

Registered in England No. 2727193

THE MORTON PARTNERSHIP LTD.

CONSULTING CIVIL & STRUCTURAL ENGINEERS,
HISTORIC BUILDING SPECIALISTS

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**PLANNING STAGE
DRAINAGE STATEMENT
FOR
MARBLE HILL HOUSE & STABLES CAFÉ
LONDON**



Client: English Heritage
Brooklands
24 Brooklands Ave
Cambridge, CB2 8BU

Prepared by: The Morton Partnership Ltd
Old Timber Yard House
55 The Timber Yard
Drysdale Street
London N1 6ND

Date: August 2018

Ref: PC/19121~ Planning Drainage Statement

CONTENTS:

1.0 Introduction

2.0 Drainage Statement

APPENDICES:

A Below Ground Drainage Drawings

1.0 Introduction

- 1.1 We have worked closely with the design team to develop the underground drainage designs to planning Stage for the revised proposed works to the Stables at Marble Hill House. The following report describes the design principles for the underground drainage.
- 1.2 Provisions are subject to design development and further investigations. As our designs develop, we will work closely with the design team to ensure the structural layouts and details are coordinated.
- 1.3 The drainage proposals will be developed in accordance with all current standards and codes of practice.
- 1.4 The followings drawings produced by van Heyningen and Haward Architects have been referenced to produce this report:
- 533-L-2010 Proposed-Ground Floor Plan
 - 533-L-2011 Proposed roof plan
 - 533-L-2020 Proposed-Sections sheet 01
 - 533-L-2021 Proposed-Sections sheet 02
 - 533-L-2030 Proposed Elevations sheet 01
 - 533-L-2031 Proposed Elevations sheet 02
- 1.5 The following reports were also used to inform this report:
- “HLF parks for people, First Round Application, Appendix 2, Feasibility Document”, prepared by vHH Architects, dated August 2015
- 1.6 We have prepared the following drawing to accompany this planning statement:
- 19121/D/50-1/P03 Stable Block below Ground drainage general arrangement
 - 17549/D/50-2-1 Sports Pitch Drainage
 - 17549/D/50-3-1 Historic House Drainage

