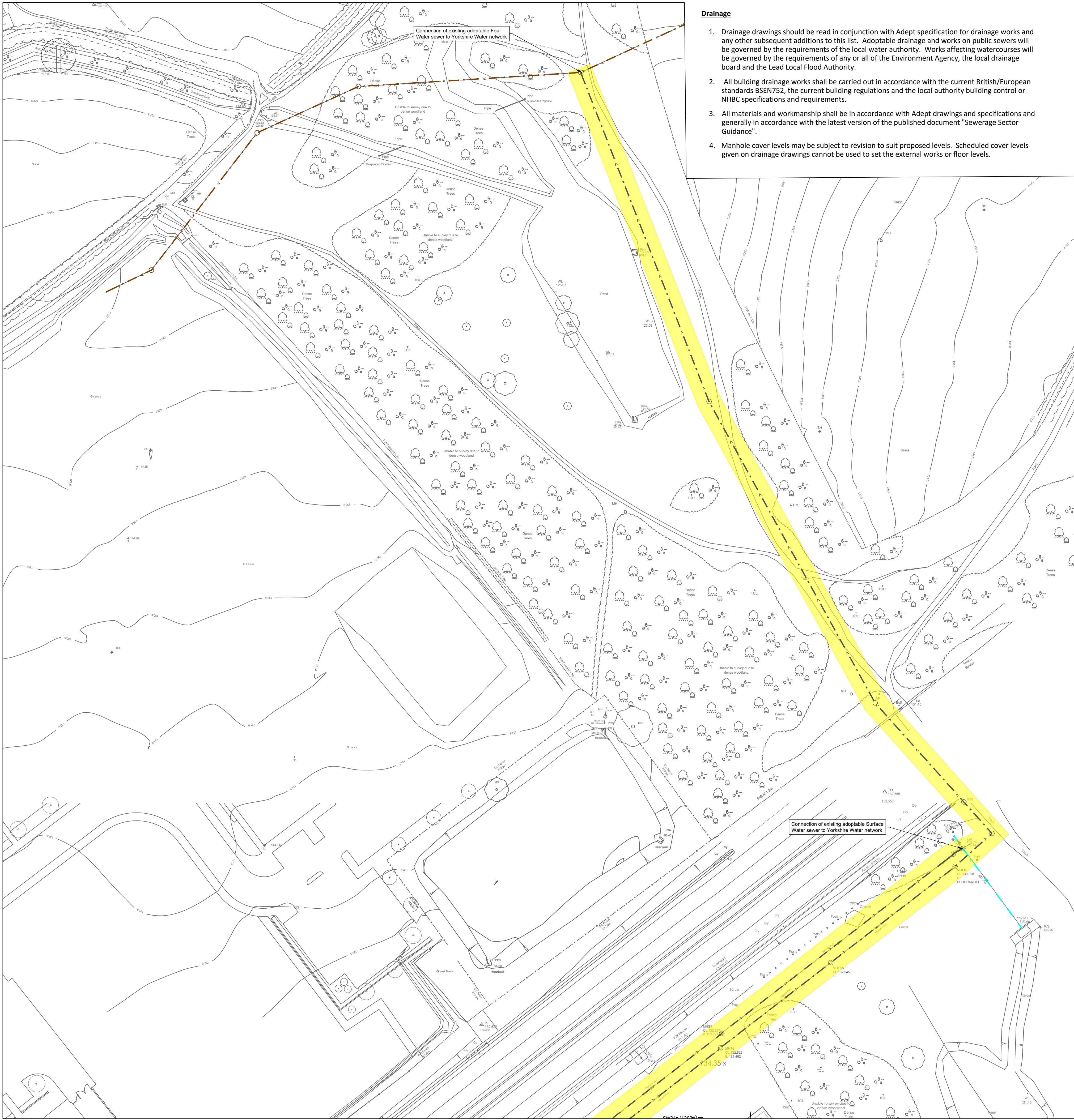




Drainage

1. Drainage drawings should be read in conjunction with Adept specification for drainage works and any other subsequent additions to this list. Adoptable drainage and works on public sewers will be governed by the requirements of the local water authority. Works affecting watercourses will be governed by the requirements of any or all of the Environment Agency, the local drainage board and the Lead Local Flood Authority.
2. All building drainage works shall be carried out in accordance with the current British/European standards BSEN752, the current building regulations and the local authority building control or NHBC specifications and requirements.
3. All materials and workmanship shall be in accordance with Adept drawings and specifications and generally in accordance with the latest version of the published document "Sewerage Sector Guidance".
4. Manhole cover levels may be subject to revision to suit proposed levels. Scheduled cover levels given on drainage drawings cannot be used to set the external works or floor levels.

