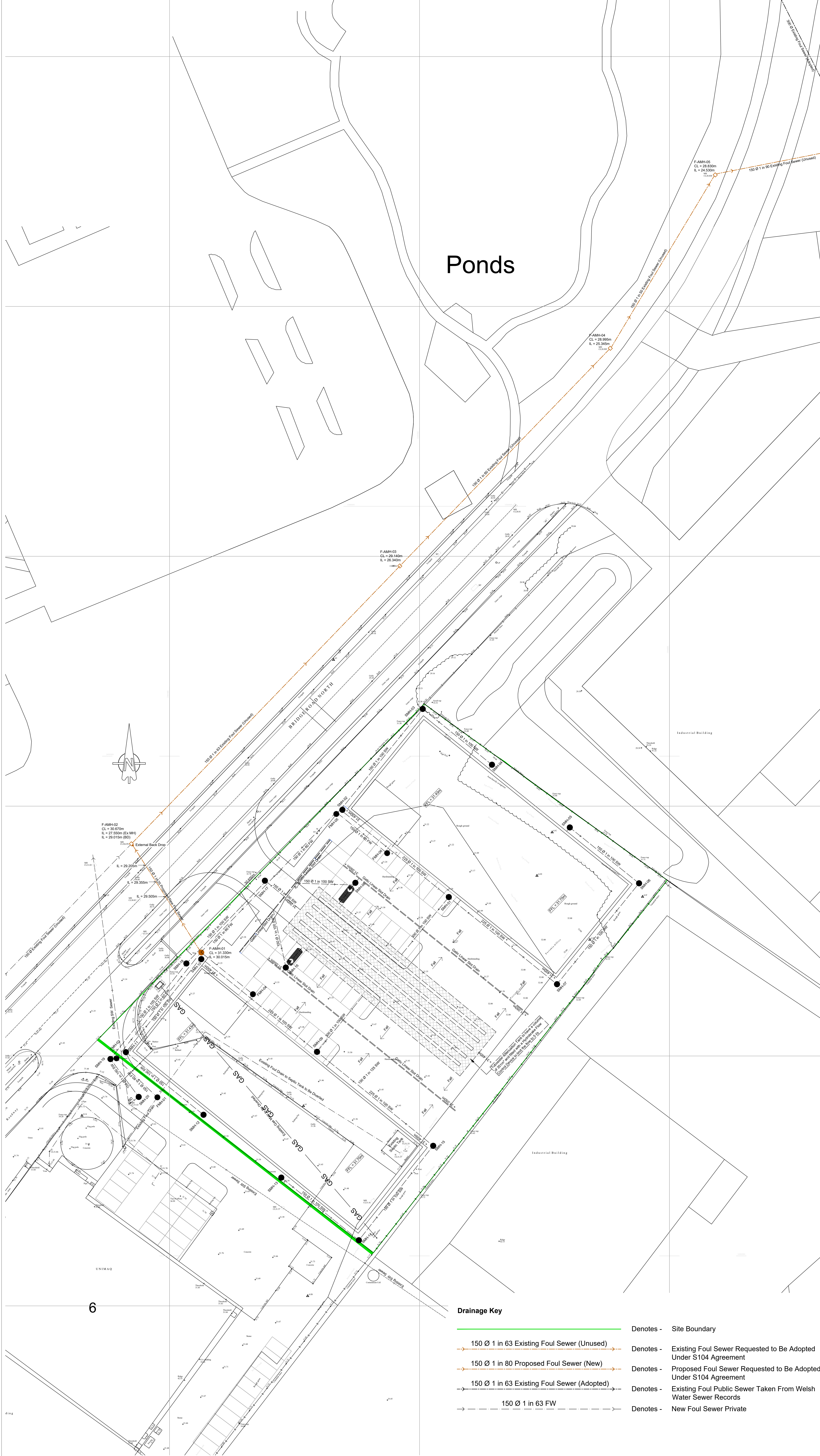




Ponds

Drainage Key

- Denotes - Site Boundary
- 150 Ø 1 in 63 Existing Foul Sewer (Unused)
- 150 Ø 1 in 80 Proposed Foul Sewer (New)
- 150 Ø 1 in 63 Existing Foul Sewer (Adopted)
- 150 Ø 1 in 63 FW
- Denotes - Existing Foul Sewer Requested to Be Adopted Under S104 Agreement
- Denotes - Proposed Foul Sewer Requested to Be Adopted Under S104 Agreement
- Denotes - Existing Foul Public Sewer Taken From Welsh Water Sewer Records
- Denotes - New Foul Sewer Private

- "The developer must self-vet and certify that the design criteria, material standards and workmanship specifications for the proposed adoptable sewers are in accordance with those set out in "Sewers for Adoption" 7th Edition (SFA 7th). The Welsh Ministers Standards and the requirement of DCWW as the Statutory Sewerage Undertaker."
- "Subject to a Section 104 Adoption Agreement being complete, 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 an SSIP Health & Safety approved contractor."
- The adoptable materials and workmanship conform to part E of "Sewers for Adoption" 7th Edition.

