



WATER CONSERVATION STATEMENT

PROPOSED RESIDENTIAL DEVELOPMENT AT THE SITE ADJACENT TO CROWN STREET, GWALCHMAI

June 2022
Suitability S1
Rev P01

Prepared on Behalf of:

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APPENDICES

A Proposed Drainage Layout

1.0 Water Conservation

- 1.1.1 Water efficiency has a significant role to play in addressing the challenges faced by the water sector and beyond. It is one of the few tools that can address both climate change mitigation and climate change adaptation. Water efficiency can reduce pressure on existing infrastructure and offset the need for new infrastructure. It can help reduce water and energy bills for households and businesses. The extremes of weather and changes in demand will put an increasing strain on water infrastructure. The links between water and energy will become more critical.
- 1.1.2 The disposal of surface water has been designed in strict accordance with the provision of TAN 15, the Flood and Water Management Act 2010 and other best practice documents, such as CIRIA C753 'SuDS Manual' 2015.
- 1.1.3 In accordance with the SuDS Manual 2015, surface water should be managed and discharged from a new development in line with the following hierarchy:
- Priority level 1: Re-use of water;
 - Priority level 2: Infiltration into ground;
 - Priority level 3: Discharge to a water body;
 - Priority level 4: Discharge to a surface water run-off drain;
 - Priority level 5: Discharge to a combined surface water run-off and foul drain.
- 1.1.4 In order to comply with the Policy PCYFF 6: Water Conservation and priority level 1 within the SuDS Hierarchy, the reuse of surface water run-off it is proposed to provide drainage features within the surface water drainage network which will absorb surface water and reuse it for feeding plants within raingarden areas and water butts at the base of the rainwater pipes of the property. Re-use of surface water cannot be considered as the soul method of surface water disposal, paragraph G1.1 The Statutory SuDS Guidance for Wales states "As much of the runoff as possible (subject to technical or cost constraints) should be discharged to each destination before a lower priority destination (level) is

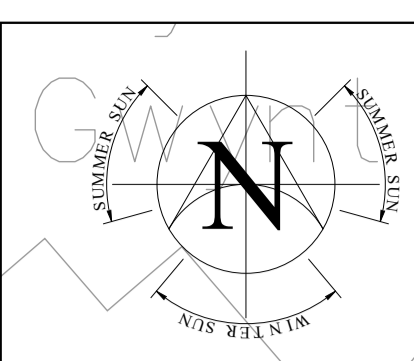
considered.” Therefore, attempts must be made to reuse as much surface water as possible.

- 1.1.5 It should also be noted that the site is not located within a drought area and therefore there is no lack of potable water delivery to the proposed development.
- 1.1.6 However, this cannot be used as the method of surface water disposal but will provide some losses of surface water volumetric run-off leaving the site and reduce the amount of potable water being imported into the site from the mains network.
- 1.1.7 Rainwater generated over the site will be attenuated above ground within rainwater gardens located throughout the site prior to being discharged into the proposed surface water drainage network. From here rainwater generated over the site will be directed through the proposed surface water drainage network via gravity into a proposed swale located within the southern portion of the site.
- 1.1.8 The SuDS Manual 2015 requires appropriate measures to be in place for the maintenance of surface water drainage systems. The maintenance schedule will be derived in strict accordance with the SuDS Manual 2015 and from a risk-assessed approach during the design stage. These schedules are not exhaustive and will be reassessed at regular intervals to determine if any additional maintenance requirements are required to preserve the performance and condition of the site drainage system.
- 1.1.9 Provided preventive maintenance measures are undertaken, the need for corrective maintenance should rarely arise.

