LEGEND

- Site Boundary
- FFL = 93.30 — Internal Finished Floor Levels

Existing Drainage

- Foul Water Drainage
- Storm Water Drainage

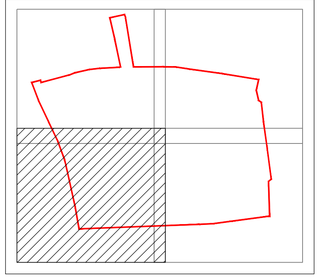
Proposed Private Drainage

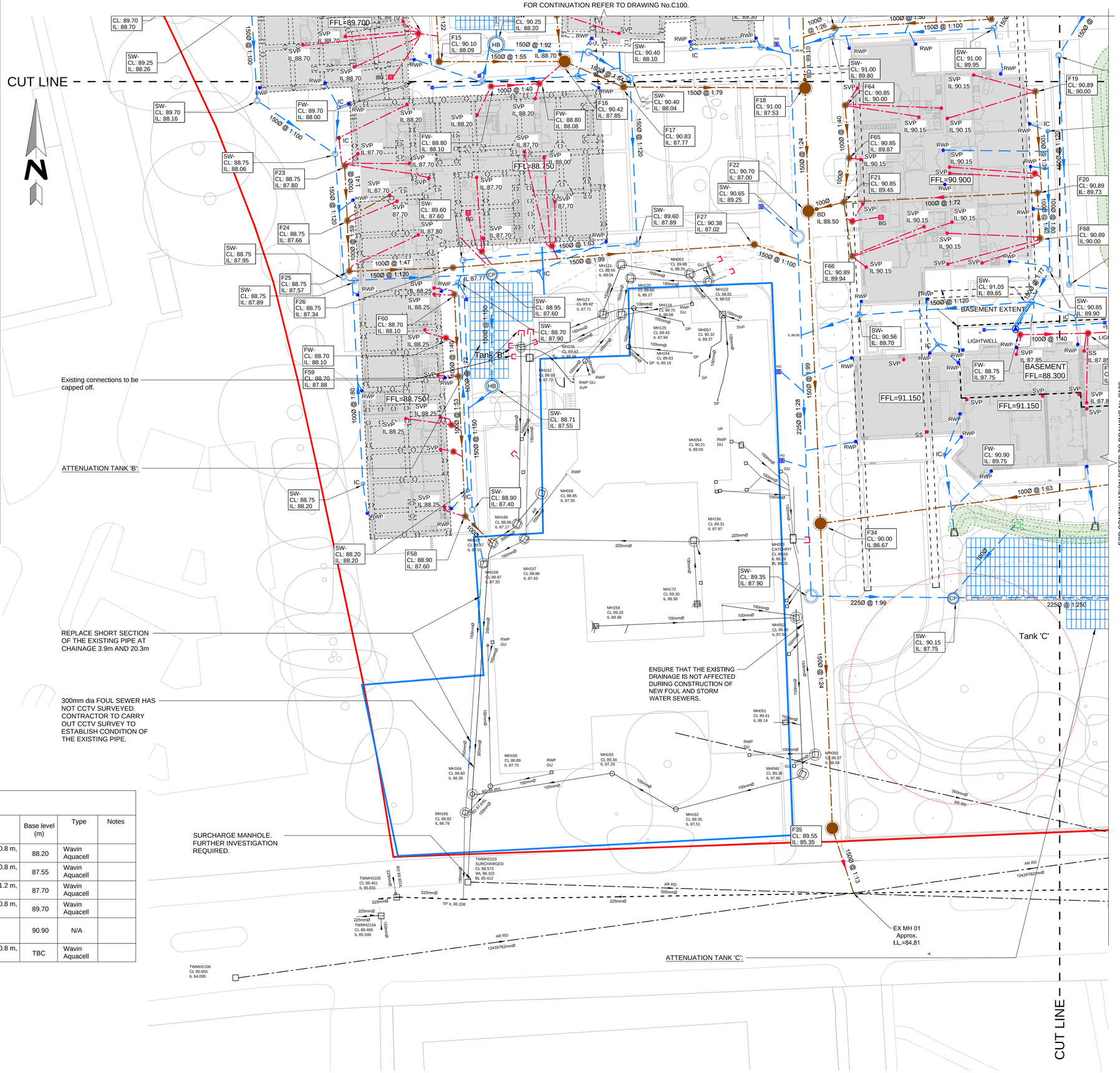
- 150Ø @ 1:110 — Foul Water Sewer
- 150Ø @ 1:36 — Surface Water Sewer
- 150Ø @ 1:36 — Perforated pipe with 360deg perforations and granular surround
- Surface water / foul water manhole Material:
  - Dia > 900 PCC - Precast Concrete rings
  - Dia 450 & 600 - Plastic Inspection Chambers
- IC IC — Small dia Plastic Inspection Chambers - 250mm Ø, depths 0.6 - 0.9
- HB — Hydrobrake manhole - 1200/1500Ø PCC rings
- CP — Catchpit manhole - 900/1050Ø PCC rings
- SVP/SS IL:90.15 — Foul Water Soil Vent Pipe/Stub Stack
- BG — Bottle foul water gully
- RWP — Rainwater pipe
- RWP () — Rainwater pipe discharges onto pavement
- ACO drainage channel
- G — Gully to Landscape Architect's specification
- RG — Road gully D400 to BS EN124
- Surface water sump pump for lightwells
- Tanked porous pavement with 150Ø perforated distribution pipe. Depth of Priora sub-base 150mm min.
- Modular attenuation tank with perforated pipe.
- Grass swale
- Cut-off land drain
- French drain