5. All private foul drainage to be 100Ø laid at a minimum gradient of 1 in 40, all private surface water drainage to be 100Ø laid at a minimum gradient of 1 in 60 unless otherwise noted. Pipework to be laid to inverts shown on manhole schedules, with soffits coinciding at changes in pipe size.
6. All Junctions are to be done using a "Y" junction to direct the flow in line with the main pipe.
7. Exact location of building rainwater downpipes and all internal drainage points (pop ups) to be confirmed by Architect. Rainwater pipe outlets to be rodable. Internal gullies and manhole covers shall be to Architect's specification.
8. Setting out information for manholes may be provided on the drawings, especially where chambers are remote from a building. Otherwise chambers are shown in relation to features set out on other drawings and can be adjusted in location to suit the given gradients. However it is critical that external manholes have cover levels lower than FFL to minimise flooding issues should drains surcharge or block.
9. Invert levels of all outfall points to be confirmed prior to commencing drainage works. Position size and depth of all existing drains and services shall be established prior to commencement on site and any discrepancies resolved by the design team ahead of construction.
10. The contractor shall provide protection, temporary and permanent support, and temporary and permanent diversion works, necessary to all existing services sufficient to enable construction of the drainage system indicated on the drawings.
11. Work within the highway will require traffic management in accordance with Chapter 8 and agreement from the local Highway Authority (Section 50 Highways Act agreement or similar) ahead of work commencing.
12. Temporary water management to be completed by others.
13. Land drainage should not be discharged to either foul or surface water drains that are connected into a proposed or existing public sewer system.
14. Connections to the public sewer network require S106 agreements. These generally cover workmanship and proof of suitability for the work and are therefore best completed by the relevant sub-contractor. Adept drawings and calculations can be submitted alongside and in support of such applications.
15. Wherever possible, drainage works are:
 - To commence at outfall
 - To work Upstream
16. Clay pipework max 300Ø. Greater than 300Ø to be Concrete unless plastic specified.

Strengths shown below:

