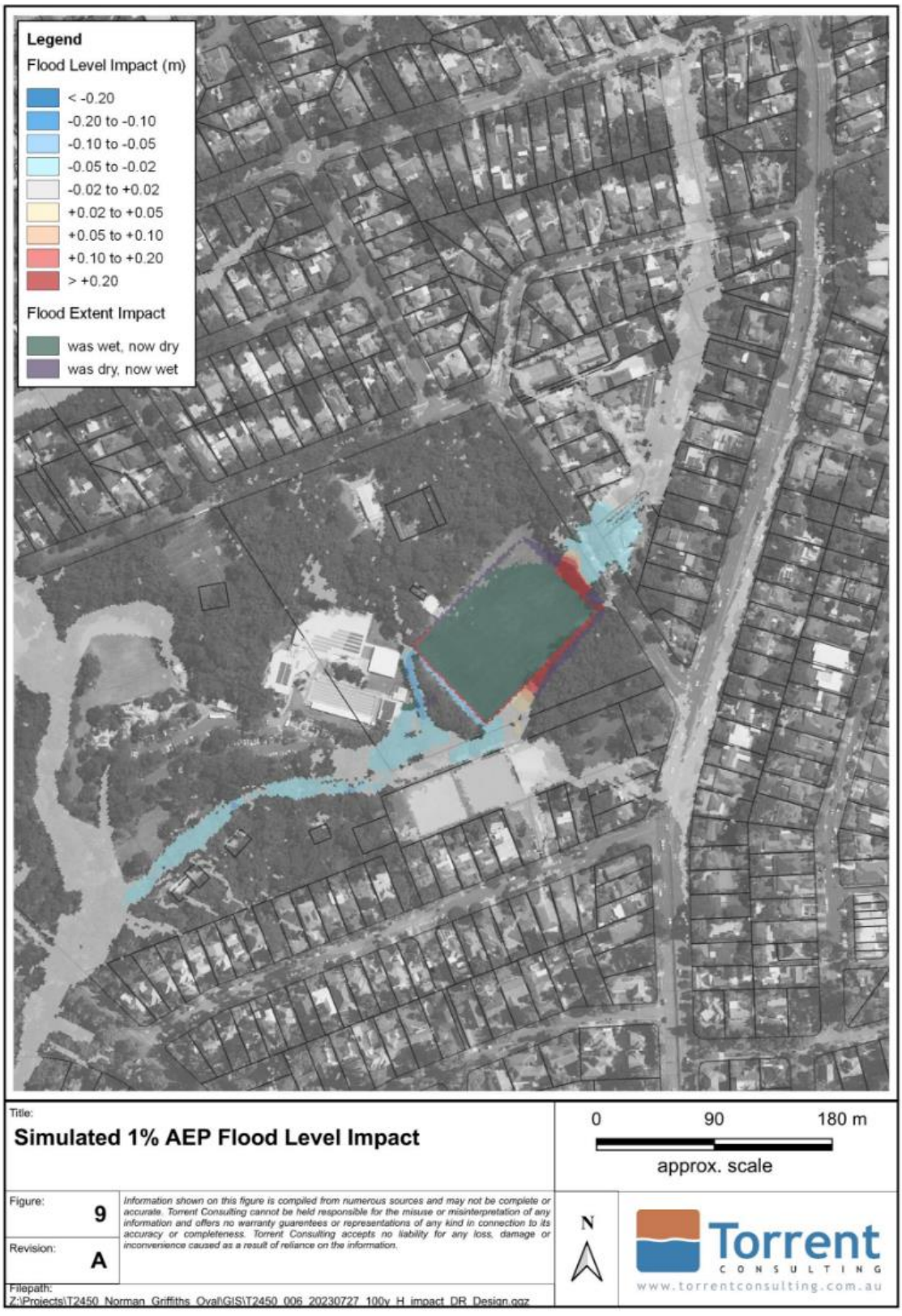


Figure 3 – 1% AEP Flood impact of the proposed oval works by Torrent

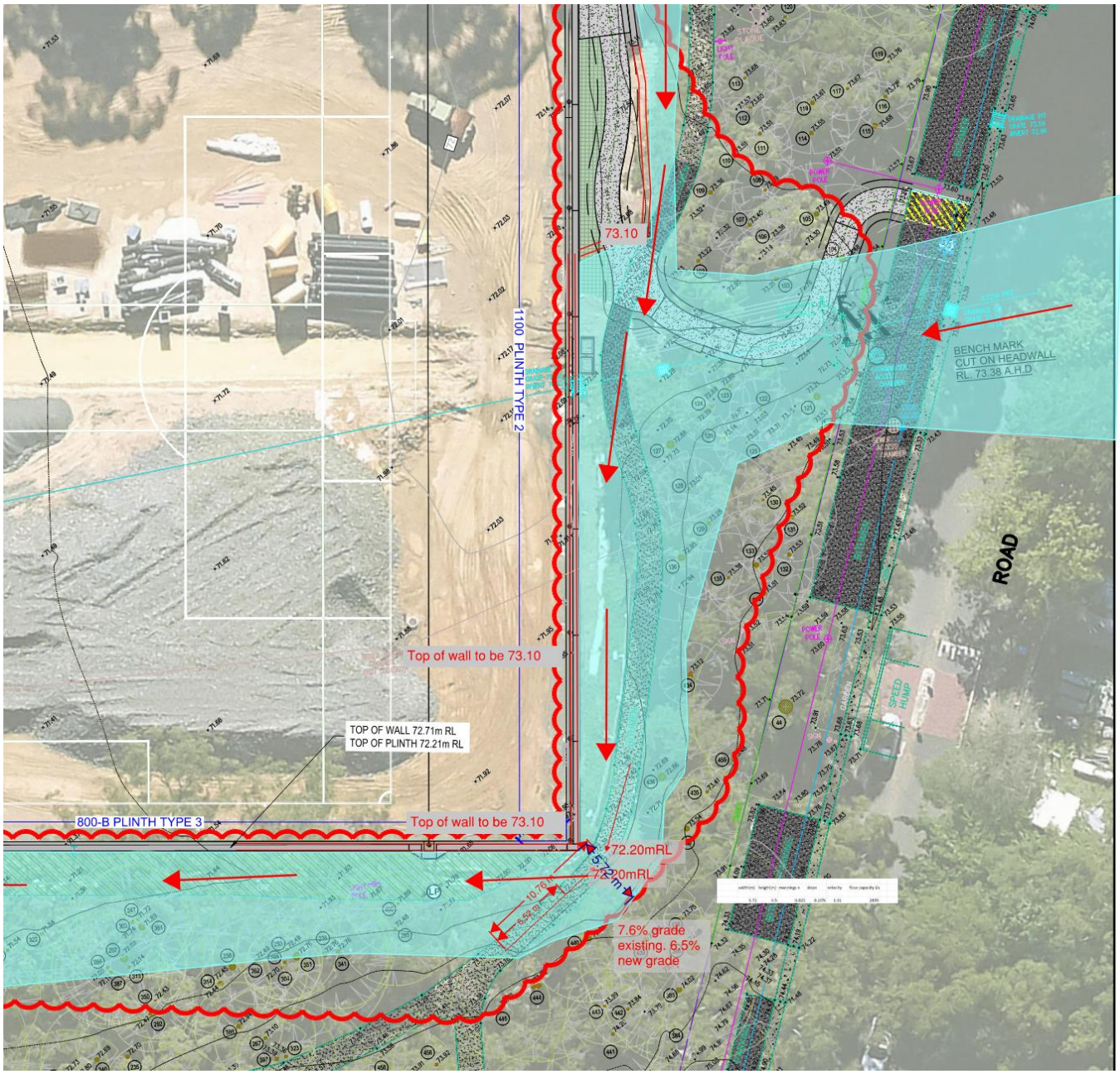


Figure 4 – 14 June Advice for works required

Figure 5 – Upstream Catchment, about 7cum/s total flow predicted for the 1% AEP event

2. Council request the documentation that assures the community that this sports field will work as a detention basin and is floodproof. This will require a review of the flood assessment and modelling of the entire system.

This documentation will give the community assurances that this design will work given the seriously concerning background we have highlighted in this letter.

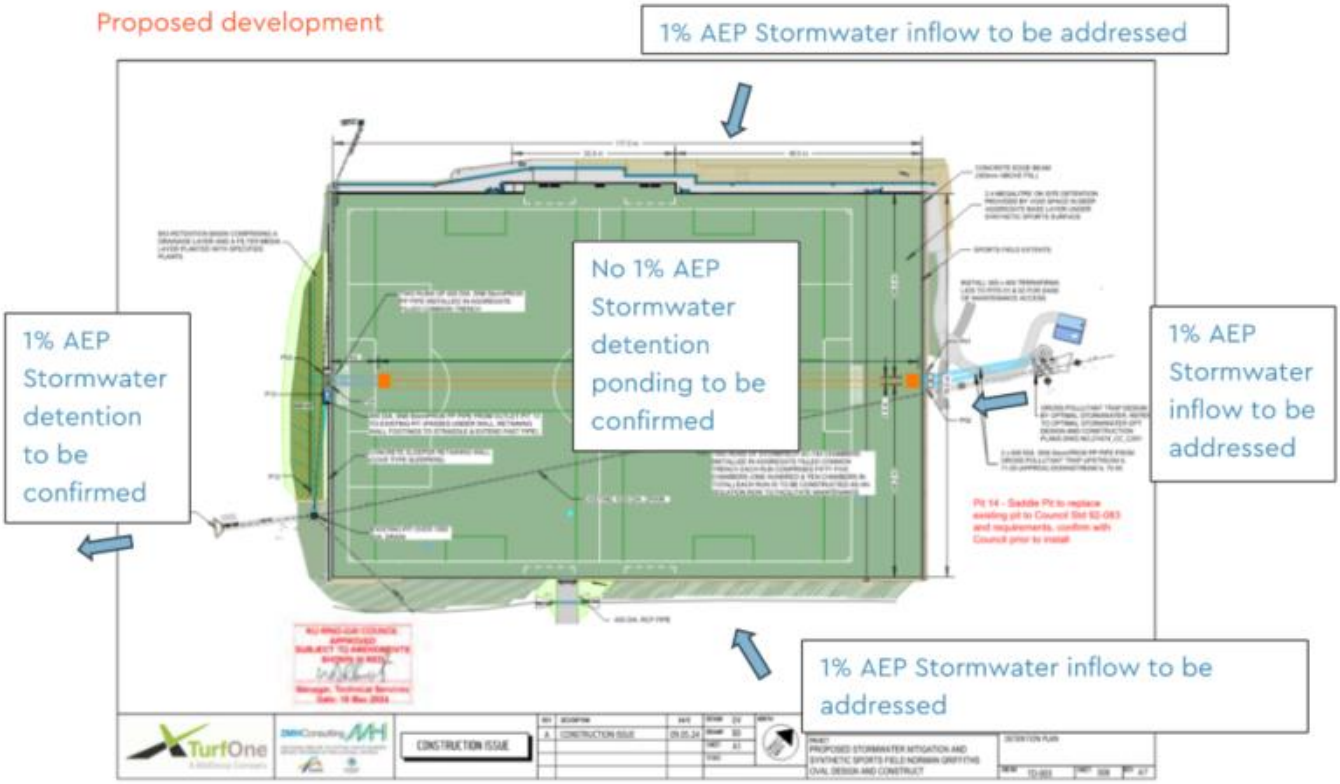


Figure 6 – Return brief to Council

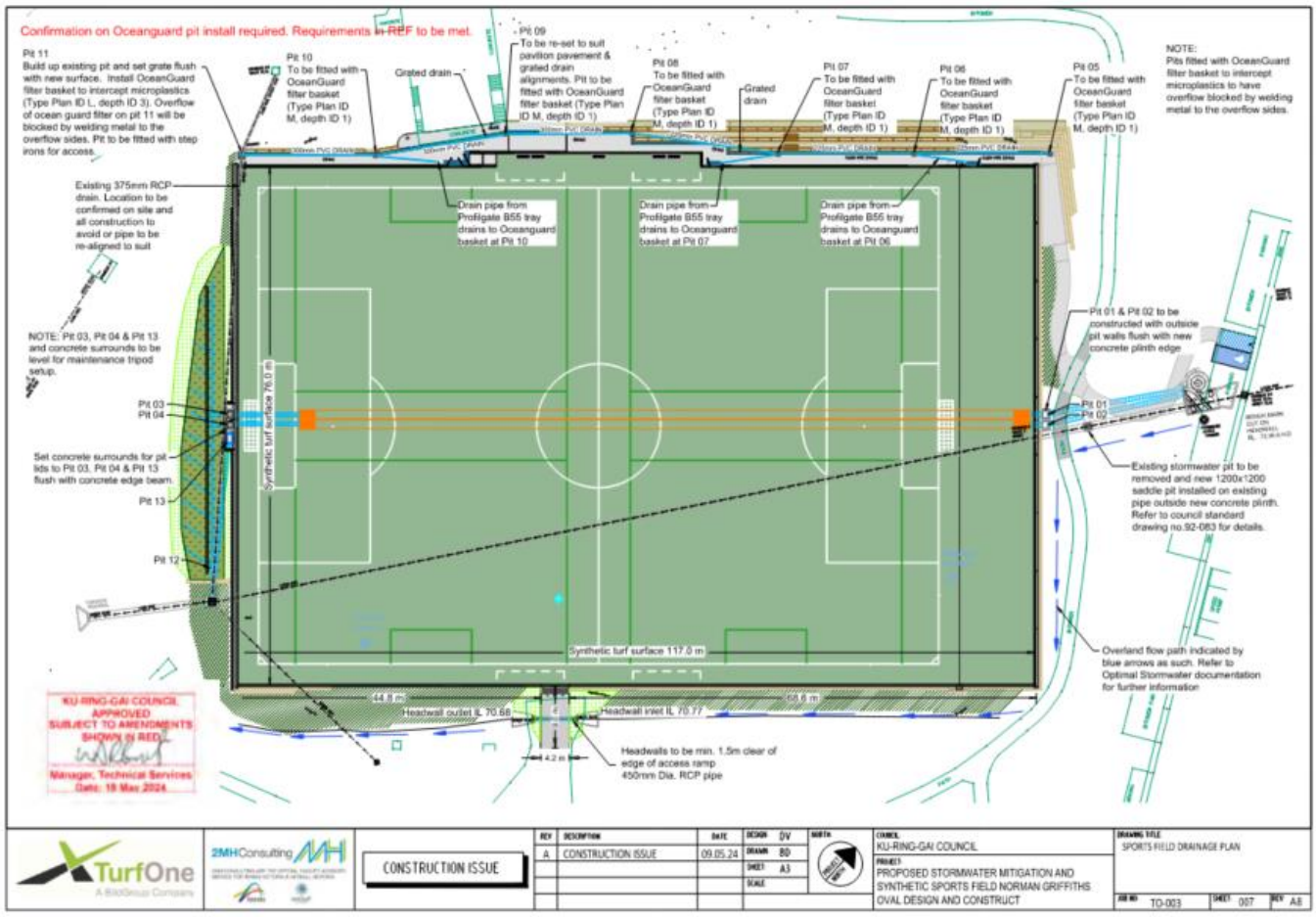


Figure 7 – Stamped Stormwater Drainage Plan

3. Preliminary Flood Impact Report

Orion have completed a preliminary flood impact review of the proposed redevelopment of Norman Griffiths Oval at 2 Lofberg Road, West Pymble.

We have received the following documentation for our review:

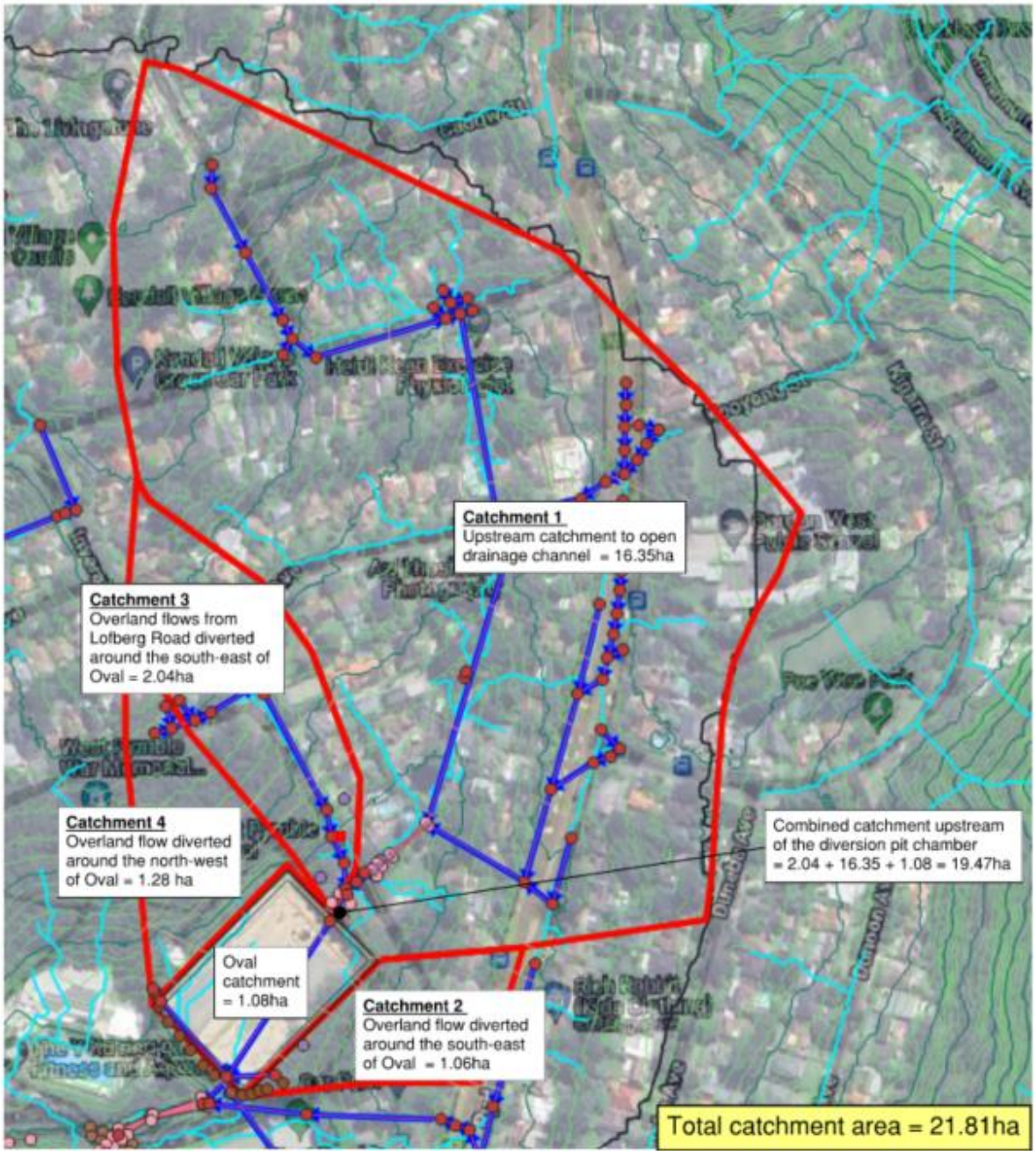
i. Design drawings: *"2024.05.17 – IFC – NORMAN GRIFFITHS SOCCER PITCH PLANS – Approved Set"* by 2MHConsulting (dated 9th May 2024)
ii. Memo: *"Overland Flow Path Assessment – Feb 2024"* by Optimal Stormwater (dated 18th Feb 2024)
iii. Updated Memo: *"Technical Memorandum – Norman Griffith Oval – Update 1.3.24"* by Optimal Stormwater (dated 1st March 2024)
iv. DRAINS Model
v. TUFLOW Model (updated TUFLOW Model received 26/6/2024)

At this stage of the review, we provided our assessment of the TUFLOW model, DRAINS model and documentation to address compliance with the 1% AEP protection for the oval via the upstream wall, overland flow path capacity, adequate detention function and provide our recommendations for further design considerations.

1. Upstream Catchment Review

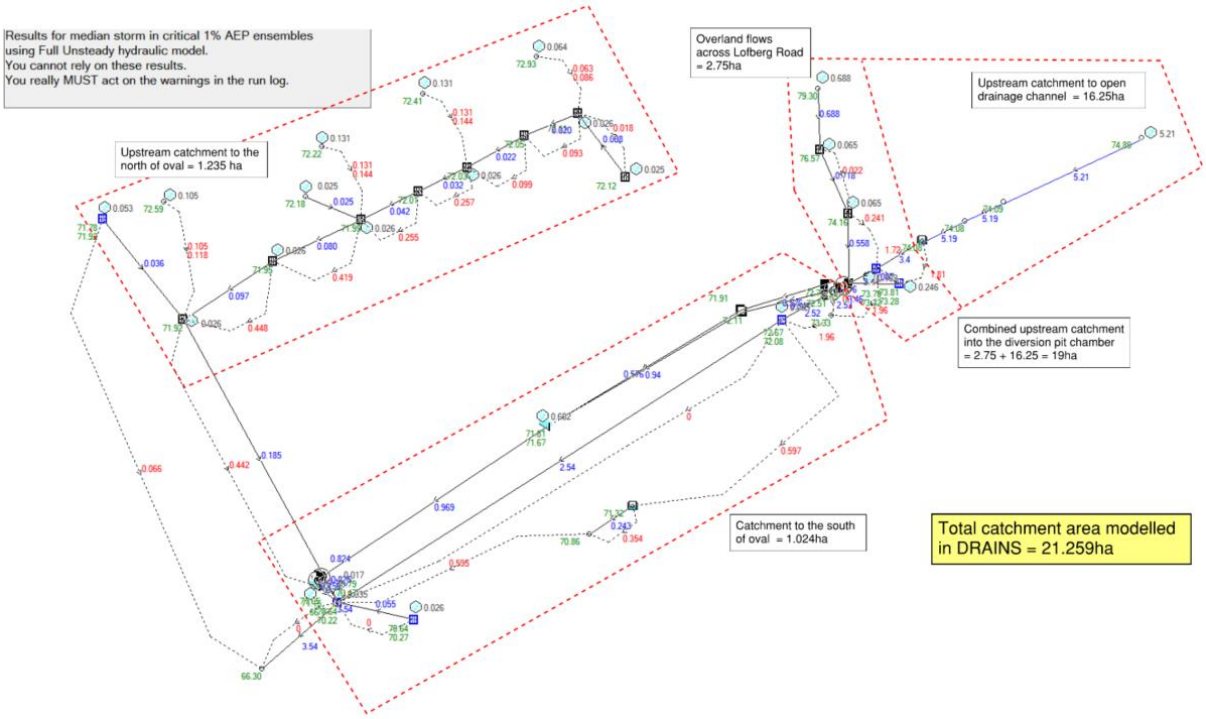
Upon preliminary assessment, it appears that the Oval is impacted by approximately 21.81 ha of contributing upstream catchment which ultimately drains into Quarry Creek. The upstream catchment can be roughly delineated into four main sub-catchments as shown in Figure 1 below. The primary contributing catchment comprises of approximately 16.35ha with a stormwater network connecting into a concrete-lined open channel at the upstream of Lofberg Road. Overland flows from 'Catchment 2' and 'Catchment 3' are conveyed around the south-west perimeter of the Oval, whilst 'Catchment 4' is diverted around the north-west side of the Oval before discharging into Quarry Creek.

Figure 1. Preliminary Catchment Delineation



The total catchment area included in the DRAINS model received from Council is 21.259ha. As a catchment plan has not been provided, the individual sub-catchments cannot be verified, however from our understanding we have assumed the catchment breakdown shown in Figure 2 below.

Figure 2. Assumed Catchment Delineation



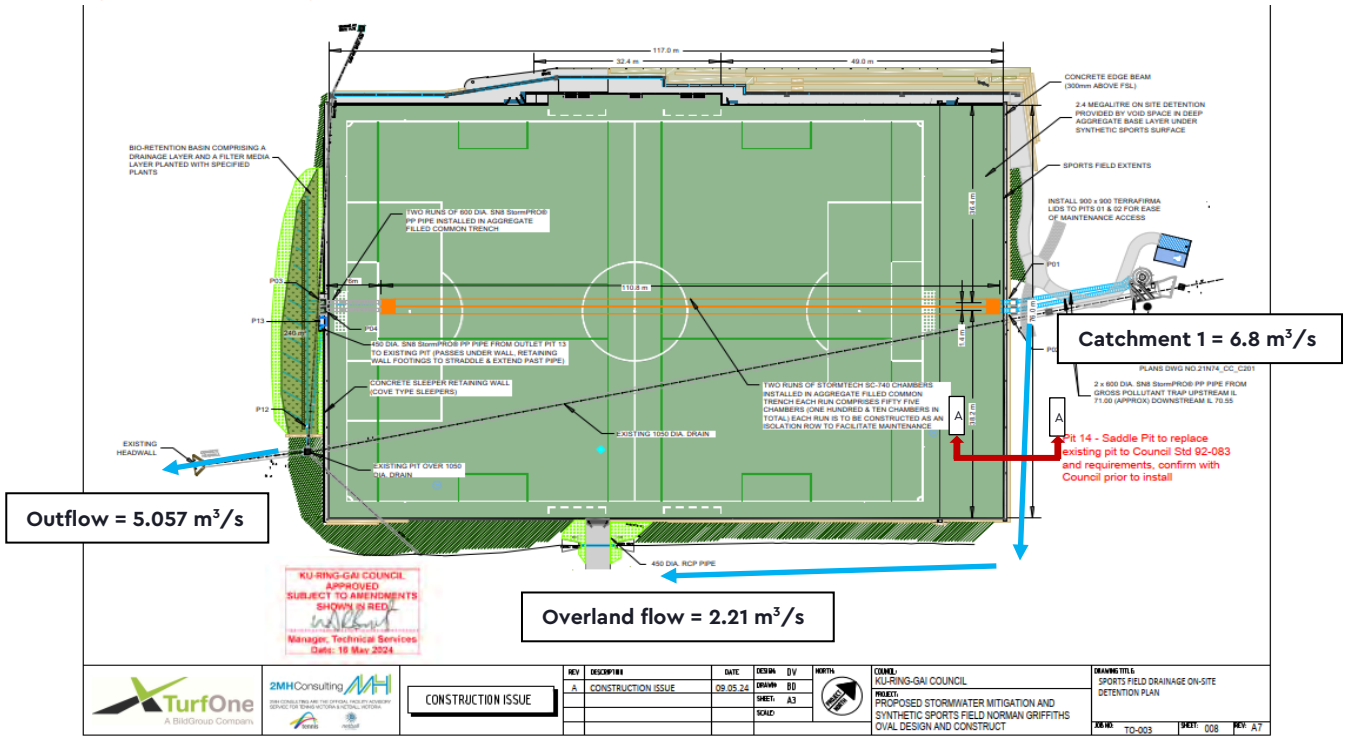
2. Preliminary DRAINS Analysis

At a high-level analysis of the upstream catchment, we have calculated these contributing catchments to Norman Griffiths Oval will produce roughly 6.8m^3/s in the 1% AEP in the existing condition. The breakdown of contributing flows is shown in Figure 2 below. A summary of the design parameters made to the DRAINS model has been summarised in Appendix A.

2.1. Overland Flow Path Capacity

The overland flow path diverted around the eastern and southern perimeter of the oval requires 2.41m^3/s of overland flow capacity without overtopping the proposed and partially constructed concrete plinth structure.

Figure 3. Flow Summary



We note the required cross-sectional area of the overland flow path is 1.2m^2 at a slope of 0.5% and velocity of 1.84m/s to safely convey these flows. Please see the recommended options provided in the section below which allows for conveyance of the 2.21m^3/s of overland flow.

3. Design Considerations & Recommendations

3.1. TUFLOW Model

Upon review of the TUFLOW model files, it appears the following are missing from the TUFLOW model package received from Council:

- 1d_xs cross section data
- 2d results files

The cross-section data defining the open drainage channel upstream of Lofberg Road has not been provided. There is potentially missing 1D/2D connectivity linking the upstream catchment conveyance through the channel. The dimensions of the drainage channel is required to be confirmed via the defined cross-section data.

We strongly recommend including the finished design surface of the oval and surrounding concrete plinth structures in the TUFLOW model. This will provide confirmation of the extents of overland flow paths and verify if the levels of the concrete plinth are sufficient to protect against overtopping onto the oval. This will confirm the impact of lifting the wall height as we do not want to create adverse flooding impacts upstream. No additional TUFLOW modelling was conducted at this stage.

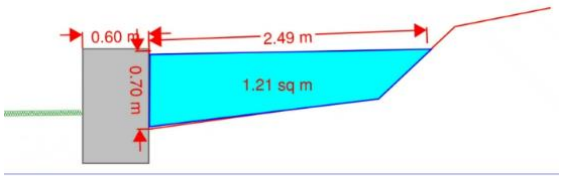
3.2. Stormwater Diversion Chamber

We have amended the weir arrangement in the pit diversion chamber to reflect the weirs built. We require confirmation of the cross-sectional area above the second weir structure to confirm flow capacity through the 1050dia pipe.

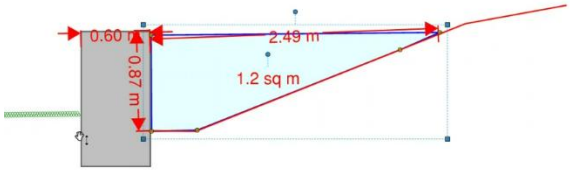
3.3. Final Recommendations

- The OSD has been designed with a capacity of 2.44 megalitres with an assumed void ratio of 40%. To confirm the OSD volume, we recommend the following to be completed: geotechnical testing and sampling of the proposed aggregate required to confirm the void ratio.
- We recommend providing a geofabric lining between the 50-150mm rock layer and finer aggregates to minimise the risk of settlement.
- We recommend the infiltration rate of the shockproof pad is confirmed by council.
- We recommend Council to confirm the decision on approach to achieve the overland flow capacity for the 2.21m^3/s flowing on the eastern and southern boundaries of the oval, if the boundary wall is raised then the potential flood effect of the raised wall should be tested by modelling the raised wall in TUFLOW with the proposed wall structure.

Option 1:

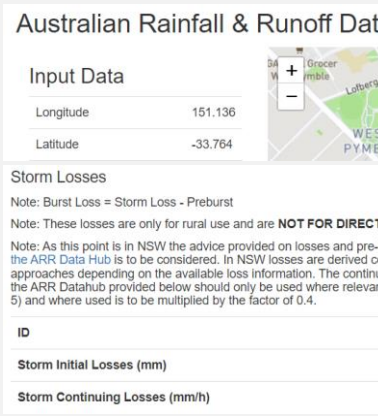


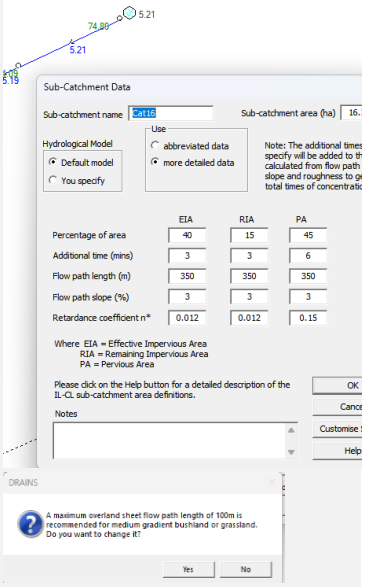
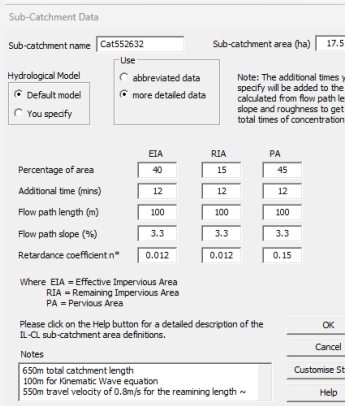
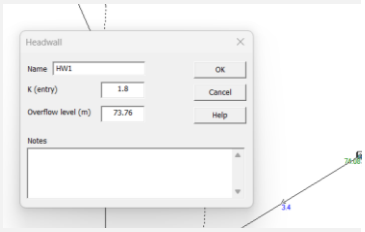
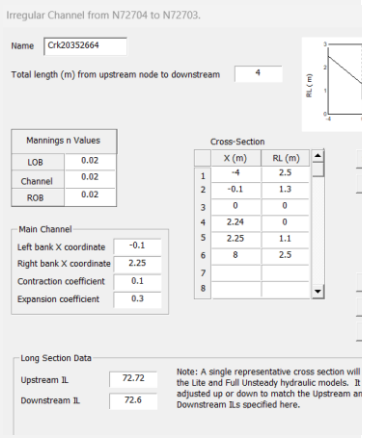
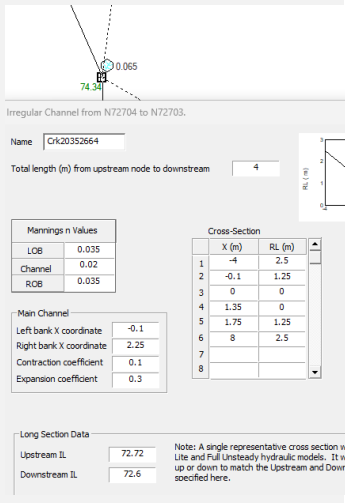
Option 2:

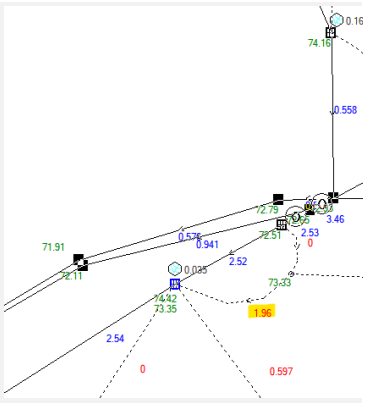
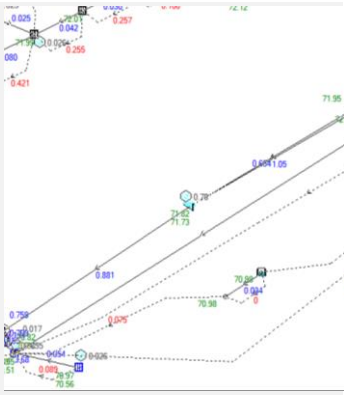
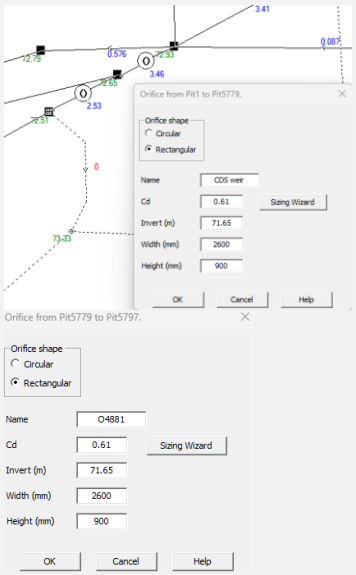
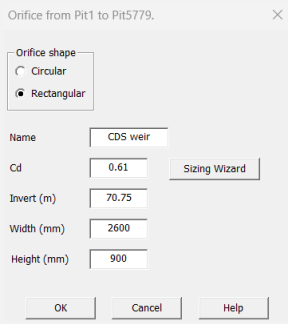
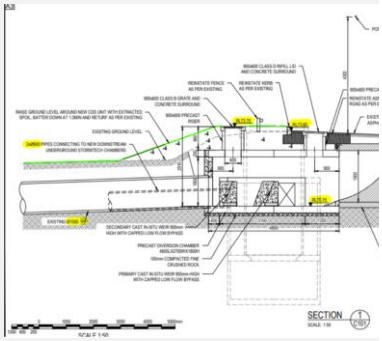
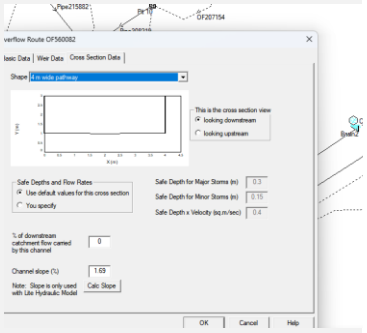


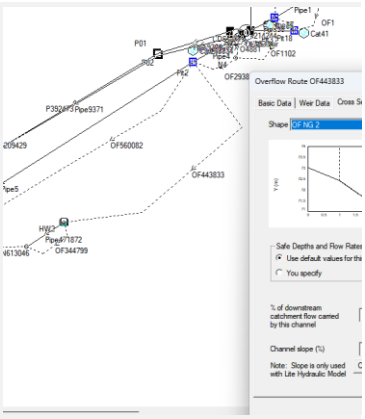
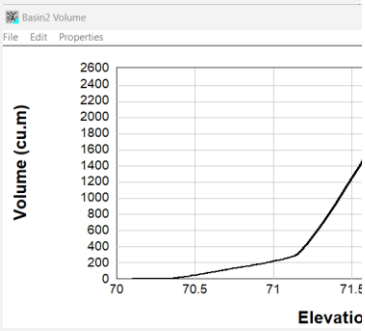
- Regardless of the wall solution, we recommend the proposed oval structures and stormwater system be modelled in TUFLOW to confirm the effect of the proposed development on upstream residential properties.

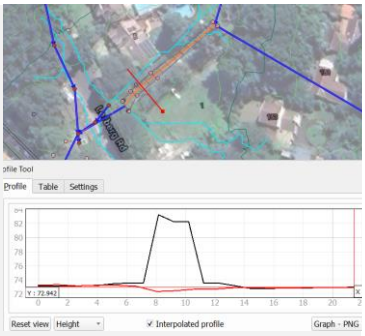
Appendix A

Item	Parameter	Existing Value from Council DRAINS Model	Updated Value 25/06/2024	Review Comments
1	**Catchment Analysis**			
1.1	**Catchment plan**	Sub-catchment plan not provided.		Sub-catchment plan identifying delineated catchment areas modelled in DRAINS required for review.
1.1	**Upstream catchment**	Total catchment modelled = 21.259ha Refer to Figure 2.	Total catchment delineated = 21.81ha Refer to Figure 1.	Confirm upstream catchment area includes all overland flows (refer to Figure 1 for catchment delineation)
1.2	**LIDAR/Survey**		LIDAR from Elvis – 1m grid, 2020	Confirm LIDAR and survey data used for DRAINS and TUFLOW modelling is consistent.
2.	**Hydrology**			
2.1	**Initial Loss - Continuing Loss Model**	Pervious Area Initial Loss = 27.4mm Pervious Area Continuing Loss = 1.8 mm/hr	Hydrology remains unchanged.	Note: ARR Data Hub recommends the continuing loss to be multiplied by the factor of 0.4. Losses have potentially been overestimated. Values from ARR Data Hub: Initial Loss = 33.0 mm Continuing Loss = 1.8 mm/hr Design summary to include justification of the values used. Sensitivity testing is also recommended to consider alternative hydrological models.  Australian Rainfall & Runoff Dat Input Data Longitude 151.136 Latitude -33.764 Storm Losses Note: Burst Loss = Storm Loss - Preburst Note: These losses are only for rural use and are **NOT FOR DIREC** Note: As this point is in NSW the advice provided on losses and pre- the ARR Data Hub is to be considered. In NSW losses are derived o approaches depending on the available loss information. The contin the ARR Datahub provided below should only be used where relevar 5) and where used is to be multiplied by the factor of 0.4. ID Storm Initial Losses (mm) Storm Continuing Losses (mm/h)

2.2	**Kinematic wave equation (Tc)**	Kinematic wave equation applied across a 350m flow path length for the catchment. 	 Kinematic wave equation for the upstream 17.5ha catchment: - 650m total catchment length - 100m for Kinematic Wave equation - 550m travel velocity of 0.8m/s for the remaining length ~ 12mins	We note that this method of calculation is generally applicable to overland sheet flows in catchments with shallow slopes for flow paths up to 100m, and suitable for catchments with fairly uniform slope and roughness. The catchment comprises of approximately 3% slope and 60% impervious. Design summary to provide justification for the Tc calculations.
3.	**Hydraulic Structures**			
3.1	**K factor at headwall (entrance loss coefficient)**	K=1.8 	K=0.5	Entry loss coefficient adjusted to K=0.5 for the headwall located upstream of Lofberg Road. Representative of concrete headwalls with wingwalls at 10 to 25° (HEC-RAS manual, QUDM) A higher entrance loss coefficient reduces the passage of flows through the pipe system and increases overland flows.
3.2	**Open drainage channel dimensions**			The Mannings value of the upstream channel has been applied as n=0.02 for the channel, LOB and ROB applied across the 12m width of the defined flow area. Overbanks updated to a higher Mannings value to represent the vegetation adjacent to the length of the channel, n=0.035 for light brush on banks (Chow, 1959) The channel structure was measured to be 1.30m base width, 1.75m top width, 1.25m depth from site visit. Variations in the cross section of the channel to be confirmed in the

				cross-section data modelled in TUFLOW.
3.2	**Connectivity of overflow route**			Overflow route to be connected to the downstream pit to ensure the 2.21m³/s is conveyed as overland flow. In the DRAINS modelled received from Council, the overflow route is modelled to enter Pit2, however should instead be diverted to the downstream node.
3.4	**Diversion chamber / weir configuration**			The weir has been modelled in the existing DRAINS model as an orifice with an invert of 71.65 and dimensions of 900mm x 2600mm. We have amended the weirs in the DRAINS model to reflect a 900mm high weir with the invert level set at the invert of the built pit chamber at 70.75. 
3.4	**Overland Flow Paths**	Currently modelled as a 4m wide path 		Overland flow path to be updated in DRAINS to reflect a narrower cross section through the bushland area, with the concrete plinth level of FL72.11 added to reflect flow diversion around the oval. 4m wide flow path does not reflect existing conditions. Noting the extent of the overland flow path is limited by ecologically protected bushland. This is also required to be modelled in TUFLOW to accurately represent overland flow extents and depth across the 2D domain.