Proposed Adoptable Foul Water Drainage

- 150Ø @ 1:110 — Foul water sewer
- 1200/1500 dia PCC Manhole

KEY PLAN (N.T.S.)





NOTES

1. Invert levels and positions of existing drains / chambers / sewers where new connections are to be made must be checked and confirmed to the engineer prior to the commencement of any works.
2. All drainage works shall be carried out in accordance with the requirements of the Local Authority, the Environment Agency and in conjunction with all relevant British Standards, Codes of Practice and 'Sewers for Adoption' 7th Edition and any addendums as appropriate.
3. All drainage shall comply with the typical details and the requirements of BS EN 752 and Part H of the Building Regulations.
4. Any part of the existing drainage system to be retained as part of the new scheme shall be cleaned and inspected. Any structural defects shall be repaired using appropriate and approved means.
5. For setting-out dimensions of SVP's, RWP's etc, refer to Architect's or Mechanical Engineer's drawings. Positions shown are indicative and subject to final design.
6. All foul and RWP connections shall be 100mm diameter unless otherwise specified.
7. All precast concrete units used in the drainage works shall be manufactured using sulphate resisting cement.
8. Manhole covers and frames shall be to BS EN 124 and shall be Kitemarked. Covers and frames shall be heavy duty D400 in carriageways and vehicular areas and medium duty B125 in footways and soft landscaping. In blocked/concrete paved areas covers shall be recessed fabricated steel. All recessed covers shall in accordance with the FACTA association gradings.
9. All internal inspection chambers to be recessed, double sealed with screw down covers.
10. Cover levels are to be adjusted locally to suit finished ground levels.
11. At least one soil pipe at the head of each foul run shall vent to the atmosphere.
12. Existing drainage to be removed is to be broken out to bed level and void backfilled with granular material, compacted in layers not exceeding 250mm.
13. All drain runs from SVP's, stub stacks or FW gullies to be laid at 1:40 gradient unless otherwise stated. All RWP's to be laid 1:80 min unless otherwise stated.
14. All manholes / inspection chambers in block paved areas, to have recessed covers. MH covers in paved areas to have cover & frame orientated 'square' with paving to minimise cut slabs or blocks.
15. All private drainage to be laid to levels shown using flexibly jointed pipes, either uPVC to BS 4660 and BS 5481 or vitrified clayware to BS EN 295. Pipes below structural building slabs or basements shall be Cast Iron to BS 437.
16. Rodding eyes, etc are to be laid to manufacturers minimum cover and depth to allow adequate fall from adjoining unit.
17. All proposed trees to have appropriate tree barrier details linking pits to ensure roots are directed away from drainage.
18. Where new sewers are constructed within 5m of a new or existing tree the sewer shall be concrete encased against root intrusion. Refer to drainage details.
19. All new drainage to be jetted and CCTV surveyed on completion. Contractor to make sure that the drainage is fully operational. Refer to Drainage maintenance manual for maintenance details.
20. All runs connecting into the public drainage network to be vitrified clay, extra length to BS EN 295 or BS65 with plain sleeved or socketed flexible joints.
21. CDM note: All pipework, silt traps, catchpits, trapped gullies and attenuation tanks to be regularly inspected every three months and cleared out on a regular frequency for the first nine months. After this period the frequency can be reduced to every six months. Porous surface to be regularly swept three times a year to remove the silt.
22. This drawing is to be read in conjunction with all relevant Conisbee drawings.
23. HEALTH AND SAFETY: The works shall be carried out by specialist competent and experienced contractors who are members of a recognised national organisation.Operatives shall have received full and appropriate training for the operations they are to undertake. All work shall be carried out in accordance with all pertinent Health and Safety Regulations.

