Note:
Cover levels and hardstanding drainage to be confirmed following determination of site levels.

Soakaways are designed based on BRE Digest 365 1:100 year storm with 40% climate factor. ACO Sormbrixx Soakaway to be installed in accordance with manufacturers design, guidance and recommendations. To be wrapped in permeable membrane. Soakaway to incorporate sediment forebay and integral catchpit along with any access/vent points as required.

Drainage Notes

1. All new drainage shall be constructed and tested in accordance with BS EN 752, Building Regulations Approved Document Part 'H' and NHBC Chapter 5.3, as appropriate.
2. Pipes shall be 100-300 mm diameter, manufactured from PVCu, polypropylene (such as Polysewer or similar approved).
3. Drainage should be constructed to the following minimum falls
   Storm = 1:100 (preferred gradient where possible 1:90)
   Foul (below buildings) = 1:40
   Foul (elsewhere) = 1:80 (preferred gradient where possible 1:70)
4. Gully Tops and Manhole cover specification to be in accordance with BS EN 124. Covers in trafficked areas to be grade D400, covers in footpath/driveway areas to be grade C250, covers in landscaped areas to be B125.
5. This drawing is schematic for clarity only, positions of pipe runs and manholes may vary on site due to site conditions.
6. Generally pipe bedding to be class 'S' bedding (100 mm granular bed and surround), unless concrete protection is required (see later notes)
7. Where pipes are under buildings or cover to top of pipe is less than 1200mm in trafficked areas/less than 600mm in landscaped areas pipe is to be protected. Either by use of cast iron pipes or by 100mm Standard Mix GEN3 concrete encasement on all sides.
8. Pipe runs adjacent to proposed foundations are to be installed in accordance with Building Regulations part 'H'.
9. Excavations for manholes, pipe runs etc located within a 45 degree load distribution splay from any adjoining existing foundations, are to be adequately supported for the duration of the works and pipe runs protected as note 7 above.
10. Foundations adjacent to pipe runs or manholes are to have their formation level set above the invert level no higher than the equivalent of the horizontal distance between the pipe/excavation trench and the foundation, minus 500mm.
11. Where excavations for pipe runs are parallel and in close proximity to each other and/or other service trenches, The Contractor shall ensure that adequate safety measures, including temporary shoring, are provided in line with current health & safety legislation and good practice. Particular attention is to be paid to adjacent trenches of differing invert levels.
12. All branch drains, or connections, are to discharge to the collectors obliquely, and in the direction of the main flow.
13. All existing drainage found on site during the works shall be investigated, its operational status confirmed, and the following applied:-
    a) Inoperative drainage shall be cut back and pipe runs filled with concrete grout.
    b) 'Live' drainage shall be temporarily re-routed to allow the new drainage to be constructed.
14. All new private shallow 225 mm diameter surface water and foul drain inspection chambers and rodding eyes shown without cover levels (CL) shall be assumed to be at external ground level, and invert levels (IL) are to be typically between 450 and 600 mm below CL, subject to the length of the internal house connections.
15. All domestic drainage connection points shown (svp's, rwp's etc.) are located indicatively. For final positions, refer to The Architect's drawings.
16. House levels are Finished Floor Levels (FFL's), and are typically a minimum of 150mm above finished ground level outside.
17. Prior to topsoiling of rear gardens, the gardens should be reworked, rotovated or decompacted to a depth of 600mm. Once this is carried **NO PLANT to access these areas**, any further consolidation of subsoil to be reworked as necessary. Before reworking or rotovating the Contractor is to mark all drain runs in the area.
18. Where drainage is located within tree root zones, pipes are to be wrapped in tree root protection membrane such as TERRAM Rootguard Plus with welded joints.

Note:
New connections to existing public sewers.
Contractor to confirm line and level of existing Public Sewers prior to commencement of proposed drainage. Level of connection subject to confirmation that no clashing occurs with any of the existing sewers or services, contractor to re-level if necessary or contact engineer if in doubt.

Note:
Cover levels and hardstanding drainage to be confirmed following determination of site levels.