3.5	**Overland Flow Paths**			Overland flow path to be revised.
3.6	**OSD Volume**	Volume modelled = 2421.83m3 		Volume in the system reflects the design 2.4 megalitres. Geotechnical testing required to confirm the 40% void ratio as specified in the design drawings.
4.	**TUFLOW Model**			
4.1	**Catchment delineation**	2d_code and catchment boundary data provided, however sub-catchment delineation GIS files not provided.	No additional TUFLOW modelling performed.	Sub-catchment delineation for the TUFLOW model to be provided for review and comparison against the catchments modelled in DRAINS.
4.2	**1d_xs cross section database**	1d_xs data not provided, missing connectivity between open drainage channel and downstream pipes. 	No additional TUFLOW modelling performed.	1d_xs database and 1d_xs.csv files e.g. "USC_000.csv" to be provided to verify the defined cross-sectional areas and confirm whether missing 1D/2D link conveyance of upstream catchment conveyance via drainage channel. TUFLOW model with the 1D links to be provided.
4.3	**Terrain data**	A profile section was taken across the drainage channel from the NGO_Base_ARR1987_100y_60m.2dm output file which shows an unusually high elevation throughout the channel.	No additional TUFLOW modelling performed.	The base topography data was not provided, the .2dm elevation output file was used to roughly check for any 2d anomalies modelled. The .2dm file was checked against (1m grid LIDAR data 2020) All topography source data (LIDAR, survey, design TINs) to be provided for review and to

				verify sub-catchment delineation.
4.4	**Update TUFLOW Modelling**	Finished design surface of the oval to be included.	No additional TUFLOW modelling performed.	TUFLOW model to be re-run with the finished design levels of the oval, and structures already installed on the oval – to verify capacity and extents of overland flow across the 2D model domain. This will confirm the 2.21m^3/s flow from DRAINS, and verify the extents and dimensions of the proposed overland flow path.

4. Detailed Flood Impact Analysis

Orion has provided an independent analysis to allow sign-off of the Normal Griffiths oval works in terms of its flood protection level, and the compliance of the on-site stormwater detention volume provided in the design and that constructed by close analysis of the Tuflow model and drains models as recommended in stage 1 and close analysis of the as built site records.

This stage of works has provided the analysis required for an independent sign-off as to the level of flood protection specified by council, as well as the performance of the oval on site detention system and storage method in the void space of a gap graded gravel layer in accordance with the design plans stamped and approved by Council.

AS part of these works we have provided the following

• Detailed study to review available data/model(s), Council information and the Council Flood Model and all relevant data and models. Include information of the existing situation as well as the future situation, after development of the area.

• Assess Flood Planning Level (FPL) and freeboard requirements in accordance with Council policy; and · Determine catchment hydrology.

• Recommendations for amendments and option for the stamped approved design to mitigate potential risks to overland flow and to meet the requested 1%AEP protection of the Oval and the performance of the detention storage.

5. Reference Documents

In preparation for this Flood Impact Advice, the following documents were referred to:

- Contractor drains model
- Torrent high level flood impact
- Council Brief for Outcome required
- Stamped approved civil plans
- Six Maps
- Nearmap

6. Modified Path design to accommodate overland flow

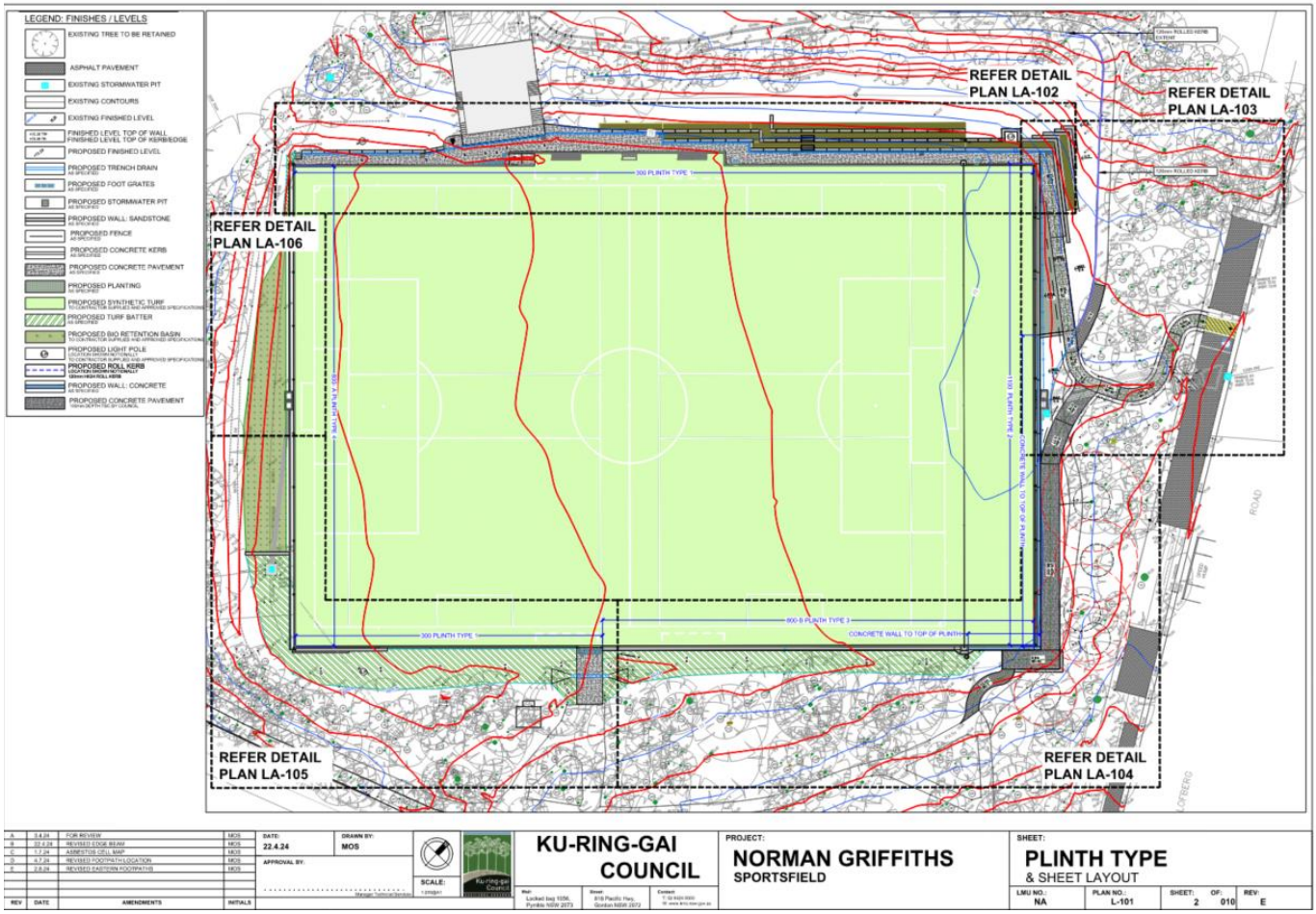


Figure 8 – Modified eastern paths to provide overland flow capacity

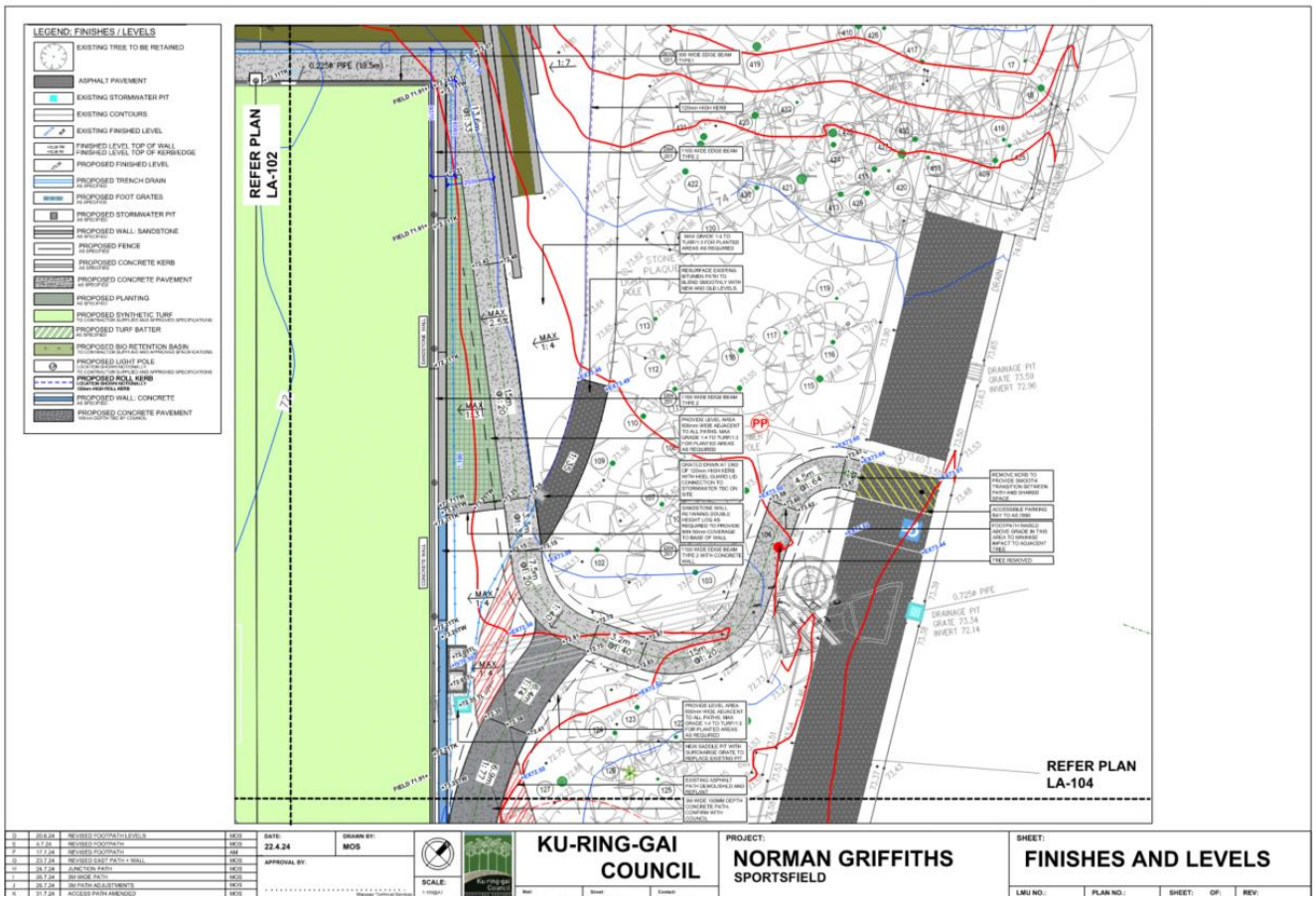


Figure 9 – Modified eastern paths to provide overland flow capacity

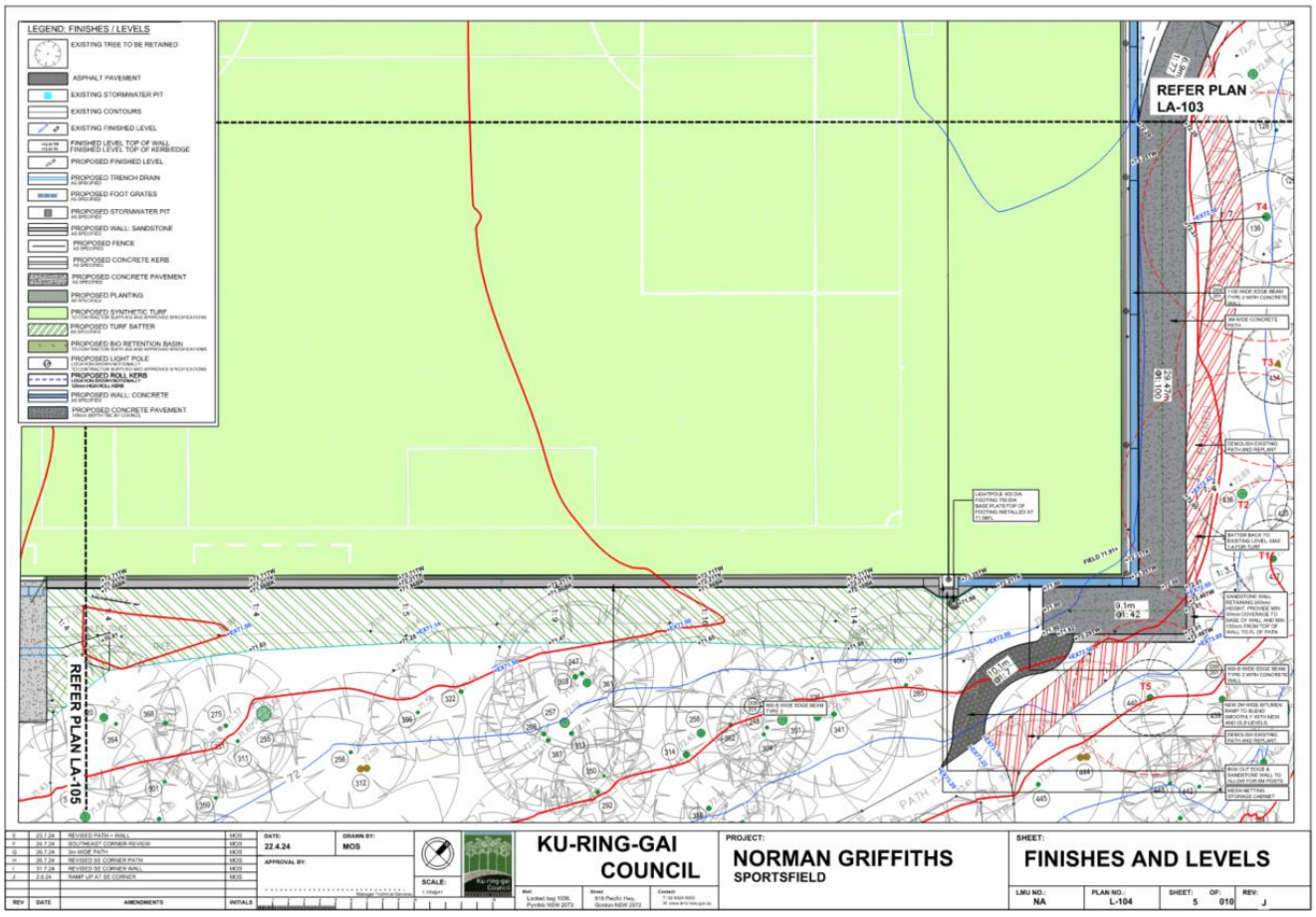


Figure 10 – Modified eastern paths to provide overland flow capacity

7. Flood Impacts

There is predicted flooding on and adjacent the site in the proposed condition

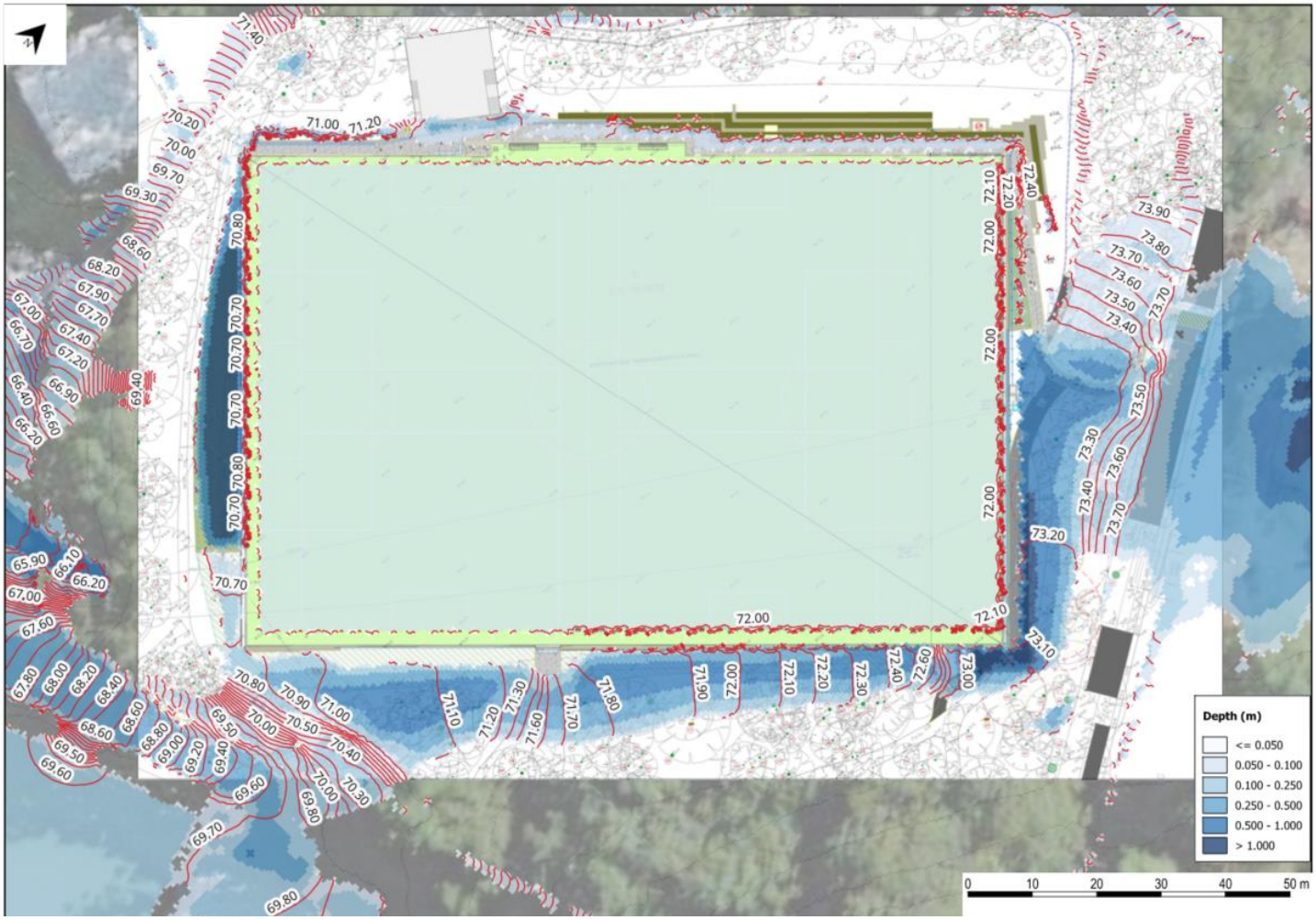


Figure 11 – Design Flood levels (1% AEP) extent with proposed oval and the agreed upstream diversion works in place

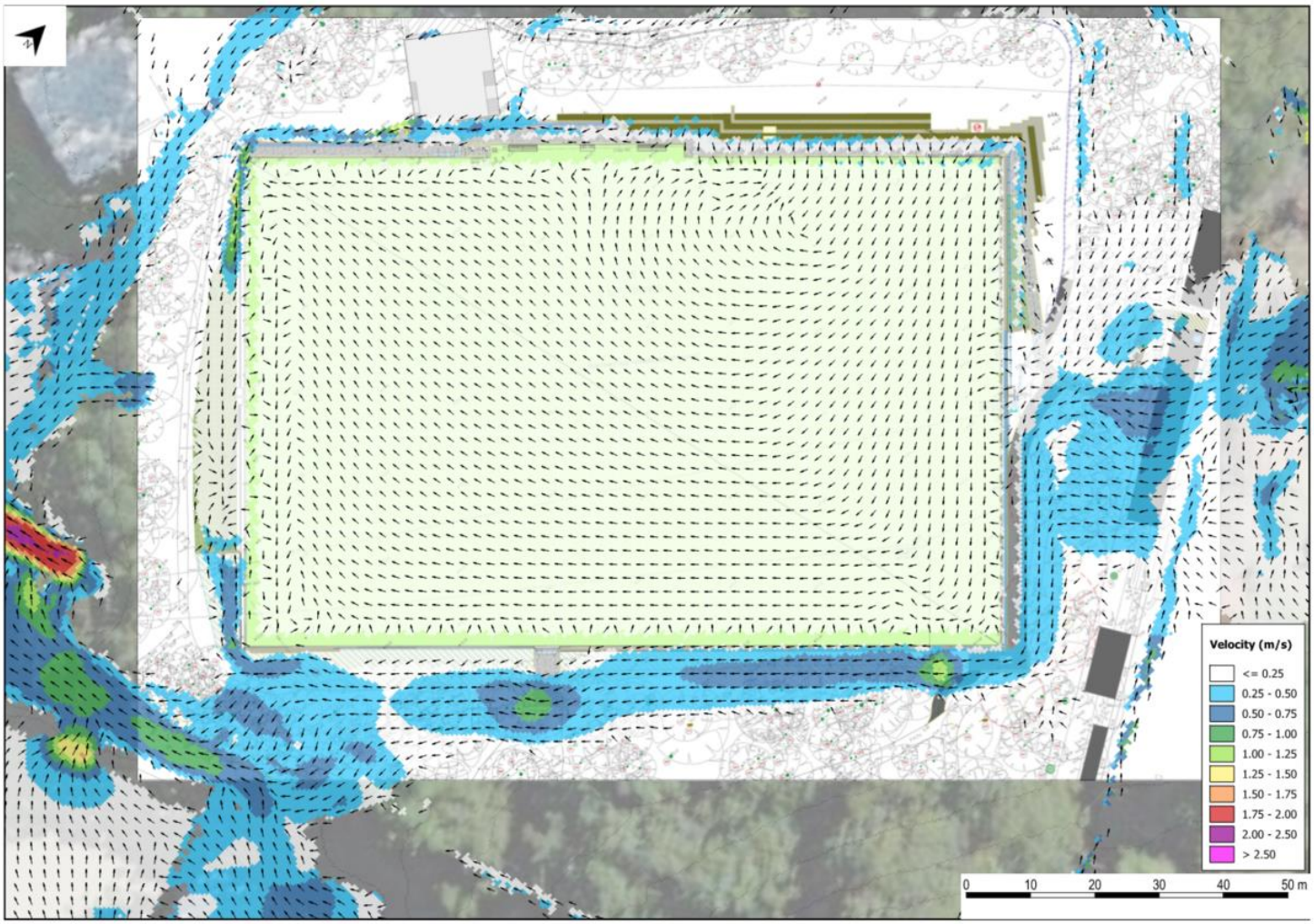


Figure 12 – Design Flood (1% AEP) velocities with proposed oval and the agreed upstream diversion works in place

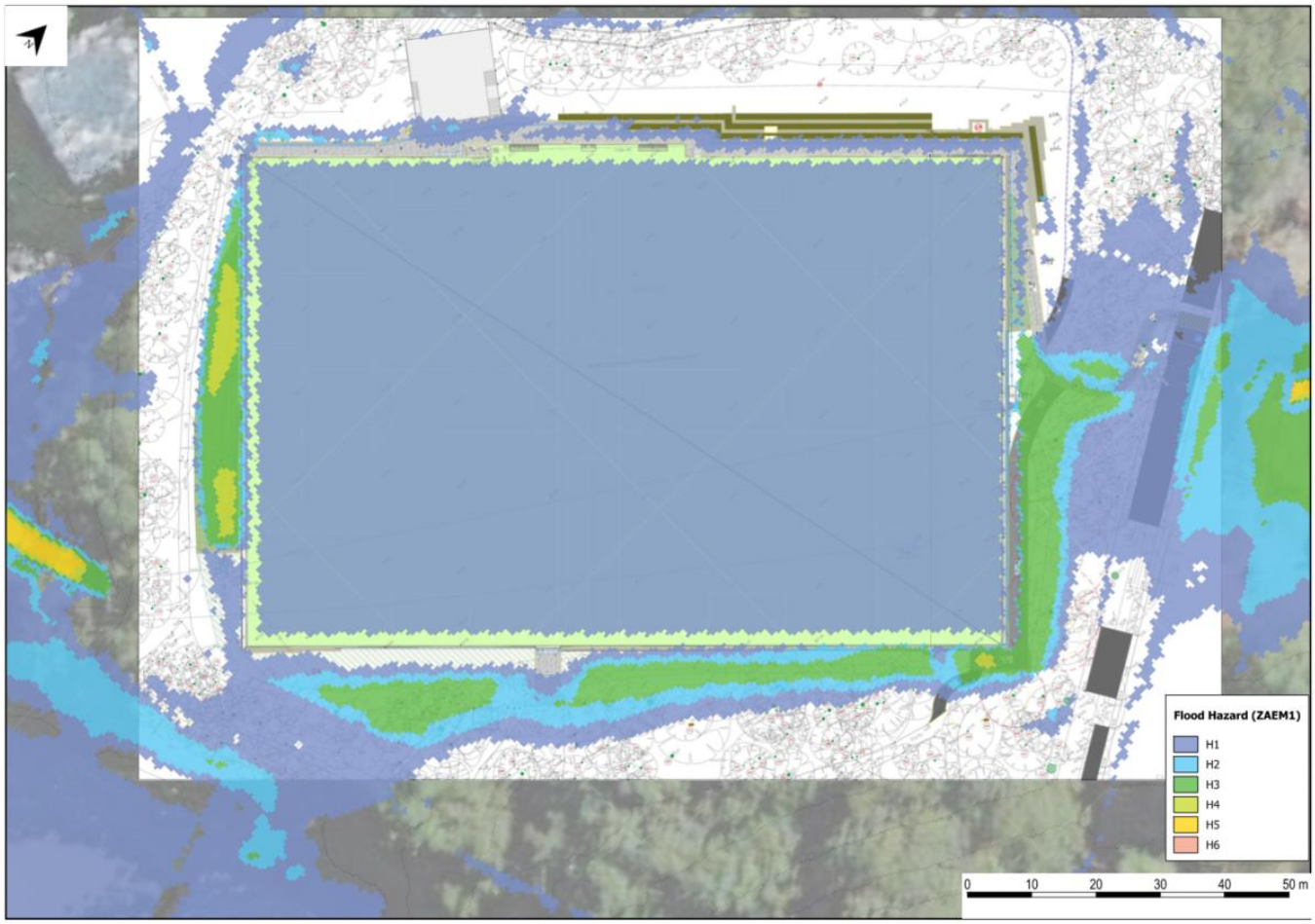


Figure 13 – Design Flood (1% AEP) Hazard with proposed oval and the agreed upstream diversion works in place

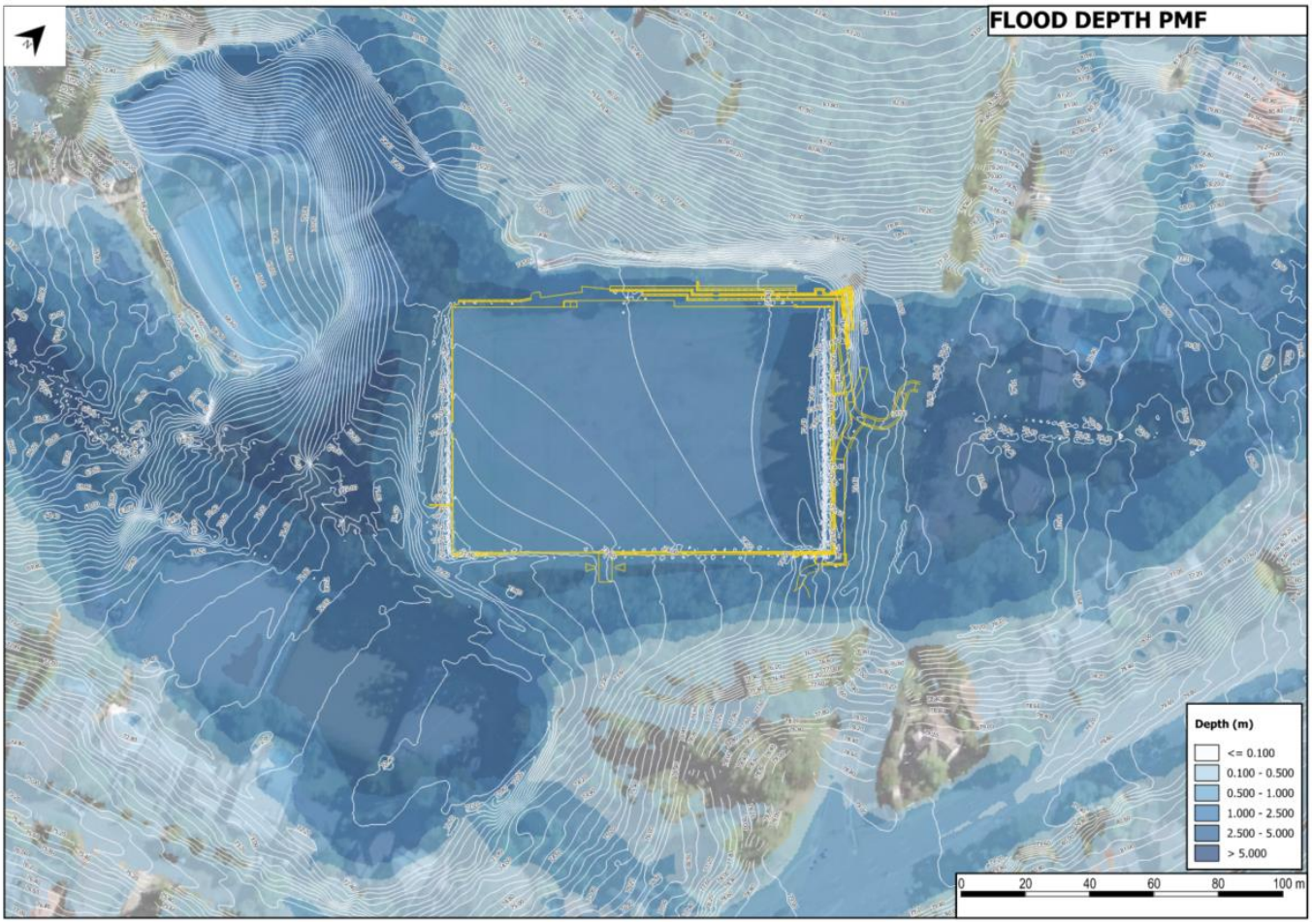


Figure 14 –Flood levels (PMF) extent with proposed oval and the agreed upstream diversion works in place

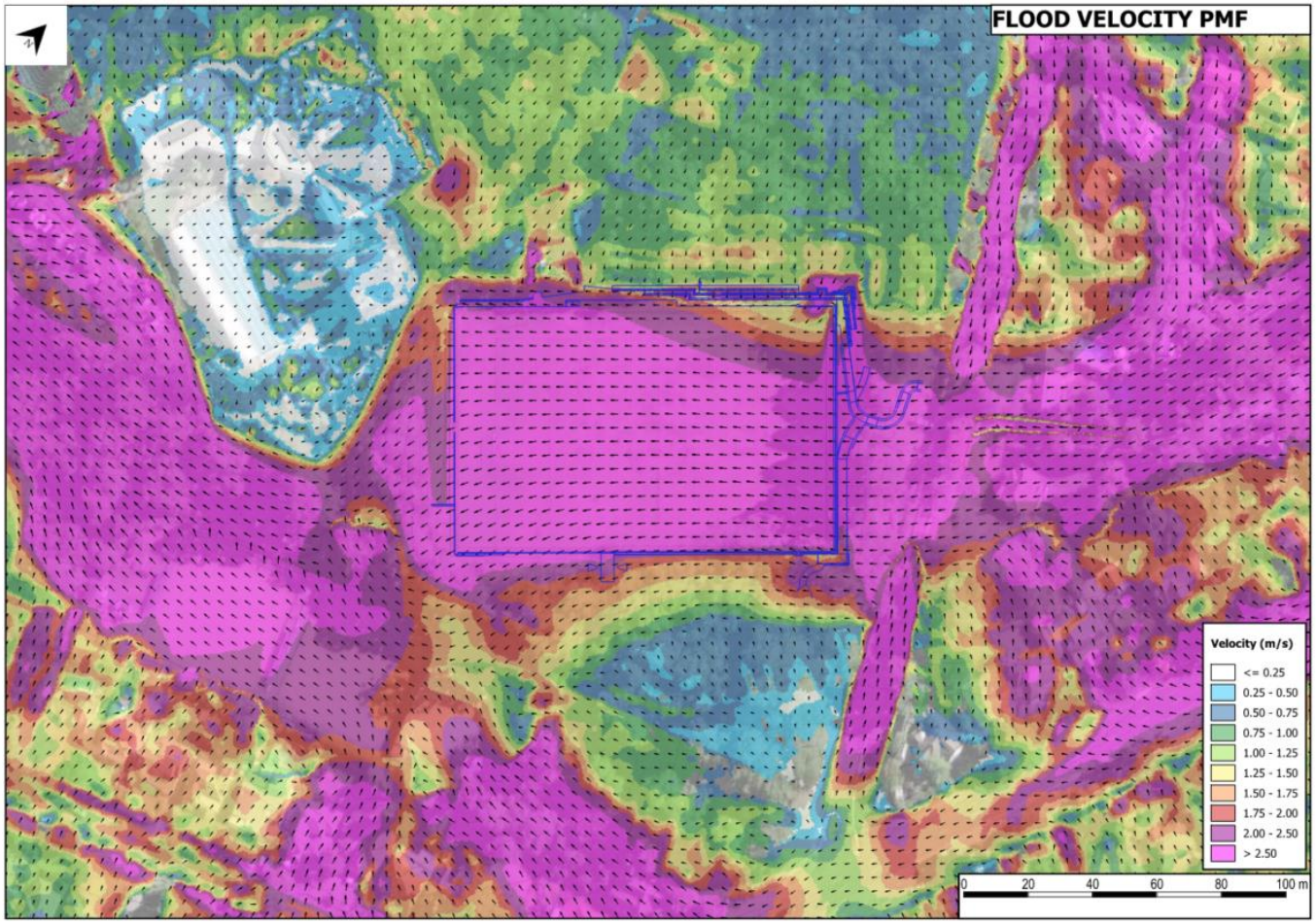


Figure 15 –Velocity (PMF) extent with proposed oval and the agreed upstream diversion works in place

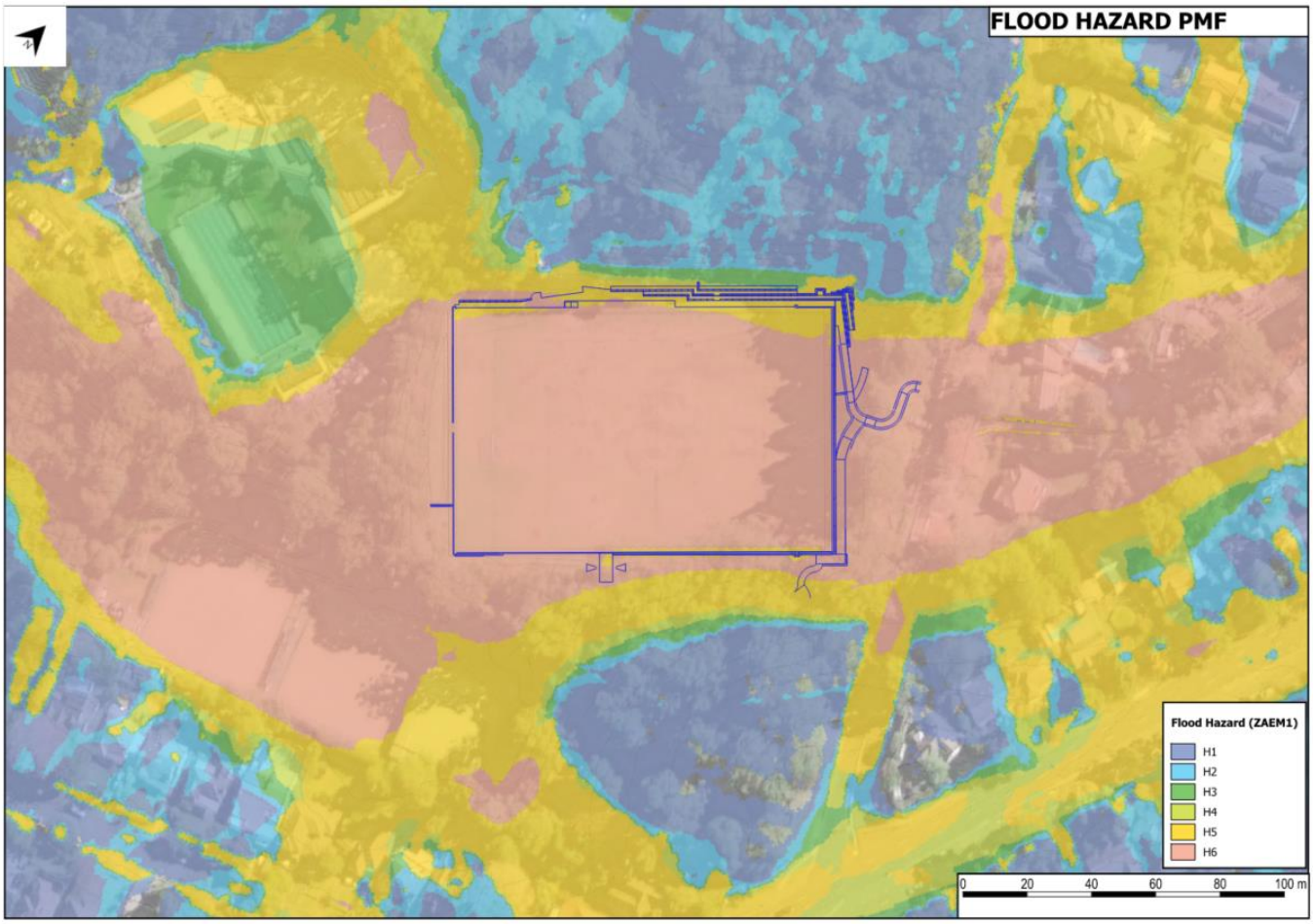


Figure 16 – Hazard for Probable Maximum Flood with proposed oval and the agreed upstream diversion works in place

8. Recommendations for Norman Griffiths Oval

We are happy to sign off on the diversion of the overland flow flood risk in the 1% AEP storm event from the upstream catchment east of Lofberg Road Quarry creek around the oval site, provided

4. the 3m wide concrete pathway specified at the levels specified is constructed in accordance with our markups to ensure sufficient capacity is provided for the overflow occurring in this flood event.
5. The diversion wall is constructed to the top of wall levels we have specified
6. The drainage at the base of the bleachers is installed and maintained
7. Our concerns with the settlement risk of the field drainage media are addressed by the addition of a bidim later between the detention storage rockfill and the bedding layer for the shockpad and playing surface to limit settlement of the playing surface via material loss from the bedding layer into the detention storage layer.

We receive confirmation from a geotechnical engineer on the void ratio for the detention storage rockfill (40% specified)

Yours sincerely,

Orion Group | Stephen Brain – Technical Director

Appendix A – stamped oval drawings

NORMAN GRIFFITHS OVAL, 2 LOFBERG RD, WEST PYMBLE NSW 2073.

SYNTHETIC FOOTBALL (SOCCER) PITCH REDEVELOPMENT

NOTE: PLANS TO BE READ IN CONJUNCTION WITH KU-RING-GAI COUNCIL FINISHES & LEVELS PLAN PLAN NO. L-103.

DEVELOPMENT SITE LOCALITY

KU-RING-GAI COUNCIL
APPROVED
SUBJECT TO AMENDMENTS
SHOWN IN RED
Manager, Technical Services
Date: 16 May 2024

CIVIL DRAWINGS LIST:

001 - COVER PAGE
002 - GENERAL NOTES
003 - SITE MANAGEMENT & EROSION & SEDIMENT CONTROL PLAN
004 - DEMOLITION PLAN
005 - SYNTHETIC SPORTS FIELD FINISHES AND SURFACES PLAN
006 - SPORTS FIELD FOOTPATH & SECTION DETAIL PLAN
007 - SPORTS FIELD DRAINAGE PLAN
008 - SPORTS FIELD ON-SITE DETENTION PLAN
009 - STORMWATER LONG SECTIONS & PIT SCHEDULES
010 - STORMWATER LONG SECTIONS
011 - SPORTS FIELD INLET PITS DETAILS
012 - SPORTS FIELD OUTLET PITS DETAILS
013 - ON-SITE DETENTION ISOMETRIC LAYOUT
014 - ON-SITE DETENTION PROFILE SECTION
015 - ON-SITE DETENTION CALCULATIONS & SECTIONAL VIEWS
016 - BIO-RETENTION BASIN LAYOUT
017 - BIO-RETENTION SECTION DETAIL & PLANTING SCHEDULE
018 - SPORTS FIELD SECTION DETAILS SHEET 1
019 - SPORTS FIELD SECTION DETAILS SHEET 2
020 - SPORTS FIELD SECTION DETAILS SHEET 3
021 - SPORTS FIELD SECTION DETAILS SHEET 4
022 - SPORTS FIELD SECTION DETAILS SHEET 5
023 - SPORTS FIELD SECTION DETAILS SHEET 6
024 - SPORTS FIELD FENCE DETAILS
025 - SPORT FIELD EMERGENCY/MAINTENANCE ACCESS
026 - SPORT FIELD SETOUT PLAN
027 - PATH CHAINAGES & SAW CUT PLAN
028 - PATH LONGITUDINAL SECTION
029 - PATH CROSS SECTION SHEET 1
030 - PATH CROSS SECTION SHEET 2
031 - PATH CROSS SECTION SHEET 3
032 - PATH CROSS SECTION SHEET 4
033 - RETAINING WALL LONG SECTION & CHAINAGES
034 - RETAINING WALL DETAILS
035 - WEST GATE AND LOW FENCE DETAIL
036 - NORTH ACCESS GATE & SOUTH ACCESS GATE DETAIL
037 - SOUTH NETTING CABINET DETAIL
038 - NORTH NETTING CABINET DETAIL

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CONSTRUCTION ISSUE

REV	DESCRIPTION	DATE
A	CONSTRUCTION ISSUE	09.05.24

DESIGN: DV
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SHEET: A3
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NORTH: PROJECT NORTH

COUNCIL: KU-RING-GAI COUNCIL

PROJECT: PROPOSED STORMWATER MITIGATION AND SYNTHETIC SPORTS FIELD NORMAN GRIFFITHS OVAL DESIGN AND CONSTRUCT

DRAWING TITLE: COVER PAGE

JOB NO: TO-003 | SHEET: 001 | REV: A8

GENERAL NOTES

1. DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL OTHER PROJECT DRAWINGS.
2. ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH CIVIL SPECIFICATION, APPROVED PLANS AND TO THE SATISFACTION OF THE SUPERINTENDENT.
3. SURVEY BACKGROUND INFORMATION SUPPLIED BY OTHERS.
4. EXISTING CONTOURS SHOWN REFLECT SITE CONDITIONS AT TIME OF SURVEY.
5. ALL DIMENSIONS SHOWN ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
6. LEVELS ARE TO AUSTRALIAN HEIGHT DATUM.
7. ALL DIMENSIONS RELEVANT TO SETTING OUT SHALL BE CONFIRMED AND VERIFIED BY THE CONTRACTOR BEFORE CONSTRUCTION IS COMMENCED. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE SUPERINTENDENT.
8. 2MH DOES NOT ACCEPT ANY RESPONSIBILITY FOR THE ACCURACY, ADEQUACY OR APPROPRIATENESS OF THE SPORTSFIELD DESIGN, GEOTECHNICAL WORKS OR PAVEMENT DESIGN.