2.0 Drainage Statement

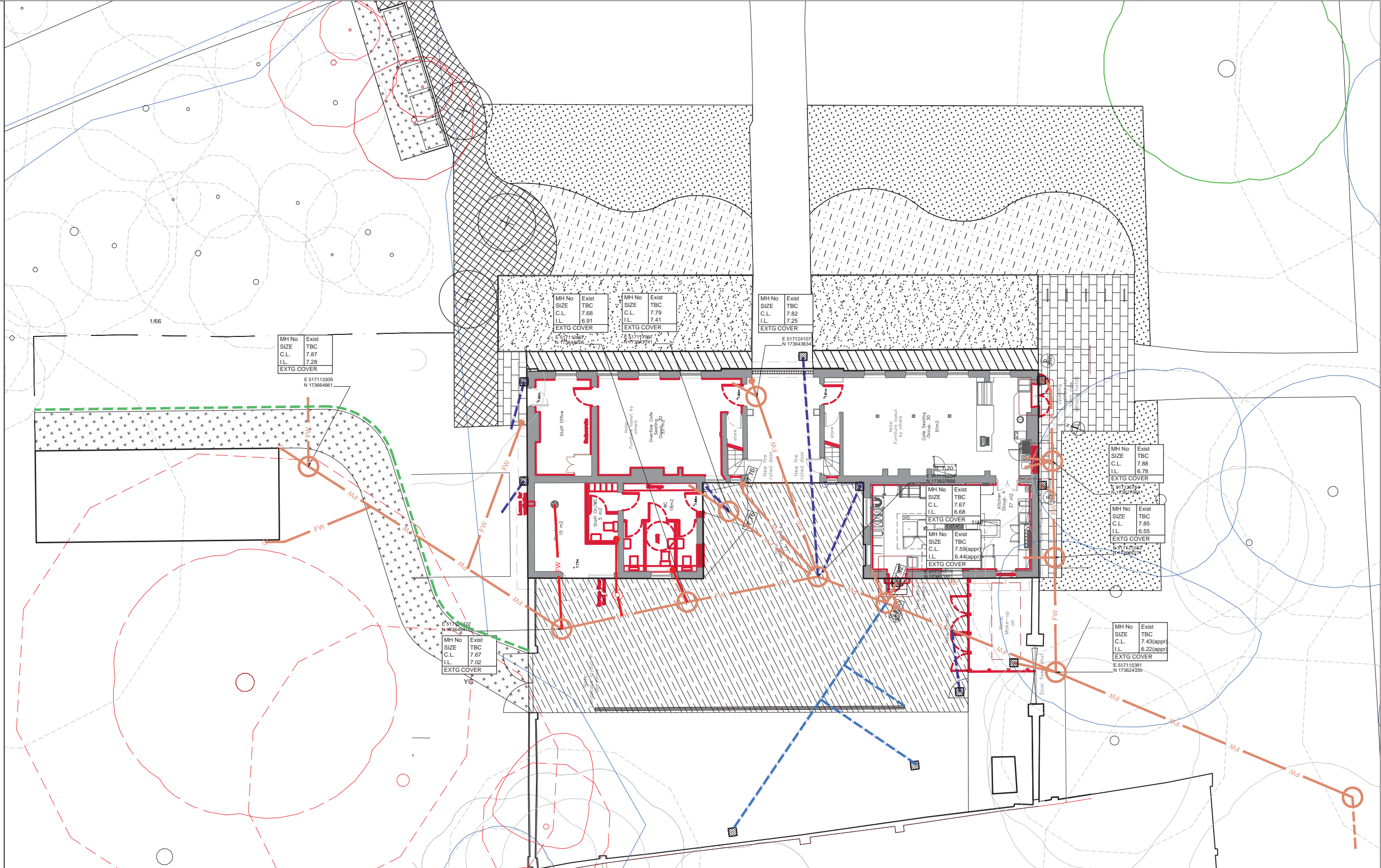
- 2.1 The house foul will discharge as existing via the existing private combined system that connects to the public system in the road.
- 2.2 Surface water from the north of the house will remain discharging to the combined system as above with a channel drain replacing existing gullies.
- 2.3 Roof water and hard standing drainage to the south of the house will be discharged via a new soakaway to the south of the house.
- 2.4 Pitches will be drained by a specialist sand groove system connecting to a filter drain.
- 2.5 Tree pits will similarly drain via filter drains to the system mentioned above.
- 2.6 The filter drainage system will discharge via a new penstock valve manhole within the park - and into the Thames via an existing flap valve
- 2.7 Where the outfall pipe runs through the towpath wall it will be sealed by a puddle flange cast into the wall.
- 2.8 The 2 measures above will ensure that the risk of flooding from the Thames via the drainage system will not increase - subject to the penstock valve being actively managed.
- 2.9 Foul drainage, rainwater drainage and surface water drainage from the stable block will continue to be via the existing combined private system that connects to the public system in the road.
- 2.10 Additional connections will be made to connect the re-configured WC block and plant room gully/s to the system mentioned above.

- 2.11 Surface water from the new path to the north will run off onto the soft where a filter trench will further facilitate discharge into the underlying sub-grade.
- 2.12 Surface water runoff from the southern block paved area will run off onto the soft where existing ground levels fall away from the building.