APPENDICES

APPENDIX A

Proposed Drainage Layout

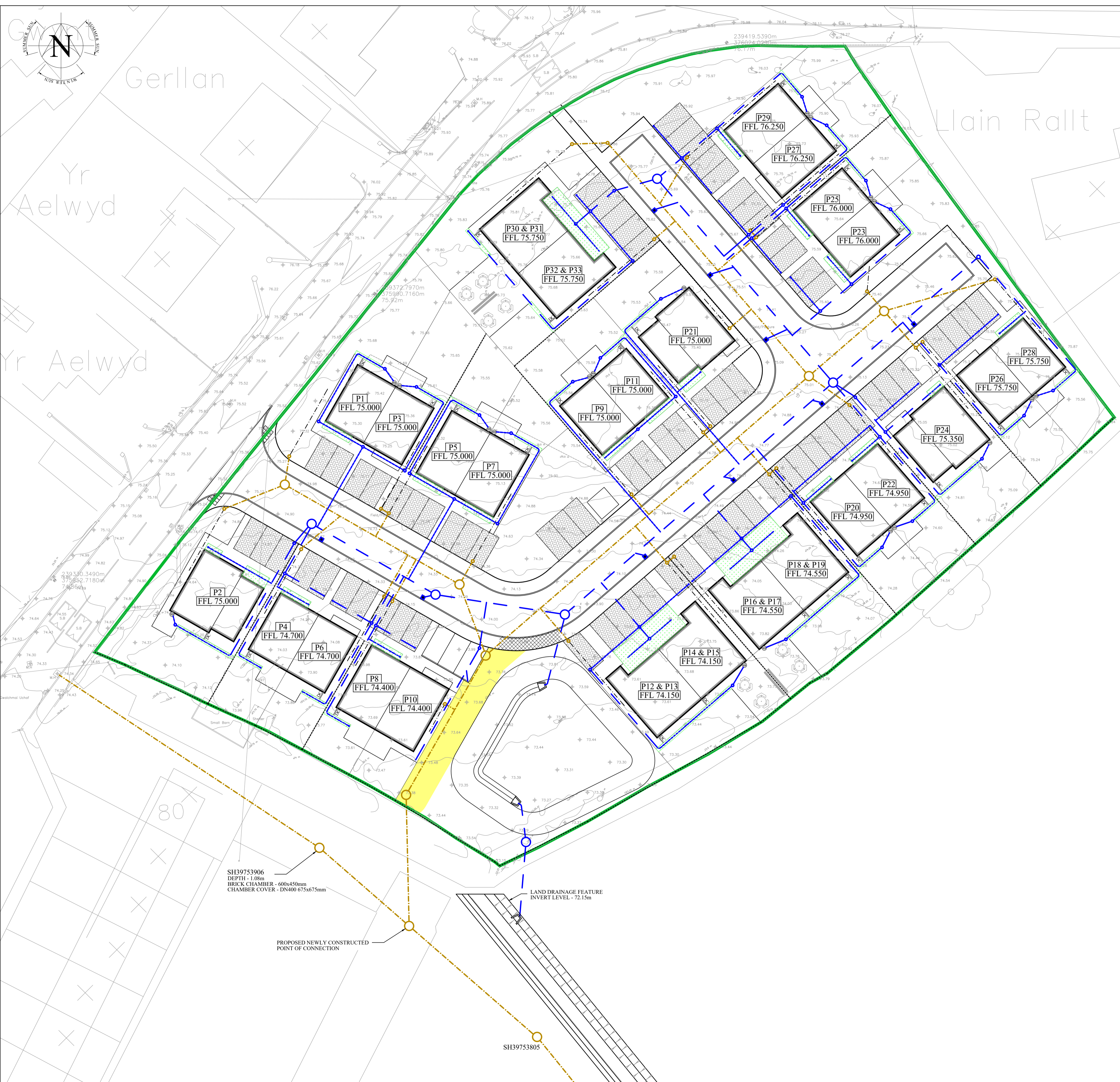


Gerllan

Llain Rallt

Yr Aelwyd

Yr Aelwyd



SH39753906
DEPTH - 1.08m
BRICK CHAMBER - 600x450mm
CHAMBER COVER - DN400 675x675mm

LAND DRAINAGE FEATURE
INVERT LEVEL - 72.15m

PROPOSED NEWLY CONSTRUCTED
POINT OF CONNECTION

SH39753805

NOTES CONTINUED

23. BACKFILLING TO PIPE TRENCHES BENEATH LANDSCAPED AREAS TO BE SELECTED EXCAVATE MATERIAL FREE FROM LARGE STONES GREATER THAN 0mm, LUMPS OF CLAY OVER 100mm, ANY TIMBER, FROZEN MATERIAL OR VEGETATION MATTER UP TO FROMATION / GROUND LEVEL FROM THE TOP OF THE SPECIFIED PIPE SURROUND (WELL COMPACTED IN 150mm LAYERS)
24. GRANULAR MATERIAL NOMINAL SIZE 20mm SINGLE SIZED OR 14mm TO 5mm GRADED.
25. BACKFILL MUST NOT BE PLACED ON CONCRETE BEDDING OR SURROUND UNTIL THE CONCRETE COMPRESSIVE STRENGTH HAS REACHED 15N/mm².
26. BRICKS OR BLOCKS MUST NOT BE PLACED IN THE BEDDING MORTAR FOR SETTING THE PIPES TO LEVEL.
27. ALL ROCKER PIPE LENGTHS TO BE MIN 600mm.
28. PROVIDE ROCKER PIPES AT TRANSITION FROM CONCRETE SURROUND TO GRANULAR SURROUND.
29. MAX DISTANCE FROM FACE OF CONCRETE SURROUND TO FIRST FLEXIBLE JOINT TO BE 150mm.
30. MANHOLE COVERS AND FRAMES MANHOLE COVERS AND FRAMES SHALL COMPLY WITH THE RELEVANT PROVISIONS OF THE BS EN 124M BS 7903 AND HIGHWAYS AGENCY GUIDANCE DOCUMENT HA 104/99. THEY SHALL BE OF NON ROCKING DESIGN WHICH DOES NOT RELAY TO THE CUSHION INSERTS.
MANHOLE COVER ON FOUL ONLY SEWERS SHALL BE OF LOW LEAKAGE TYPES IN ORDER TO PREVENT EXCESSIVE SURFACE WATER INGRESS
AS A MINIMUM, CLASS D400 SHALL BE USED IN CARRIAGeways OR ROADS (INCLUDING PEDESTRIAN STREETS), HARD SHOULDERS AND PARKING AREAS USED BY ALL TYPES OF VEHICLES.
31. CONSTRUCTION OF SEWER TO BE IN ACCORDANCE WITH WELSH MINISTERS STANDARDS AND SFA 7TH EDITION.