STANDARD EXISTING SERVICES NOTES

1. 2MH ACCEPT NO RESPONSIBILITIES IN RELATION TO EXTENT AND LOCATION OF EXISTING SERVICES IN THE VICINITY OF THE SITE.
2. CONTRACTORS MUST ASCERTAIN THE PRECISE LOCATION AND DEPTH OF ALL EXISTING SERVICES WHICH COULD BE AFFECTED BY THE WORKS WHERE EXISTING SERVICES ARE FOUND TO BE IN CLASH OF THE WORKS THE CONTRACTOR SHOULD NOTIFY THE SUPERINTENDENT ACCORDINGLY.
3. THE CONTRACTOR SHALL LIAISE WITH ALL RELEVANT SERVICE AUTHORITIES WITH RESPECT TO ANY SERVICE ALTERATIONS OR FOR WORKS IN VICINITY OR CLOSE PROXIMITY TO EXISTING SERVICES, THE CONTRACTOR SHALL BE REQUIRED TO SEEK CLEARANCE, PROGRAM AND COORDINATE THESE WORKS WITH THE RELEVANT SERVICE AUTHORITY AND THEIR CONTRACTORS.
4. ALL SERVICE CONDUITS TRENCHES UNDER PAVEMENTS ARE TO BE BACKFILLED WITH 20mm 3% CEMENT TREATED CLASS 3 CRUSHED ROCK COMPACTED TO A DENSITY NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY VALUE DETERMINED BY THE MODIFIED COMPACTION TEST IN ACCORDANCE WITH A.S.1289.5.2.1-2003.
5. ALL TABLE DRAINS AND VERGES ARE TO BE REINSTATED UPON COMPLETION OF WORKS TO THE SATISFACTION OF THE RELEVANT AUTHORITY.
6. CONTRACTOR TO IMPLEMENT SEDIMENT CONTROL BARRIERS/METHODS TO ENSURE SEDIMENT TRANSFER TO DOWNSTREAM DRAINS/SURFACES FROM SITE DOES NOT OCCUR. SHOULD TRANSFER OF SEDIMENT OCCUR IT IS THE CONTRACTORS RESPONSIBILITY TO REMOVE AND MAKE GOOD ALL DISTURBED AREAS AT THE DISCRETION OF THE SUPERINTENDENT.
7. ALL TRENCHING WORKS TO BE IN ACCORDANCE WITH THE RELEVANT ACT AND REGULATIONS.
8. ALL EXISTING ASSETS AFFECTED BY THE WORKS; EG SIGNS, VEHICLE CROSSINGS, FOOTPATHS, KERB AND LINEMARKING SHALL BE REINSTATED BY THE CONTRACTOR PRIOR TO THE COMPLETION OF THE WORKS TO THE SATISFACTION OF THE SUPERINTENDENT/OR THEIR REPRESENTATIVE.

STANDARD EARTHWORKS NOTES

1. LEVELS PROVIDED ARE FINISHED SURFACE LEVELS. EARTHWORKS SHOULD THEREFORE BE FINISHED AT THE APPROPRIATE LEVELS TO ALLOW FOR THE CONSTRUCTION OF PAVEMENTS AND SHOULDERS AS DOCUMENTED.
2. EARTHWORK SPOIL IN EXCESS OF SITE FILL REQUIREMENTS SHALL BE DISPOSED OFF SITE AT CONTRACTORS EXPENSE OR SPREAD ONSITE AT THE DIRECTION OF COUNCIL'S PROJECT MANAGER.
3. EXCAVATED MATERIAL WHICH CONFORMS WITH THE SPECIFICATION REQUIREMENTS FOR FILL MAY BE USED AS BACKFILL.
4. DURING CONSTRUCTION THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTING AND MAINTAINING A TEMPORARY SITE DRAINAGE SYSTEM AND TO MAINTAIN THE SITE IN A DRY AND STABLE CONDITION. DETAILS OF THE DRAINAGE SYSTEM SHALL BE SUBMITTED FOR THE APPROVAL OF THE SUPERINTENDENT.
5. ALL COMPACTION TO BE CARRIED OUT IN ACCORDANCE WITH COMPACTION PROCEDURES AS DEFINED IN AS-1289 5.2.1 TEST PROCEDURE, CERTIFICATION IS TO BE AN INDEPENDENT GEOTECHNICAL ENGINEER (AT CONTRACTORS EXPENSE).
6. FILL AREAS TO BE CLEARED AND STRIPPED OF ALL ORGANIC MATERIAL AND TOPSOIL PRIOR TO PLACEMENT OF SELECTED FILL MATERIAL. FILL AREAS ARE TO BE INSPECTED BY THE SUPERVISING ENGINEER PRIOR TO ANY FILL BEING PLACED. FILL IS TO BE PLACED AND COMPACTED IN LAYERS, WITH A MINIMUM COMPACTION OF 98% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD COMPACTION TEST BEING ACHIEVED.
7. ALL STRIPPED TOPSOIL/SILT MATERIAL SHALL BE STOCKPILED ON SITE IN AREA AS DIRECTED BY THE SUPERINTENDENT.
8. BATTERS ARE TO BE TOPSOILED & SEEDED TO A DEPTH OF APPROXIMATELY 150mm USING MATERIAL STOCKPILED FROM STRIPPING FOR BOTTOM 100mm AND APPROVED IMPORTED SANDY LOAM FOR A TOP 50mm.

STANDARD PAVEMENTS, KERBING AND ANCILLARY WORKS

1. WHERE NEW ASPHALT, CONCRETE K & C, PATHS AND DRIVEWAYS MATCH INTO EXISTING, THE EXISTING SURFACE IS TO BE SAW CUT AND MATCHED NEATLY.
2. PAVEMENT DEPTH SPECIFIED IS A MINIMUM DEPTH AND MAY BE VARIED BY THE SUPERINTENDENT/OR THEIR REPRESENTATIVE. SOFT SPOTS SHALL BE EXCAVATED TO A PROOF ROLLED BASE AND BACKFILLED WITH APPROVED MATERIAL COMPACTED IN 200mm LAYERS TO ACHIEVE TO A DENSITY NOT LESS THAN 98% OF THE MAXIMUM DRY DENSITY VALUE DETERMINED BY THE STANDARD COMPACTION TEST IN ACCORDANCE WITH A.S.1289.5.1.1-2003.
3. AGRICULTURAL DRAINS ARE TO BE PLACED BEHIND ALL KERB AND CHANNEL, KERB ONLY AND EDGE STRIPS IN ACCORDANCE WITH STANDARD DRAWINGS.
4. SET OUT DIMENSIONS GIVEN TO KERBING ARE TO THE INVERT OF KERB UNLESS SPECIFIED OTHERWISE.

STANDARD DRAINAGE AND PLUMBING WORKS:

1. ALL GROUND SURROUNDING THE STRUCTURE SHALL BE GRADED AWAY AT MINIMUM 1 in 20 FOR AT LEAST 1.0m, UNLESS NOTED OTHERWISE.
2. WATER RUN-OFF SHALL BE COLLECTED AND CHANNELED AWAY FROM THE FOOTINGS DURING CONSTRUCTION.
3. A 100mm DIA. SUB-SOIL DRAINS LAID AT A MINIMUM GRADE OF 1 in 100 AT THE HIGH END SIDES OF THE STRUCTURE BELOW THE CRUSHED ROCK BASE LAYER. AG DRAIN TO BE LAID ON BEDDING SAND AND SURROUNDING WITH "ONE SIZED" AGGREGATE COVERED WITH GEO TEXTILE. CONNECT AG DRAIN INTO NEW STORM WATER SYSTEM VIA 400x400 GRATED JUNCTION OR UNLESS NOTED OTHERWISE AND DISCHARGE TO THE LEGAL POINT OF DISCHARGE.
4. PIT COVER LEVELS TO MATCH SURROUNDING FINISHED LEVELS.

STANDARD CONCRETE NOTES

1. NO CONCRETE SHALL BE MIXED OR PLACED, WITHOUT THE APPROVAL OF THE SUPERINTENDENT, WHILE THE AIR TEMPERATURE IS, OR LIKELY TO BE WITHIN 24 HOURS, BELOW 5 DEGREES CELSIUS OR WHILE THE SHADE TEMPERATURE EXCEEDS 38 DEGREES CELSIUS. ALL CONCRETE SHALL BE PLACED IN THE DRY. PRIOR TO PLACING CONCRETE THE AREA SHALL BE CLEAN AND MOIST BUT FREE FROM ANY WATER PONDING.
2. THE CONCRETE SHALL BE MIXED IN THE QUANTITIES REQUIRED FOR IMMEDIATE USE AND SHALL BE PLACED IN POSITION AS RAPIDLY AS POSSIBLE. ANY CONCRETE WHICH HAS DEVELOPED INITIAL SET, OR WHICH DOES NOT REACH THE FORMS WITHIN 30 MINUTES AFTER THE WATER HAS BEEN ADDED (EXCEPT WHEN TRANSPORTED IN AGITATOR TRUCKS) SHALL NOT BE USED.
3. THE CONCRETE SHALL BE DEPOSITED IN THE FORMS, WITHOUT SEPARATION OF THE AGGREGATES. CONCRETE SHALL NOT BE DROPPED FREELY FROM A HEIGHT GREATER THAN 1.2m OR BE DEPOSITED IN LARGE QUANTITIES AT ANY POINT AND MOVED OR WORKED ALONG THE FORMS. CONVEYING EQUIPMENT, INCLUDING OPEN TROUGHS AND CHUTES, WHERE USED, SHALL BE MADE OF METAL OR HAVE METAL LININGS. WHERE USED ON STEEP SLOPES, TROUGHS AND CHUTES SHALL BE EQUIPPED WITH BAFFLES, OR BE PLACED IN SHORT LENGTHS IN SUCH A WAY THAT THE DIRECTION OF FLOW OF THE CONCRETE IS CHANGED. THE CONCRETE SHALL BE PLACED IN HORIZONTAL LAYERS IN ONE CONTINUOUS OPERATION BETWEEN THE ENDS OF THE WORKS AND/OR CONSTRUCTION JOINTS.CARE SHALL BE TAKEN TO FILL EVERY PART OF THE FORMS AND TO WORK THE COARSER AGGREGATE BACK FROM THE FACE. THE FRESHLY PLACED CONCRETE SHALL BE COMPACTED BY CONTINUOUS SPADING SLICING OR BY VIBRATOR UNITS. VIBRATORS SHALL NOT BE LEFT IN ONE POSITION FOR MORE THAN 30 SECONDS, AND SHALL NOT BE PERMITTED TO REST ON REINFORCEMENT.
4. ALL EXPOSED SURFACES OF THE FRESHLY PLACED CONCRETE SHALL BE KEPT MOIST EITHER BY USE OF PLASTIC SHEETING, DAMP SAND OR COMMERCIAL CURING COMPOUNDS, IN ACCORDANCE WITH AS3799, FOR A MINIMUM PERIOD OF 3 DAYS. DURING THIS TIME THE WORKS MUST BE ADEQUATELY PROTECTED FROM THE EFFECTS OF EXCESSIVE SURFACE EVAPORATION, RAIN, RUNNING WATER, VANDALISM AND OTHER CAUSES LIKELY TO DAMAGE THE CONCRETE. ALL COSTS INVOLVED IN MAKING GOOD OR REPLACING ANY WORK THAT HAS BEEN DAMAGED DUE TO THE ABOVE MENTIONED FACTORS SHALL BE BORNE BY THE CONTRACTOR.
5. CURING FOR CONCRETE SHALL GENERALLY BE IN ACCORDANCE WITH THE APPROPRIATE SURFACE EXPOSURE CLASSIFICATION IN AS 3600.

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CONSTRUCTION ISSUE

REV	DESCRIPTION	DATE
A	CONSTRUCTION ISSUE	09.05.24

DESIGN: DV
DRAWN: BD
SHEET: A3
SCALE:

NORTH: PROJECT NORTH

COUNCIL: KU-RING-GAI COUNCIL

PROJECT: PROPOSED STORMWATER MITIGATION AND SYNTHETIC SPORTS FIELD NORMAN GRIFFITHS OVAL DESIGN AND CONSTRUCT

DRAWING TITLE: GENERAL NOTES

JOB NO: TO-003 | SHEET: 002 | REV: A7

LEGEND

1. Temporary sedimentation pondage.
2. Silt containment using a combination of prefilled hessian sand bags and prefilled silt sausage. Site security fence will be erected just outsde the alignment of containment measures.
3. French drain site water storage
4. All-weather site access for construction traffic. Rumble grid to be installed over existing hardstand.
5. 2.4m high bio-security fence (constructed by others)..
6. On-site detention outlet pit to be constructed. Flows into the sedimentation pondage to be controlled by means of sand bags at the low level outlets of this pit.
7. Impermeable bund
8. Gross polutant trap to be constructed.
9. Pit covers with sand bagged edges.

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Date: 16 May 2024

Update and refinement required during works - refer EMP

Sports Field Construction Site

Site Office & Ammenities

Emergency Evacuation Point

2.4m bio-security fence

Silt fence

Shipping Container

Gross pollutant trap

On-site detention outlet pit

Temporary sedimentation pond with impermeable liner throughout floor of basin

French drain site water storage

Fabric lined cover over pit with sand bagged edges

Impermeable bund

Impermeable cover over pit with sand bagged edges

Sydney Water Manhole

Silt fence

Site Entry and Egress

Sydney Water Manhole

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CONSTRUCTION ISSUE

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A	CONSTRUCTION ISSUE	09.05.24

DESIGN: DV
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NORTH: PROJECT NORTH

COUNCIL: KU-RING-GAI COUNCIL

PROJECT: PROPOSED STORMWATER MITIGATION AND SYNTHETIC SPORTS FIELD NORMAN GRIFFITHS OVAL DESIGN AND CONSTRUCT

DRAWING TITLE: SITE MANAGEMENT & EROSION & SEDIMENT CONTROL PLAN

JOB NO: TO-003 | SHEET: 003 | REV: A7

KU-RING-GAI COUNCIL
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SHOWN IN RED
Manager, Technical Services
Date: 16 May 2024

PROJECT
SCOPE
OUTSIDE

CONCRETE APRON IN FRONT OF EXISTING PAVILION TO BE REMOVED & REPLACED WITH NEW CONCRETE PAVEMENT

DEMOLISH LIGHT POLE

DEMOLISH STORMWATER DRAIN

DEMOLISH STORMWATER PIT

DEMOLISH STORMWATER PIT

DEMOLISH STORMWATER DRAIN

DEMOLISH STORMWATER PIT

DEMOLISH & REMOVE U/G CONDUIT, PITS, CONDUCTORS TO EXTENT SHOWN ON THIS DRAWING

DEMOLISH LIGHT POLE

STRIP TOPSOIL, RETAIN SUFFICIENT FOR BATTER & DISPOSE OF BALANCE OFF-SITE (AREA SHOWN HATCHED)

EXISTING STORMWATER PIT TO BE REMOVED AND NEW 1200x1200 SADDLE PIT INSTALLED ON EXISTING PIPE OUTSIDE NEW CONCRETE PLINTH. REFER TO COUNCIL STANDARD DRAWING No.92-083 FOR DETAILS.

RETAIN STORMWATER PIT

AVOID DAMAGE TO SYDNEY WATER ASSET

DEMOLISH LIGHT POLE

AVOID DAMAGE TO SYDNEY WATER ASSET

DEMOLISH LIGHT POLE

TREE REMOVED

BENCH MARK
CUT ON HEADWALL
RL. 73.38 A.H.D

BENCH MARK
CUT ON CONCRETE
RL. 70.41 A.H.D

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CONSTRUCTION ISSUE

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COUNCIL: KU-RING-GAI COUNCIL

PROJECT: PROPOSED STORMWATER MITIGATION AND SYNTHETIC SPORTS FIELD NORMAN GRIFFITHS OVAL DESIGN AND CONSTRUCT

DRAWING TITLE: DEMOLITION PLAN

JOB NO: TO-003 | SHEET: 004 | REV: A8

SURFACES & FINISHES LEGEND

- FIFA certified synthetic turf surface
- Sandstone log bleachers
- Concrete paving
- Foot grates
- Player shelters (9 seats)
- Official shelters (4 seats)
- 1.1m high black chainmesh fencing
- 1.2m high black chainmesh fencing
- 4.0m high retractable textile netting
- 6.0m high backdrop fencing
- Bio-retention basin
- International standard soccer goals
- Natural turf mowable areas
- Landscaping with native grass plantings
- Accessible parking space

LEGEND

1. 100 Lux LED lighting system
2. Existing pavilion (not shown)
3. Existing 2.4m high bio-security fence
4. Sandstone log bleachers
5. Concrete paving to circulation paths
6. Player access with foot grates
7. Player shelters (9 seats)
8. 1.2m high black chainmesh fencing
9. 4.0m high retractable textile netting
10. 6.0m high backdrop fencing
11. FIFA certified synthetic turf surface with cork infill and tufted-in line marking for soccer and small-sided games
12. International standard soccer goals
13. Accessible pathway from carpark
14. Accessible parking space
15. Gross polutant trap
16. Emergency vehicle access gateway
17. 200mm-300mm high concrete kerb
18. Outlet from 2.4 megalitre OSD
19. Concrete sleeper retaining wall
20. Bio-retention basin
21. Capped asbestos areas
22. Water fountain/bubbler on concrete pavement
23. Electronic scoreboard
24. Officials shelter (4 seats)
25. Accessible player access with ramps and foot grate
26. Sandstone overland flow retainment

P300 EDGE BEAM
2.4m WIDE DOUBLE GATE
1.4m WIDE PEDESTRIAN GATE
1.2m WIDE PEDESTRIAN GATE
1.2m WIDE,2.4m WIDE PEDESTRIAN GATE
P1100 EDGE BEAM
P800-A EDGE BEAM
1.0m TAPER WHERE EDGE BEAM WIDTHS TRANSITION
1.2m WIDE,2.4m HIGH PEDESTRIAN GATE
4.2m WIDE DOUBLE GATE
P800-B EDGE BEAM
BENCH MARK CUT ON HEADWALL RL. 73.38 A.H.D
BENCH MARK CUT ON CONCRETE RL. 70.41 A.H.D
Manhole location
CONCRETE
BITUMEN
PATH
PARKING
GRATE
DRAINAGE PIT
MESH
METAL
STONE PLAQUE
BARRIERS
SPEED HUMP
STORMWATER ACCESS CHAMBER

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CONSTRUCTION ISSUE

REV	DESCRIPTION	DATE
A	CONSTRUCTION ISSUE	09.05.24
P8	PRELIMINARY ISSUE	23.04.24

DESIGN: DV
DRAWN: BD
SHEET: A3
SCALE:

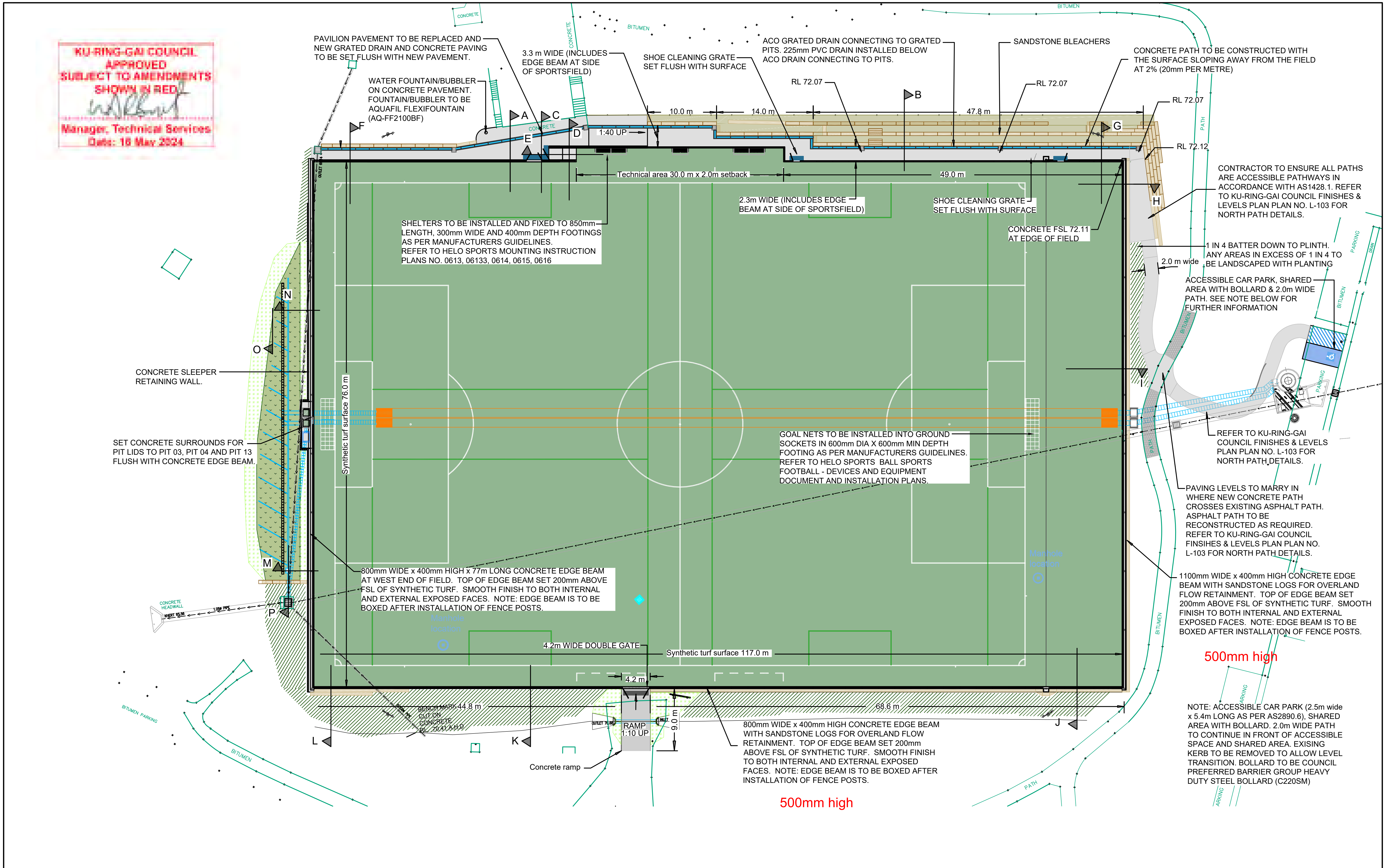
NORTH: PROJECT NORTH

COUNCIL: KU-RING-GAI COUNCIL

PROJECT: PROPOSED STORMWATER MITIGATION AND SYNTHETIC SPORTS FIELD NORMAN GRIFFITHS OVAL DESIGN AND CONSTRUCT

DRAWING TITLE: SYNTHETIC SPORTS FIELD FINISHES AND SURFACES PLAN

JOB NO: TO-003 | SHEET: 005 | REV: A8


KU-RING-GAI COUNCIL
APPROVED
SUBJECT TO AMENDMENTS
SHOWN IN RED
Manager, Technical Services
Date: 16 May 2024
PAVILION PAVEMENT TO BE REPLACED AND NEW GRATED DRAIN AND CONCRETE PAVING TO BE SET FLUSH WITH NEW PAVEMENT.
WATER FOUNTAIN/BUBBLER ON CONCRETE PAVEMENT. FOUNTAIN/BUBBLER TO BE AQUAFIL FLEXIFOUNTAIN (AQ-FF2100BF)
3.3 m WIDE (INCLUDES EDGE BEAM AT SIDE OF SPORTSFIELD)
SHOE CLEANING GRATE SET FLUSH WITH SURFACE
ACO GRATED DRAIN CONNECTING TO GRATED PITS. 225mm PVC DRAIN INSTALLED BELOW ACO DRAIN CONNECTING TO PITS.
SANDSTONE BLEACHERS
CONCRETE PATH TO BE CONSTRUCTED WITH THE SURFACE SLOPING AWAY FROM THE FIELD AT 2% (20mm PER METRE)
RL 72.07
RL 72.07
RL 72.07
RL 72.12
10.0 m
14.0 m
47.8 m
1:40 UP
Technical area 30.0 m x 2.0m setback
49.0 m
2.3m WIDE (INCLUDES EDGE BEAM AT SIDE OF SPORTSFIELD)
SHOE CLEANING GRATE SET FLUSH WITH SURFACE
CONCRETE FSL 72.11 AT EDGE OF FIELD
SHELTERS TO BE INSTALLED AND FIXED TO 850mm LENGTH, 300mm WIDE AND 400mm DEPTH FOOTINGS AS PER MANUFACTURERS GUIDELINES. REFER TO HELO SPORTS MOUNTING INSTRUCTION PLANS NO. 0613, 06133, 0614, 0615, 0616
CONTRACTOR TO ENSURE ALL PATHS ARE ACCESSIBLE PATHWAYS IN ACCORDANCE WITH AS1428.1. REFER TO KU-RING-GAI COUNCIL FINISHES & LEVELS PLAN PLAN NO. L-103 FOR NORTH PATH DETAILS.
1 IN 4 BATTER DOWN TO PLINTH. ANY AREAS IN EXCESS OF 1 IN 4 TO BE LANDSCAPED WITH PLANTING
2.0 m wide
ACCESSIBLE CAR PARK, SHARED AREA WITH BOLLARD & 2.0m WIDE PATH. SEE NOTE BELOW FOR FURTHER INFORMATION
CONCRETE SLEEPER RETAINING WALL.
SET CONCRETE SURROUNDS FOR PIT LIDS TO PIT 03, PIT 04 AND PIT 13 FLUSH WITH CONCRETE EDGE BEAM.
Synthetic turf surface 76.0 m
GOAL NETS TO BE INSTALLED INTO GROUND SOCKETS IN 600mm DIA X 600mm MIN DEPTH FOOTING AS PER MANUFACTURERS GUIDELINES. REFER TO HELO SPORTS BALL SPORTS FOOTBALL - DEVICES AND EQUIPMENT DOCUMENT AND INSTALLATION PLANS.
REFER TO KU-RING-GAI COUNCIL FINISHES & LEVELS PLAN PLAN NO. L-103 FOR NORTH PATH DETAILS.
PAVING LEVELS TO MARRY IN WHERE NEW CONCRETE PATH CROSSES EXISTING ASPHALT PATH. ASPHALT PATH TO BE RECONSTRUCTED AS REQUIRED. REFER TO KU-RING-GAI COUNCIL FINSIHES & LEVELS PLAN PLAN NO. L-103 FOR NORTH PATH DETAILS.
800mm WIDE x 400mm HIGH x 77m LONG CONCRETE EDGE BEAM AT WEST END OF FIELD. TOP OF EDGE BEAM SET 200mm ABOVE FSL OF SYNTHETIC TURF. SMOOTH FINISH TO BOTH INTERNAL AND EXTERNAL EXPOSED FACES. NOTE: EDGE BEAM IS TO BE BOXED AFTER INSTALLATION OF FENCE POSTS.
1100mm WIDE x 400mm HIGH CONCRETE EDGE BEAM WITH SANDSTONE LOGS FOR OVERLAND FLOW RETAINMENT. TOP OF EDGE BEAM SET 200mm ABOVE FSL OF SYNTHETIC TURF. SMOOTH FINISH TO BOTH INTERNAL AND EXTERNAL EXPOSED FACES. NOTE: EDGE BEAM IS TO BE BOXED AFTER INSTALLATION OF FENCE POSTS.
500mm high
4.2m WIDE DOUBLE GATE
Synthetic turf surface 117.0 m
4.2 m
44.8 m
68.6 m
RAMP 1:10 UP
9.0 m
Concrete ramp
800mm WIDE x 400mm HIGH CONCRETE EDGE BEAM WITH SANDSTONE LOGS FOR OVERLAND FLOW RETAINMENT. TOP OF EDGE BEAM SET 200mm ABOVE FSL OF SYNTHETIC TURF. SMOOTH FINISH TO BOTH INTERNAL AND EXTERNAL EXPOSED FACES. NOTE: EDGE BEAM IS TO BE BOXED AFTER INSTALLATION OF FENCE POSTS.
500mm high
NOTE: ACCESSIBLE CAR PARK (2.5m wide x 5.4m LONG AS PER AS2890.6), SHARED AREA WITH BOLLARD. 2.0m WIDE PATH TO CONTINUE IN FRONT OF ACCESSIBLE SPACE AND SHARED AREA. EXISING KERB TO BE REMOVED TO ALLOW LEVEL TRANSITION. BOLLARD TO BE COUNCIL PREFERRED BARRIER GROUP HEAVY DUTY STEEL BOLLARD (C220SM)
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
CONCRETE
BITUMEN
PATH
PARKING

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COUNCIL: KU-RING-GAI COUNCIL

PROJECT: PROPOSED STORMWATER MITIGATION AND SYNTHETIC SPORTS FIELD NORMAN GRIFFITHS OVAL DESIGN AND CONSTRUCT

DRAWING TITLE: SPORTS FIELD FOOTPATH & SECTION DETAIL PLAN

JOB NO: TO-003 | SHEET: 006 | REV: A8

Confirmation on Oceanguard pit install required. Requirements in REF to be met.

Pit 11
Build up existing pit and set grate flush with new surface. Install OceanGuard filter basket to intercept microplastics (Type Plan ID L, depth ID 3). Overflow of ocean guard filter on pit 11 will be blocked by welding metal to the overflow sides. Pit to be fitted with step irons for access.

Pit 10
To be fitted with OceanGuard filter basket (Type Plan ID M, depth ID 1)

Grated drain

Pit 09
To be re-set to suit pavilion pavement & grated drain alignments. Pit to be fitted with OceanGuard filter basket (Type Plan ID M, depth ID 1)

Pit 08
To be fitted with OceanGuard filter basket (Type Plan ID M, depth ID 1)

Grated drain

Pit 07
To be fitted with OceanGuard filter basket (Type Plan ID M, depth ID 1)

Pit 06
To be fitted with OceanGuard filter basket (Type Plan ID M, depth ID 1)

Pit 05
To be fitted with OceanGuard filter basket (Type Plan ID M, depth ID 1)

NOTE:
Pits fitted with OceanGuard filter basket to intercept microplastics to have overflow blocked by welding metal to the overflow sides.

300mm PVC DRAIN (18.1m)
300mm PVC DRAIN
300mm PVC DRAIN (18.0m)
225mm PVC DRAIN (21.1m)
225mm PVC DRAIN
225mm PVC DRAIN
0.225ø PIPE (19.5m)
0.225ø PIPE (19.5m)

Existing 375mm RCP drain. Location to be confirmed on site and all construction to avoid or pipe to be re-aligned to suit

Drain pipe from Profilgate B55 tray drains to Oceanguard basket at Pit 10

Drain pipe from Profilgate B55 tray drains to Oceanguard basket at Pit 07

Drain pipe from Profilgate B55 tray drains to Oceanguard basket at Pit 06

NOTE: Pit 03, Pit 04 & Pit 13 and concrete surrounds to be level for maintenance tripod setup.

Pit 03
Pit 04

Set concrete surrounds for pit lids to Pit 03, Pit 04 & Pit 13 flush with concrete edge beam.

Pit 13

Pit 12

Synthetic turf surface 76.0 m

Synthetic turf surface 117.0 m

Manhole location

Manhole location

Pit 01 & Pit 02 to be constructed with outside pit walls flush with new concrete plinth edge

Pit 01
Pit 02

Existing stormwater pit to be removed and new 1200x1200 saddle pit installed on existing pipe outside new concrete plinth. Refer to council standard drawing no.92-083 for details.

Overland flow path indicated by blue arrows as such. Refer to Optimal Stormwater documentation for further information

44.8 m
Headwall outlet IL 70.68
9.0 m
Headwall inlet IL 70.77
68.6 m
4.2 m

Headwalls to be min. 1.5m clear of edge of access ramp
450mm Dia. RCP pipe

BENCH MARK
CUT ON
HEADWALL
RL. 73.38 A.H.D

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Manager, Technical Services
Date: 16 May 2024

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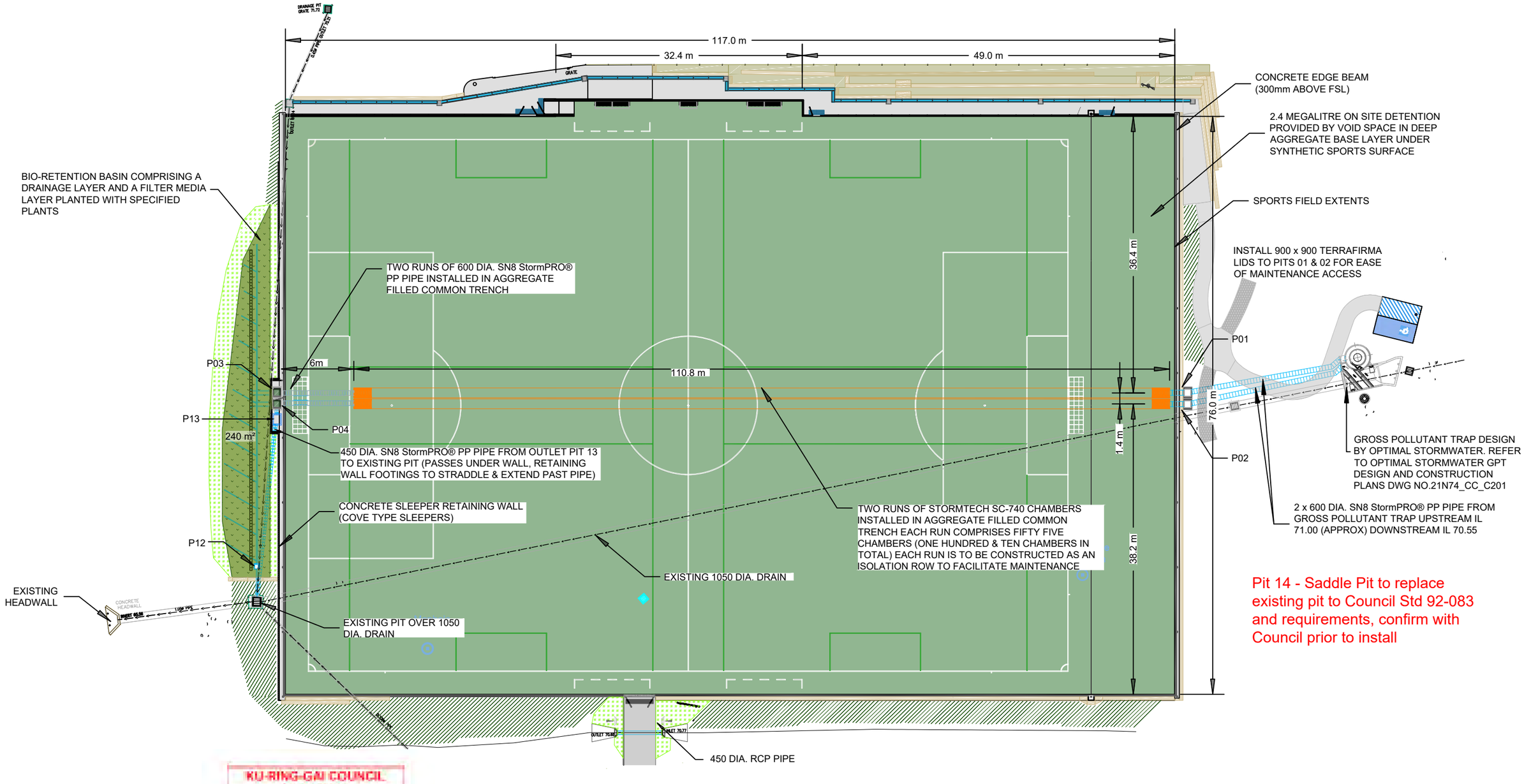
PROJECT: PROPOSED STORMWATER MITIGATION AND SYNTHETIC SPORTS FIELD NORMAN GRIFFITHS OVAL DESIGN AND CONSTRUCT

DRAWING TITLE: SPORTS FIELD DRAINAGE PLAN

JOB NO: TO-003
SHEET: 007
REV: A8



Pit 14 - Saddle Pit to replace existing pit to Council Std 92-083 and requirements, confirm with Council prior to install

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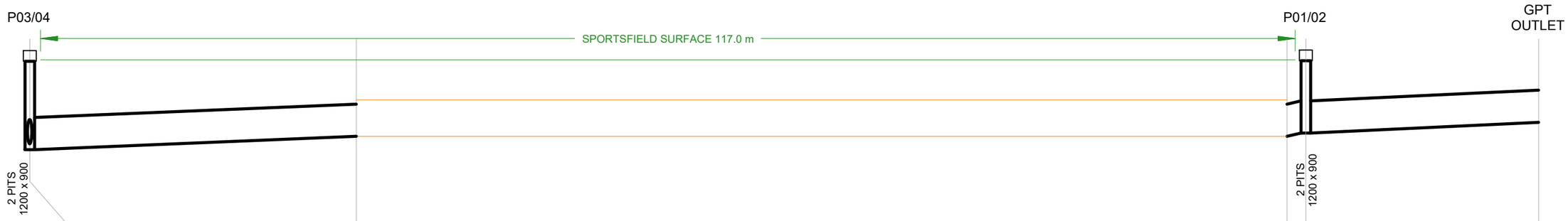
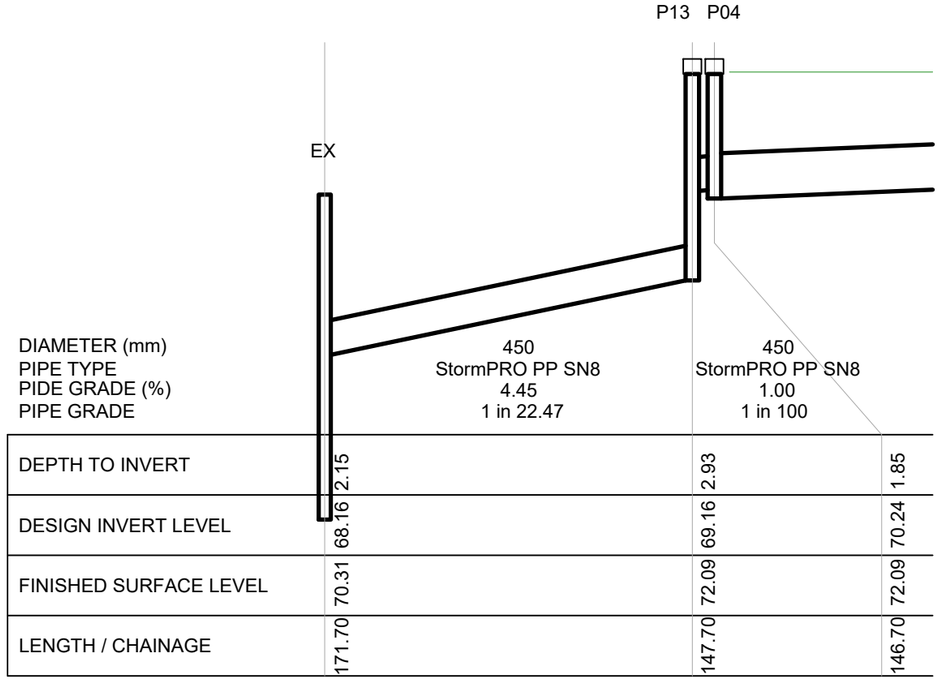
DRAWING TITLE: SPORTS FIELD DRAINAGE ON-SITE DETENTION PLAN

JOB NO: TO-003
SHEET: 008
REV: A7



DIAMETER (mm) PIPE TYPE PIDE GRADE (%) PIPE GRADE	600 2 RUNS StormPRO PP SN8 0.83 1 in 120	TWO RUNS OF STORMTECH SC-740 CHAMBERS INSTALLED IN AGGREGATE FILLED COMMON TRENCH EACH RUN COMPRISES FIFTY FIVE CHAMBERS (ONE HUNDRED & TEN CHAMBERS IN TOTAL) 2.14%	600 2 RUNS StormPRO PP SN8 1.17 1 in 85
DEPTH TO INVERT	1.85	1.394	1.425 1.55
DESIGN INVERT LEVEL	70.24	70.25	70.49 70.50 70.75
FINISHED SURFACE LEVEL	72.09	72.09	71.915 72.05
LENGTH / CHAINAGE	146.70	140.70	23.45 21.70 0.00



DIAMETER (mm) PIPE TYPE PIDE GRADE (%) PIPE GRADE	EX	450 StormPRO PP SN8 4.45 1 in 22.47	450 StormPRO PP SN8 1.00 1 in 100
DEPTH TO INVERT	2.15	2.93	1.85
DESIGN INVERT LEVEL	68.16	69.16	70.24
FINISHED SURFACE LEVEL	70.31	72.09	72.09
LENGTH / CHAINAGE	171.70	147.70	146.70