APPENDIX A

Drawings

- DRAINAGE NOTES:**
- ALL EXISTING MANHOLE COVERS TO BE RE-SET TO EXISTING PROPOSED LEVELS AS REQUIRED. INFILL COVERS IN BLOCK PAVEMENT, SOLID TOP IN ASPHALT, COBBLES AND SOFT AREAS. CLEAR OPENINGS TO MATCH EXISTING.
 - ALL EXISTING MANHOLE COVERS IN COURTYARD TO BE REPLACED WITH NEW SINGLE SEAL COVERS & FRAMES
 - REPLACEMENT OF OTHER EXISTING SURFACE LEVEL DRAINAGE FEATURES AS DETERMINED BY LANDSCAPE ARCHITECTS
 - ALL DRAINAGE BRANCHES ARE INDICATIVE. LOCATION OF STACKS AS SET OUT ON ARCHITECT DRAWINGS.
 - ALL NEW AND EXISTING BELOW GROUND DRAINAGE TO BE PROVIDED WITH ROOT BARRIER PROTECTION AS DETERMINED BY THE LANDSCAPE ARCHITECTS.
 - ALL DRAINAGE TO BE REMOVED TO BE INVESTIGATED TO CONFIRM REDUNDANCY PRIOR TO REMOVAL.
 - ALL DRAINS PASSING THROUGH OR UNDER STRUCTURE ARE TO BE PROVIDED WITH DOUBLE ROCKER PIPES.
 - ALL COVER LEVELS ARE APPROXIMATE & SHALL BE CONFIRMED BY THE EXTERNAL WORKS DESIGNER.
 - ALL PIPEWORK UNDER BUILDINGS - OR EXTERNAL WITH COVER LESS THAN 450mm - SHALL BE CAST IRON AS SAINT GOBAIN TIMESAVER OR SIMILAR APPROVED.
 - ALL EXTERNAL PIPEWORK WITH AT LEAST 450mm COVER SHALL BE VITRIFIED CLAY AS HEPWORTH SUPERSLEEVE OR SIMILAR APPROVED.
 - ALL DRAINAGE SERVING THE EXISTING BUILDING IS TO REMAIN LIVE UNTIL THE NEW WORK IS COMPLETE AND OCCUPIED. SUBSEQUENT TO WHICH ALL EXISTING REDUNDANT DRAINAGE SHALL BE REMOVED (OR AS OTHERWISE AGREED WITH THE ARCHITECT).
 - EXISTING SITE SERVICES ARE SHOWN IN GOOD FAITH AND HAVE BEEN TAKEN FROM EXISTING SITE SURVEY INFORMATION. THE CONTRACTOR SHALL CONFIRM BY CAT GENNY/GPR/SONDE/TRIAL PIT ETC AS NECESSARY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING EXISTING SUPPLIES DURING SITE WORKS.
 - THIS DRAWING IS TO BE READ FOR EXTERNAL DRAINAGE ONLY. FOR DETAILS OF MECHANICAL & ELECTRICAL SERVICES REFER TO RELEVANT ENGINEERS DETAILS. SERVICES COORDINATION BY OTHERS.
 - GULLY LOCATIONS ARE INDICATIVE. FOR FINAL LOCATIONS REFER TO ARCHITECTS/ME DRAWINGS.
 - ALL GULLY AND CHANNEL BRANCH DRAINS ARE TO BE 150mm DIAMETER UNLESS NOTED OTHERWISE.
 - ALL DRAINS WITH LESS THAN 600mm COVER SHALL BE PROTECTED BY CONCRETE COVER SLABS AS STANDARD DETAILS. DRAINS SHALL THEN RAMP DOWN WHERE APPLICABLE TO ACHIEVE 600mm COVER VIA 45° BENDS.
 - THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH THE LATEST EXTERNAL WORKS DRAWINGS FOR EXACT GROUND LEVELS - WHERE IN DOUBT THE RELEVANT ARCHITECT SHALL BE CONTACTED TO CONFIRM.
 - ALL EXISTING DRAINAGE LEVELS HAVE BEEN EXTRACTED FROM THE SURVEY INFORMATION. CHECK ALL EXISTING INVERT LEVELS PRIOR TO CONSTRUCTION AND REPORT ANY DISCREPANCIES TO THE ENGINEER.
 - ALL CONNECTION TO BE VIA JUNCTION INSERTIONS - SADDLES SHALL NOT BE USED.
 - ANY EXISTING CONNECTION DISTURBED BY PROPOSED WORKS TO BE RECONNECTED AS EXISTING OR VIA NEW CONNECTION AS APPLICABLE. THE ENGINEER SHALL BE PROVIDED WITH ALL NECESSARY INFORMATION TO REVISE DESIGN TO ACCOMMODATE WHERE NECESSARY.