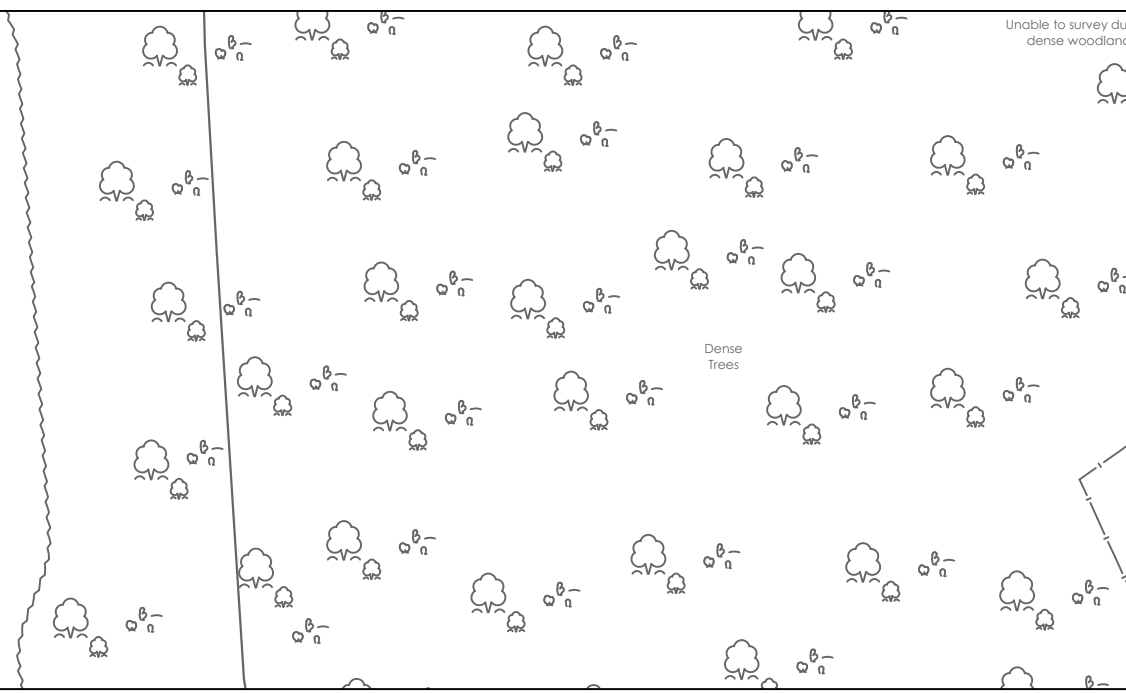
Clay Pipe Min Strengths

- 100mm dia 40KN/m
- 150mm dia 40KN/m
- 225mm dia 45KN/m
- 300mm dia 72KN/m

Concrete Pipe Min Strengths all diameters to be class 120 (54KN/m).

Where plastic pipework is proposed Water Authority & Highway Authority requirements for strength and durability will vary. Calculations may well be required from the pipe supplier alongside proof of chemical resistance. Min. requirements as below;
Deformation limit: 5% at 300 days
Jetting pressure: 4000psi

17. Trees should not be planted within 5m of adoptable sewers, where this is not possible due to planning conditions a suitable root barrier needs to be installed around any tree types that are within the prescribed restrictions as set out in the Water Authorities' Code For Adoption. Where the Mature tree canopy will overhang the adoptable highway a suitable root barrier will be required to prevent damage to any statutory undertakers equipment and the integrity of the highway construction.
18. Foul drainage pump installations are designed to handle normal domestic waste. Other items flushed away or otherwise entering the drainage system for disposal will detrimentally affect the performance of the pumps. In particular fabric items for use as wipes and sanitary items will, if disposed of into the foul drainage pipework, quickly and completely block the pumps preventing their operation until removed from the wet well and cleaned. If the client deems it is not possible to control the disposal of unsuitable material into the drains specialist screens and grinding equipment can be considered for introduction by the specialist pump designer into the foul drainage system to minimise the risk of interrupted pump operation but these items will themselves require regular cleaning and maintenance.
19. Foul drainage mini-treatment plants are designed to handle normal domestic waste. Other items flushed away or otherwise entering the drainage system will detrimentally affect the performance of the treatment plant and the level of treatment achieved. This can lead to serious pollution to downstream water features and/or failure of the system. Both would require substantial maintenance of the plant to remedy. If the client deems it is not possible to control the disposal of unsuitable material into the drains specialist screens and grinding equipment can be considered for introduction by the specialist plant designer into the foul drainage system to minimise the risk of failure of treatment equipment but these items will themselves require regular cleaning and maintenance
20. Fats,oils and grease treatment is a specialist design item. The required treatment methodology will come from consideration of the levels of incoming FOGs requiring treatment, the frequency of emptying and other maintenance, and the presence of other sensitive kit further downstream (i.e.pumps and treatment plant).
21. Sprinkler systems require testing at regular intervals both at the pumps themselves and via the manifold through the building wall. either under pump pressure or by draining down parts of the system by gravity. The resulting discharge must connect to the site foul drainage network and may require licensing by the relevant sewer authority as an industrial effluent. It should not be connected to the site surface water system, discharge onto the surface (whether landscaping or pavement) or into any watercourse or similar feature.
22. Foul Pop-up locations TBC by architect
23. Syphonic Drainage Down Pipe locations & Manholes TBC by specialist design



Do Not Scale

DESIGN REVIEW

Design review by: ** Checked by: **

Residual hazards:

Health, Safety & Environmental Notes

NOTES

Existing Surface Water Sewer- to be adopted

Existing Yorkshire water Surface Water Sewer

Existing Foul Water Sewer - to be adopted

Existing Yorkshire Water Foul Water Sewer

Yorkshire Water Easement

17.05.23 Initial Issue

OCB JS P1

Date Description By Chk Rev

ADEPT

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Project

Dearne Valley Parkway

Title

Drainage Layout
Sheet 2 of 2

Client

GREGORY

PROPERTY GROUP

Scale @ A1
1:500

Initial author
OCB

Initial checker
JS

Approver
RP

Initial Date
Feb' 23

Status
S5

Purpose
Tender

Adept Ref
00.23009

Project Number
00.23009-ACE-00-ZZ-DR-C-01001

Type
ACE

Level
ZZ

Drawn
DR

Checked
C

Revised
P1