Pit 14 - Saddle Pit to replace existing pit to Council Std 92-083 and requirements, confirm with Council prior to install

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PIT	PIT TYPE	LENGTH	WIDTH	DEPTH	INLET	OUTLET	INVERT RL	COVER RL	EASTING	NORTHING	COVER	CLASS
01	JUNCTION PIT INLET	1200	900	1550	600	600	70.50	72.05	327368.922	6262615.342	TERRA FIRMA GRP	B
02	JUNCTION PIT INLET	1200	900	1550	600	600	70.50	72.05	327369.986	6262614.284	TERRA FIRMA GRP	B
03	JUNCTION PIT OUTLET	1200	900	1870	600	450	70.24	72.11	327284.867	6262530.824	TERRA FIRMA GRP	B
04	JUNCTION PIT OUTLET	1200	900	1870	600	450	70.24	72.11	327285.930	6262529.766	TERRA FIRMA GRP	B
05	GRATED INLET PIT	600	600	550		225	71.50	72.02	327342.643	6262643.257	FLAT GRATE HEEL SAFE	C
06	GRATED INLET PIT	600	600	670	225	225	71.40	72.02	327328.544	6262629.072	FLAT GRATE HEEL SAFE	C
07	GRATED INLET PIT	600	600	770	225	225	71.30	72.02	327314.444	6262614.888	FLAT GRATE HEEL SAFE	C
08	GRATED INLET PIT	600	600	870	225	300	71.20	72.02	327297.219	6262601.811	FLAT GRATE HEEL SAFE	C
09	GRATED INLET PIT	600	600	740	300	300	71.11	71.85	327284.382	6262588.408	FLAT GRATE HEEL SAFE	C
10	GRATED INLET PIT	600	600	880	300	300	71.01	71.85	327272.921	6262572.833	FLAT GRATE HEEL SAFE	C
11	GRATED INLET PIT	900	900	2750	300	375	69.14	71.85	327259.060	6262558.837	FLAT GRATE HEEL SAFE	C
12	BIO-BASIN OUTLET	900	900	1100	150	450	69.34	70.49	327299.213	6262512.845	SURCHARGE GRATE	B
13	JUNCTION PIT	1200	900	2930	450	450	69.16	72.11	327287.413	6262528.156	TERRA FIRMA GRP	B

Notes:
Install uPVC drain at 1:200 gradient from Pit 05 to Pit 11.
Refer drawing 012 for installation details of pits 01 & 02
Refer drawing 013 for installation details of pits 03 and 04
Pit 011 to be fitted with step irons
Pit heights to match revised path & grated drain design design. Levels may alter slightly on-site to suit

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CONSTRUCTION ISSUE

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SCALE:

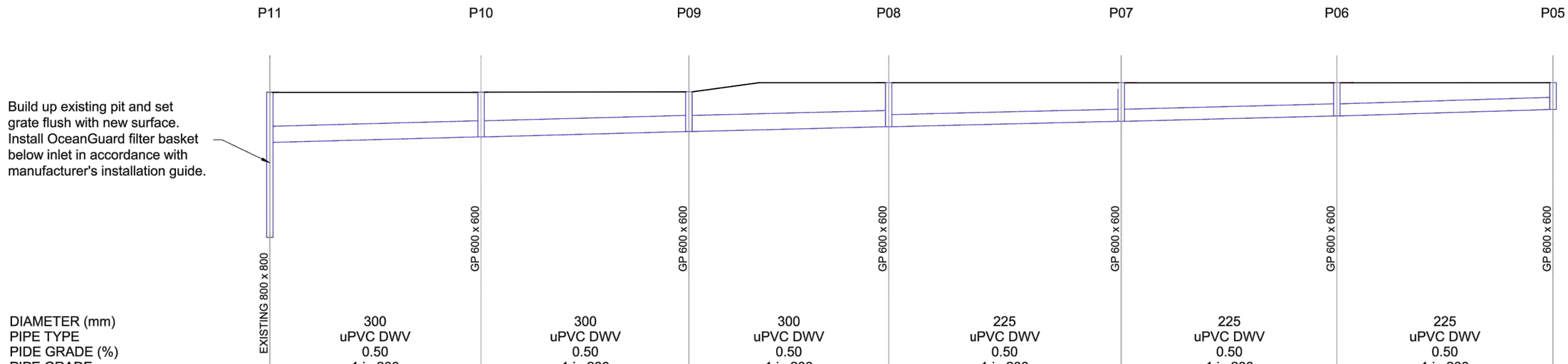
NORTH: PROJECT NORTH

COUNCIL: KU-RING-GAI COUNCIL

PROJECT: PROPOSED STORMWATER MITIGATION AND SYNTHETIC SPORTS FIELD NORMAN GRIFFITHS OVAL DESIGN AND CONSTRUCT

DRAWING TITLE: STORMWATER LONG SECTIONS & PIT SCHEDULE SHEET 1

JOB NO: TO-003 | SHEET: 009 | REV: A7



DIAMETER (mm)		300	300	300	225	225	225
PIPE TYPE		uPVC DWV	uPVC DWV	uPVC DWV	uPVC DWV	uPVC DWV	uPVC DWV
PIDE GRADE (%)		0.50	0.50	0.50	0.50	0.50	0.50
PIPE GRADE		1 in 200	1 in 200	1 in 200	1 in 200	1 in 200	1 in 200
DEPTH TO INVERT	2.75	0.88	0.74	0.87	0.77	0.67	0.57
DESIGN INVERT LEVEL	69.14	71.01	71.11	71.20	71.30	71.40	71.50
FINISHED SURFACE LEVEL	71.85	71.85	71.85	72.07	72.07	72.07	72.07
INVERT AT CENTRE OF VEE GRATE	71.89	71.89		72.02	72.02	72.02	72.02
LENGTH / CHAINAGE	0.00	19.70	39.05	57.59	79.22	99.22	119.22

NOTE: ALL PITS TO BE FITTED WITH OCEANGUARD FILTER BASKETS BELOW INLET IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION GUIDE

NOTE: PIT HEIGHTS TO MATCH REVISED PATH & GRATED DRAIN DESIGN. DESIGN LEVELS MAY ALTER SLIGHTLY ON-SITE TO SUIT

Confirmation on Oceanguard pit install required. Requirements in REF to be met.

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Manager, Technical Services
Date: 16 May 2024

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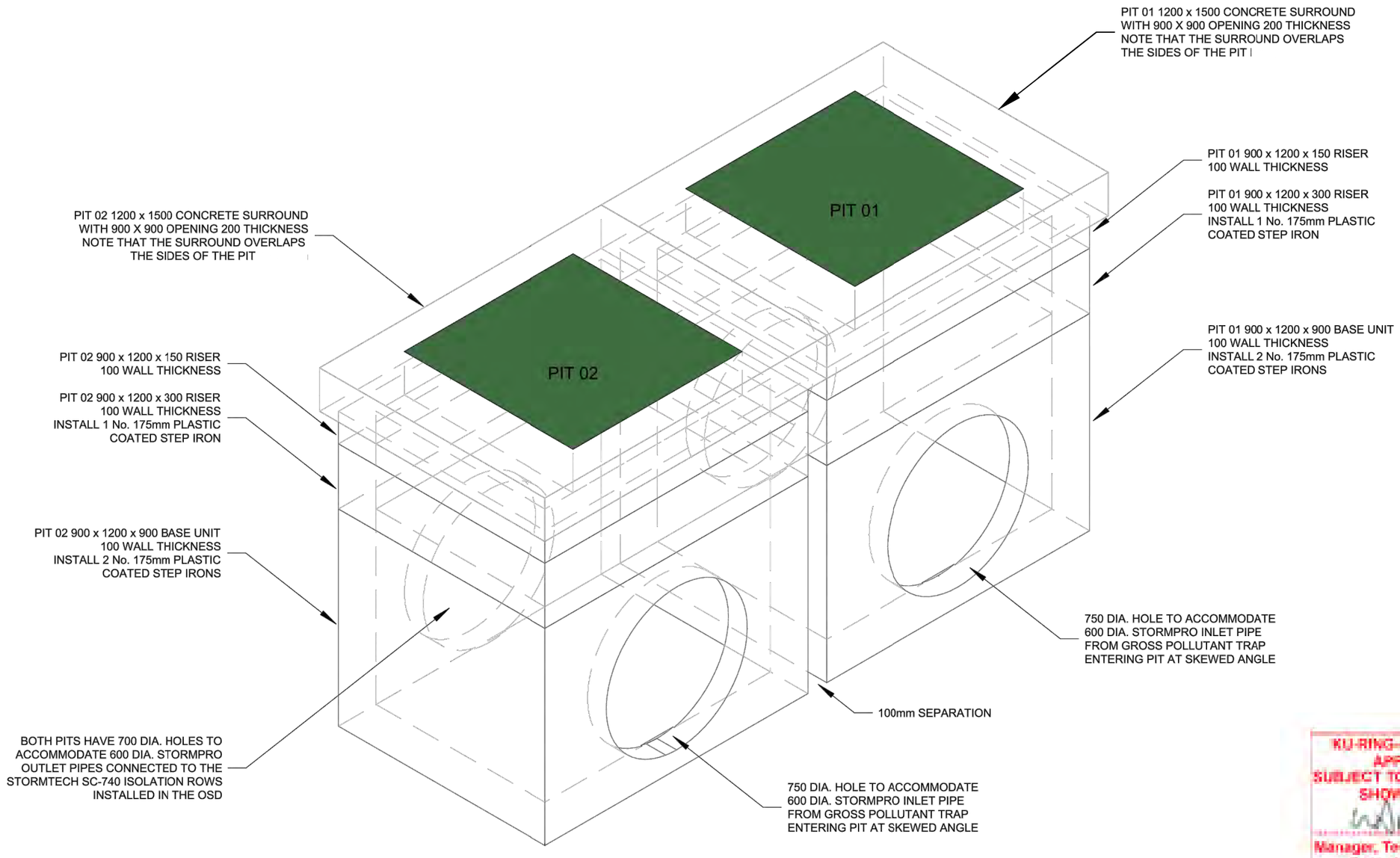
DRAWING TITLE: STORMWATER LONG SECTIONS SHEET 2

JOB NO: TO-003 | SHEET: 010 | REV: A7



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ISOMETRIC VIEW

NOT TO SCALE

VIEWED FROM INLET SIDE
(NOTIONALLY THE EASTERN SIDE)

NOTES:
THESE PITS ARE NOT SYMETRICAL. INLET HOLES ARE 750 DIA., OUTLET HOLES ARE 700 DIA.
PIT COVERS ARE TO BE TERRA FIRMA B80 1055 x 1055 jct GREEN FRP CLASS B TO SUIT
900 x 900 CLEAR OPENING

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DRAWING TITLE: SPORTS FIELD INLET PITS DETAILS SHEET 1

JOB NO: TO-003 | SHEET: 011 | REV: A7

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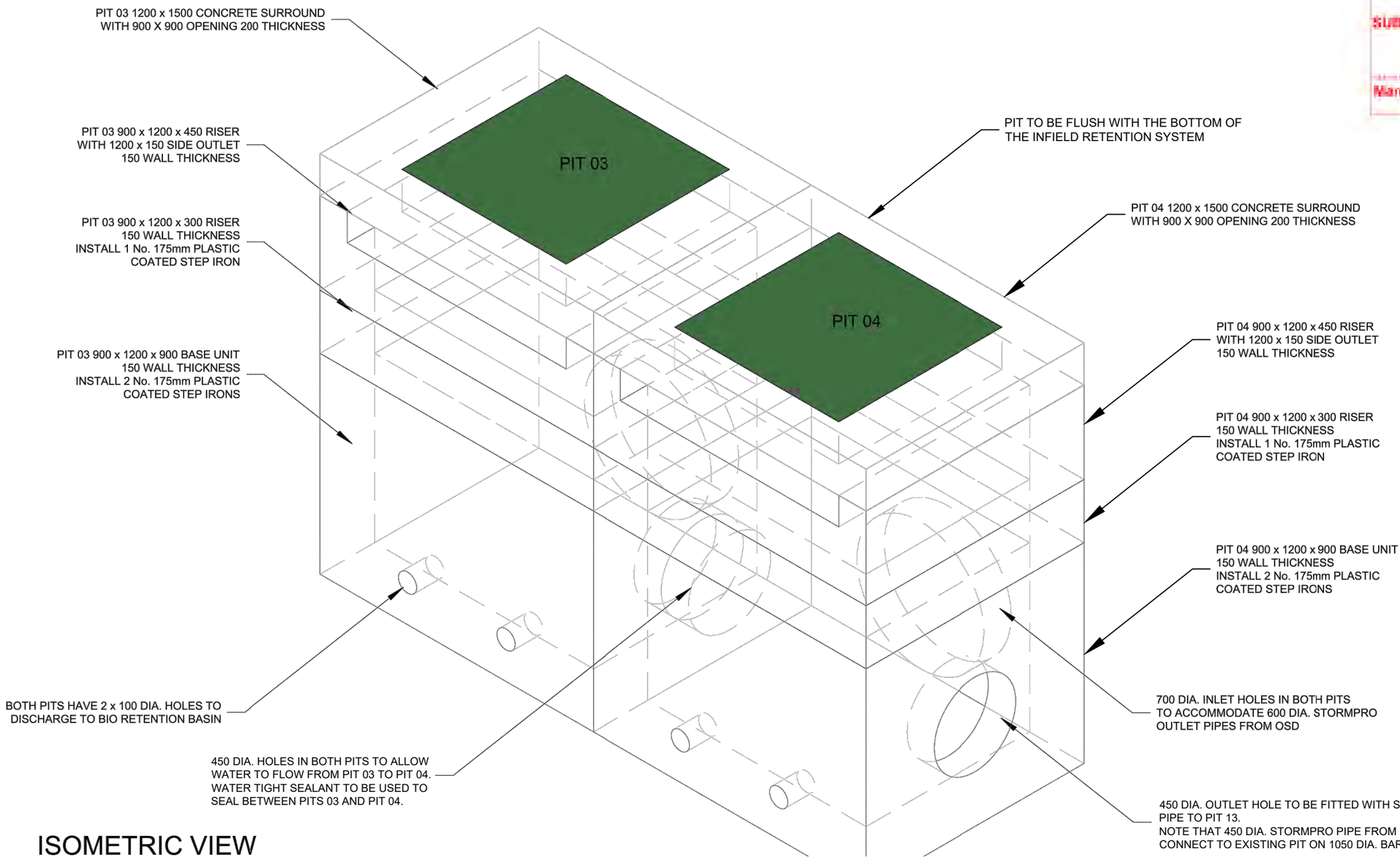

ISOMETRIC VIEW

NOT TO SCALE

VIEWED FROM OUTLET SIDE
(NOTIONALLY THE WESTERN SIDE)

NOTES:
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PROJECT: PROPOSED STORMWATER MITIGATION AND SYNTHETIC SPORTS FIELD NORMAN GRIFFITHS OVAL DESIGN AND CONSTRUCT

DRAWING TITLE: SPORTS FIELD INLET PITS DETAILS SHEET 2
JOB NO: TO-003
SHEET: 012
REV: A7

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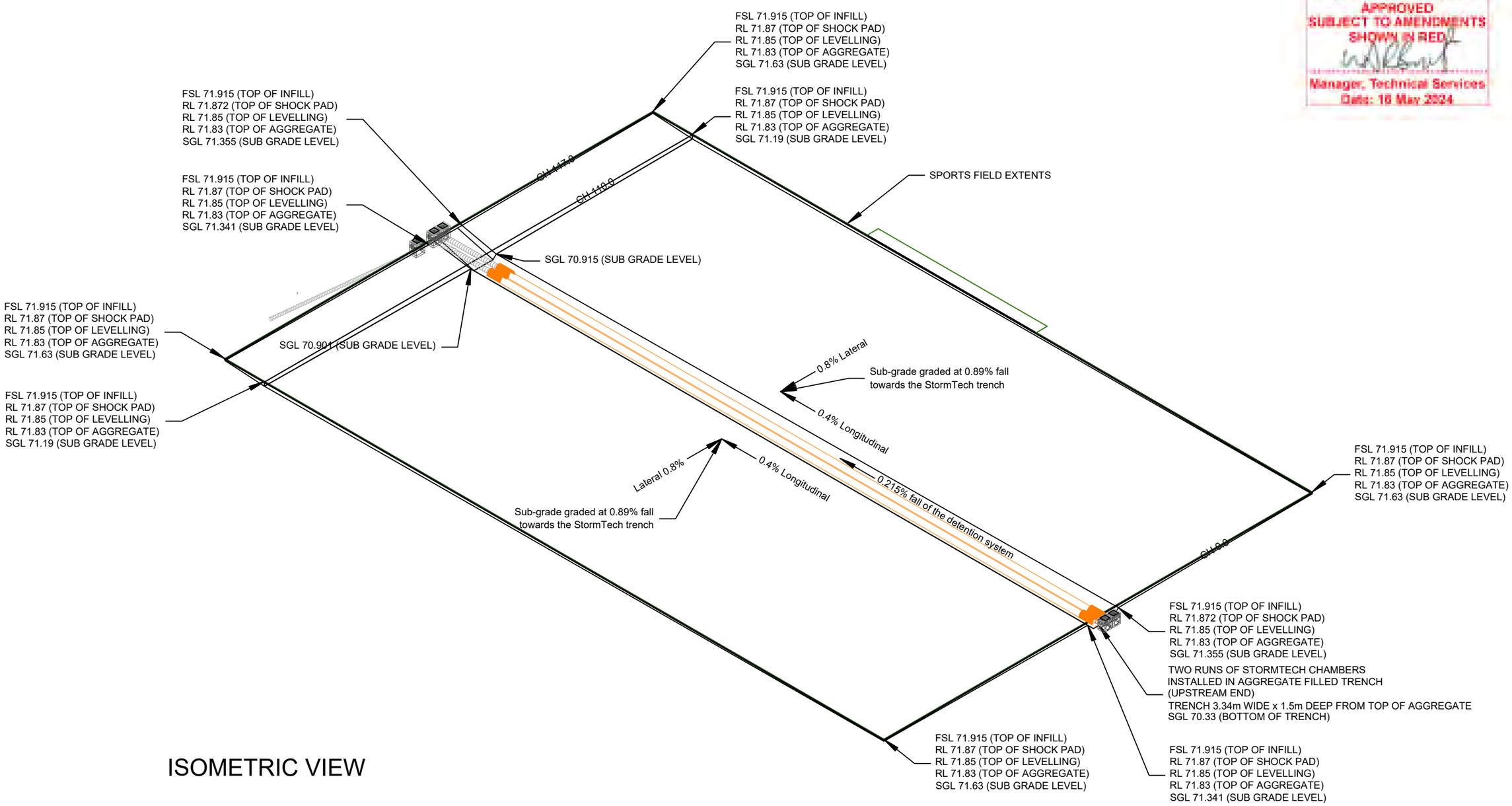

ISOMETRIC VIEW

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DRAWING TITLE: ON-SITE DETENTION ISOMETRIC LAYOUT

JOB NO: TO-003
SHEET: 013
REV: A7

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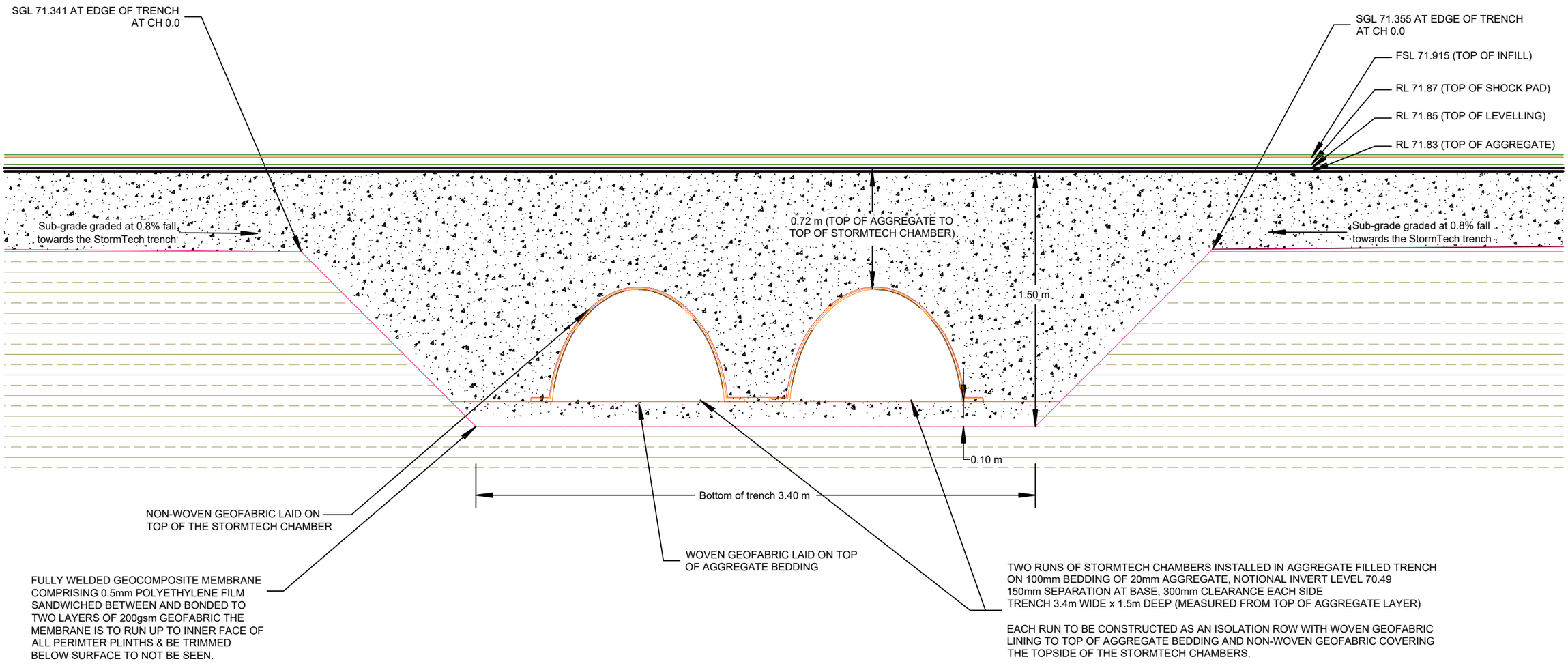
Query still unanswered on the 100mm beneath the chambers - to confirm prior to install

SECTIONAL VIEW OF STORMTECH TRENCH AT CH 1.0

SCALE 1:25 @ A3



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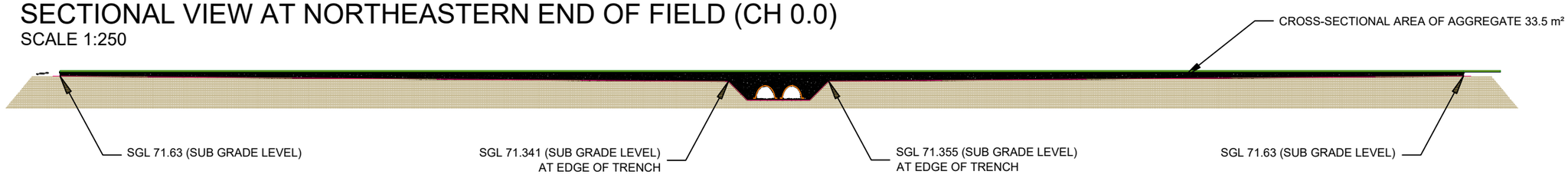
DRAWING TITLE: ON-SITE DETENTION PROFILE SECTION
JOB NO: TO-003
SHEET: 014
REV: A7

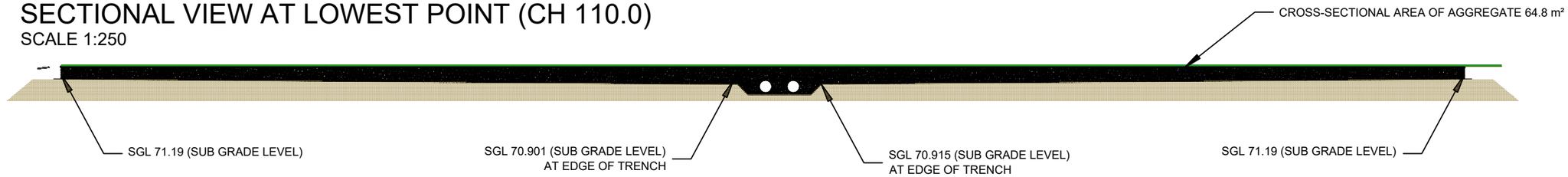
SECTIONAL VIEW AT NORTHEASTERN END OF FIELD (CH 0.0)

SCALE 1:250



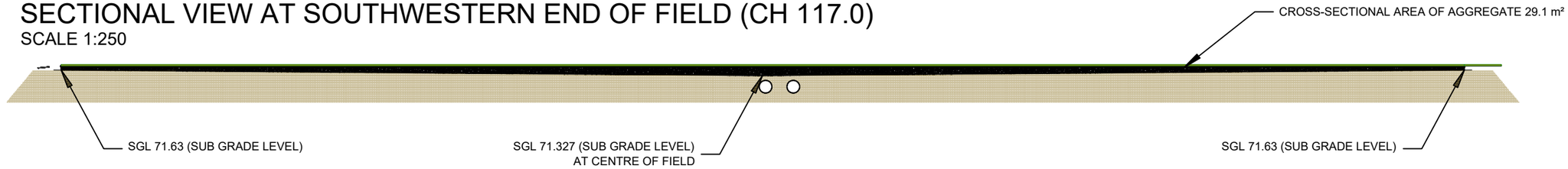
SECTIONAL VIEW AT LOWEST POINT (CH 110.0)

SCALE 1:250



SECTIONAL VIEW AT SOUTHWESTERN END OF FIELD (CH 117.0)

SCALE 1:250



VOLUMETRIC CALCULATION FOR ON-SITE DETENTION

Cross-sectional area of aggregate:
CH 0.0 33.5 m²
CH 110.0 64.8 m²
CH 117.0 29.1 m²
Volume of aggregate CH 0.0 to CH 110 = 110 x (33.5 + 64.8) / 2 = 5,406 m³
Volume of aggregate CH 110.0 to CH 117.0 = 7 x (64.8 + 29.1) / 2 = 328 m³
Therefore total volume of aggregate = 5,734 m³
Void space in aggregate layer = 0.4 x 5,734 = 2,293 m³
Void space in StormTech chambers = 110 x 1.30 = 143 m³
Void space in 600 dia. StormPro pipes = 12.0m x 0.28 = 3.36 m³
Therefore total void space measured to underside of blinding layer = 2,439.36 m³
Capacity of on-site detention = 2.44 megalitres

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CONSTRUCTION ISSUE

REV	DESCRIPTION	DATE
A	CONSTRUCTION ISSUE	09.05.24

DESIGN: DV
DRAWN: BD
SHEET: A3
SCALE:
NORTH:

COUNCIL: KU-RING-GAI COUNCIL
PROJECT: PROPOSED STORMWATER MITIGATION AND SYNTHETIC SPORTS FIELD NORMAN GRIFFITHS OVAL DESIGN AND CONSTRUCT

DRAWING TITLE: ON-SITE DETENTION CALCULATIONS & SECTIONAL VIEWS

JOB NO: TO-003 SHEET: 015 REV: A7

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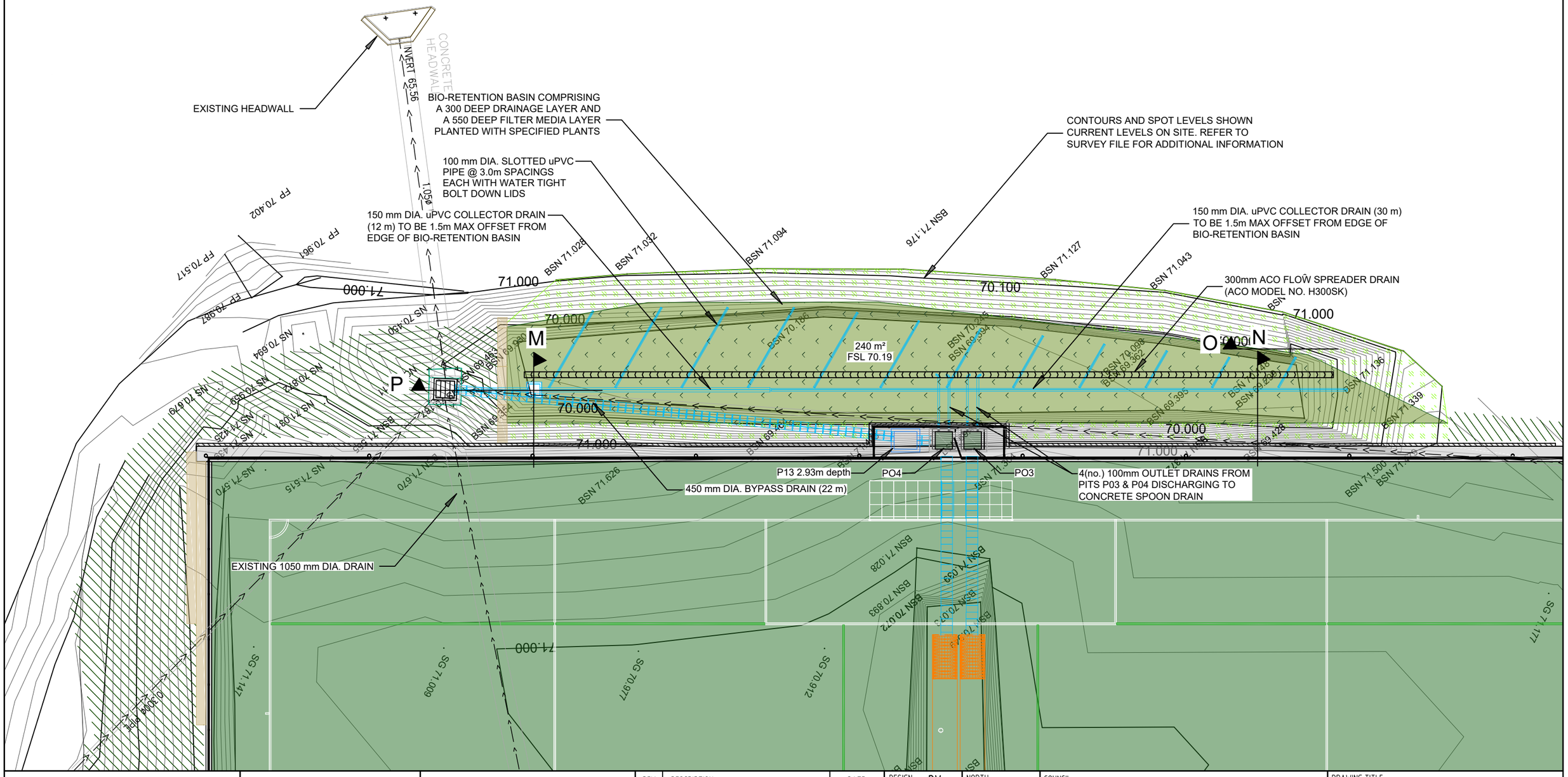
Environmental Engineer still confirming some minor details around the bio-basin.
Also Queries remain in regards to treatment of the banks surrounding.



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A	CONSTRUCTION ISSUE	09.05.24
P8	PRELIMINARY ISSUE	23.04.24

DESIGN: DV
DRAWN: BD
SHEET: A3
SCALE:

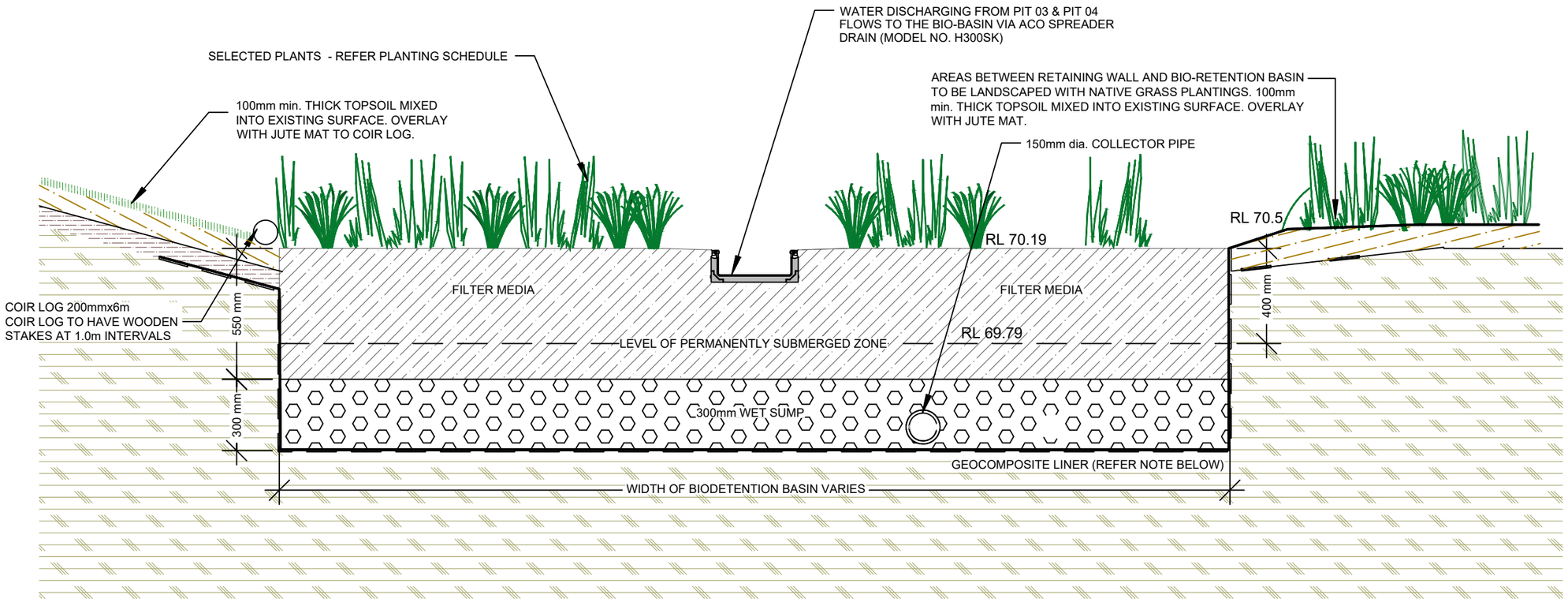
NORTH: PROJECT NORTH

COUNCIL:
KU-RING-GAI COUNCIL

PROJECT:
PROPOSED STORMWATER MITIGATION AND SYNTHETIC SPORTS FIELD NORMAN GRIFFITHS OVAL DESIGN AND CONSTRUCT

DRAWING TITLE:
BIO-RETENTION BASIN LAYOUT

JOB NO: TO-003
SHEET: 016
REV: A8



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Final sing-off required by Environmental Engineer

SCHEMATIC SECTION

SCALE 1:20 @ A3

FILTER MEDIA
Filter media is to be a low nutrient freely draining sandy loam. Media infiltration rate: 300mm/hr hydraulic conductivity (saturated).

WET SUMP
Drainage layer is to be 5-7mm clean drainage gravel (not recycled)

GEOCOMPOSITE LINER
Fully welded impermeable geocomposite liner comprising 500 micron polyethylene film sandwiched between and bonded to two layers of non-woven 200 gsm geofabric.
Note that this material is the same as the liner to be installed under the OSD.
Liner fabric to be pinned to existing ground with 100mm pins.
Where required heavy duty geofabric (Bidum A64 or approved similar) to be placed under liner to protect form sharp edges/rocks.