Other Features

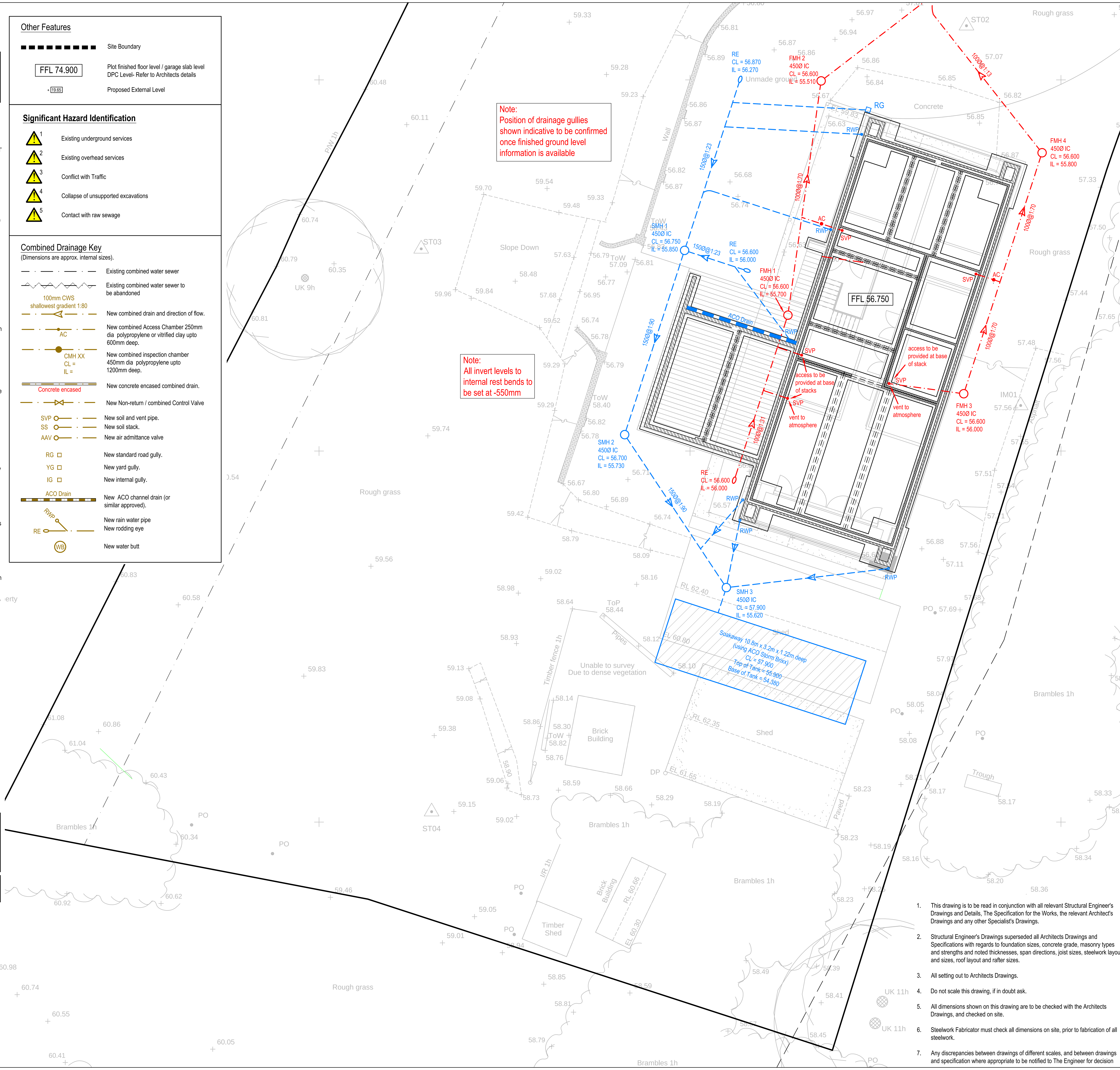
▬ ▬ ▬ ▬	Site Boundary
FFL 74.900	Plot finished floor level / garage slab level DPC Level- Refer to Architects details
19.65	Proposed External Level

Significant Hazard Identification

1. Existing underground services
2. Existing overhead services
3. Conflict with Traffic
4. Collapse of unsupported excavations
5. Contact with raw sewage

Combined Drainage Key
(Dimensions are approx. internal sizes).