Design Notes

Existing Site Area:	20.4 ha
Proposed Site Area:	20,4 ha
Total Existing Impermeable Area:	0,82 ha
Existing Runoff Rate QBAR	123 l/sec
Total Proposed Permeable Area:	1,13 ha
Proposed Allowable Discharge Rate:	27.2 l/sec
Attenuation 100yr + 30% allowance for Climate Change:	534 m³
Additional Attenuation for compliance with the Code for Sustainable Homes:	183 m³
Total Attenuation 100yr + 30% allowance for Climate Change:	**717 m³**

ATTENUATION SCHEDULE:

Reference	Area on plan (m²) Depth (m)	Storage volume: (m³)	Way of flow control:	Base level (m)	Type	Notes
Tank 'A'	78.0 0.8	62.5	Hydrobrake (design head = 0.8 m, design flow = 4.0 l/s)	88.20	Wavin Aquacell	
Tank 'B'	52.5 0.8	42.5	Hydrobrake (design head = 0.8 m, design flow = 4.0 l/s)	87.55	Wavin Aquacell	
Tank 'C'	120.0 1.2	139.0	Hydrobrake (design head = 1.2 m, design flow = 8.0 l/s)	87.70	Wavin Aquacell	
Tank 'D'	300.0 1.2	345.0	Hydrobrake (design head = 0.8 m, design flow = 9.2 l/s)	89.70	Wavin Aquacell	
Depression above Tank 'D'	320.0 0.4	128.0	N/A	90.90	N/A	
Tank 'E'	2.0 1.2	2.5	Hydrobrake (design head = 0.8 m, design flow = 2.0 l/s)	TBC	Wavin Aquacell	
TOTAL		719.5				

NOT FOR CONSTRUCTION

Rev	Date	Description	Drawn	Check
P2	20.05.15	Basement layout revised.	DN	TG
P1	05.05.15	Issued for Information.	DN	TG

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Drawing Status: PRELIMINARY

Project: ST LUKE's DEVELOPMENT N10 3HU

Title: PROPOSED DRAINAGE LAYOUT SHEET 3 OF 4

Date: APRIL 2015
Scale: 1:200
Drawn: DN
Engineer: DN
Project No: **140901**
Drawing No: **C102**
Revision: **P2**

THIS DRAWING MUST BE READ IN CONJUNCTION WITH THE SPECIFICATION AND ALL OTHER RELEVANT DRAWINGS. DO NOT SCALE FROM THIS DRAWING.