PLANTING SCHEDULE			
BIORETENTION FILTER SURFACE (240 m²)	PLANT SPECIES	SIZE	NUMBER
Density: 8 plants/sq.m	Ficina nodulosa	Tube	380
	Carex appressa	Tube	380
	Dianella revoluta	Tube	310
	Juncus usitatus	Tube	380
	Centella asiatica	Tube	190
	Crinum penduculatum	Tube	190
	Pratia purpurascens	Tube	90
		Total	1,920

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SCALE:
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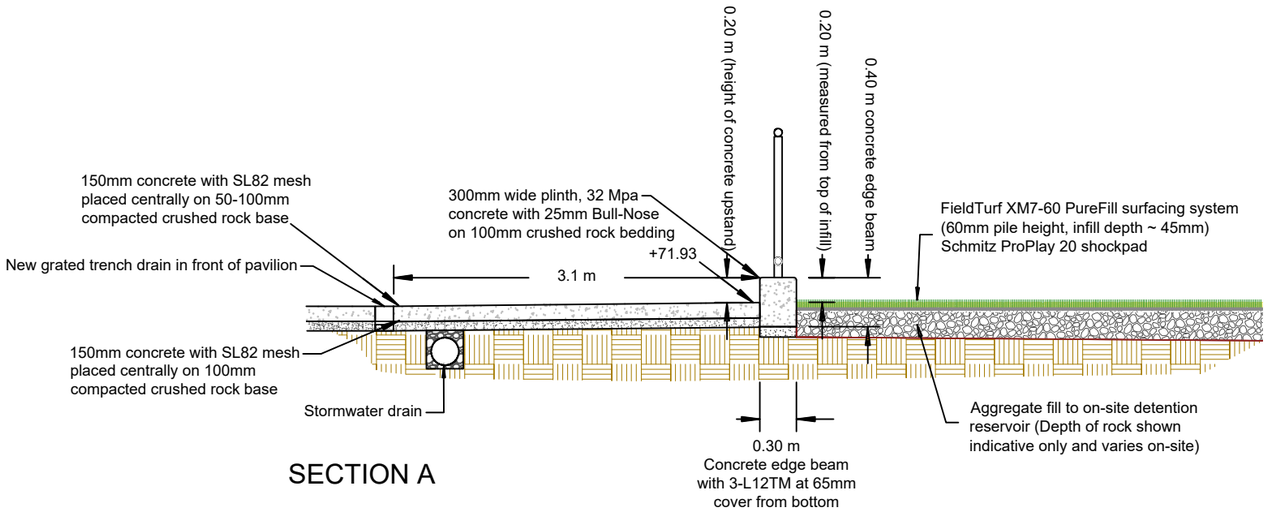
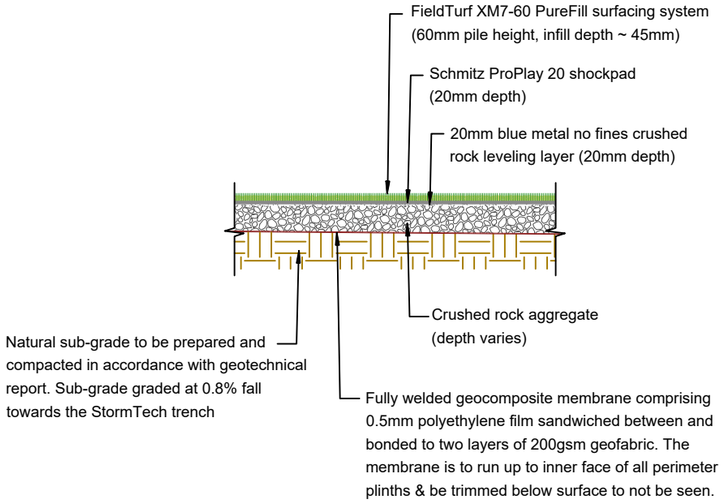
PROJECT: PROPOSED STORMWATER MITIGATION AND SYNTHETIC SPORTS FIELD NORMAN GRIFFITHS OVAL DESIGN AND CONSTRUCT

DRAWING TITLE: BIO-RETENTION SECTION DETAIL & PLANTING SCHEDULE

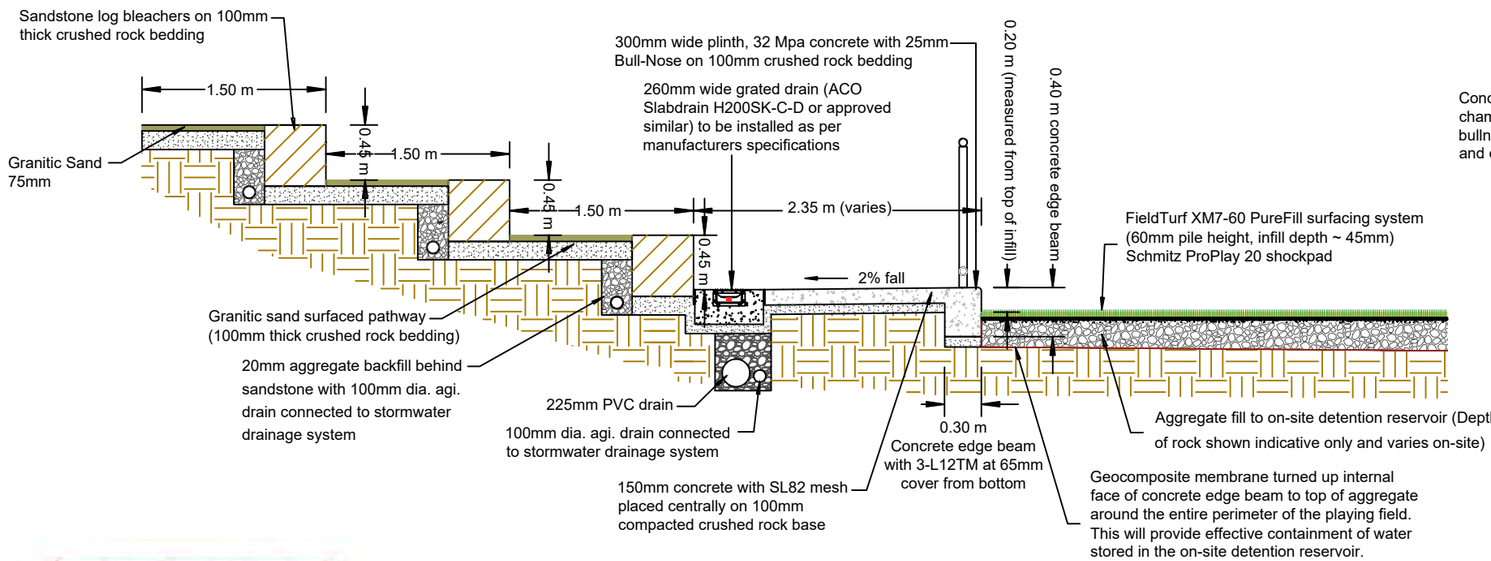
JOB NO: TO-003 | SHEET: 017 | REV: A7



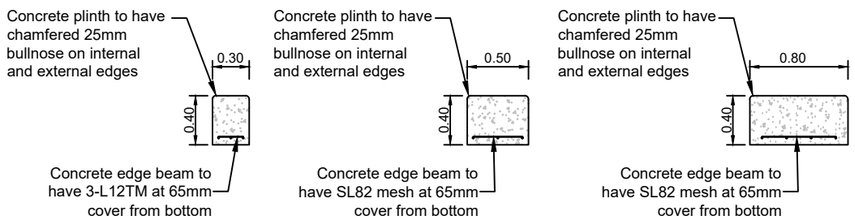
SECTION A



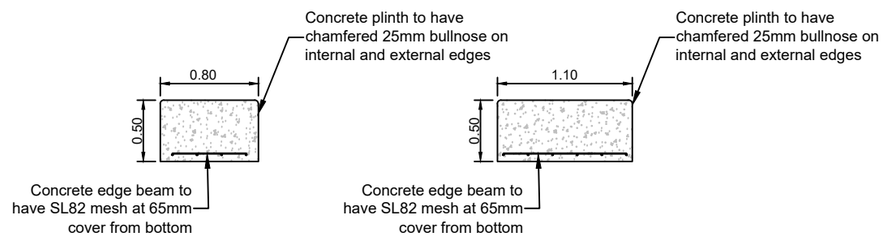
TYPICAL PITCH PAVEMENT SECTION



SECTION B



TYPE P300 PLINTH TYPE P500 PLINTH TYPE P800-A PLINTH



TYPE P800-B PLINTH TYPE P1100 PLINTH

NOTE: All concrete plinths 32MPa concrete.
Plinths to have 100mm compacted depth bedding of Class 3 FCR or otherwise noted

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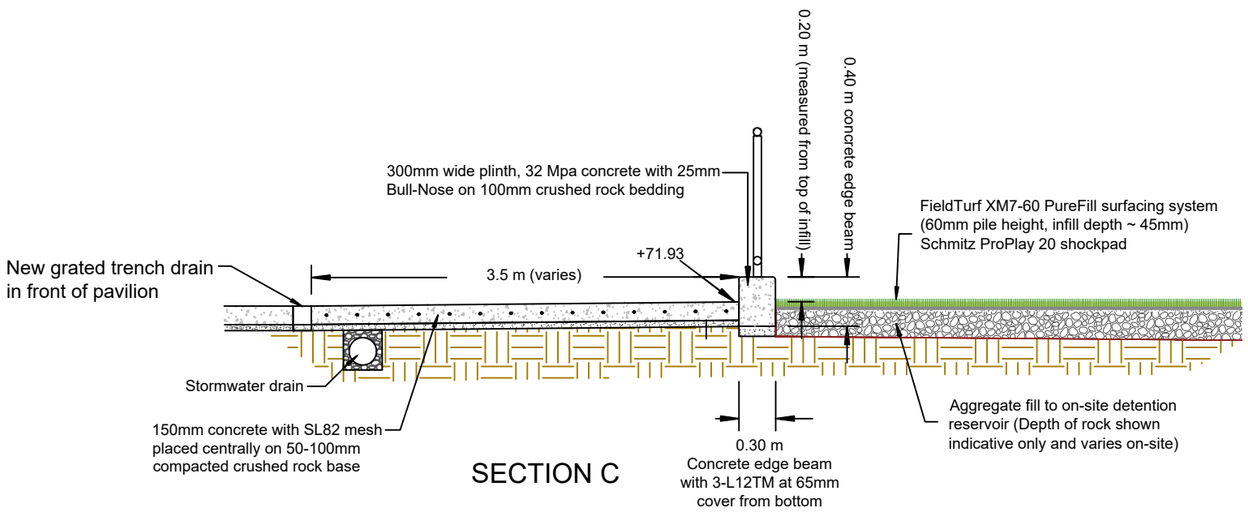
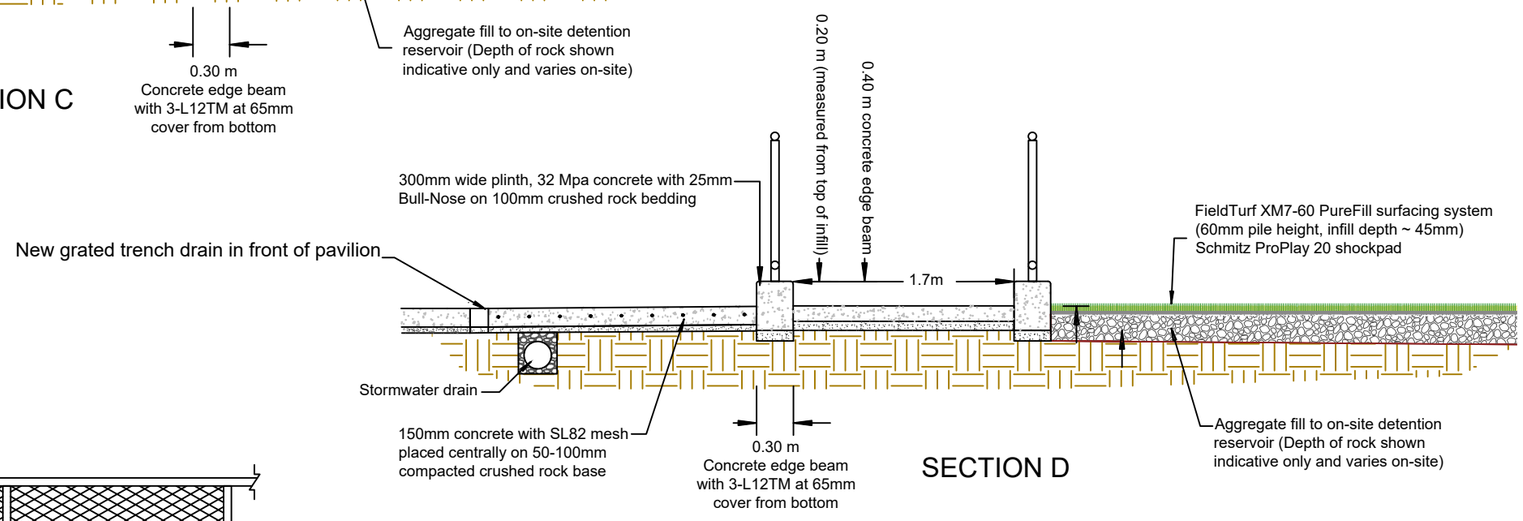
PROJECT: PROPOSED STORMWATER MITIGATION AND SYNTHETIC SPORTS FIELD NORMAN GRIFFITHS OVAL DESIGN AND CONSTRUCT

DRAWING TITLE: SPORTS FIELD SECTION DETAILS SHEET 1

JOB NO: TO-003 SHEET: 018 REV: A7



SECTION C



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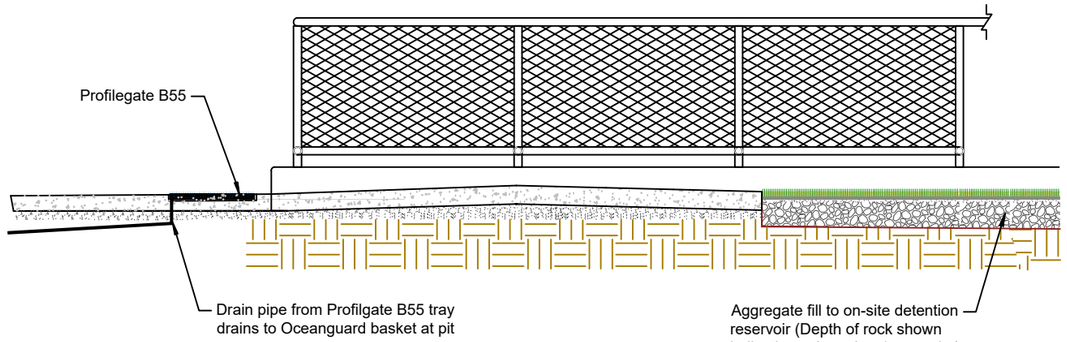

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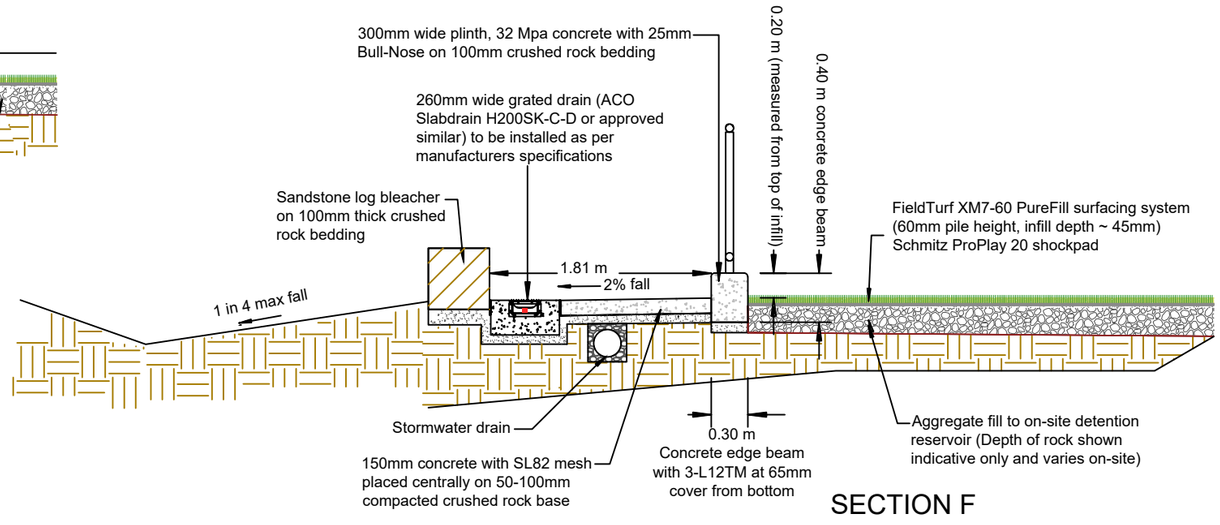

SECTION F

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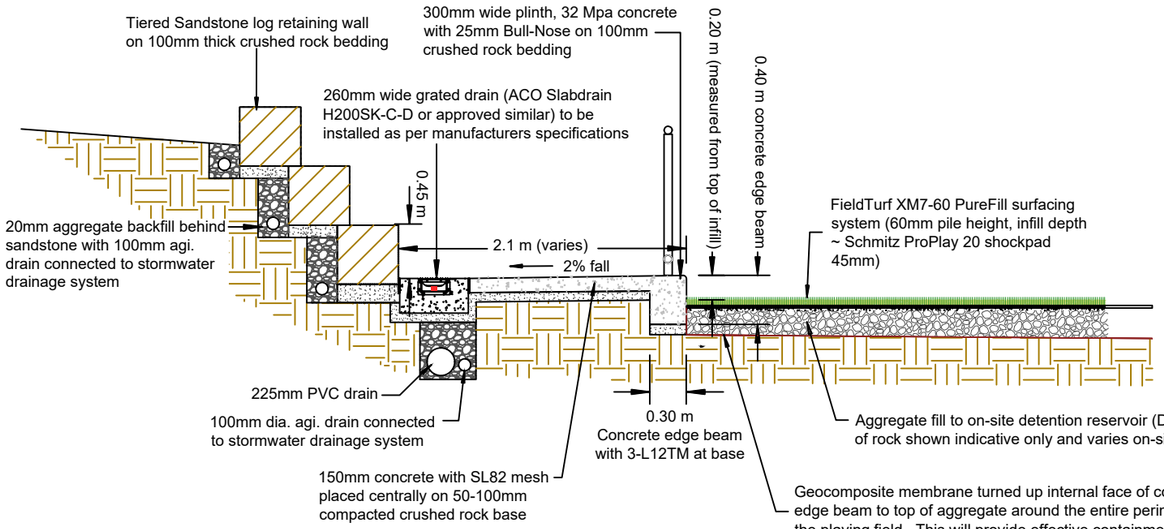
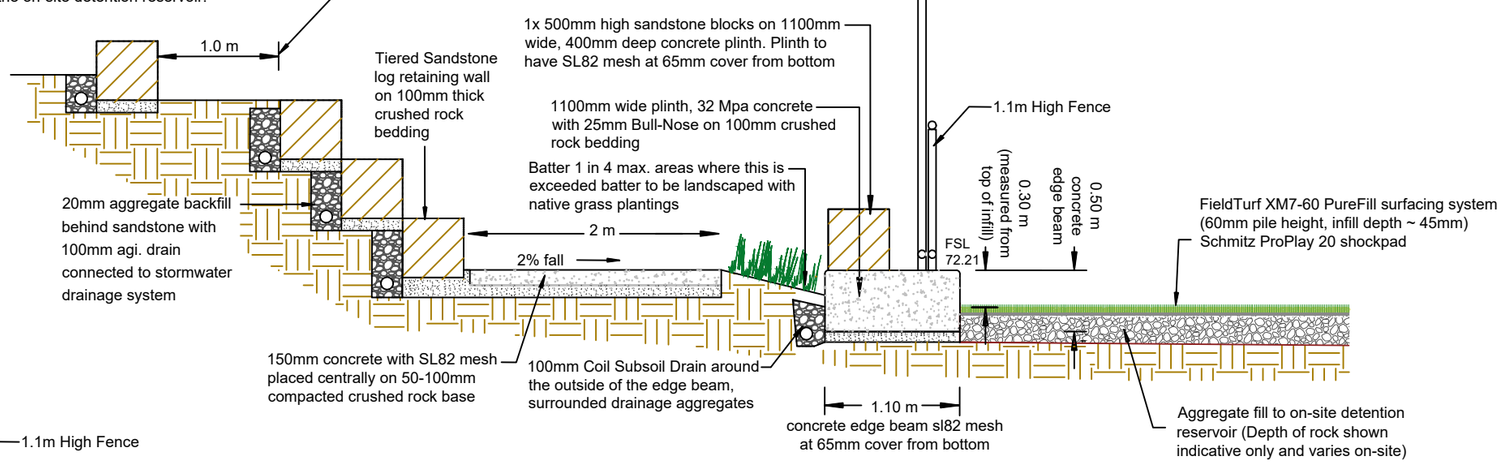
DRAWING TITLE: SPORTS FIELD SECTION DETAILS SHEET 2

JOB NO: TO-003 | SHEET: 019 | REV: A7

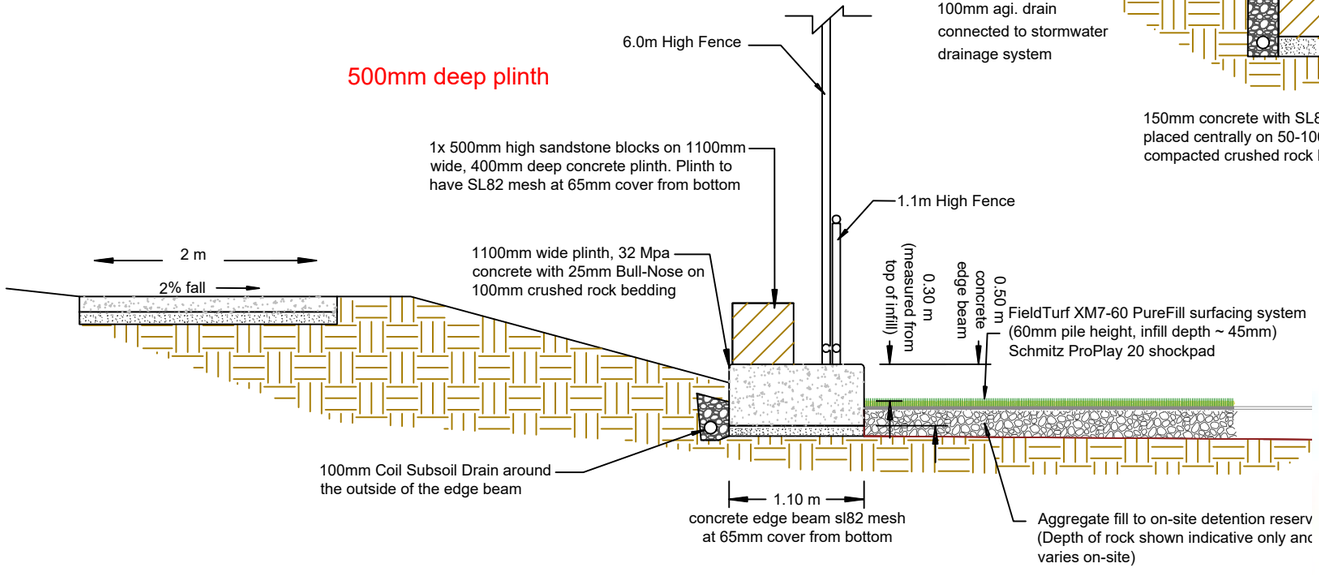


SECTION G

Section doesn't match plan view . To be built as per Council provided design. Suggest blocks are overlapped and as per email no fines concrete drainage layer



SECTION H



SECTION I

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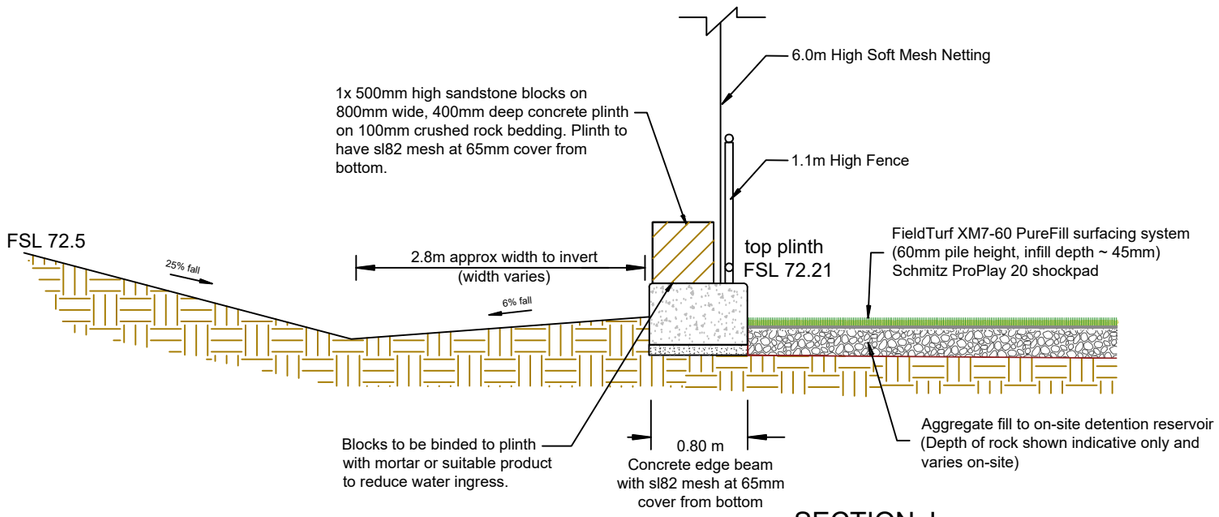
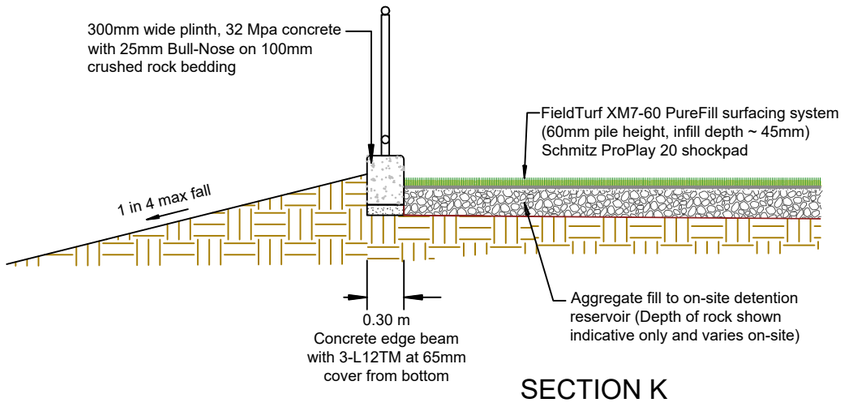
DRAWING TITLE: SPORTS FIELD SECTION DETAILS SHEET 3

JOB NO: TO-003
SHEET: 020
REV: A7

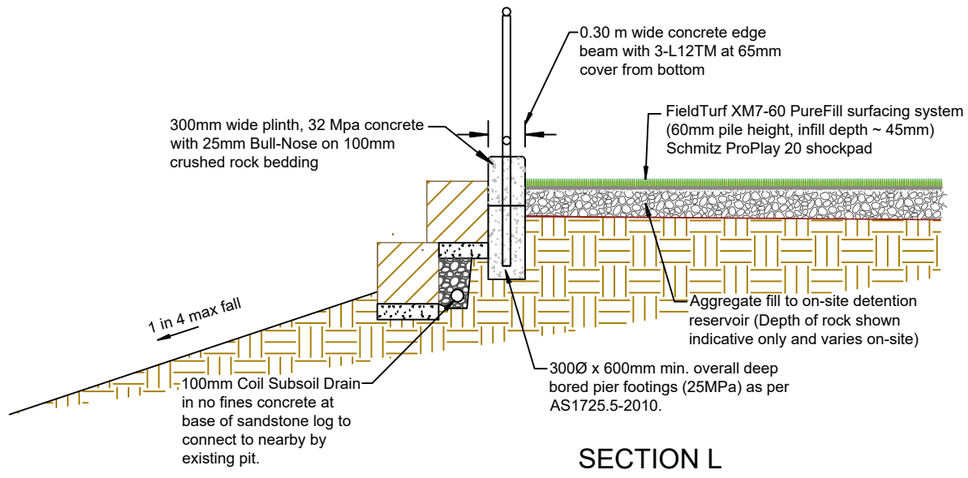
Will be unable to be built as shown below - levels/requirments of overland flow path to be met



SECTION J



SECTION K



SECTION L

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REV	DESCRIPTION	DATE
A	CONSTRUCTION ISSUE	09.05.24
P8	PRELIMINARY ISSUE	23.04.24

DESIGN: DV
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SHEET: A3
SCALE:
NORTH:

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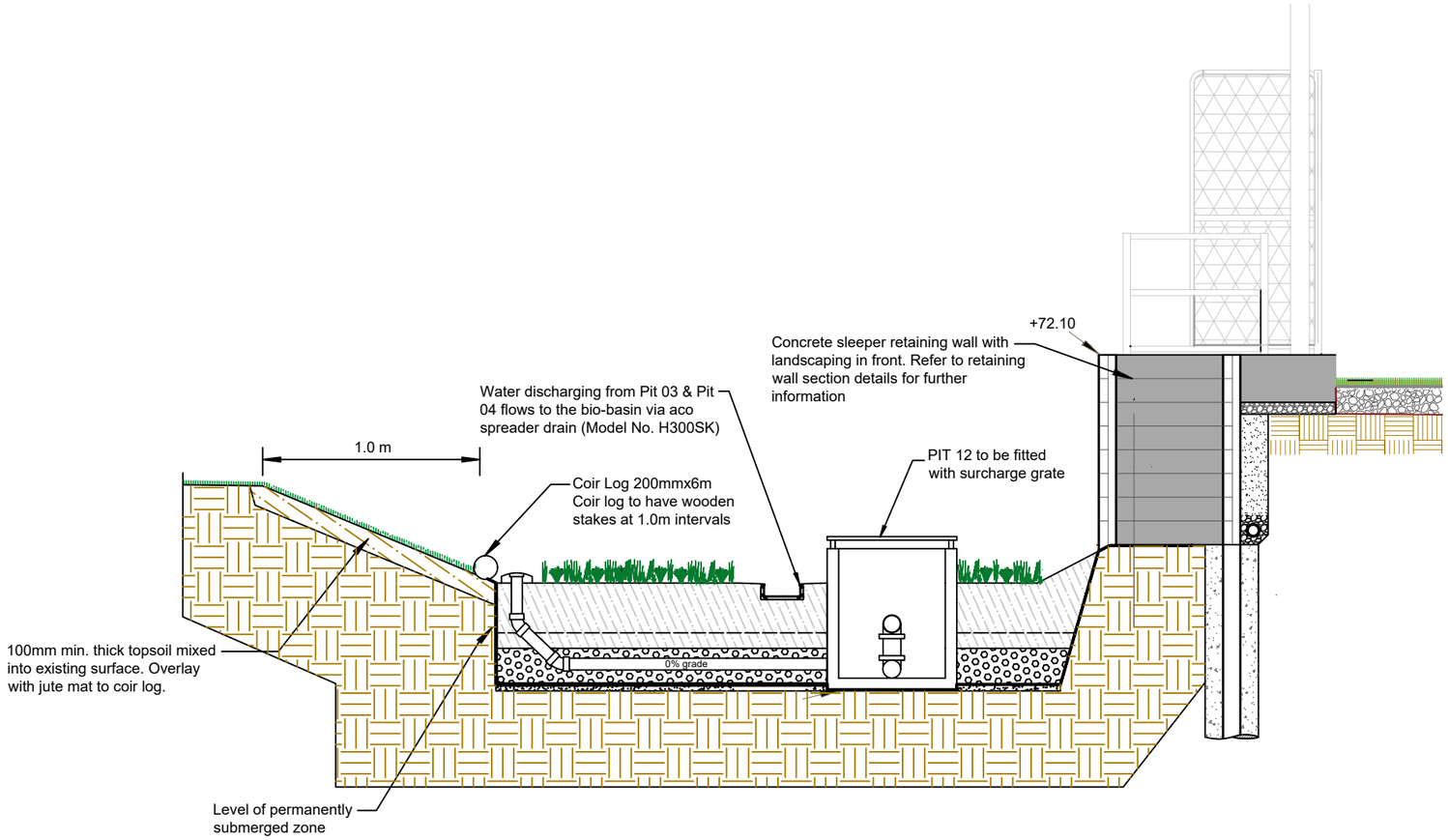
DRAWING TITLE: SPORTS FIELD SECTION DETAILS SHEET 4

JOB NO: TO-003
SHEET: 021
REV: A8



SECTION M

Environmental Engineer to provide final sign-off to Bio-Basin works - No details provided for drainage layer behind wall, to be confirmed.

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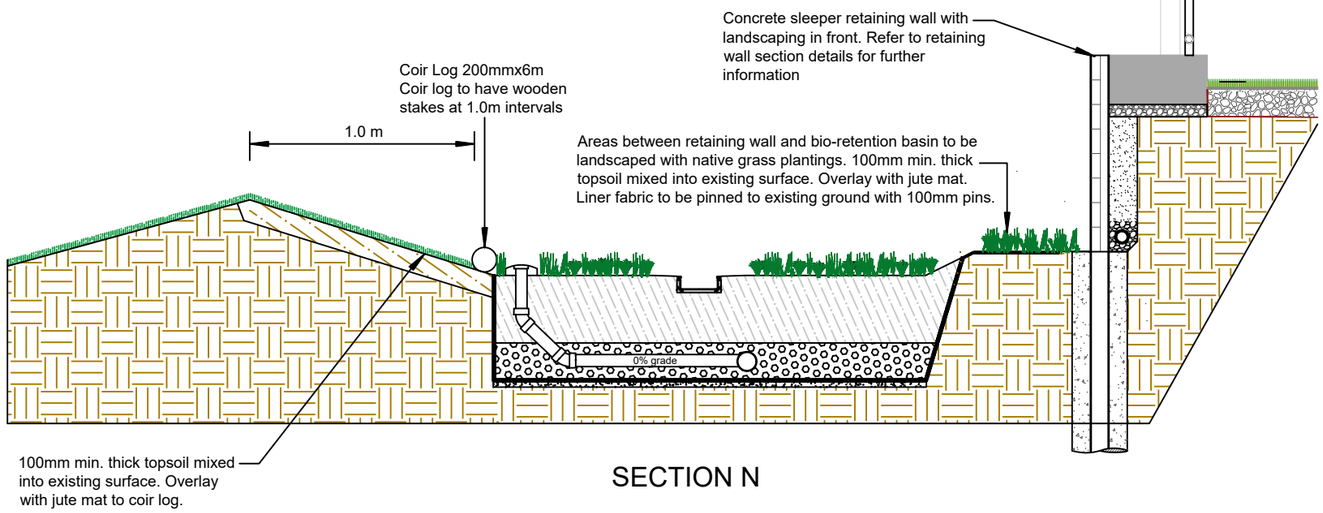

SECTION N

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DRAWING TITLE: SPORTS FIELD SECTION DETAILS SHEET 5

JOB NO: TO-003 | SHEET: 022 | REV: A8

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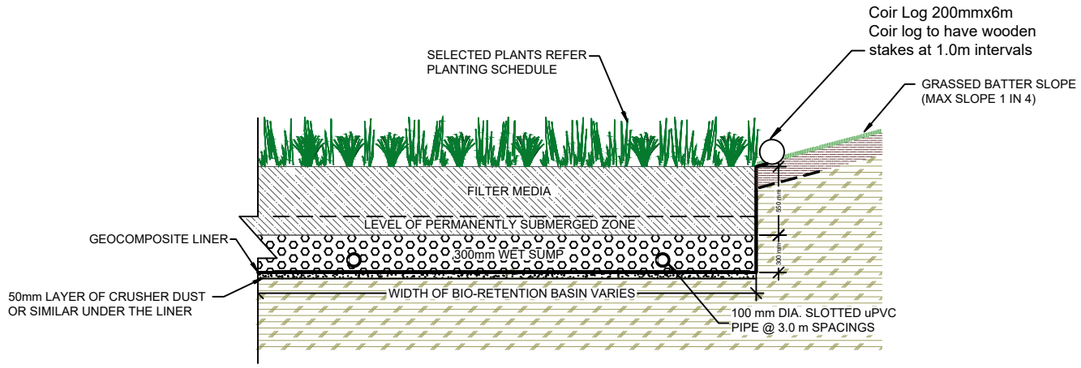
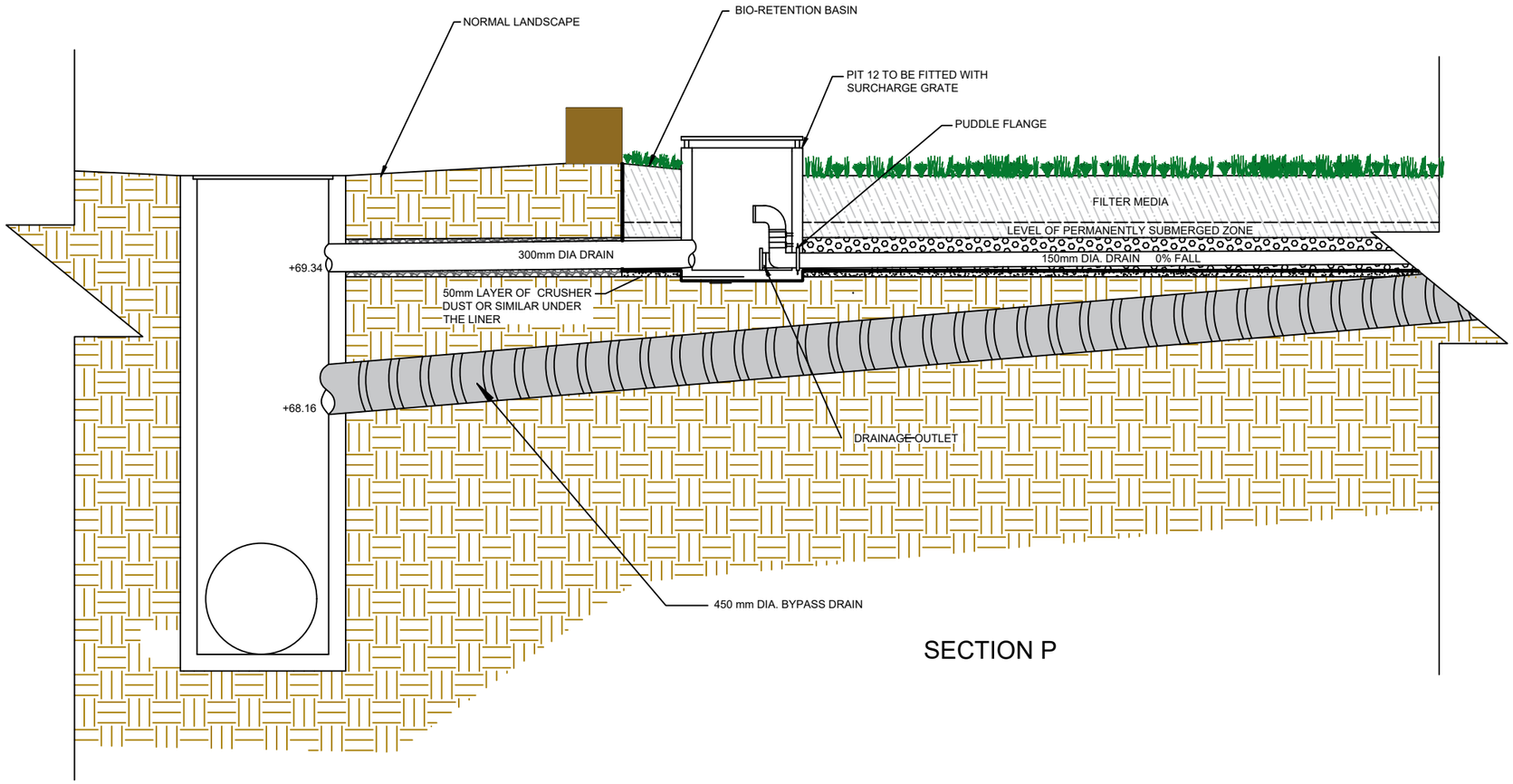
Environmental Engineer to provide final sign-off to Bio-Basin works



SECTION O



SECTION P

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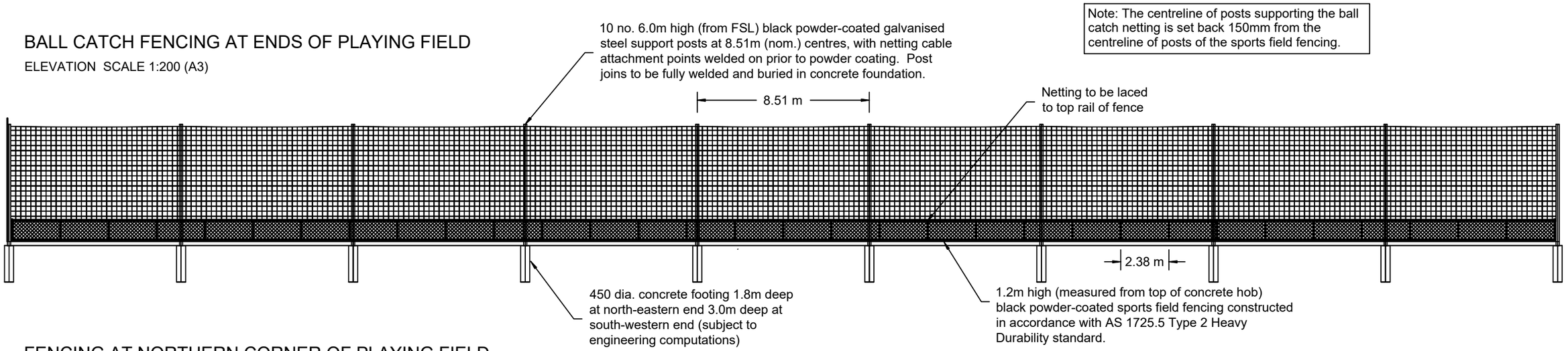
DRAWING TITLE: SPORTS FIELD SECTION DETAILS SHEET 6

JOB NO: TO-003 | SHEET: 023 | REV: A8

BALL CATCH FENCING AT ENDS OF PLAYING FIELD

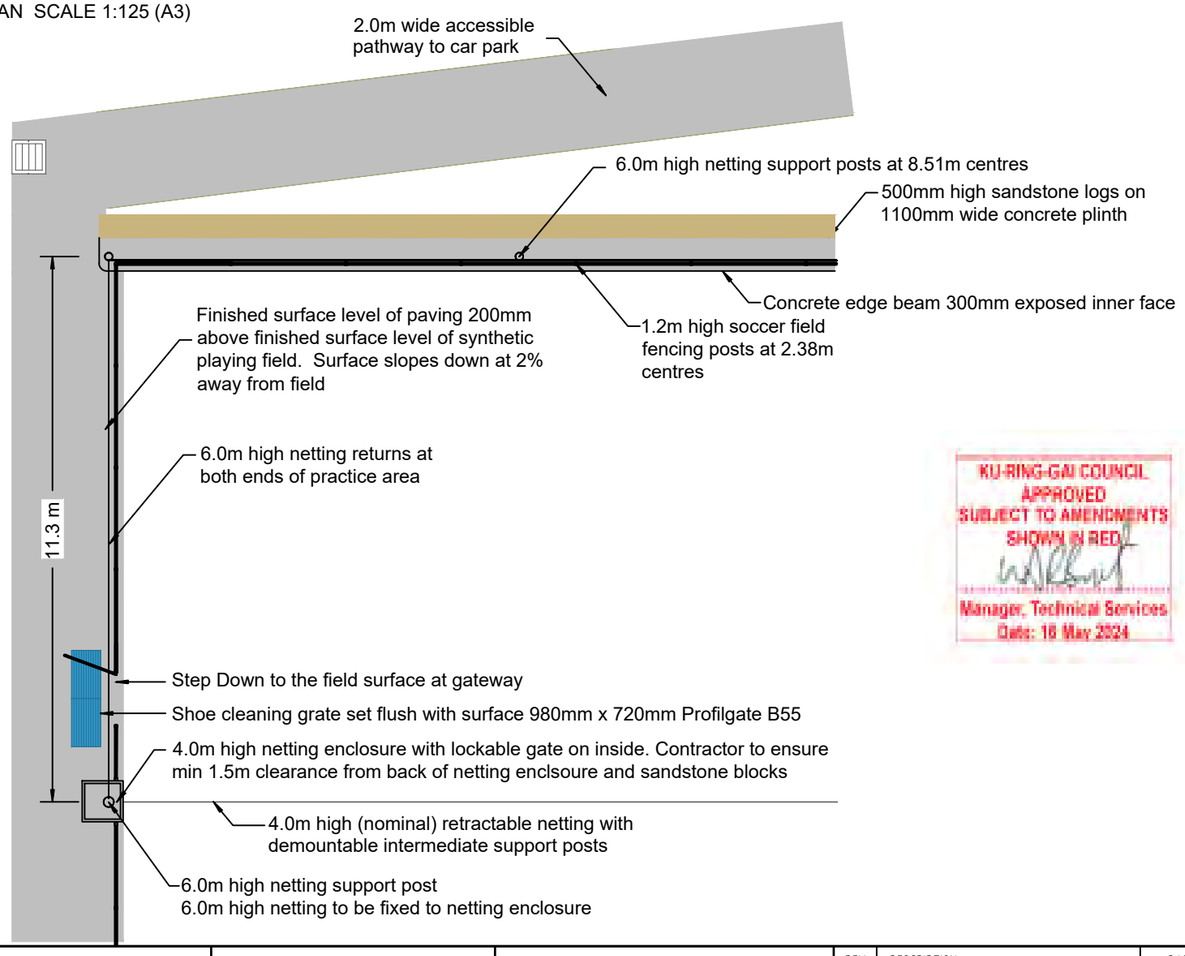
ELEVATION SCALE 1:200 (A3)



Note: The centreline of posts supporting the ball catch netting is set back 150mm from the centreline of posts of the sports field fencing.