Symbol	Description
	Existing combined water sewer
	Existing combined water sewer to be abandoned
100mm CWS shallowest gradient 1:80	New combined drain and direction of flow.
AC	New combined Access Chamber 250mm dia polypropylene or vitrified clay upto 600mm deep.
CMH XX CL = IL =	New combined inspection chamber 450mm dia polypropylene upto 1200mm deep.
Concrete encased	New concrete encased combined drain.
	New Non-return / combined Control Valve
SVP	New soil and vent pipe.
SS	New soil stack.
AAV	New air admittance valve
RG	New standard road gully.
YG	New yard gully.
IG	New internal gully.
ACO Drain	New ACO channel drain (or similar approved).
RWP / RE	New rain water pipe / New rodding eye
WB	New water butt



Foul Drainage Key
(Dimensions are approx. internal sizes).

Symbol	Description
	Existing foul water sewer
	Existing foul water sewer to be abandoned
100mm FWS shallowest gradient 1:80	New foul drain and direction of flow.
AC	New foul Access Chamber 250mm dia polypropylene or vitrified clay upto 600mm deep.
FMH XX CL = IL =	New foul inspection chamber 450 mm dia polypropylene upto 1200 mm deep.
Concrete encased	New concrete encased foul drain.
	New Non-return / Flow Control Valve

Internal Foul Drainage Key

Symbol	Description
SVP	New soil and vent pipe.
SS	New soil stack.
AAV	New air admittance valve

Surface Water Drainage Key
(Dimensions are approx. internal sizes).

Symbol	Description
	Existing surface water sewer
	Existing surface water sewer to be abandoned
100mm SWS shallowest gradient 1:100	New surface water drain and direction of flow
	New surface water inspection chamber 250mm dia polypropylene or vitrified clay upto 600mm deep.
SMH XX CL = IL =	New surface water inspection chamber 450mm dia polypropylene upto 1200mm deep within landscaped areas
Concrete encased	New concrete encased storm drain.
RG	New standard road gully.
YG	New yard gully.
IG	New internal gully.
ACO Drain	New ACO channel drain (or similar approved).
RWP / RE	New rain water pipe / New rodding eye
WB	New water butt
	New Non-return / Flow Control Valve
	150mm dia perforated storm drain wrapped in "Terram" and direction of flow
Soakaway	New Storm Water Soakaway

1. This drawing is to be read in conjunction with all relevant Structural Engineer's Drawings and Details, The Specification for the Works, the relevant Architect's Drawings and any other Specialist's Drawings.
2. Structural Engineer's Drawings superseded all Architects Drawings and Specifications with regards to foundation sizes, concrete grade, masonry types and strengths and noted thicknesses, span directions, joist sizes, steelwork layout and sizes, roof layout and rafter sizes.
3. All setting out to Architects Drawings.
4. Do not scale this drawing, if in doubt ask.
5. All dimensions shown on this drawing are to be checked with the Architects Drawings, and checked on site.
6. Steelwork Fabricator must check all dimensions on site, prior to fabrication of all steelwork.
7. Any discrepancies between drawings of different scales, and between drawings and specification must be notified to The Engineer for decision

Drawing Number
17825-02A

Notes

Preliminary Drawing.
This drawing is for Preliminary Purposes only and must not be read as a Construction Issue. It indicates design intent only and is subject to amendment during final design development.

Drawing Status
Preliminary Drawing
Do Not Construct This Issue

Rev	Details	Date	Checked
A	Drainage layout updated.	15.09.20	SL

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Client: Mr J Beaman

Project: Eatfield Barn, Butts Lane, Stone, Worc DY10 4BH

Title: Drainage Proposals (Sheet 1 of 2)

Drawing No. 17825-02A

Scale	1:100 @ A1	Date	Jun-2020
Drawn	SL	Checked	TW