KEY

- DENOTES PROPOSED FOUL CHAMBER & PIPE RUN TO BE ADOPTED BY WELSH WATER.
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- DENOTES EXISTING COMBINED FOUL SEWER.
- DENOTES PROPOSED SURFACE WATER CHAMBER & PIPE RUN, TO BE ADOPTED BY THE SUDS APPROVAL BODY (SAB)
- DENOTES PROPOSED RODDING EYE.
- DENOTES PROPOSED HIGHWAY GULLY AND 0 150mm CONNECTION TO SURFACE WATER NETWORK TO BE ADOPTED BY THE HIGHWAY AUTHORITY UNDER SECTION 38 OF THE HIGHWAYS ACT 1980.
- DENOTES PROPOSED SITE BOUNDARY.
- DENOTES PROPOSED POROUS PAVING TO BE LOCATED MIN 3m FROM ANY FOUL SEWER.
- DENOTES ABOVE GROUND WATER BUTT AT BASE OF RAIN WATER DOWN PIPE.
- DENOTES DISH CHANNEL KERB TO CONVEY WATER FROM WATER BUTT INTO RAIN GARDEN.
- DENOTES PROPOSED RAIN GARDEN WITH PERFORATED PIPE TO INTERCEPT SURFACE WATER THROUGH INFILTRATION.
- DENOTES EXTENT OF 6M EASEMENT