FENCING AT NORTHERN CORNER OF PLAYING FIELD

PLAN SCALE 1:125 (A3)



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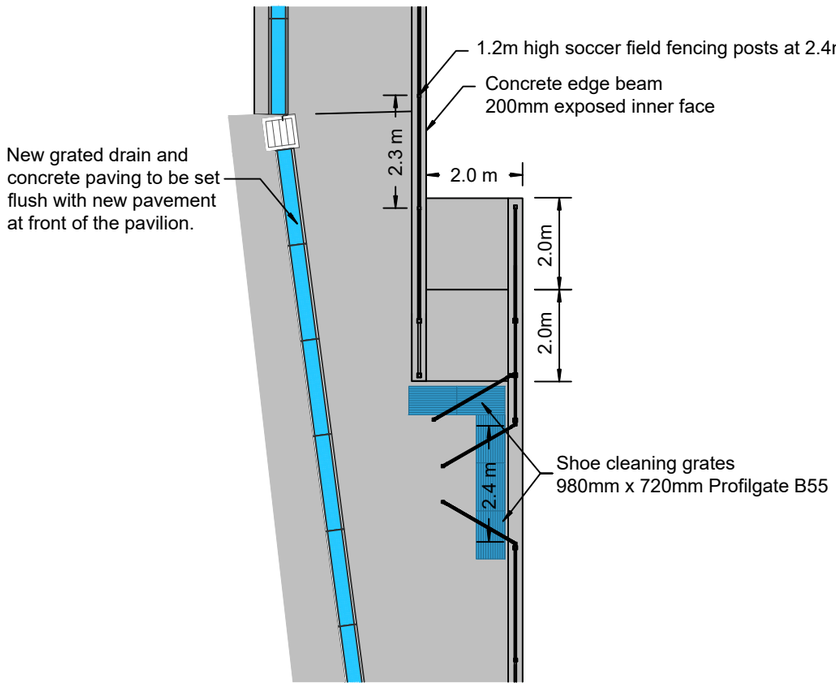
FENCING AT WESTERN END OF TECHNICAL AREA

PLAN SCALE 1:125 (A3)



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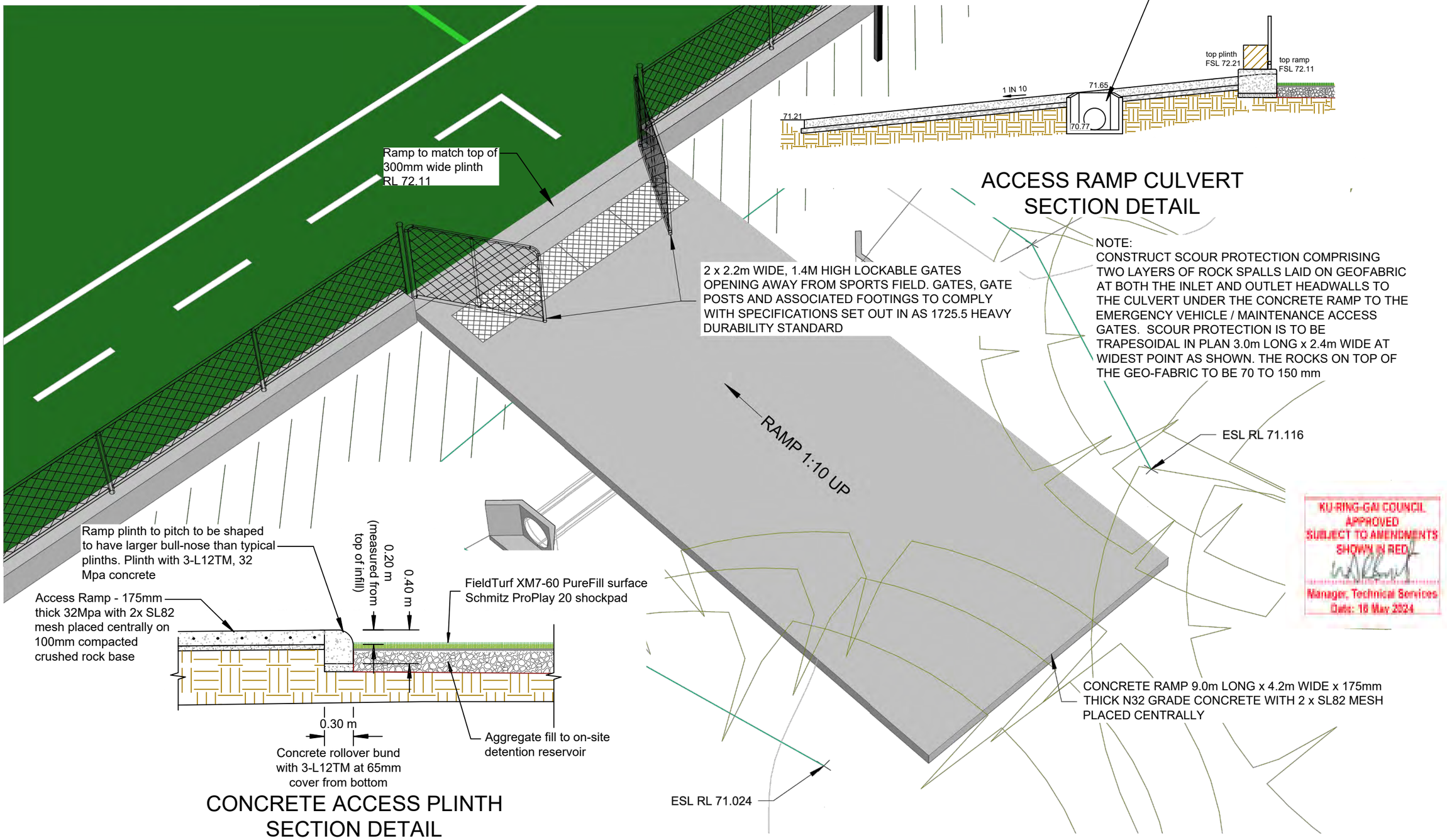
DRAWING TITLE: SPORTS FIELD FENCE DETAILS

JOB NO: TO-003 | SHEET: 024 | REV: A8

EMEGENCY / MAINTENANCE VEHICLE ACCESS GATE ON SOUTHERN SIDE OF PLAYING FIELD

SCHEMATIC PERSPECTIVE VIEW (NOT TO SCALE)



ACCESS RAMP CULVERT SECTION DETAIL

NOTE:
CONSTRUCT SCOUR PROTECTION COMPRISING TWO LAYERS OF ROCK SPALLS LAID ON GEOFABRIC AT BOTH THE INLET AND OUTLET HEADWALLS TO THE CULVERT UNDER THE CONCRETE RAMP TO THE EMERGENCY VEHICLE / MAINTENANCE ACCESS GATES. SCOUR PROTECTION IS TO BE TRAPESOIDAL IN PLAN 3.0m LONG x 2.4m WIDE AT WIDEST POINT AS SHOWN. THE ROCKS ON TOP OF THE GEO-FABRIC TO BE 70 TO 150 mm

CONCRETE ACCESS PLINTH SECTION DETAIL

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DRAWING TITLE: SPORT FIELD EMERGENCY - MAINTENANCE ACCESS

JOB NO: TO-003
SHEET: 025
REV: A7

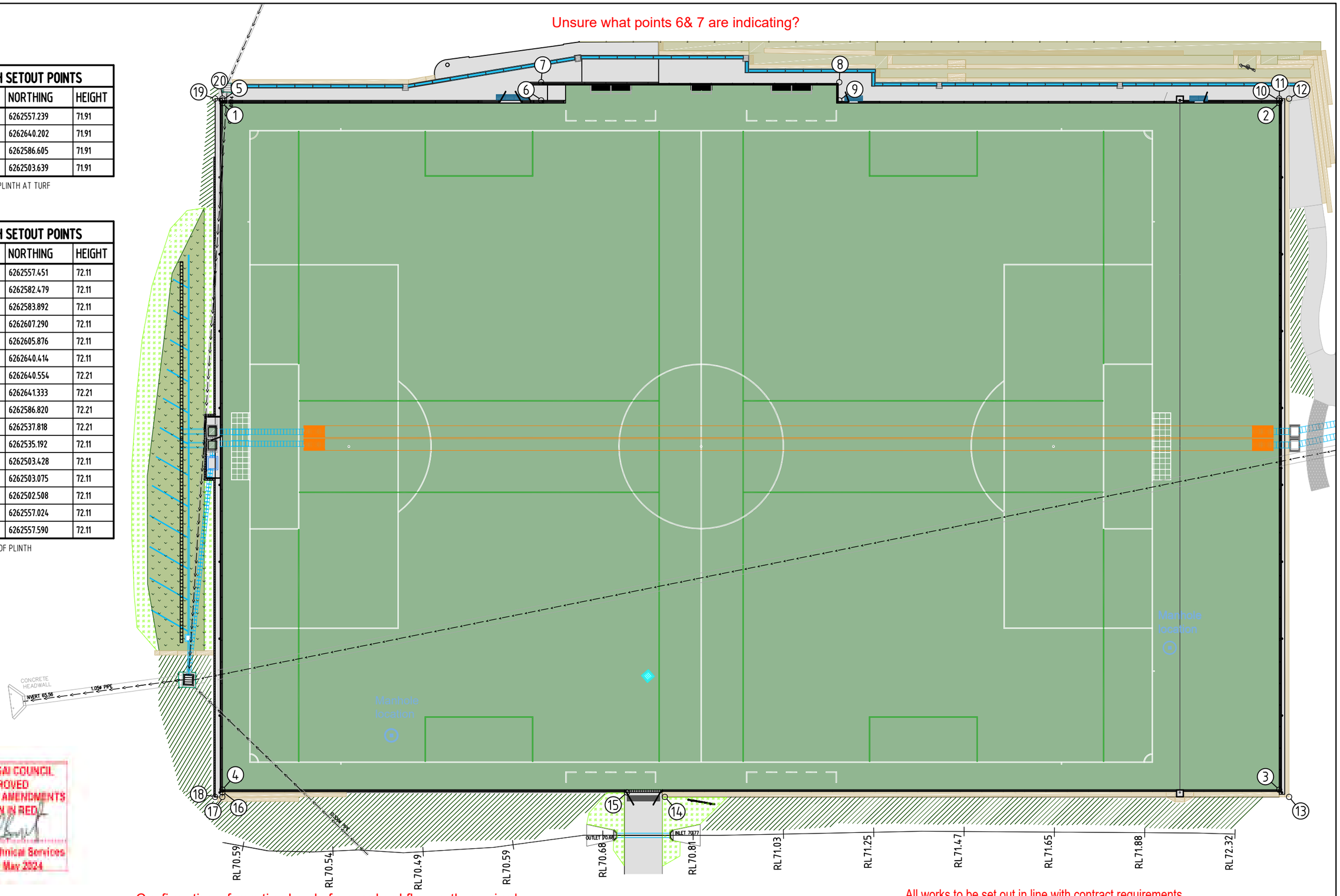
Unsure what points 6& 7 are indicating?

SOCCER PITCH SETOUT POINTS			
PT	EASTING	NORTHING	HEIGHT
1	327259.867	6262557.239	71.91
2	327342.377	6262640.202	71.91
3	327396.265	6262586.605	71.91
4	327313.751	6262503.639	71.91

NOTE: SETOUT TO INSIDE OF PLINTH AT TURF BASE FABRIC

SOCCER PITCH SETOUT POINTS			
PT	EASTING	NORTHING	HEIGHT
5	327259.655	6262557.451	72.11
6	327284.547	6262582.479	72.11
7	37283.127	6262583.892	72.11
8	327306.395	6262607.290	72.11
9	327307.816	6262605.876	72.11
10	327342.164	6262640.414	72.11
11	327342.024	6262640.554	72.21
12	327342.799	6262641.333	72.21
13	327397.609	6262586.820	72.21
14	327348.872	6262537.818	72.21
15	327345.556	6262535.192	72.11
16	327313.964	6262503.428	72.11
17	327314.318	6262503.075	72.11
18	327313.754	6262502.508	72.11
19	327258.950	6262557.024	72.11
20	327259.514	6262557.590	72.11

NOTE: SETOUT TO TOP EDGE OF PLINTH



KU-RING-GAI COUNCIL
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SUBJECT TO AMENDMENTS
SHOWN IN RED
Manager, Technical Services
Date: 16 May 2024

Confirmation of meeting levels for overland flow path required

All works to be set out in line with contract requirements

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CONSTRUCTION ISSUE

REV	DESCRIPTION	DATE
A	CONSTRUCTION ISSUE	09.05.24

DESIGN: DV
DRAWN: BD
SHEET: A3
SCALE:

NORTH: PROJECT NORTH

COUNCIL: KU-RING-GAI COUNCIL

PROJECT: PROPOSED STORMWATER MITIGATION AND SYNTHETIC SPORTS FIELD NORMAN GRIFFITHS OVAL DESIGN AND CONSTRUCT

DRAWING TITLE: SYNTHETIC SPORTS FIELD SETOUT PLAN

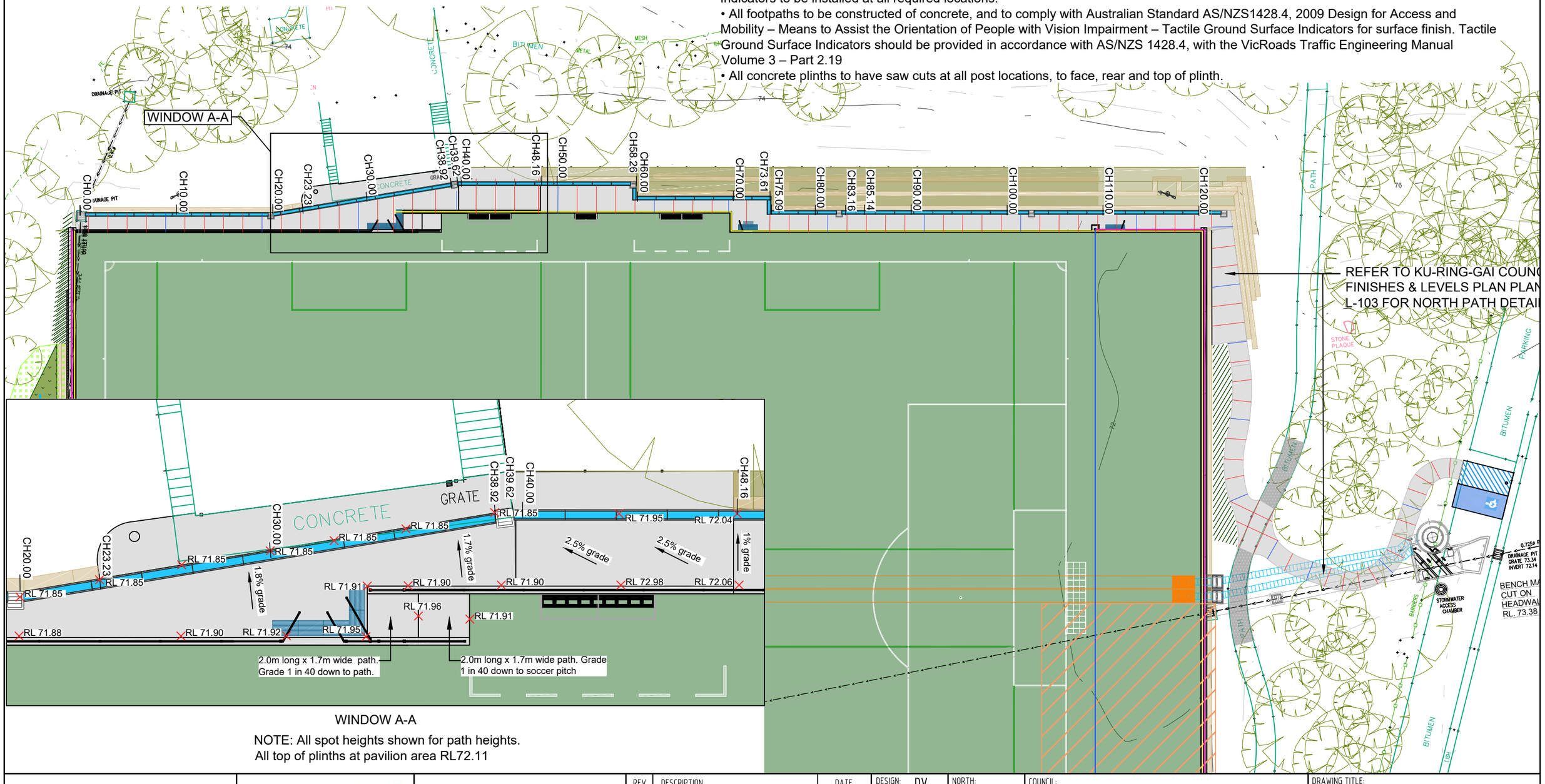
JOB NO: TO-003 | SHEET: 026 | REV: A7

CH30.00 FOOTPATH CHAINAGES
SAW CUT JOINT
EXPANSION JOINT

KU-RING-GAI COUNCIL
APPROVED
SUBJECT TO AMENDMENTS
SHOWN IN RED
Manager, Technical Services
Date: 16 May 2024

Clarification requested on proposed jointing - contractor to confirm prior to works

TYPICAL FOOTPATH NOTES:
The following requirements apply to footpaths and pedestrian accesses:
• Footpaths to be constructed in line with Council standards and guidelines including Ku-ring-gai Council Public Domain Technical Manual and Ku-ring-gai Council engineering standard drawing 2003-004 'Concrete Strip Footpath
• The minimum footpath width should be 1.5m in residential areas and 2.0m in commercial areas.
• All footpaths to be 150mm concrete with SL82 mesh placed centrally on 50-100mm compacted crushed rock base.
• All footpaths to be constructed saw cuts to be spaced to match path width (ie 2m)
• The desirable maximum cross-fall on footpaths is 1:50 and the absolute maximum cross-fall is 1:40, including kerb crossings. Kerb crossings are to be provided in accordance with Australian Standard AS/NZS1428.4, 2009 Design for Access and Mobility – Means to Assist the Orientation of People with Vision Impairment – Tactile Ground Surface.
Indicators to be installed at all required locations.
• All footpaths to be constructed of concrete, and to comply with Australian Standard AS/NZS1428.4, 2009 Design for Access and Mobility – Means to Assist the Orientation of People with Vision Impairment – Tactile Ground Surface Indicators for surface finish. Tactile Ground Surface Indicators should be provided in accordance with AS/NZS 1428.4, with the VicRoads Traffic Engineering Manual Volume 3 – Part 2.19
• All concrete plinths to have saw cuts at all post locations, to face, rear and top of plinth.



WINDOW A-A

NOTE: All spot heights shown for path heights.
All top of plinths at pavilion area RL72.11

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CONSTRUCTION ISSUE

REV	DESCRIPTION	DATE
A	CONSTRUCTION ISSUE	09.05.24
P8	PRELIMINARY ISSUE	23.04.24

DESIGN: DV
DRAWN: BD
SHEET: A3
SCALE:

NORTH: PROJECT NORTH

COUNCIL: KU-RING-GAI COUNCIL

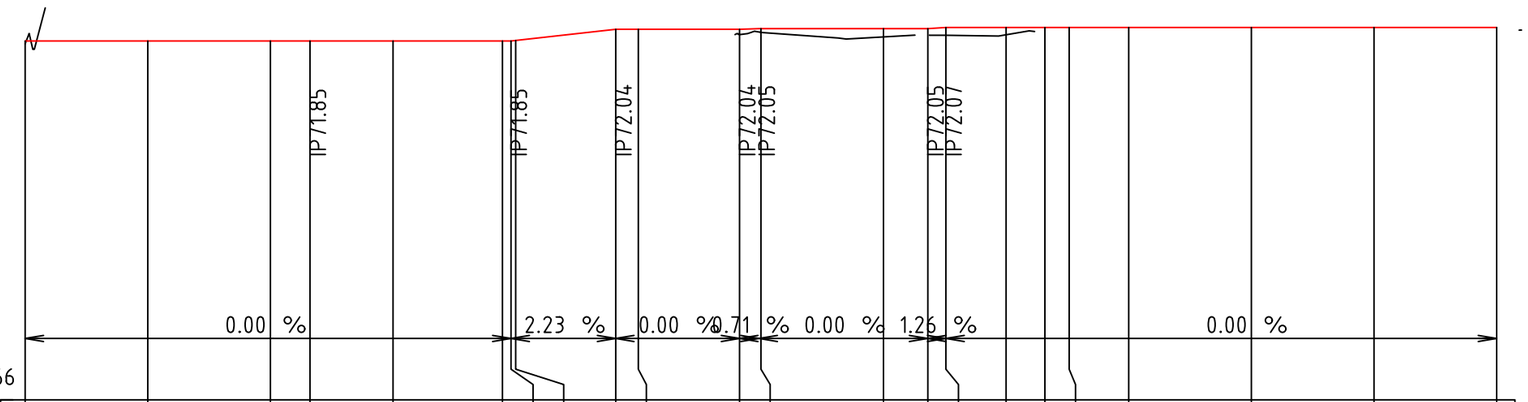
PROJECT: PROPOSED STORMWATER MITIGATION AND SYNTHETIC SPORTS FIELD NORMAN GRIFFITHS OVAL DESIGN AND CONSTRUCT

DRAWING TITLE: PATH CHAINAGES & SAW CUT PLAN

JOB NO: TO-003 | SHEET: 027 | REV: A8

KU-RING-GAI COUNCIL
APPROVED
SUBJECT TO AMENDMENTS
SHOWN IN RED
Manager, Technical Services
Date: 16 May 2024

Levels have not been checked to confirm they meet levels provided by Council. Refer to Ku-ring-gai Council Finishes and Levels Plans



Design Levels	71.85	71.85	71.85	71.85	71.85	71.85	71.85	71.85	71.86	72.04	72.04	72.04	72.05	72.05	72.05	72.07	72.07	72.07	72.07	72.07	72.07	72.07	72.07
Existing Surface	71.80	72.07	71.69	71.63	71.72	T.B.C	T.B.C	T.B.C	T.B.C	T.B.C	71.96	71.99	71.92	71.95	71.94	71.95	72.00	71.97	71.92	72.00	72.02	72.03	
Northings	6262559.179	6262566.261	6262573.344	6262575.756	6262581.302	6262588.609	6262589.183	6262589.456	6262595.308	6262596.604	6262602.423	6262601.388	6262608.53	6262611.103	6262610.076	6262613.545	6262615.777	6262617.212	6262620.647	6262627.716	6262634.784	6262641.853	
Eastings	327258.511	327265.571	327272.631	327274.778	327278.661	327283.777	327284.177	327284.441	327290.128	327291.434	327297.297	327298.503	327305.502	327308.029	327309.092	327312.568	327314.804	327316.168	327319.606	327326.68	327333.753	327340.827	
Chainage	0.00	10.00	20.00	23.23	30.00	38.92	39.62	40.00	48.16	50.00	58.26	60.00	70.00	73.61	75.09	80.00	83.16	85.14	90.00	100.00	110.00	120.00	

Scales (A3 orig) Hor 1 : 500
Ver 1 : 100

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CONSTRUCTION ISSUE

REV	DESCRIPTION	DATE
A	CONSTRUCTION ISSUE	09.05.24

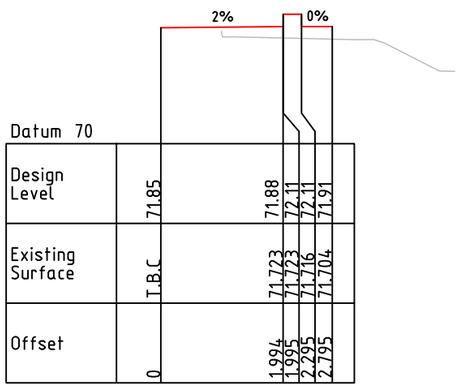
DESIGN: DV
DRAWN: BD
SHEET: A3
SCALE:
NORTH:

COUNCIL: KU-RING-GAI COUNCIL
PROJECT: PROPOSED STORMWATER MITIGATION AND SYNTHETIC SPORTS FIELD NORMAN GRIFFITHS OVAL DESIGN AND CONSTRUCT

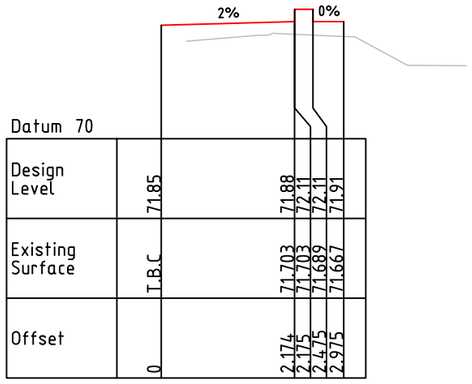
DRAWING TITLE: PATH LONGITUDINAL SECTION
JOB NO: TO-003
SHEET: 028
REV: A7

KU-RING-GAI COUNCIL
APPROVED
SUBJECT TO AMENDMENTS
SHOWN IN RED
Manager, Technical Services
Date: 16 May 2024

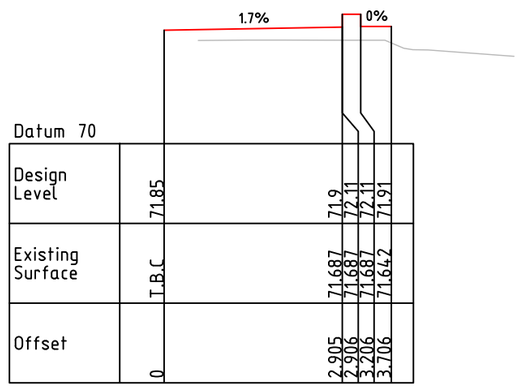
Levels have not been checked to confirm they meet levels provided by Council. Refer to Ku-ring-gai Council Finishes and Levels Plans



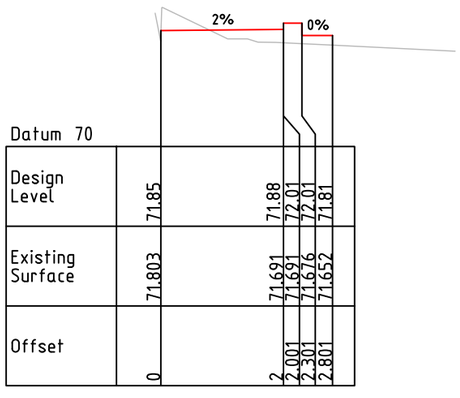
CH 10



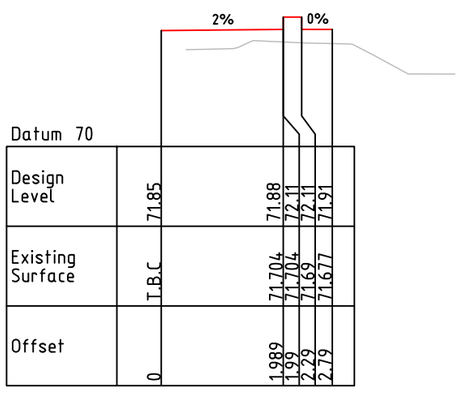
CH 23.232



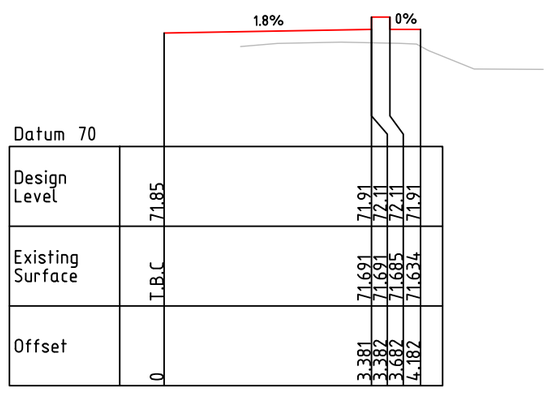
CH 38.915



CH 0



CH 20



CH 30

Scales Hor 1 : 100
(A3 orig) Ver 1 : 100

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CONSTRUCTION ISSUE

REV	DESCRIPTION	DATE
A	CONSTRUCTION ISSUE	09.05.24

DESIGN: DV
DRAWN: BD
SHEET: A3
SCALE:
NORTH:

COUNCIL: KU-RING-GAI COUNCIL
PROJECT: PROPOSED STORMWATER MITIGATION AND SYNTHETIC SPORTS FIELD NORMAN GRIFFITHS OVAL DESIGN AND CONSTRUCT

DRAWING TITLE: PATH CROSS SECTIONS SHEET 1
JOB NO: TO-003
SHEET: 029
REV: A7

KU-RING-GAI COUNCIL
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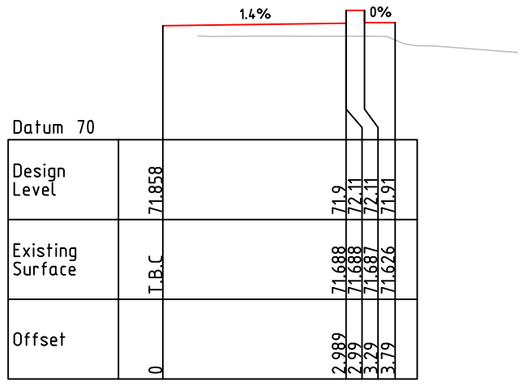
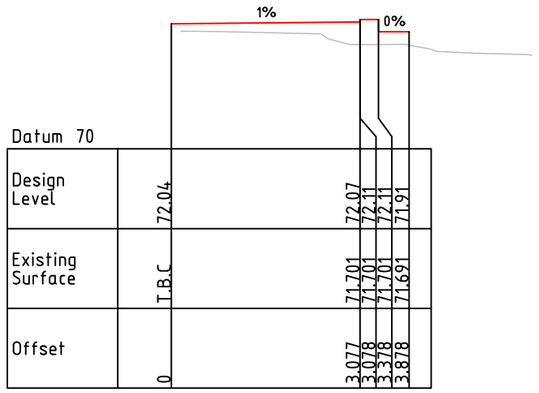
SHOWN IN RED
Manager, Technical Services
Date: 16 May 2024

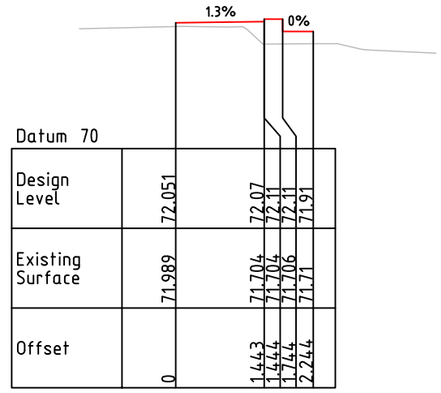
Levels have not been checked to confirm they meet levels provided by Council. Refer to Ku-ring-gai Council Finishes and Levels Plans



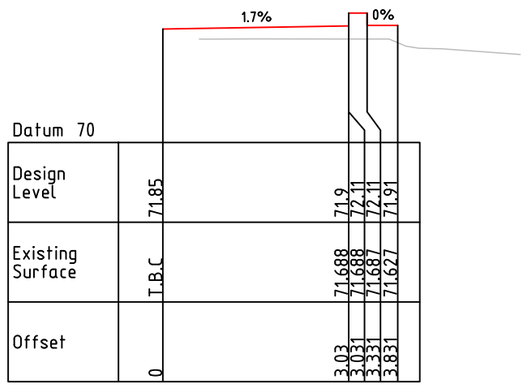
CH 40



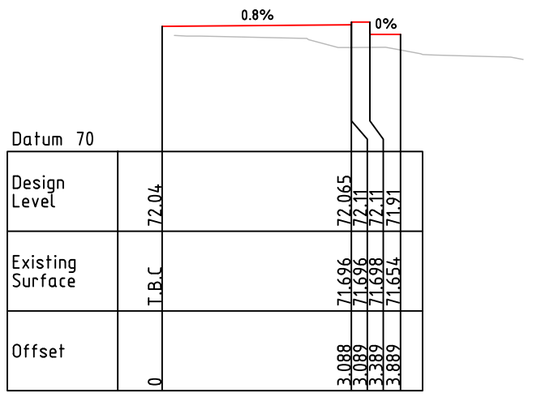
CH 50



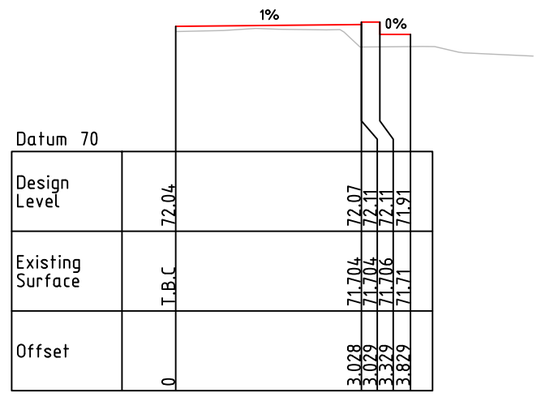
CH 60



CH 39.622



CH 48.157



CH 58.262

Scales (A3 orig) Hor 1 : 100
Ver 1 : 100

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CONSTRUCTION ISSUE

REV	DESCRIPTION	DATE
A	CONSTRUCTION ISSUE	09.05.24

DESIGN: DV
DRAWN: BD
SHEET: A3
SCALE:
NORTH:

COUNCIL: KU-RING-GAI COUNCIL

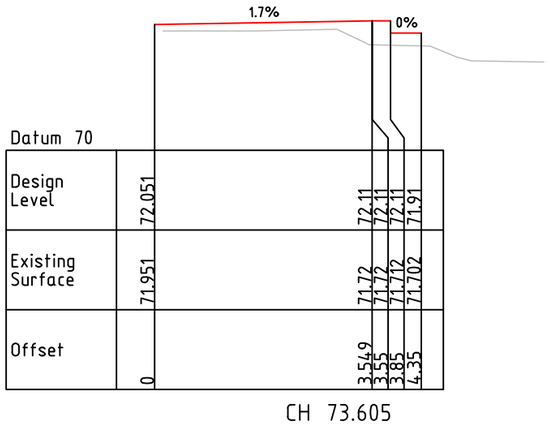
PROJECT: PROPOSED STORMWATER MITIGATION AND SYNTHETIC SPORTS FIELD NORMAN GRIFFITHS OVAL DESIGN AND CONSTRUCT

DRAWING TITLE: PATH CROSS SECTIONS SHEET 2

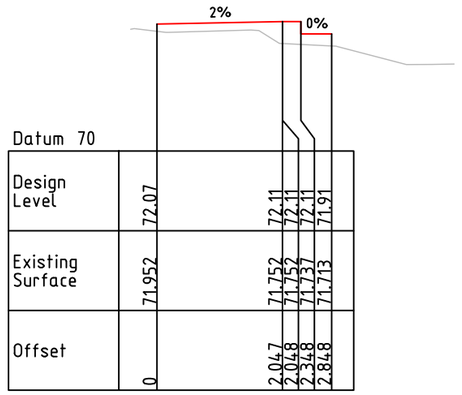
JOB NO: TO-003
SHEET: 030
REV: A7

KU-RING-GAI COUNCIL
APPROVED
SUBJECT TO AMENDMENTS
SHOWN IN RED
Manager, Technical Services
Date: 16 May 2024

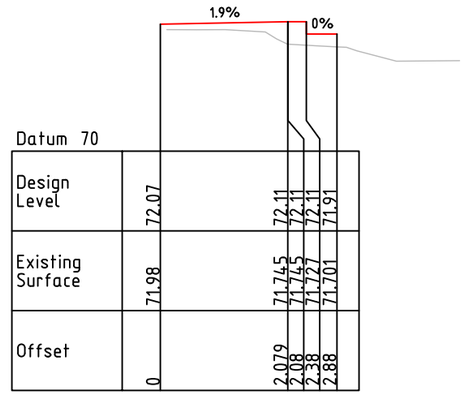
Levels have not been checked to confirm they meet levels provided by Council. Refer to Ku-ring-gai Council Finishes and Levels Plans



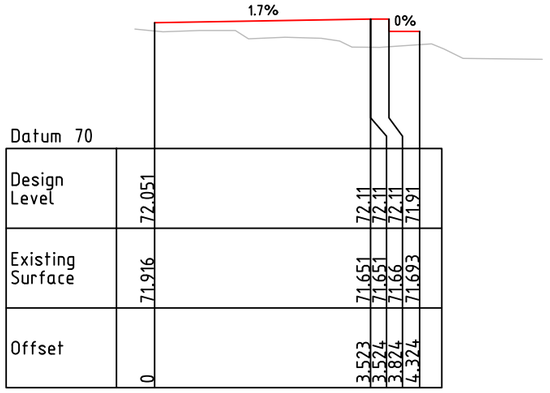
CH 73.605



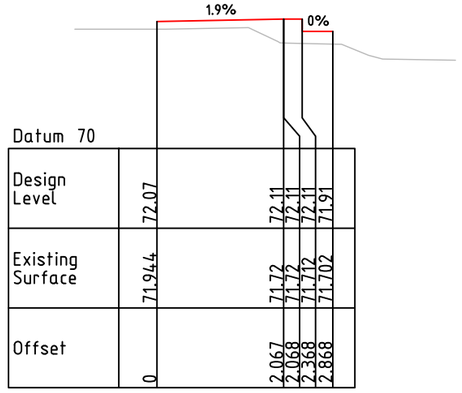
CH 80



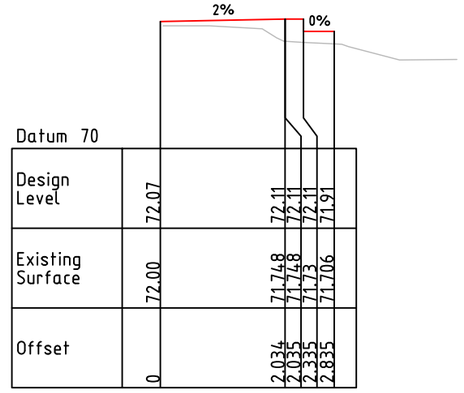
CH 85.135



CH 70



CH 75.088



CH 83.16

Scales (A3 orig) Hor 1 : 100
Ver 1 : 100

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CONSTRUCTION ISSUE

REV	DESCRIPTION	DATE
A	CONSTRUCTION ISSUE	09.05.24

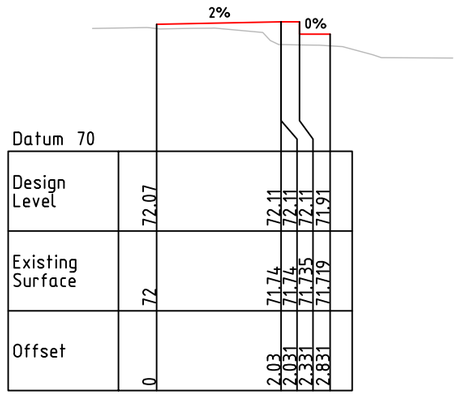
DESIGN: DV
DRAWN: BD
SHEET: A3
SCALE:
NORTH:

COUNCIL: KU-RING-GAI COUNCIL
PROJECT: PROPOSED STORMWATER MITIGATION AND SYNTHETIC SPORTS FIELD NORMAN GRIFFITHS OVAL DESIGN AND CONSTRUCT

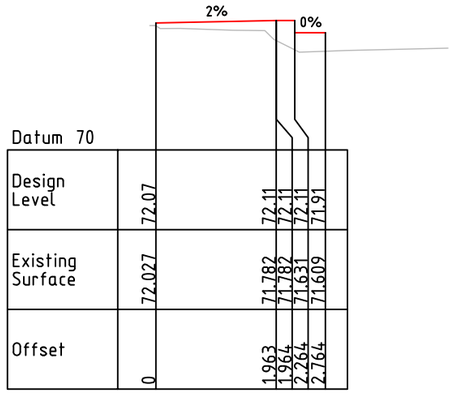
DRAWING TITLE: PATH CROSS SECTIONS SHEET 3
JOB NO: TO-003
SHEET: 031
REV: A7

KU-RING-GAI COUNCIL
APPROVED
SUBJECT TO AMENDMENTS
SHOWN IN RED
Manager, Technical Services
Date: 16 May 2024

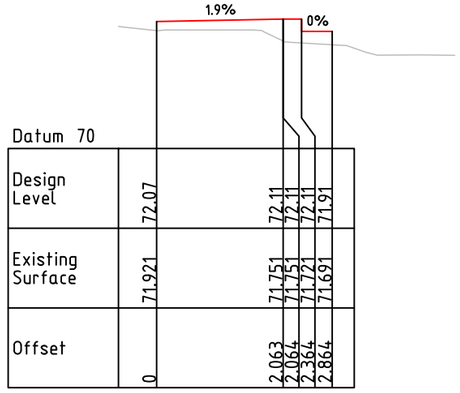
Levels have not been checked to confirm they meet levels provided by Council. Refer to Ku-ring-gai Council Finishes and Levels Plans



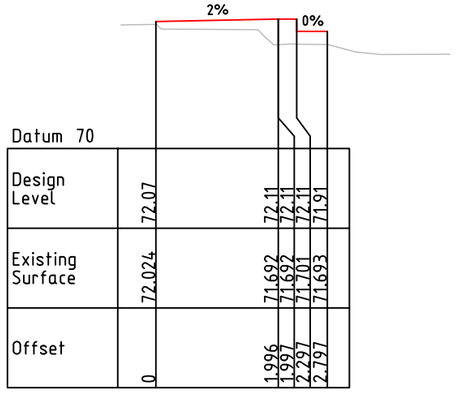
CH 100



CH 120



CH 90



CH 110

Scales (A3 orig) Hor 1 : 100
Ver 1 : 100

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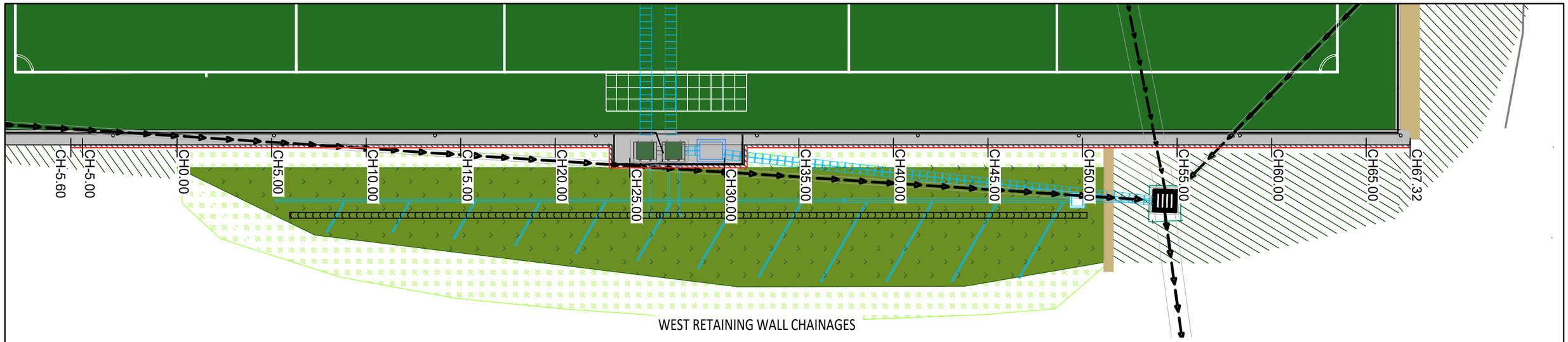
CONSTRUCTION ISSUE

REV	DESCRIPTION	DATE
A	CONSTRUCTION ISSUE	09.05.24

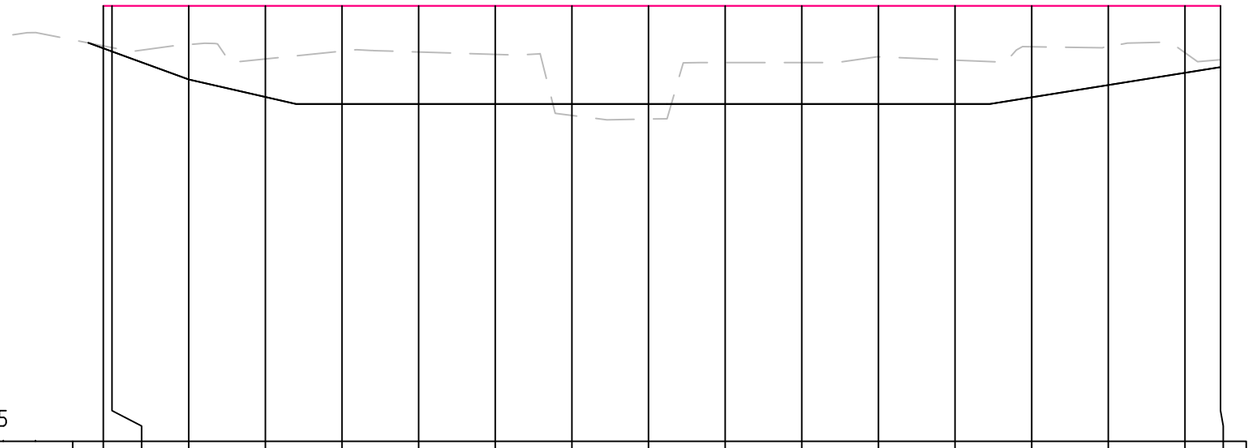
DESIGN: DV
DRAWN: BD
SHEET: A3
SCALE:
NORTH:

COUNCIL: KU-RING-GAI COUNCIL
PROJECT: PROPOSED STORMWATER MITIGATION AND SYNTHETIC SPORTS FIELD NORMAN GRIFFITHS OVAL DESIGN AND CONSTRUCT

DRAWING TITLE: PATH CROSS SECTIONS SHEET 4
JOB NO: TO-003
SHEET: 032
REV: A7



WEST RETAINING WALL CHAINAGES



DATUM R.L.65

Design Level Top RW	72.10	72.10	72.10	72.10	72.10	72.10	72.10	72.10	72.10	72.10	72.10	72.10	72.10	72.10	72.10	72.10	
Retaining Wall Base Level	71.41	71.35	70.90	70.61	70.50	70.50	70.50	70.50	70.50	70.50	70.50	70.50	70.50	70.61	70.81	71.01	71.10	
Height RW	0.69	0.75	1.20	1.49	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.49	1.29	1.09	1.00	
Existing Surface	71.45	71.42	71.47	71.23	71.36	71.35	71.31	70.31	70.25	71.17	71.17	71.27	71.21	71.43	71.46	71.34	71.22	
Chainage	-5.60	-5.00	0.00	5.00	10.00	15.00	20.00	25.00	30.00	35.00	40.00	45.00	50.00	55.00	60.00	65.00	67.32	

Scales (A3 orig) Hor 1 : 400
Ver 1 : 100

WEST RETAINING LONG SECTION

KU-RING-GAI COUNCIL
APPROVED
SUBJECT TO AMENDMENTS
SHOWN IN RED
Manager, Technical Services
Date: 16 May 2024

ALL STRUCTURAL DESIGNS HAVE BEEN BASED OFF THE GEOTECHNICAL INVESTIGATION & REPORT (JOB No. GTE3998 - REF R001) COMPLETED BY GROUND TECHNOLOGIES PTY. LTD. DATED 1st MARCH 2024 REFER TO REPORT FOR FURTHER INFORMATION.