DRAINAGE NOTES

- This drawing shall be read in conjunction with all other relevant drawings
- Any ambiguities, omissions and errors on Drawings, shall be brought to the Engineers attention immediately.
- The Contractor shall confirm the location and level of existing drainage outfalls prior to commencement of the drainage works.
- Exact locations of proposed manholes and inspection chambers to be determined on site.
- All pipes built into the manhole inverts shall be installed with soffits levels. Unless shown otherwise.
- Connections to road gulleys shall be in 150mm nominal bore. Connections to other terminal fittings shall be in 100mm nominal bore pipe. Unless shown otherwise.
- Cover levels shown are approximate and shall be adjusted and confirm on site by the Contractor.
- The Contractor shall control accurate line and level of pipe laying by use of an optical laser.
- The Contractor shall protect the pipeline from damage by site traffic during construction.
- Pipework and fittings shall comply with the following requirements except where noted otherwise:
 - 11. All rest bend to stacks of more than 3 storeys (i.e. extending above Ground + 3) to be 750mm below lowest branch, i.e. min 650mm below GFL. All other rest bends to be minimum 450mm below FFL.
 - 12. All drains passing through walls or foundations to have 600mm long rocker pipes either side with concrete surround and soft joint at coupling.
 - 13. All SVP and stub stack connections to have sealed access covers for rodding and cleaning.
 - 14. Pipework with less than 600mm cover from finished road level shall be protected with a 150mm C20 concrete bed and surround. Flexible joints shall be maintained at 5 metre centres on pipe joints with compressible sheet 18mm thick.
 - 15. Trenches in highways and car parking areas shall be backfilled with Type 1 granular sub-base.
 - 16. Soft spots in the trench formation shall be removed and replaced with granular bedding unless instructed otherwise.
 - 17. Road gulleys shall be constructed using a 900mm deep x 375mm diameter gully pot, surrounded by 150mm thickness C20 concrete, with rodding eye and chained stopper.
 - 18. Gully covers shall be Grade B captive hinged ductile iron to BS497 black coated.
 - 19. Unless noted otherwise manhole covers shall be ductile iron to BS497 black coated with 600 x 600 square opening as follows:-
 - Highways - Class D400
 - Car Parks - Class C250
 - Landscape - Class B125
- Connections in pipes between manholes runs shall be formed by using purpose made 45° junction fittings to BS65. Bend fittings shall be provided where appropriate to direct the flow into the main runs. Alternatively main pipes may be diamond cored to take lateral connections with a saddle fitting to BS65 and 150mm C20 concrete surround.
- The Contractor shall confirm the location of all existing statutory undertakers apparatus and service connections by that pits prior to opening up for the works.
- All inlet and Outlet pipes from manholes require rocker pipes in accordance with UU standard Details.

Materials

- Protection to drains and gully connections may be concrete bed and surround between cover depths of 450mm to 200mm.
- All pipes and joints for use in drains shall comply with the manufacturers requirements.
- Clay Pipes (Adoptable Sewers)
 - a. Clay pipes to be used for sewage shall be British Standard pipes and pipes for surface water shall be either 'British Standard' or 'British Standard
 - b. Surface Water' all manufactured to the requirements of BS EN 295 and BS65:1991. The pipes shall be Type 1 sockets and supplied complete with the manufacturer's recommended flexible joints, or with Type 2 Sockets for cement mortar joints or plan ended pipes supplied with sleeve couplings.
 - c. Watertight Flexible Joints for clayware pipes shall comply with BS EN 295 and BS65:1991.
- Concrete Pipes
 - a. Concrete pipes for general drainage shall comply with the requirements of BS EN 1916:2002 and BS5911-1:2002, except that they may be complete
 - b. with watertight flexible joints, as supplied by the manufacturer
 - c. Watertight flexible joints shall be so constructed as to tolerate a longitudinal movement of ±10mm without breaking the seal;
- Un-plasticised Polyvinyl Chloride (PVC-U) Pipes shall conform to BS EN 1401-1:2009, BS EN 13596-1:2003, BS3506:1989 and BS4660:2000 for pipes up to 1600mm nominal external diameter and to BS EN 1401-1:2009 for pipes above 200mm nominal external diameter.
- Pipe bedding and backfill of Underground pipes should be in accordance with BS EN 5955: Part 6 Installation of PVC-u pipework for gravity drains and sewers, or the BBA Certificate.
- Suitable material is defined as granular material in accordance with the recommendations of BS EN 5955: Part 6: 1980 having a nominal particle size not exceeding 10mm or 14mm for 110mm and 160mm diameter pipes respectively, or that which passes the tests described in appendix A of the above standard.
- Drains under buildings :
 - a. Where drains are required to be laid under buildings, deep hardcore from within the foundation boundaries should be compacted prior to excavating the trench for the pipe. Suitable material should then be employed for the bedding and backfilling.
 - b. When trenches are dug from original ground, pipes may be laid and surrounded with appropriate material before the top layer of hardcore is placed. Where pipes pass through a wall or foundations of a building, they should be protected by a lintel or sleeve.
 - c. Shallow drains : Where there is risk of damage, pipes laid at less than 600mm depth (not under a road) should be protected by use of a paving slab or similar. A minimum 75mm cushioning layer of granular material must be laid between any slab and the crown of the pipe.
 - d. Pipes laid under roads : The minimum cover under roads should be 0.9m from the top of the pipe. Where this is less than 0.9m additional protection is required ie. reinforced bridging slabs.

Approval Issue

Rev.	Date	Description	Approval Issue	Rev.
P2	31.08.2022	Additional Notes added	Approval Issue	MC
P1	04.07.2022	First Issue	Approval Issue	MDJ
Rev.	Date	Description	Status	Rev.
Project				
Pacific Park Wrexham Bridge Road North Wrexham Industrial Estate				
Title				
Proposed S104 Adoption Plan Foul Drainage				
This drawing is the property of Muir Associates (UK) LIMITED and must not be reproduced without permission.				
Director	Proj. Eng.	Client		
M.D.Jones	M.D.Jones	Portal Construction NW Ltd		
Drawn by	Checked by	Drawing Number		
M.D.Jones				
Scale	Date	1110-20-01-201		P2
1:250 @ A0	July 2022			