NOTES

1. ALL LEVELS IN METERS UNLESS NOTED OTHERWISE ON DRAWING.
2. ALL DIMENSIONS AND LEVELS TO BE CHECKED ON SITE PRIOR TO UNDERTAKING ANY WORKS, ORDERING MATERIALS OR FABRICATING ANY COMPONENTS.
3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT ENGINEERS AND ARCHITECTS DRAWINGS AND RELEVANT SPECIFICATION CLAUSES.
4. PLEASE REFER TO ARCHITECTS DRAWINGS FOR FINAL BUILDING LOCATION.
5. THE LOCAL AUTHORITY AND SERVICE COMPANIES ARE TO BE NOTIFIED PRIOR TO COMMENCEMENT OF WORK ON SITE.
6. ALL DRAINAGE COMPONENTS ARE TO COMPLY WITH CURRENT BRITISH STANDARDS AND BUILDING REGULATIONS REQUIREMENTS.
7. ALL WORKS TO BE IN ACCORDANCE WITH THE LOCAL AUTHORITYS ROADS FOR ADOPTION SPECIFICATION.
8. ALL WORKS AND MATERIALS TO BE IN ACCORDANCE WITH THE SPECIFICATION FOR HIGHWAY WORKS (SHW SERIES 500).
9. DRAIN PIPE THROUGH WALLS OR BENEATH FOUNDATIONS (SPREAD ONLY) TO HAVE R.C BRIDGE LINTELS OVER AND PIPE SURROUNDED IN FLEXIBLE MATERIAL (50mm).
10. FINAL LOCATIONS AND DETAILS OF SOIL VENT PIPES, STUB STACKS, RAIN WATER DOWN PIPES, GULLIES ETC. TO BE CONFIRMED BY REFERENCE TO ARCHITECT DRAWINGS.
11. ALL THRESHOLD DRAIN DETAILS TO BE TO ARCHITECT DETAILS.
12. ALL PIPES INTO CHAMBERS TO SOFFIT TO SOFFIT U.O.
13. AT ALL OUTFALL POINTS TO AN EXISTING NETWORK, THE POSITION AND INVERT LEVEL OF EXISTING DRAINS MUST BE CONFIRMED IN ADVANCE OF THE PROGRAMMED DATE FOR INSTALLING ANY OF THE UPSTREAM DRAINAGE, OR ORDERING OF ANY MATERIALS IN ORDER TO ALLOW TIME FOR ANY NECESSARY REVISIONS TO THE HYDRAULIC DESIGN.
14. ALL GRAVITY UPVC PIPEWORK TO BE TO BS 4660 OR BS 5481 WHERE RELEVANT UNLESS NOTED OTHERWISE.
15. ALL NON ADOPTABLE DOMESTIC FOUL AND SURFACE WATER PIPE RUNS SHALL CONSIST OF 100mm DIA. PIPES LAID AT NO FLATTER THAN 1/80 FALLS U.N.O. A SEWER OR LATERAL DRAIN WITH A NOMINAL INTERNAL DIAMETER OF 100mm, OR A LATERAL DRAIN SERVING TEN OR LESS PROPERTIES IS LAID TO A GRADIENT NOT FLATTER THAN 1/80, WHERE THERE IS AT LEAST ONE WC CONNECTED AND 1/40 IF THERE IS NO WC CONNECTED.
16. ALL CONNECTIONS FROM HIGHWAY GULLIES TO BE 150mm DIA. LAID AT FALLS OF BETWEEN 1/20 AND 1/100 WITH TYPE S BED AND SURROUND TO ALL CONNECTIONS WITH MIN. 1.20m COVER, TYPE Z BED AND SURROUND TO ALL OTHER CONNECTIONS.
17. THERMOPLASTIC PIPES & FITTINGS: THERMOPLASTIC PIPES, JOINTS & FITTINGS FOR GRAVITY SEWERS SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS EN 1401-1, BS EN 1852 & BS EN 12666-1.
18. THERMOPLASTIC STRUCTURED WALL PIPE: THERMOPLASTIC STRUCTURED WALL SEWER PIPE SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS EN 13476-1 & WS 4-35-01 AND BS EN 13476-2 OR BS EN 13476-3. PIPES SHALL BE BSI KITEMARKED OR HAVE EQUIVALENT THIRD PART CERTIFICATION. PIPES LESS THAN OR EQUAL TO 500mm IN DIAMETER SHALL HAVE NOMINAL SHORT TERM RING STIFFNESS NOT LESS THAN 8kN/m² (SN8) OR BE SUBJECT TO A QUALITY SYSTEM FOR STORAGE & EMBEDMENT.
Nom. SHORT TERM RING STIFFNESS OF 2kN/m² (SN2) IS ACCEPTABLE FOR PIPES GREATER THAN 0500mm, SUBJECT TO SUPPORTING STRUCTURAL DESIGN LOAD CALCULATIONS BEING PROVIDED.
TRANSPORTATION, HANDLING, STORAGE AND LAYING SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
WHERE A FITTING IS INSTALLED ON A SEWER LENGTH, IT SHALL HAVE THE SAME INTERNAL BORE AS THE SEWER. Max. LENGTH OF PIPE FOR LAYING IS 3.0m OR 0 x 10, WHICHEVER IS THE GREATER, UNLESS WELDED JOINTS ARE USED.
19. CONNECTION TO THE PUBLIC SEWER A SECTION 106 APPLICATION TO CONNECT MUST BE MADE TO DCWW. THE DEVELOPER SHALL GIVE 21 DAYS NOTICE PRIOR TO CONNECTION. THE WORKS MAY ONLY BE UNDERTAKEN BY A DCWW HEALTH AND SAFETY APPROVED CONTRACTOR.
21. OPTIMUM TRENCH WIDTH OPTIMUM TRENCH WIDTH = PIPE + 300mm. CONTRACTOR TO ENSURE TRENCH WALLS ARE SUITABLY PROPPED.
22. BACKFILLING TO PIPE TRENCHES BENEATH ROADS, CAR PARKING AND STRUCTURES TO BE M.O.T. TYPE 1 GRANULAR MATERIAL UP TO FORMATION LEVEL FROM THE TOP OF THE SPECIFIED PIPE SURROUND (WELL COMPACTED IN 150mm LAYERS).

SI	NO	DATE	DESCRIPTION	By	CHKD	Apprd	Auth
		21.06.22	FIRST ISSUE				

PROJECT TITLE:
**LAND ADJ TO CROWN STREET,
GWALCHMAI**

DRAWING TITLE:
**PROPOSED SECTION 104
DRAINAGE LAYOUT**

PROJECT	ORIGINATOR	VOL.	LOC.	TYPE	ROLE
009422	CCE	V1	XX	40:40:01	C
50:30	0006	S1	P01		

ORIGINATOR	DATE	SCALE	ORIGINAL SIZE
B.Thorne	21.06.2022	1:250	A1



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