RETAINING WALL LONG SECTION SHOWING 5.0m INTERVALS. CONTRACTOR TO ENSURE RETAINING WALL FOOTINGS ARE SPACED EVENLY TO AVOID 6.0M NETTING FENCE FOOTINGS.

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CONSTRUCTION ISSUE

REV	DESCRIPTION	DATE
A	CONSTRUCTION ISSUE	09.05.24

DESIGN: DV
DRAWN: BD
SHEET: A3
SCALE:
NORTH:

COUNCIL: KU-RING-GAI COUNCIL

PROJECT: PROPOSED STORMWATER MITIGATION AND SYNTHETIC SPORTS FIELD NORMAN GRIFFITHS OVAL DESIGN AND CONSTRUCT

DRAWING TITLE: WEST RETAINING WALL LONG SECTION & CHAINAGES

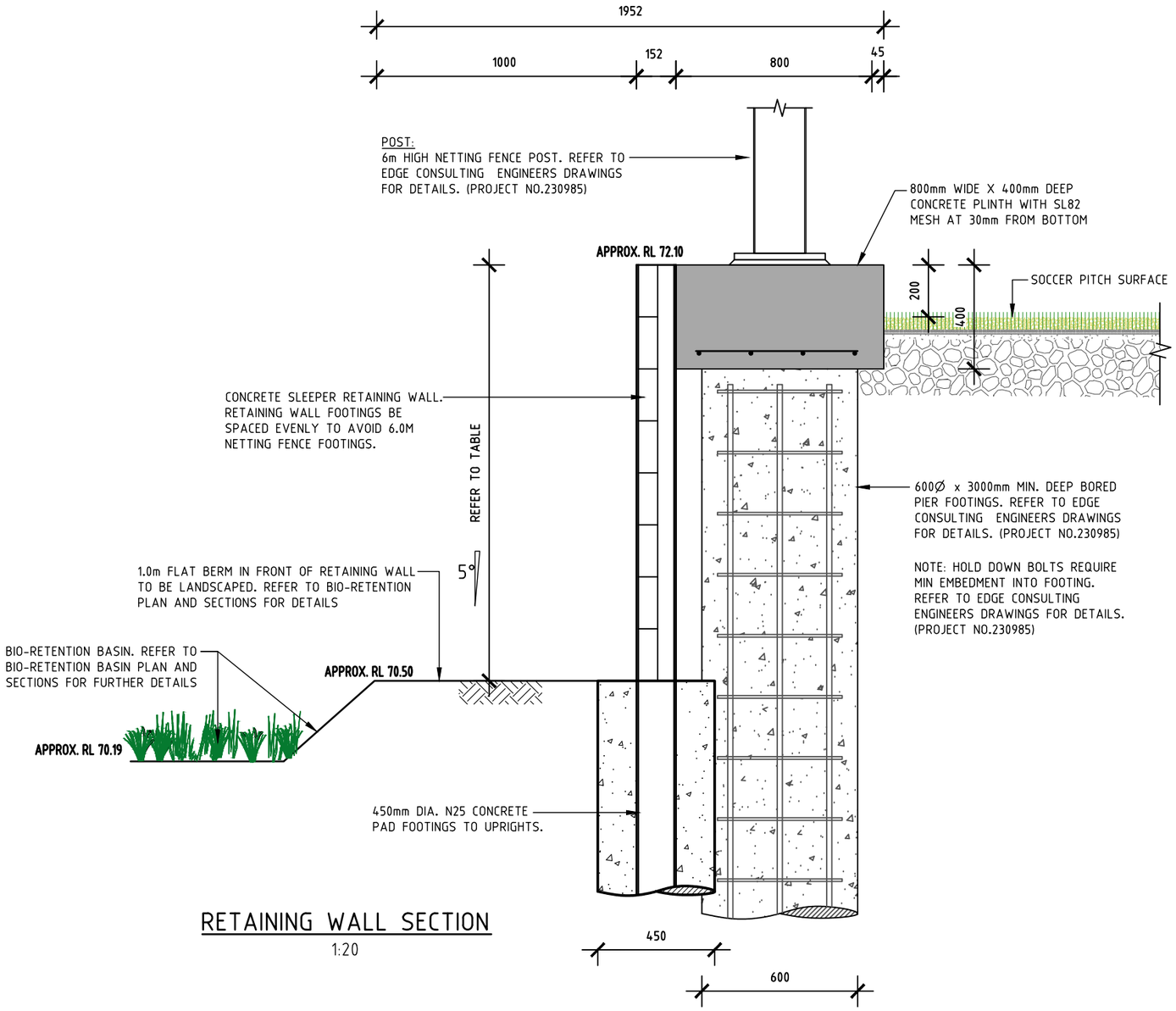
JOB NO: TO-003 | SHEET: 033 | REV: A7

ALL STRUCTURAL DESIGNS HAVE BEEN BASED OFF THE GEOTECHNICAL INVESTIGATION & REPORT (JOB No. GTE3998 - REF R001) COMPLETED BY GROUND TECHNOLOGIES PTY. LTD. DATED 1st MARCH 2024 REFER TO REPORT FOR FURTHER INFORMATION.

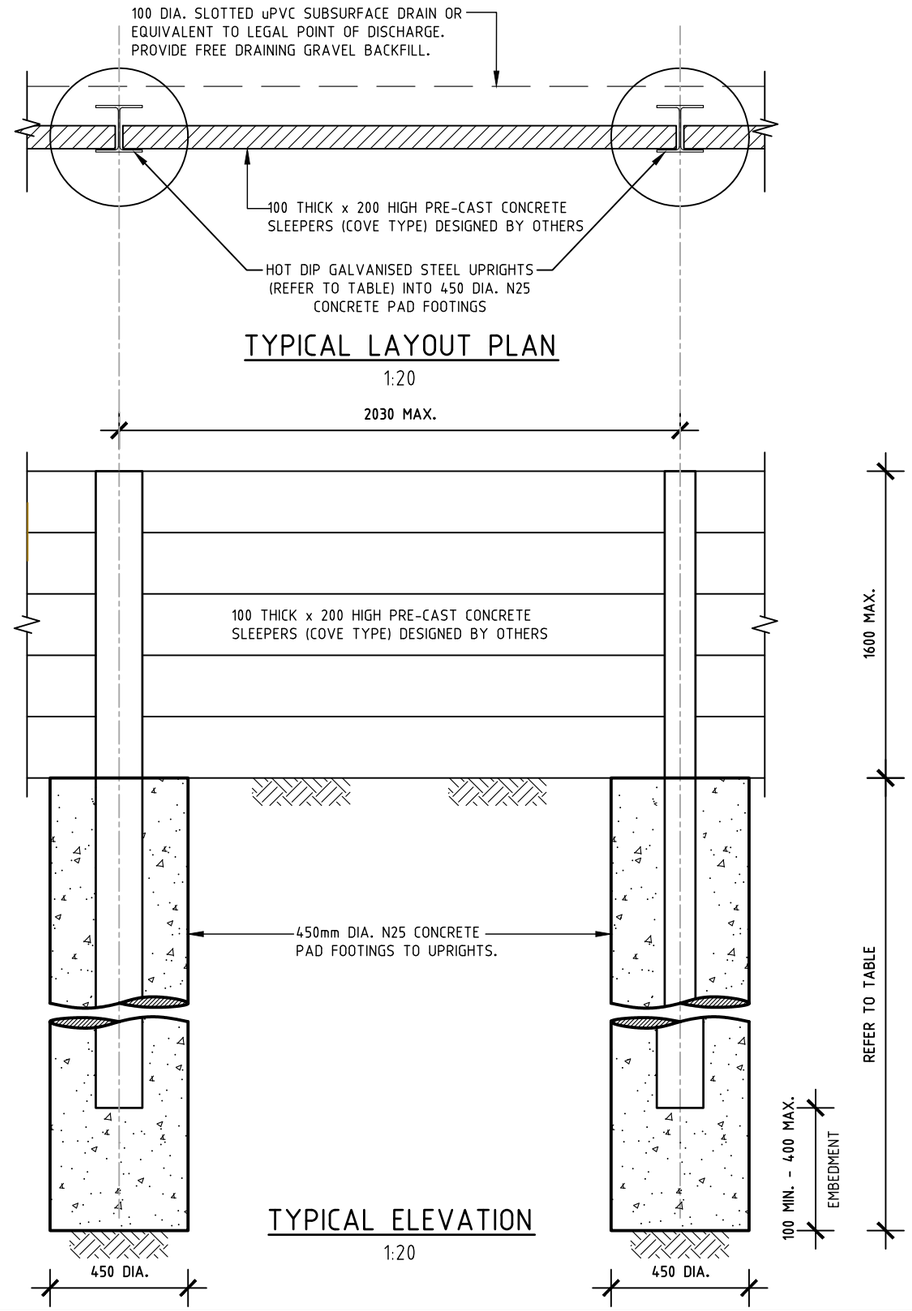
KU-RING-GAI COUNCIL
APPROVED
SUBJECT TO AMENDMENTS
SHOWN IN RED
Manager, Technical Services
Date: 16 May 2024

Still errors on this page as per previous markups

TYPICAL RETAINING WALL DETAILS		
RETAINING HEIGHT	UPRIGHT SIZE	FOOTING DEPTH
1000mm - 1600mm	150 UC 37 @ 2030mm MAX. CTRS.	450mm DIA. x 2500mm MIN. O/A DEEP, OR FOUNDED 1000mm MIN. INTO SANDSTONE ROCK.



RETAINING WALL SECTION
1:20



TYPICAL LAYOUT PLAN
1:20

TYPICAL ELEVATION
1:20

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CONSTRUCTION ISSUE

REV	DESCRIPTION	DATE
A	CONSTRUCTION ISSUE	09.05.24

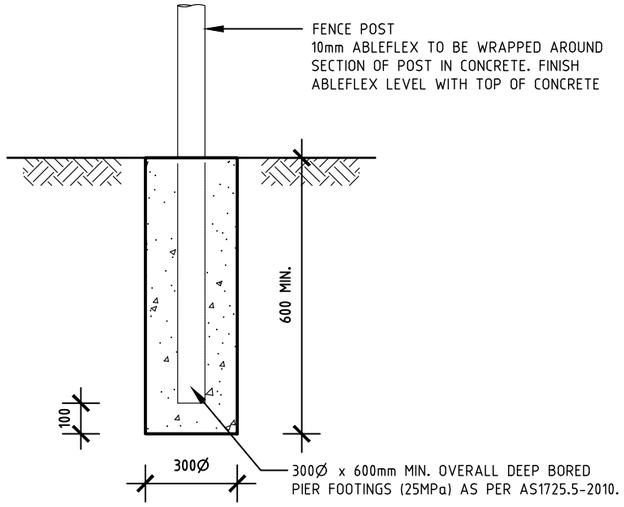
DESIGN: DV
DRAWN: BD
SHEET: A3
SCALE:
NORTH:

COUNCIL: KU-RING-GAI COUNCIL

PROJECT: PROPOSED STORMWATER MITIGATION AND SYNTHETIC SPORTS FIELD NORMAN GRIFFITHS OVAL DESIGN AND CONSTRUCT

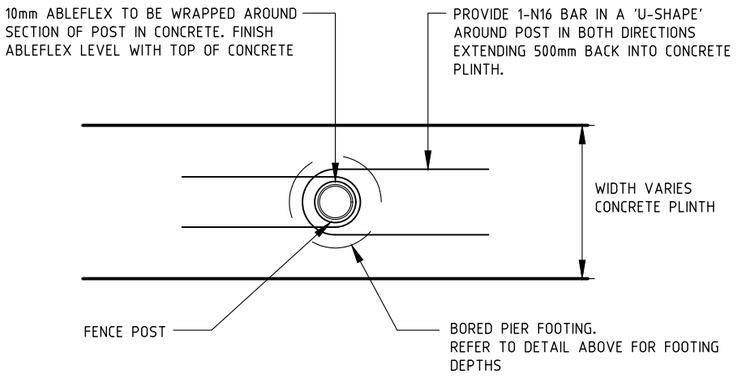
DRAWING TITLE: WEST RETAINING WALL DETAILS

JOB NO: TO-003
SHEET: 034
REV: A7



TYPICAL 1.2m LOW FENCE INTERMEDIATE POST FOOTING DETAILS

1:20



TYPICAL 1.2m LOW FENCE POST FOOTING DETAILS (PLAN VIEW)

1:20

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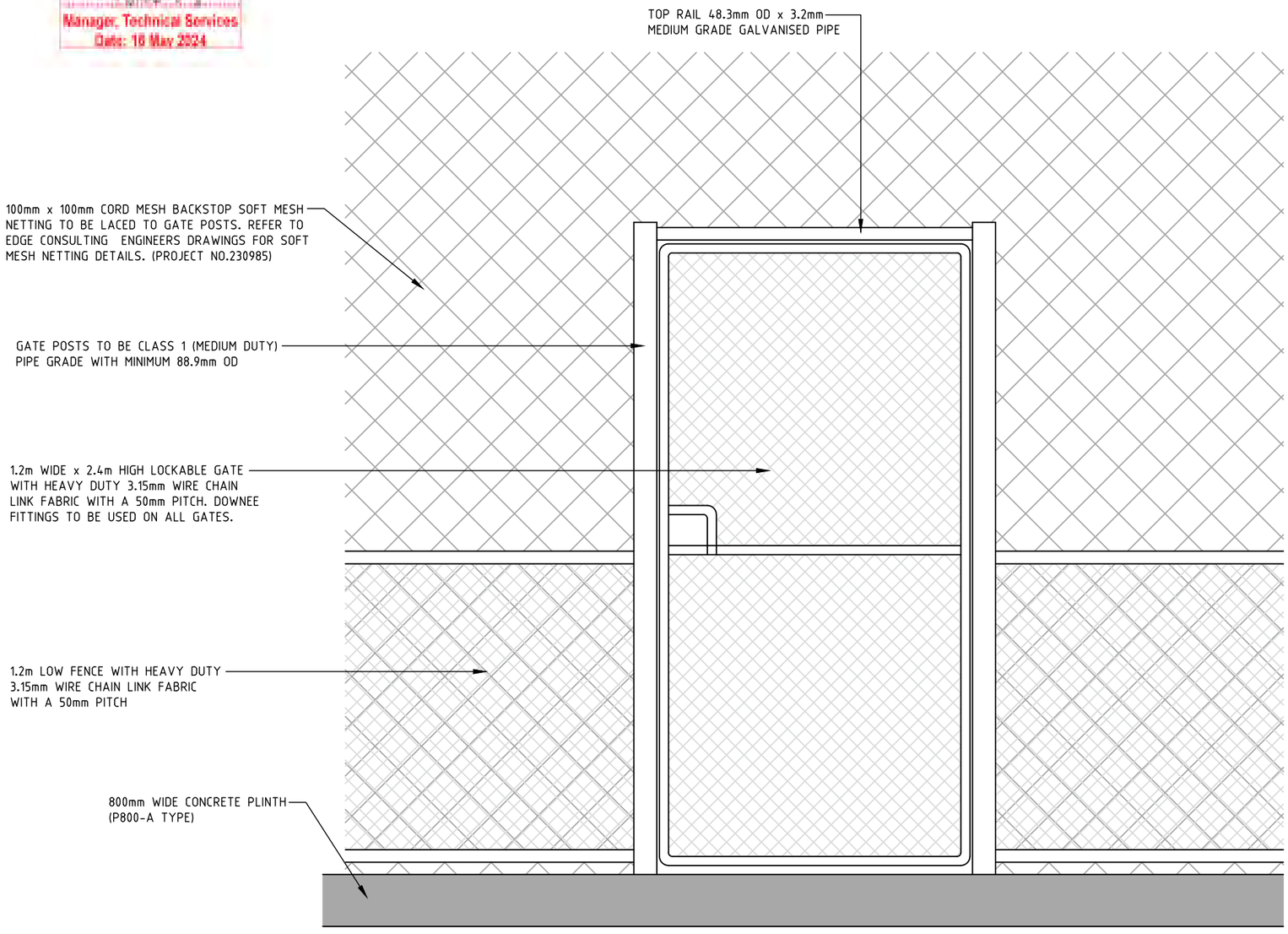

1.2m WIDE x 2.4m HIGH ACCESS GATE IN 6.0m SOFT MESH NETTING DETAIL

1:20

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CONSTRUCTION ISSUE

REV	DESCRIPTION	DATE
A	CONSTRUCTION ISSUE	09.05.24
P8	PRELIMINARY ISSUE	23.04.24

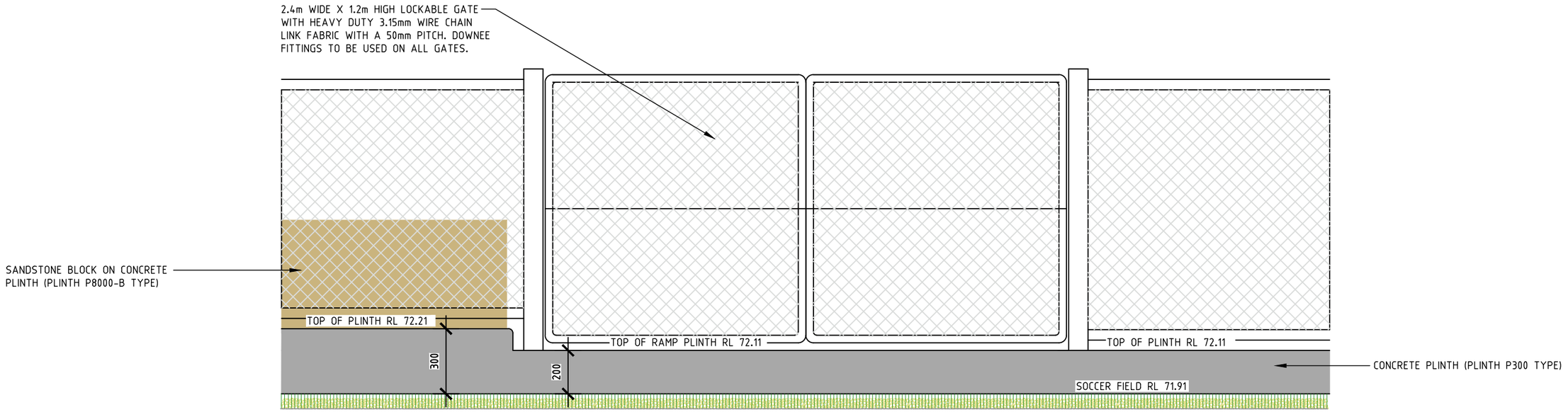
DESIGN: DV
DRAWN: BD
SHEET: A3
SCALE:
NORTH:

COUNCIL: KU-RING-GAI COUNCIL

PROJECT: PROPOSED STORMWATER MITIGATION AND SYNTHETIC SPORTS FIELD NORMAN GRIFFITHS OVAL DESIGN AND CONSTRUCT

DRAWING TITLE: WEST GATE AND LOW FENCE DETAILS

JOB NO: TO-003 | SHEET: 035 | REV: A8



2.4m WIDE x 1.2m HIGH MAINTENANCE ACCESS GATE DETAIL

1:20

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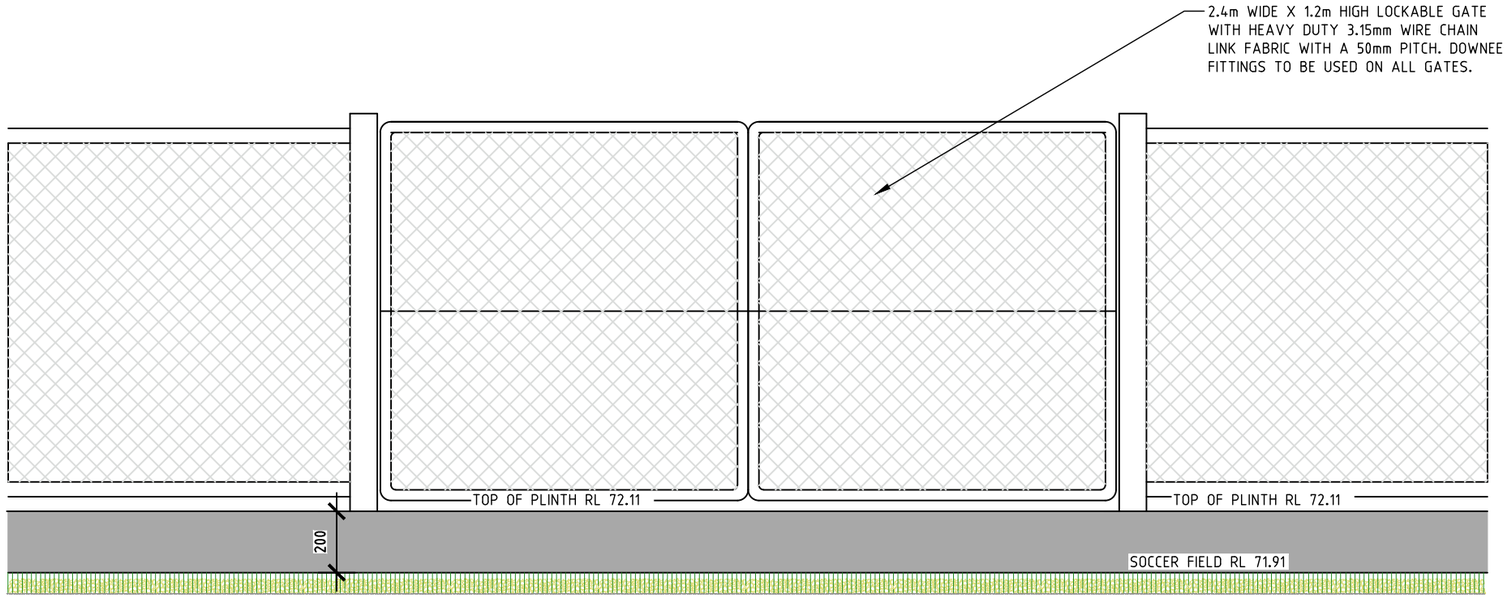

2.4m WIDE x 1.2m HIGH ACCESS GATE DETAIL

1:20

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CONSTRUCTION ISSUE

REV	DESCRIPTION	DATE
A	CONSTRUCTION ISSUE	09.05.24
P8	PRELIMINARY ISSUE	23.04.24

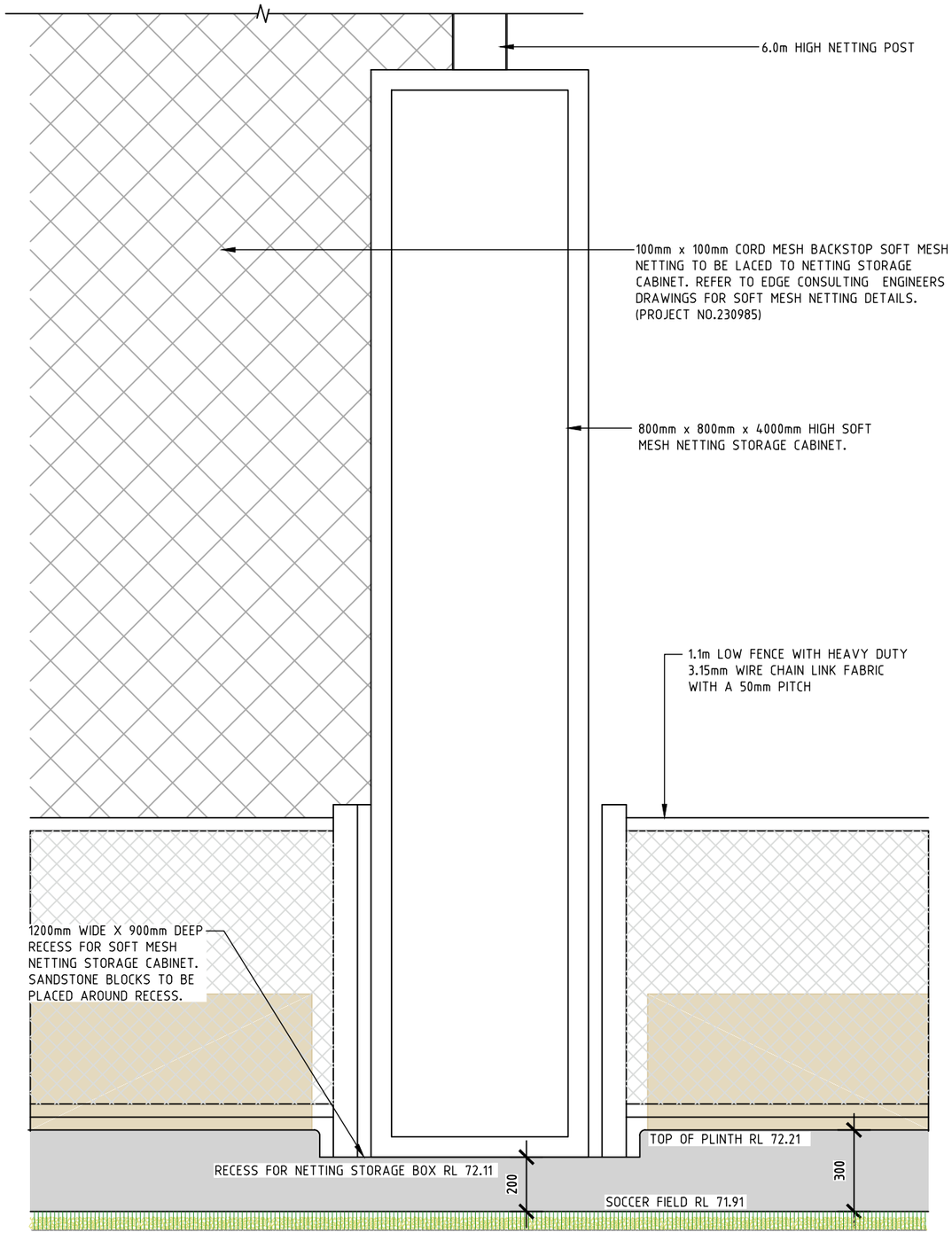
DESIGN: DV
DRAWN: BD
SHEET: A3
SCALE:
NORTH:

COUNCIL: KU-RING-GAI COUNCIL

PROJECT: PROPOSED STORMWATER MITIGATION AND SYNTHETIC SPORTS FIELD NORMAN GRIFFITHS OVAL DESIGN AND CONSTRUCT

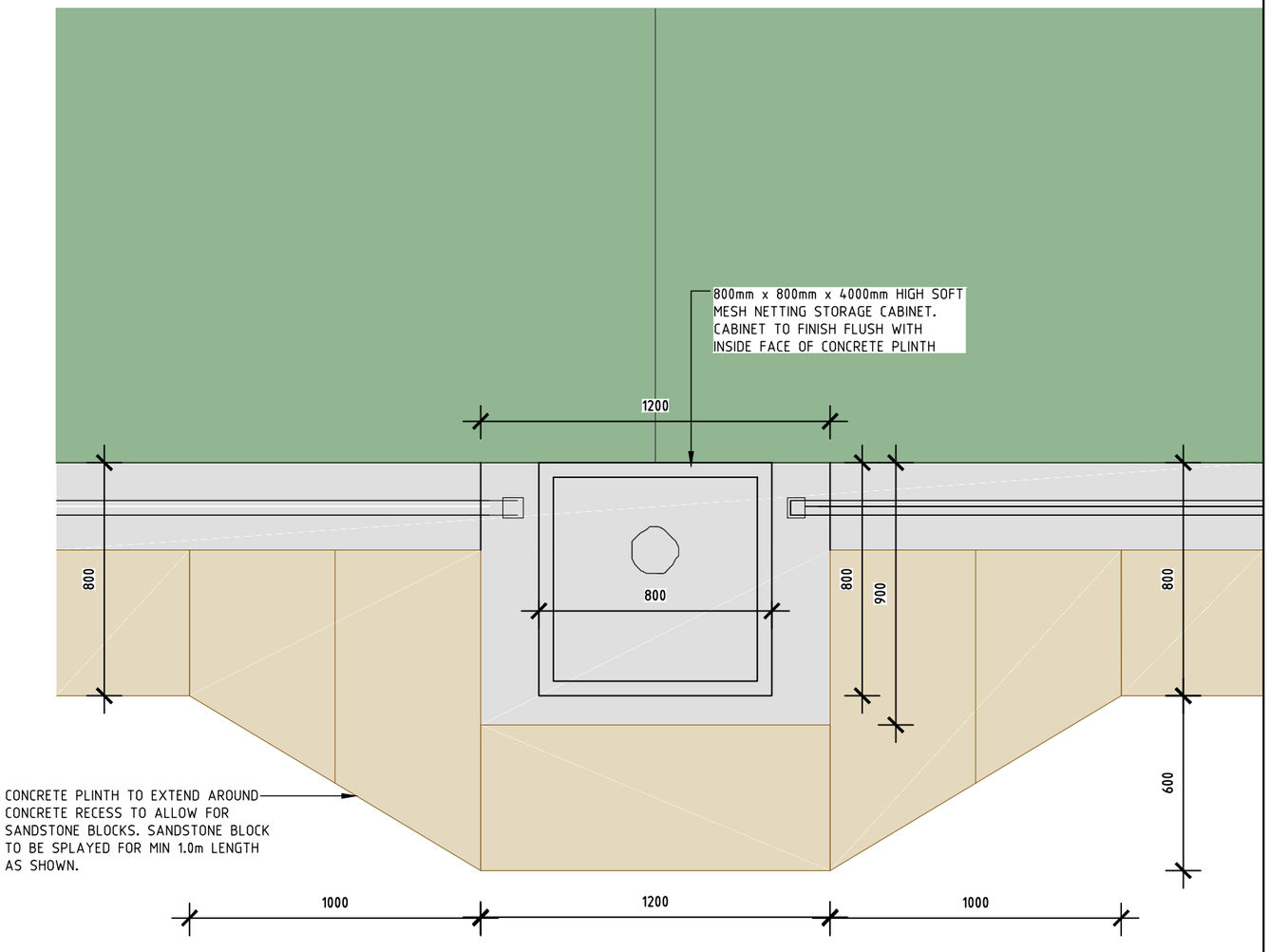
DRAWING TITLE: NORTH ACCESS GATE AND SOUTH ACCESS GATE DETAILS

JOB NO: TO-003 | SHEET: 036 | REV: A8



SOUTH 4m NETTING CABINET DETAIL

1:20



SOUTH 4m NETTING CABINET DETAIL PLAN VIEW

1:20

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CONSTRUCTION ISSUE

REV	DESCRIPTION	DATE
A	CONSTRUCTION ISSUE	09.05.24
P8	PRELIMINARY ISSUE	23.04.24

DESIGN: DV
DRAWN: BD
SHEET: A3
SCALE:
NORTH:

COUNCIL: KU-RING-GAI COUNCIL

PROJECT: PROPOSED STORMWATER MITIGATION AND SYNTHETIC SPORTS FIELD NORMAN GRIFFITHS OVAL DESIGN AND CONSTRUCT

DRAWING TITLE: SOUTH NETTING CABINET DETAILS

JOB NO: TO-003 | SHEET: 037 | REV: A8

KU-RING-GAI COUNCIL
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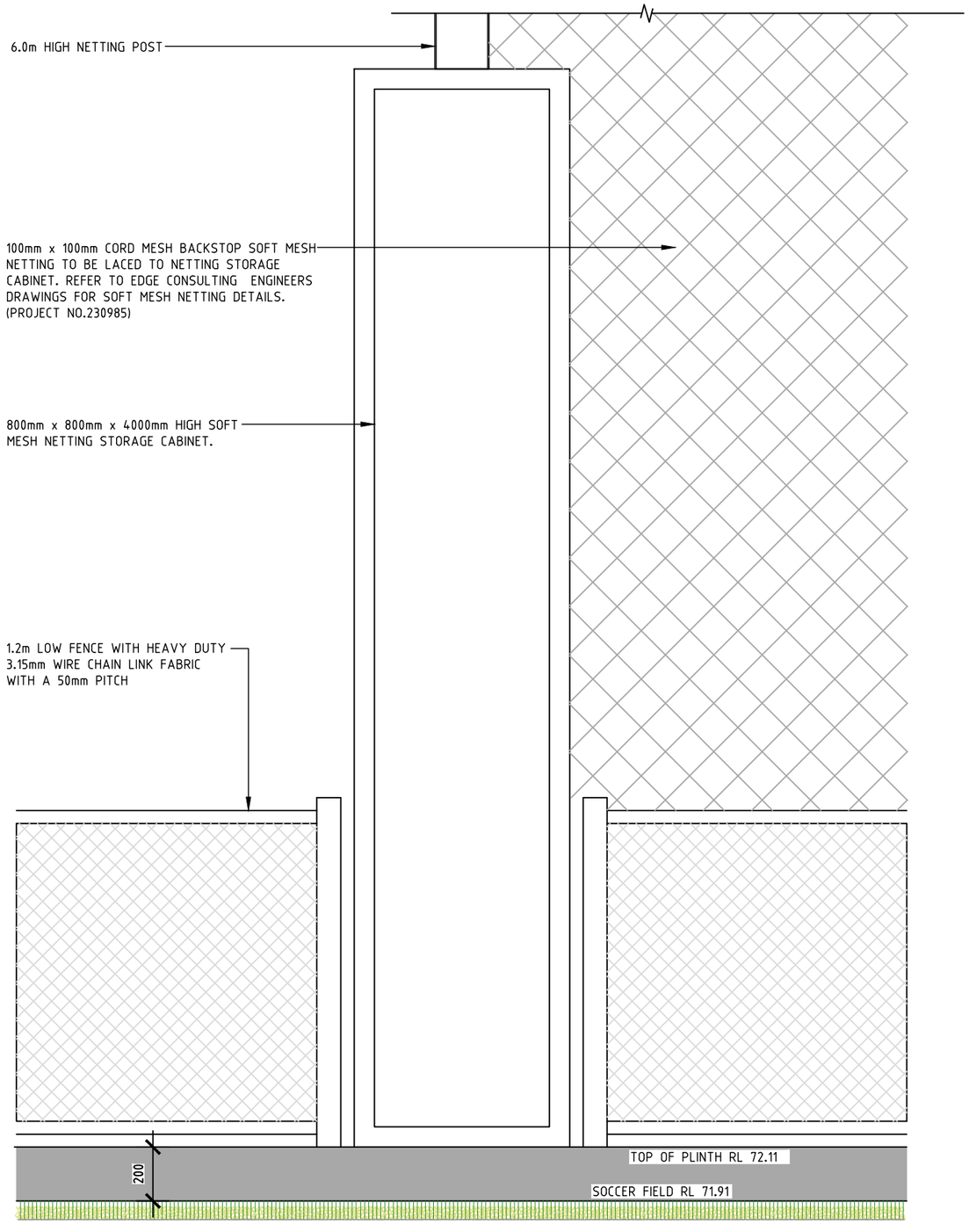
SUBJECT TO AMENDMENTS
SHOWN IN RED
Manager, Technical Services
Date: 16 May 2024



NORTH 4m NETTING CABINET DETAIL

1:20

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CONSTRUCTION ISSUE

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DESIGN: DV
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NORTH:

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DRAWING TITLE: NORTH NETTING CABINET DETAILS

JOB NO: TO-003 | SHEET: 038 | REV: A8

Appendix B – Stamped Civil Drawings and additional Reports

Norman Griffiths Oval

Flood Effect on EEC zone for 1% AEP Flood event

ORION

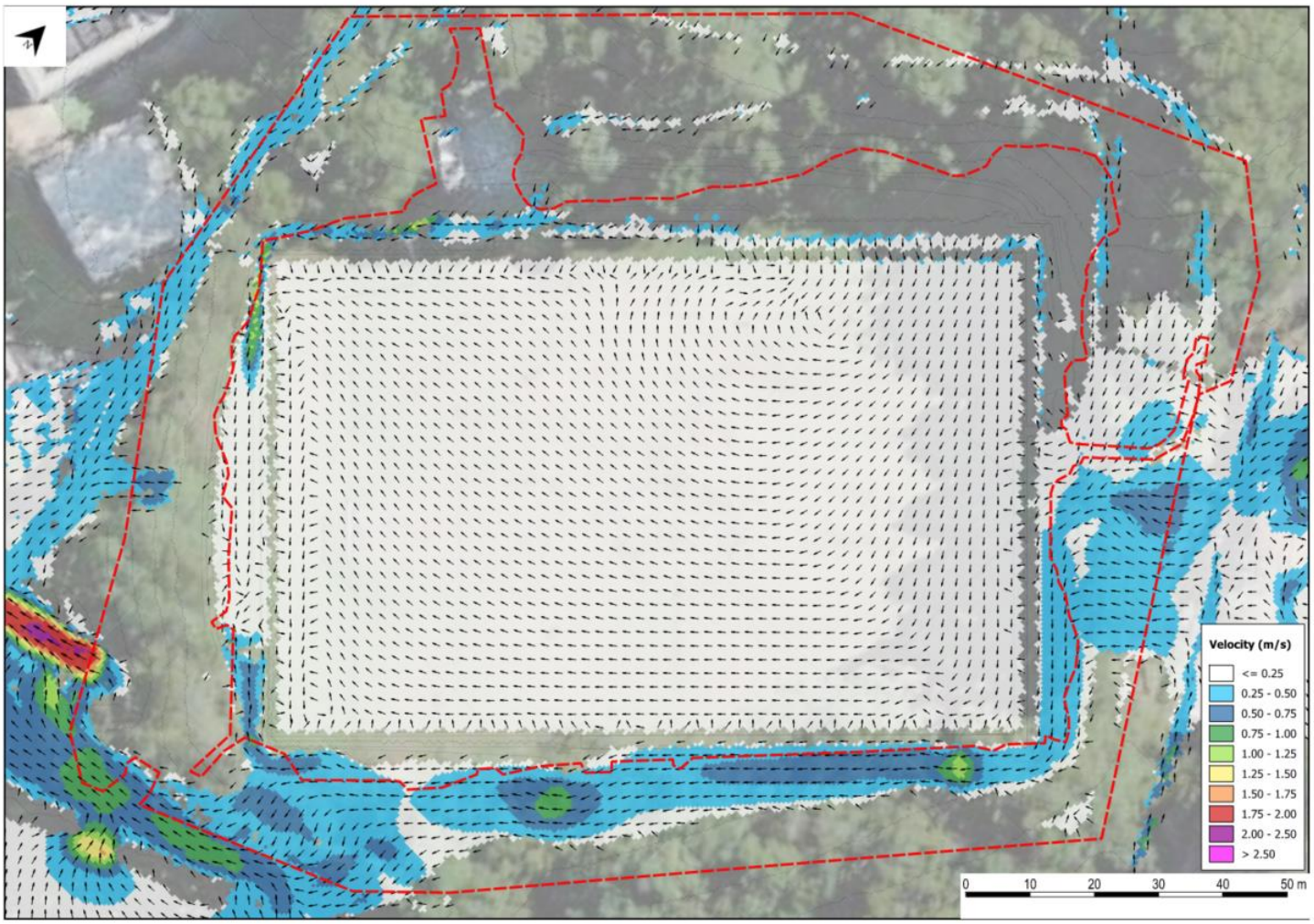
Hi Piran,

As requested, we have checked the flood extent occurring in the EEC zone

Flood Depth

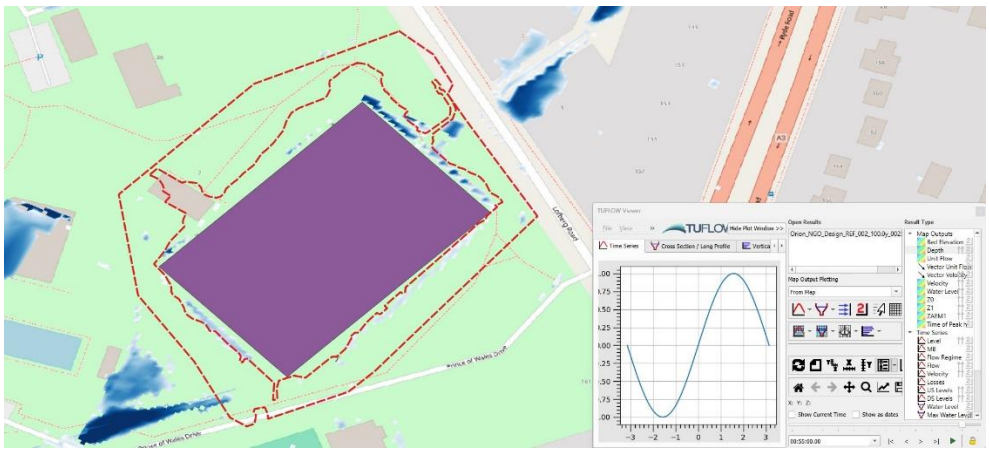

Depth (m)
<= 0.050
0.050 - 0.100
0.100 - 0.250
0.250 - 0.500
0.500 - 1.000
> 1.000
0
10
20
30
40
50 m

Flood Velocity

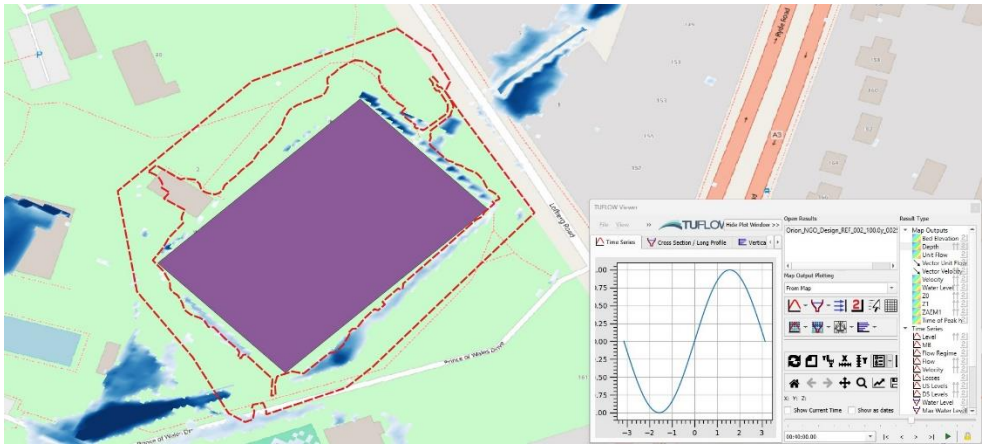


The 1% AEP flood (1 in 100 year event) affects the EEC area for about 50 minutes. . The 1% AEP flood overflow starts about 5 minutes after the storm commences and finishes after about 55 minutes after the storm commences.