KEY

Proposed 1000 foul sewer @ min gradient 1/80 or as shown		FW	French Drain	
Proposed 1000 surface water @ min gradient of 1/100 or as shown		SW		
Existing private combined sewer		FW		
Existing private surface water connections to be removed subject to identifying and providing for all connections		FW		
Aco MD100 0.0 Slot Drain with universal gully unit and access units each end		SW		
Floor Gully - grating to Architects specification				

P03	PRELIMINARY ISSUE	PC	24/08/18
P02	PRELIMINARY ISSUE	JC	
REV	AMENDMENT	CHK	DATE

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MARBLE HILL HOUSE
TWICKENHAM
TW1 2NL

BELOW GROUND DRAINAGE
GENERAL ARRANGEMENT
SITE PLAN

SCALE: 1:100 DRAWN BY: WGO
DATE: July 2018 CHECKED BY: PM

DRG No. **19121/D/50-1/P03**

DRAINAGE NOTES:

- ALL EXISTING MANHOLE COVERS TO BE RE-SET TO EXISTING/PROPOSED LEVELS AS REQUIRED. INFILL COVERS IN BLOCK PAVEMENT, SOLID TOP IN ASPHALT, COBBLES AND SOFT AREAS. CLEAR OPENINGS TO MATCH EXISTING.
- REPLACEMENT OF EXISTING SURFACE LEVEL DRAINAGE FEATURES AS DETERMINED BY LANDSCAPE ARCHITECTS
- ALL NEW BELOW GROUND DRAINAGE AT RISK OF ROOT INGRESS TO BE PROVIDED WITH ROOT BARRIER PROTECTION.
- ALL DRAINS PASSING THROUGH OR UNDER STRUCTURE ARE TO BE PROVIDED WITH DOUBLE ROCKER PIPES.
- ALL COVER LEVELS ARE APPROXIMATE & SHALL BE CONFIRMED BY THE EXTERNAL WORKS DESIGNER.
- ALL EXTERNAL PIPEWORK SHALL BE VITRIFIED CLAY AS HEPIWORTH SUPERSELEVE OR SIMILAR APPROVED.
- ALL DRAINAGE SERVING THE EXISTING BUILDING IS TO REMAIN LIVE UNTIL THE NEW WORK IS COMPLETE AND OCCUPIED.
- EXISTING SITE SERVICES ARE SHOWN IN GOOD FAITH AND HAVE BEEN TAKEN FROM EXISTING SITE SURVEY INFORMATION. THE CONTRACTOR SHALL CONFIRM BY CATAGENNY/SPRINGER/RIALPIT ETC AS NECESSARY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING EXISTING SUPPLIES DURING SITE WORKS.
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RESIDUAL RISKS

EXISTING SERVICES

- UTILISE EXISTING SERVICES DRAWINGS AUGMENTED BY CATAGENNY/SPRINGER/RIALPIT SURVEYS AS NECESSARY TO ESTABLISH ALL SERVICE LOCATIONS
- ARRANGE FOR TEMPORARY OR PERMANENT DECOMMISSIONING DURING WORKS AS NECESSARY
- HAND DIG CLOSE TO SERVICES AS NECESSARY
- ALL PERSONNEL TO BE APPROPRIATELY TRAINED
- SUBMIT METHOD STATEMENT FOR APPROVAL PRIOR TO COMMENCING WORKS

NO OTHER KNOWN SIGNIFICANT RISKS OTHER THAN THOSE THAT A COMPETENT DRAINAGE CONTRACTOR WOULD TYPICALLY EXPECT TO ENCOUNTER FROM TIME TO TIME AND MANAGE ACCORDINGLY