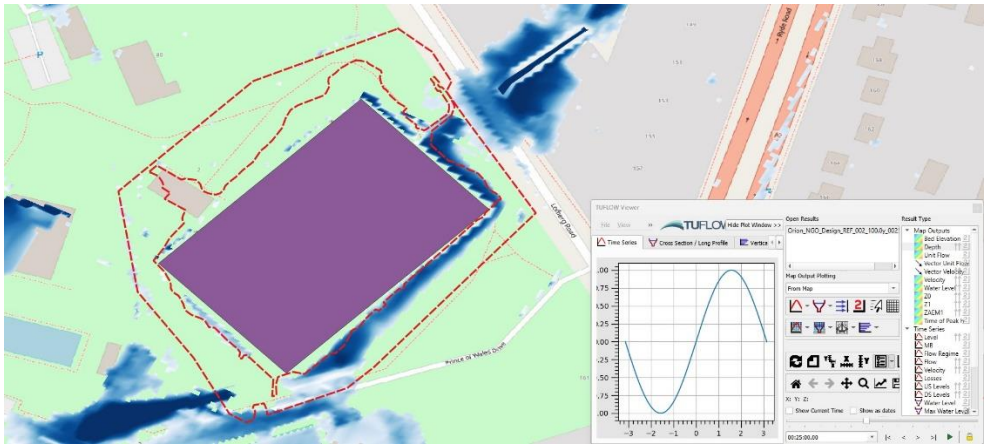
Depth Series



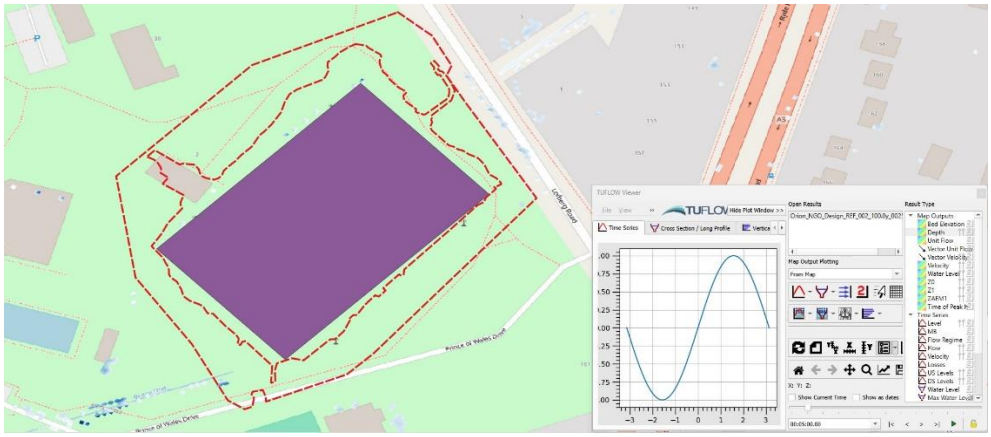
Depth 55min



Depth 40min

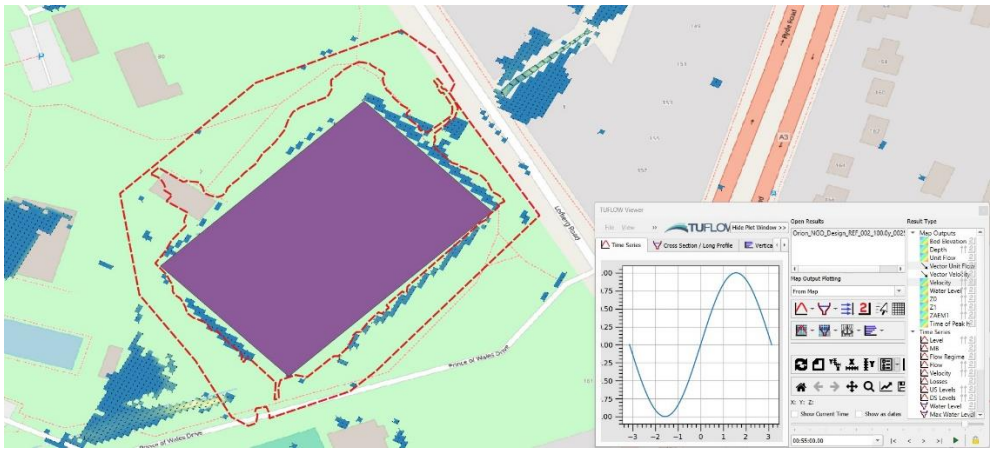


Depth 25min

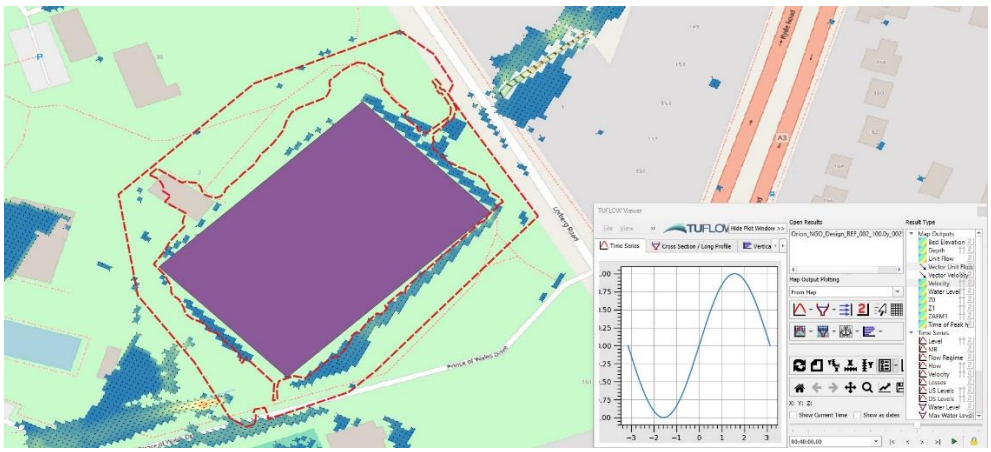


Depth 5min

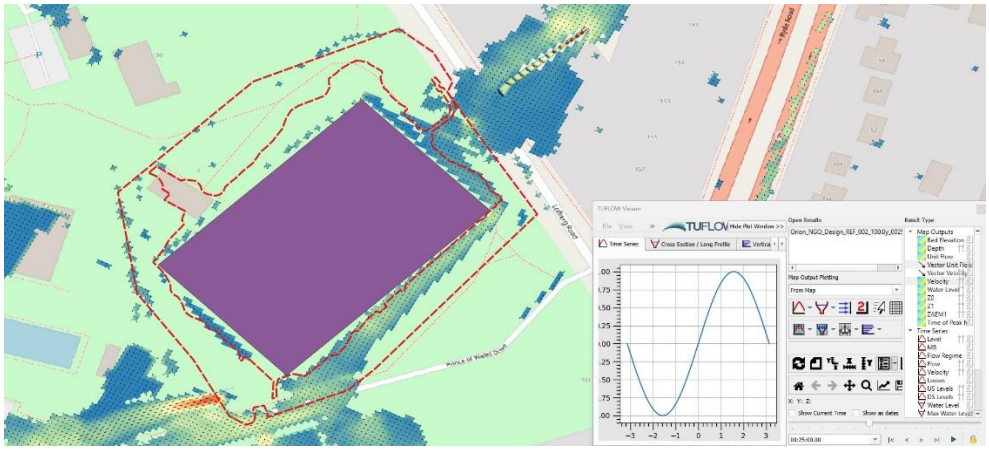
Velocity Series



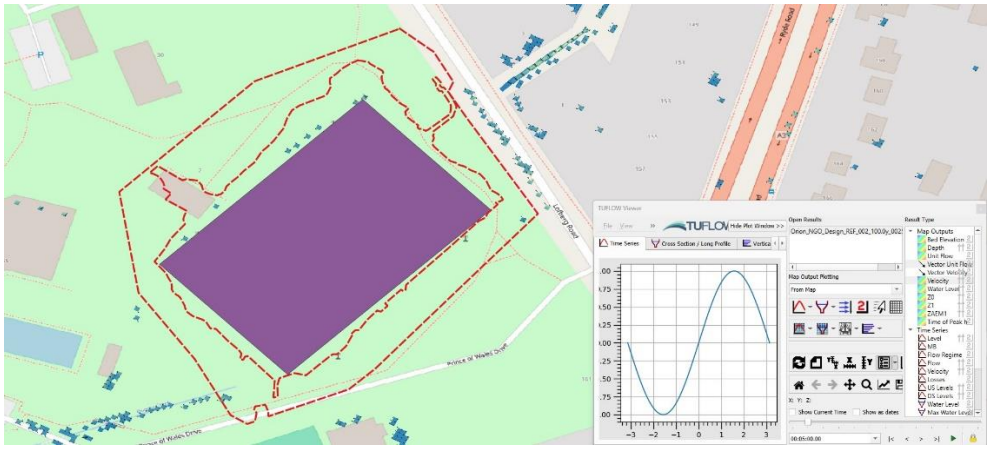
Velocity 55min



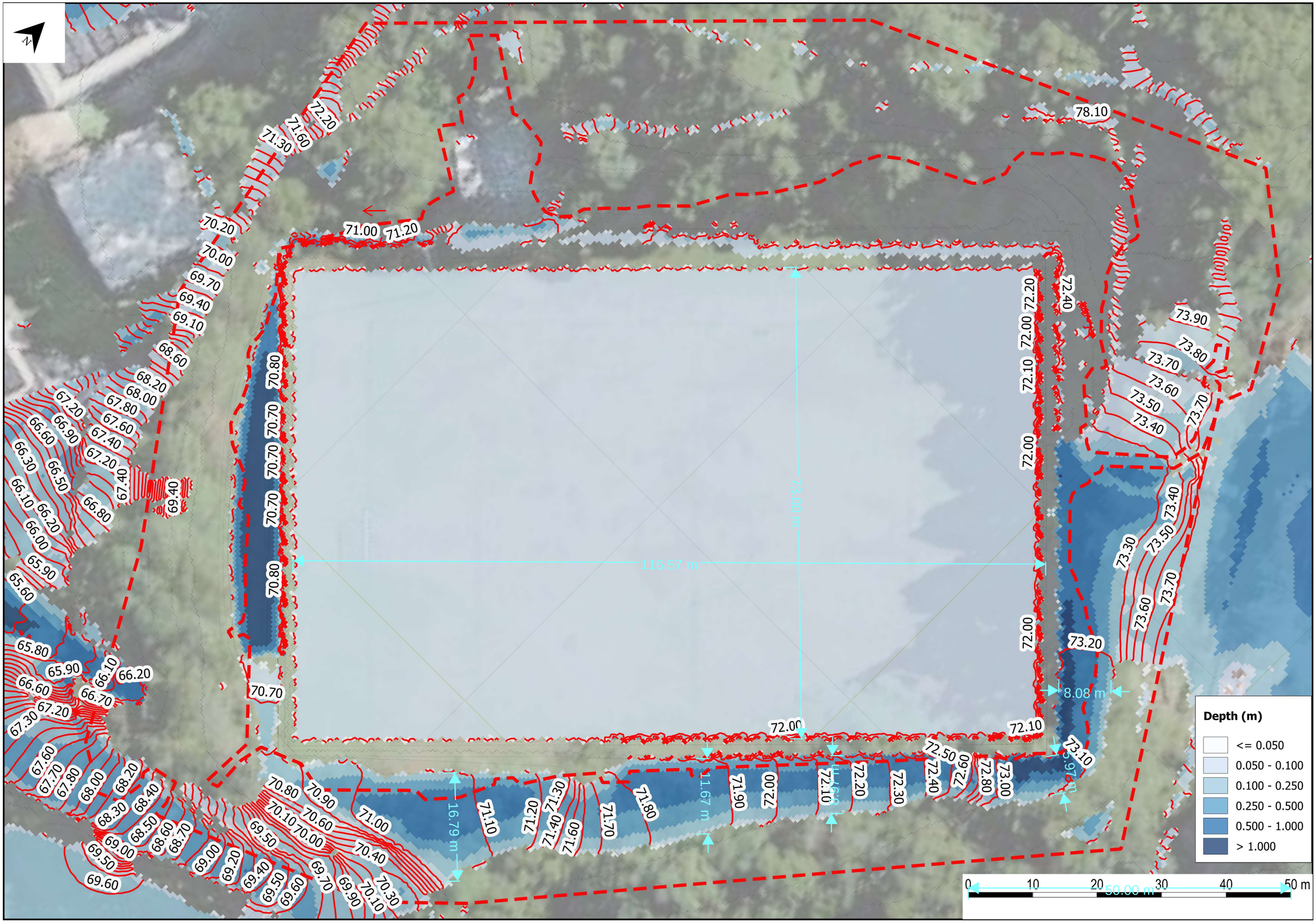
Velocity 40 Min

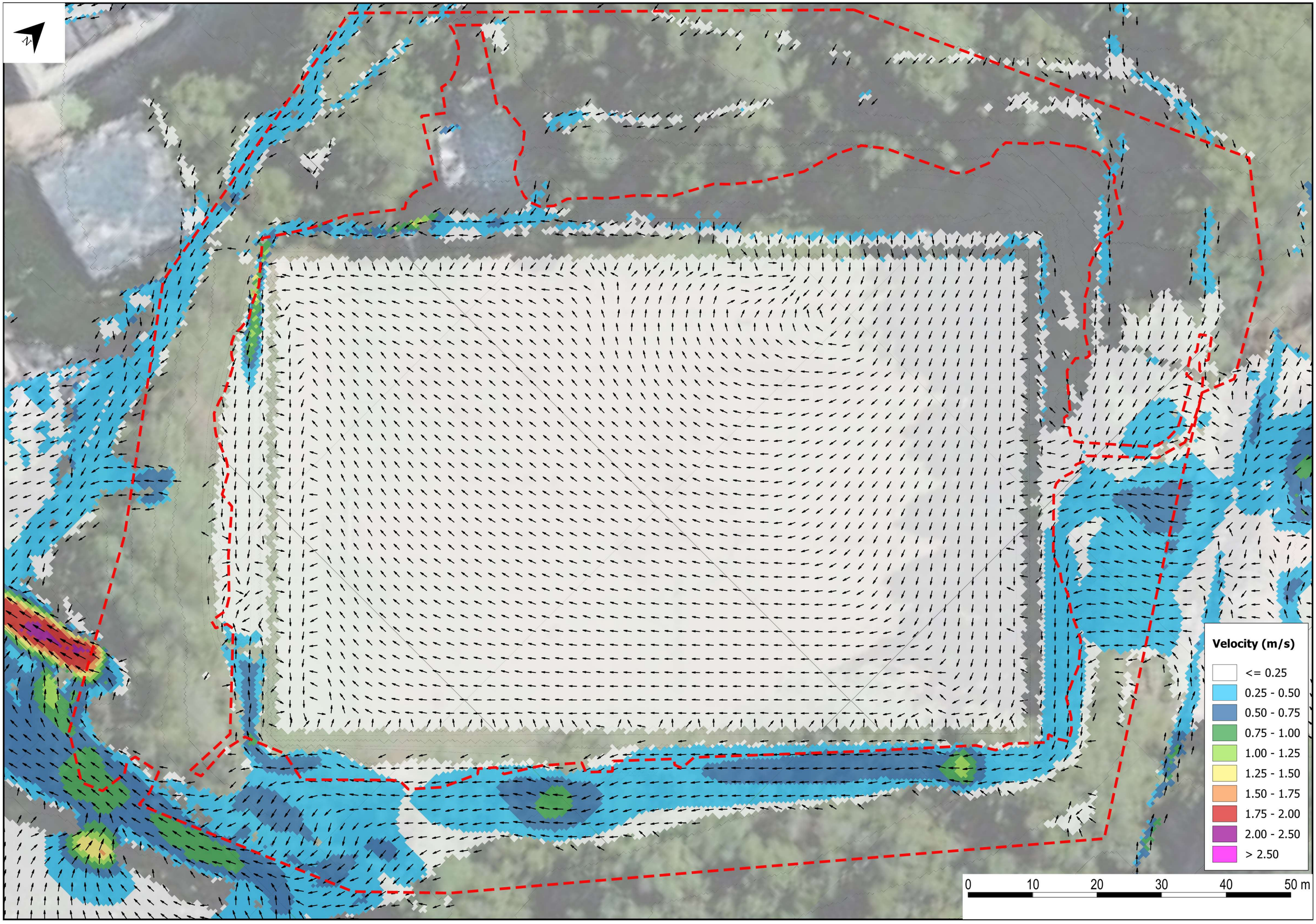


Velocity 25min



Velocity 5min


N
78.10
72.20
71.60
71.30
71.00
71.20
70.20
70.00
69.70
69.40
69.10
68.60
68.20
68.00
67.80
67.60
67.40
67.20
67.40
66.90
66.80
66.60
66.50
66.30
66.20
66.10
66.00
65.90
65.60
65.80
65.90
66.10
66.20
66.60
66.70
67.20
67.30
67.60
67.70
67.80
68.00
68.20
68.40
68.30
68.50
68.60
68.70
69.00
69.50
69.60
69.00
69.20
69.40
69.50
69.60
69.70
69.90
70.10
70.30
70.00
70.10
70.40
70.60
70.90
70.80
70.70
70.70
70.70
70.80
70.80
70.70
72.00
72.10
72.20
72.40
72.00
72.00
73.90
73.80
73.70
73.60
73.50
73.40
73.70
73.40
73.50
73.30
73.70
73.60
73.20
73.10
72.00
72.10
72.50
72.60
72.80
73.00
72.40
72.30
72.20
72.10
72.00
71.90
71.80
71.70
71.60
71.40
71.30
71.20
71.10
71.00
116.57 m
250.00 m
16.79 m
11.67 m
8.08 m
5.97 m
Depth (m)
<= 0.050
0.050 - 0.100
0.100 - 0.250
0.250 - 0.500
0.500 - 1.000
> 1.000
0
10
20
30
40
50 m
50.00 m


Velocity (m/s)
<= 0.25
0.25 - 0.50
0.50 - 0.75
0.75 - 1.00
1.00 - 1.25
1.25 - 1.50
1.50 - 1.75
1.75 - 2.00
2.00 - 2.50
> 2.50
0
10
20
30
40
50 m

LEGEND: FINISHES / LEVELS

- EXISTING TREE TO BE RETAINED
- ASPHALT PAVEMENT
- EXISTING STORMWATER PIT
- EXISTING CONTOURS
- EXISTING FINISHED LEVEL
- FINISHED LEVEL TOP OF WALL / FINISHED LEVEL TOP OF KERB/EDGE (+72.39 TW / +72.39 TK)
- PROPOSED FINISHED LEVEL (+72.39)
- PROPOSED TRENCH DRAIN — AS SPECIFIED
- PROPOSED FOOT GRATES — AS SPECIFIED
- PROPOSED STORMWATER PIT — AS SPECIFIED
- PROPOSED WALL: SANDSTONE — AS SPECIFIED
- PROPOSED FENCE — AS SPECIFIED
- PROPOSED CONCRETE KERB — AS SPECIFIED
- PROPOSED CONCRETE PAVEMENT — AS SPECIFIED
- PROPOSED PLANTING — AS SPECIFIED
- PROPOSED SYNTHETIC TURF — TO CONTRACTOR SUPPLIED AND APPROVED SPECIFICATIONS
- PROPOSED TURF BATTER — AS SPECIFIED
- PROPOSED BIO RETENTION BASIN — TO CONTRACTOR SUPPLIED AND APPROVED SPECIFICATIONS
- PROPOSED LIGHT POLE (LP) — LOCATION SHOWN NOTIONALLY; TO CONTRACTOR SUPPLIED AND APPROVED SPECIFICATIONS
- PROPOSED ROLL KERB

REFER PLAN LA-106

16,478.65 mm

5.1m

3.2m

* F70.10 BW

D06 201 — 800-A WIDE EDGE BEAM TYPE 4 CONCRETE SLEEPER RETAINING WALL TO FRONT

RW

SANDSTONE WALL

* F70.30

1:9.05 min

* F70.50 BW

* F70.95 BW

* F70.35

* F70.40

* F70.50

LP

D02/3 201 — 300 WIDE EDGE BEAM TYPE1

D05 201 — 800-B WIDE EDGE BEAM TYPE 3

4,039.46 mm

6,047.96 mm

REFER PLAN LA-104

REV	DATE	AMENDMENTS	INITIALS
A	3.4.24	FOR REVIEW	MOS
B	5.4.24	BATTER LEVEL REVIEW	MOS
C	22.4.24	REVISED EDGE BEAM	MOS
D	1.7.24	ASBESTOS CELL	MOS

DATE: 22.4.24

DRAWN BY: MOS

APPROVAL BY:

Manager Technical Services

SCALE: 1:100@A1

KU-RING-GAI COUNCIL

Mail: Locked bag 1056, Pymble NSW 2073

Street: 818 Pacific Hwy, Gordon NSW 2072

Contact: T: 02 9424 0000 W: www.kmc.nsw.gov.au

PROJECT:

NORMAN GRIFFITHS SPORTSFIELD

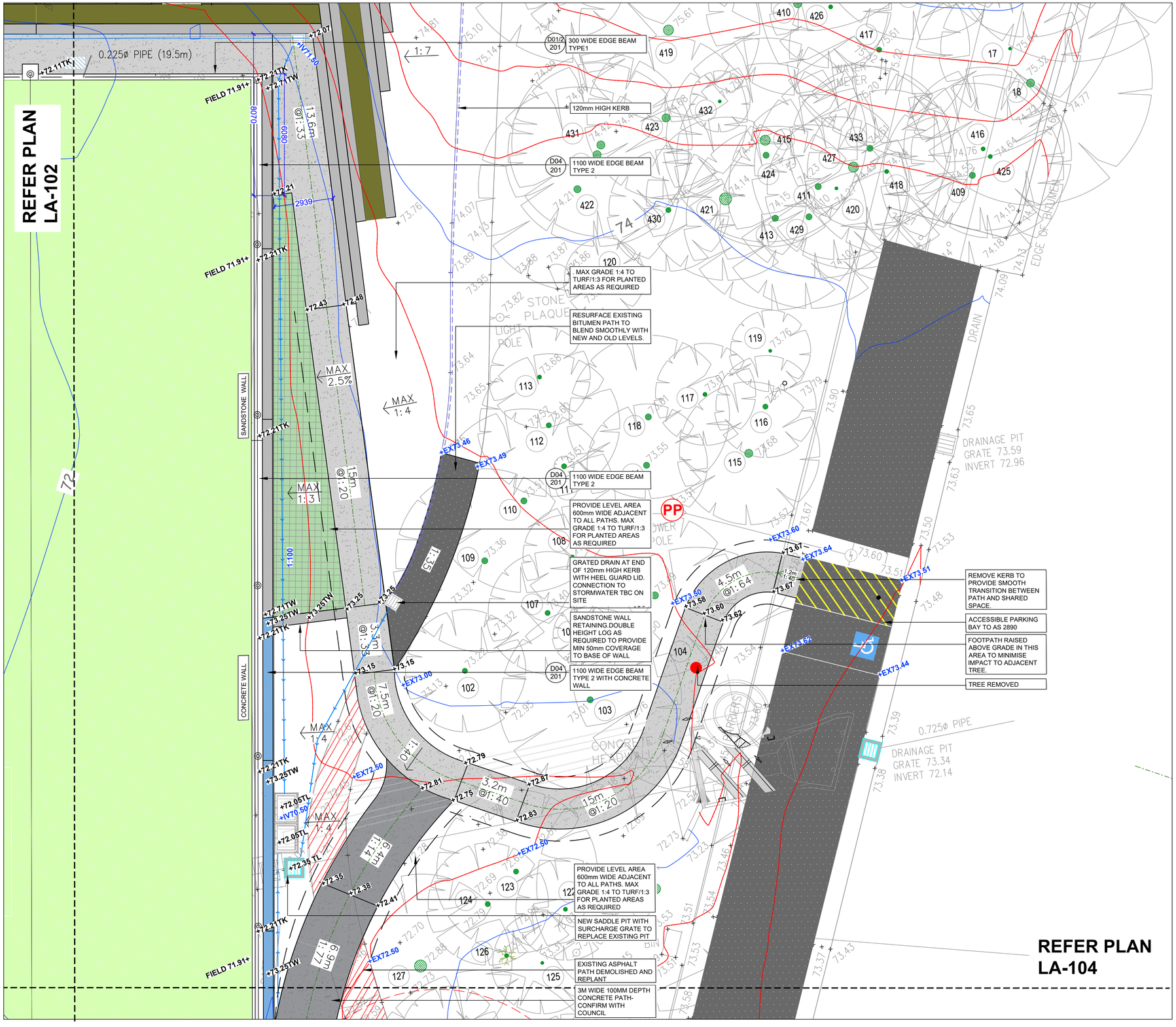
SHEET:

FINISHES AND LEVELS

LMU NO.:	PLAN NO.:	SHEET:	OF:	REV:
NA	L-105	6	010	D

LEGEND: FINISHES / LEVELS

- EXISTING TREE TO BE RETAINED
- ASPHALT PAVEMENT
- EXISTING STORMWATER PIT
- EXISTING CONTOURS
- +EXT2.39 71.31 — EXISTING FINISHED LEVEL
- +72.39 TW / +72.39 TK — FINISHED LEVEL TOP OF WALL / FINISHED LEVEL TOP OF KERB/EDGE
- +72.39 — PROPOSED FINISHED LEVEL
- PROPOSED TRENCH DRAIN AS SPECIFIED
- PROPOSED FOOT GRATES AS SPECIFIED
- PROPOSED STORMWATER PIT AS SPECIFIED
- PROPOSED WALL: SANDSTONE AS SPECIFIED
- PROPOSED FENCE AS SPECIFIED
- PROPOSED CONCRETE KERB AS SPECIFIED
- PROPOSED CONCRETE PAVEMENT AS SPECIFIED
- PROPOSED PLANTING AS SPECIFIED
- PROPOSED SYNTHETIC TURF TO CONTRACTOR SUPPLIED AND APPROVED SPECIFICATIONS
- PROPOSED TURF BATTER AS SPECIFIED
- PROPOSED BIO RETENTION BASIN TO CONTRACTOR SUPPLIED AND APPROVED SPECIFICATIONS
- LP — PROPOSED LIGHT POLE LOCATION SHOWN NOTIONALLY TO CONTRACTOR SUPPLIED AND APPROVED SPECIFICATIONS
- PROPOSED ROLL KERB LOCATION SHOWN NOTIONALLY 120mm HIGH ROLL KERB
- PROPOSED WALL: CONCRETE AS SPECIFIED
- PROPOSED CONCRETE PAVEMENT 100mm DEPTH TBC BY COUNCIL



REV	DATE	AMENDMENTS	INITIALS
D	20.6.24	REVISED FOOTPATH LEVELS	MOS
E	4.7.24	REVISED FOOTPATH	MOS
F	17.7.24	REVISED FOOTPATH	AM
G	23.7.24	REVISED EAST PATH + WALL	MOS
H	24.7.24	JUNCTION PATH	MOS
I	26.7.24	3M WIDE PATH	MOS
J	26.7.24	3M PATH ADJUSTMENTS	MOS
K	31.7.24	ACCESS PATH AMENDED	MOS

DATE: 22.4.24

DRAWN BY: MOS

APPROVAL BY:

Manager Technical Services

SCALE: 1:100@A1

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PROJECT:

NORMAN GRIFFITHS SPORTSFIELD

SHEET:

FINISHES AND LEVELS

LMU NO.:	PLAN NO.:	SHEET:	OF:	REV:
NA	L-103	4	010	K

LEGEND: FINISHES / LEVELS

- EXISTING TREE TO BE RETAINED
- ASPHALT PAVEMENT
- EXISTING STORMWATER PIT
- EXISTING CONTOURS
- EXISTING FINISHED LEVEL (+EX72.39 71.35)
- FINISHED LEVEL TOP OF WALL (+72.39 TW) / FINISHED LEVEL TOP OF KERB/EDGE (+72.39 TK)
- PROPOSED FINISHED LEVEL (+72.39)
- PROPOSED TRENCH DRAIN — AS SPECIFIED
- PROPOSED FOOT GRATES — AS SPECIFIED
- PROPOSED STORMWATER PIT — AS SPECIFIED
- PROPOSED WALL: SANDSTONE — AS SPECIFIED
- PROPOSED FENCE — AS SPECIFIED
- PROPOSED CONCRETE KERB — AS SPECIFIED
- PROPOSED CONCRETE PAVEMENT — AS SPECIFIED
- PROPOSED PLANTING — AS SPECIFIED
- PROPOSED SYNTHETIC TURF — TO CONTRACTOR SUPPLIED AND APPROVED SPECIFICATIONS
- PROPOSED TURF BATTER — AS SPECIFIED
- PROPOSED BIO RETENTION BASIN — TO CONTRACTOR SUPPLIED AND APPROVED SPECIFICATIONS
- PROPOSED LIGHT POLE (LP) — LOCATION SHOWN NOTIONALLY; TO CONTRACTOR SUPPLIED AND APPROVED SPECIFICATIONS
- PROPOSED ROLL KERB — LOCATION SHOWN NOTIONALLY; 120mm HIGH ROLL KERB
- PROPOSED WALL: CONCRETE — AS SPECIFIED
- PROPOSED CONCRETE PAVEMENT — 100mm DEPTH TBC BY COUNCIL

REFER PLAN LA-103

REFER PLAN LA-105

LIGHTPOLE 400 DIA FOOTING 750 DIA BASE PLATE/TOP OF FOOTING INSTALLED AT 71.98FL

FIELD 71.91+

D04 201 1100 WIDE EDGE BEAM TYPE 2 WITH CONCRETE WALL

3M WIDE CONCRETE PATH

D05 201 800-B WIDE EDGE BEAM TYPE 3

DEMOLISH EXISTING PATH AND REPLANT

BATTER BACK TO EXISTING LEVEL. MAX 1:4 FOR TURF

SANDSTONE WALL RETAINING.500mm HEIGHT. PROVIDE MIN 50mm COVERAGE TO BASE OF WALL AND MIN 150mm FROM TOP OF WALL TO FL OF PATH

D05 201 800-B WIDE EDGE BEAM TYPE 3 WITH CONCRETE WALL

NEW 2M WIDE BITUMEN RAMP TO BLEND SMOOTHLY WITH NEW AND OLD LEVELS.

DEMOLISH EXISTING PATH AND REPLANT.

BOX OUT EDGE & SANDSTONE WALL TO ALLOW FOR 6M POSTS

MESH NETTING STORAGE CABINET

T1 T2 T3 T4 T5

REV	DATE	AMENDMENTS	INITIALS
E	23.7.24	REVISED PATH + WALL	MOS
F	24.7.24	SOUTHEAST CORNER REVIEW	MOS
G	26.7.24	3m WIDE PATH	MOS
H	26.7.24	REVISED SE CORNER PATH	MOS
I	31.7.24	REVISED SE CORNER WALL	MOS
J	2.8.24	RAMP UP AT SE CORNER	MOS

DATE: 22.4.24

DRAWN BY: MOS

APPROVAL BY:

Manager Technical Services

SCALE: 1:100@A1

KU-RING-GAI COUNCIL

Mail: Locked bag 1056, Pymble NSW 2073

Street: 818 Pacific Hwy, Gordon NSW 2072

Contact: T: 02 9424 0000 W: www.kmc.nsw.gov.au

PROJECT:

NORMAN GRIFFITHS SPORTSFIELD

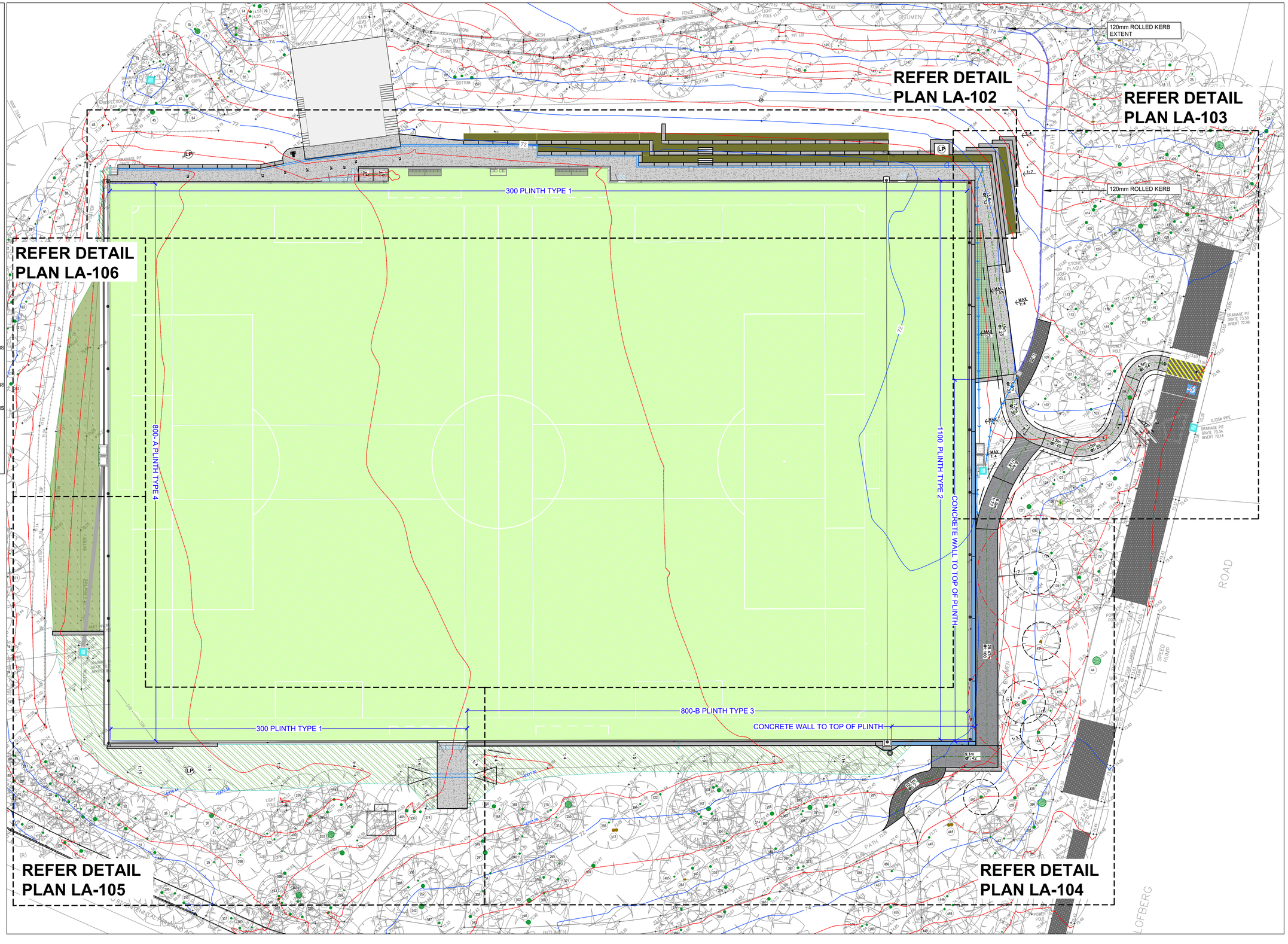
SHEET:

FINISHES AND LEVELS

LMU NO.:	PLAN NO.:	SHEET:	OF:	REV:
NA	L-104	5	010	J

LEGEND: FINISHES / LEVELS

- EXISTING TREE TO BE RETAINED
- ASPHALT PAVEMENT
- EXISTING STORMWATER PIT
- EXISTING CONTOURS
- EXISTING FINISHED LEVEL
- FINISHED LEVEL TOP OF WALL / FINISHED LEVEL TOP OF KERB/EDGE (+72.39 TW / +72.39 TK)
- PROPOSED FINISHED LEVEL (+72.39)
- PROPOSED TRENCH DRAIN — AS SPECIFIED
- PROPOSED FOOT GRATES — AS SPECIFIED
- PROPOSED STORMWATER PIT — AS SPECIFIED
- PROPOSED WALL: SANDSTONE — AS SPECIFIED
- PROPOSED FENCE — AS SPECIFIED
- PROPOSED CONCRETE KERB — AS SPECIFIED
- PROPOSED CONCRETE PAVEMENT — AS SPECIFIED
- PROPOSED PLANTING — AS SPECIFIED
- PROPOSED SYNTHETIC TURF — TO CONTRACTOR SUPPLIED AND APPROVED SPECIFICATIONS
- PROPOSED TURF BATTER — AS SPECIFIED
- PROPOSED BIO RETENTION BASIN — TO CONTRACTOR SUPPLIED AND APPROVED SPECIFICATIONS
- PROPOSED LIGHT POLE (LP) — LOCATION SHOWN NOTIONALLY; TO CONTRACTOR SUPPLIED AND APPROVED SPECIFICATIONS
- PROPOSED ROLL KERB — LOCATION SHOWN NOTIONALLY; 120mm HIGH ROLL KERB
- PROPOSED WALL: CONCRETE — AS SPECIFIED
- PROPOSED CONCRETE PAVEMENT — 100mm DEPTH TBC BY COUNCIL



REV	DATE	AMENDMENTS	INITIALS
A	3.4.24	FOR REVIEW	MOS
B	22.4.24	REVISED EDGE BEAM	MOS
C	1.7.24	ASBESTOS CELL MAP	MOS
D	4.7.24	REVISED FOOTPATH LOCATION	MOS
E	2.8.24	REVISED EASTERN FOOTPATHS	MOS

DATE: 22.4.24 | DRAWN BY: MOS

APPROVAL BY:

. . . . . Manager Technical Services

SCALE: 1:250@A1

KU-RING-GAI COUNCIL

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PROJECT:

NORMAN GRIFFITHS SPORTSFIELD

SHEET:

PLINTH TYPE & SHEET LAYOUT

LMU NO.:	PLAN NO.:	SHEET:	OF:	REV:
NA	L-101	2	010	E