BASIS OF DESIGN

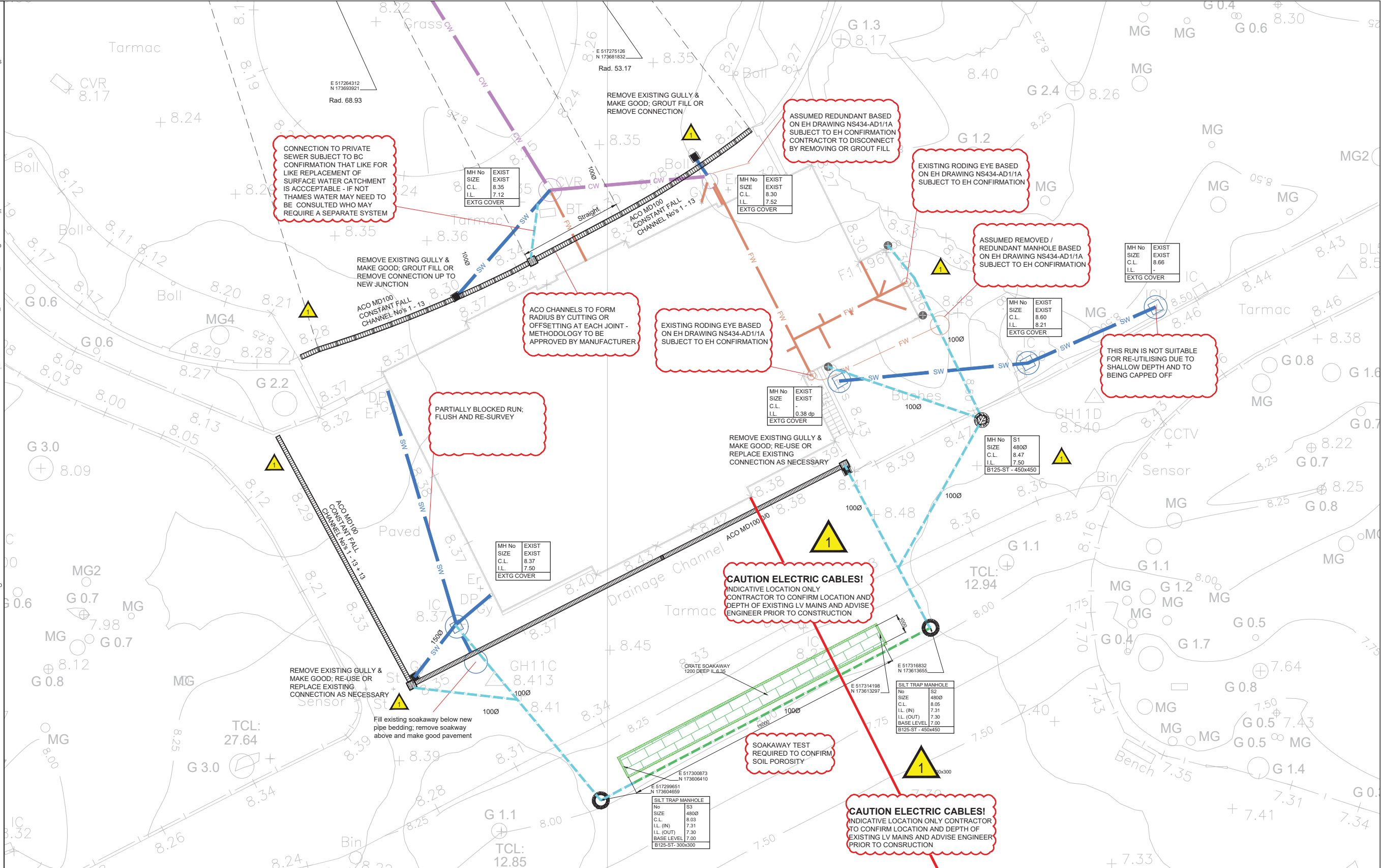
Site Plan:
JLG 581_170630_JLG_Landscape Base_clean issue

Drainage Strategy:
AC 16-132-270C

Existing Drainage:
English Heritage Drawing No.: NS 434 AD1/A

Topographical:
GHG MHH16T01-17

CCTV:
CadMap 2010 2017



KEY

Proposed uPVC private carrier drain	
Proposed filter drain	
Proposed cast iron surface water sewer	
Existing private surface water sewer	
Existing private foul sewer	
Existing private combined sewer	
Aco MD100 0.0 Treadsafe with universal gully unit	
Aco MD100 0.0 Treadsafe with sump unit at connection	
RW Gully, W.T. Knowles & Sons "Square Inspection Gully" with cast iron grate, code KRGU1/1	
Inspection chamber in Class A Engineering Brick laid in NHL lime mortar, plastic base to BS EN 1401, and solid top cast iron cover (J & JL Longbottom - Single Seal, code 922)	

NO	ISSUED FOR	DATE	BY
P06	ISSUED FOR COMMENT	JC	14/05/18
P05	ISSUED FOR COMMENT	JC	01/05/18
P04	ISSUED FOR COMMENT	JC	26/03/18
P03	ISSUED FOR COMMENT	JC	13/11/17
P02	ISSUED FOR COMMENT	JC	06/11/17
P01	ISSUED FOR COMMENT	JC	10/10/17
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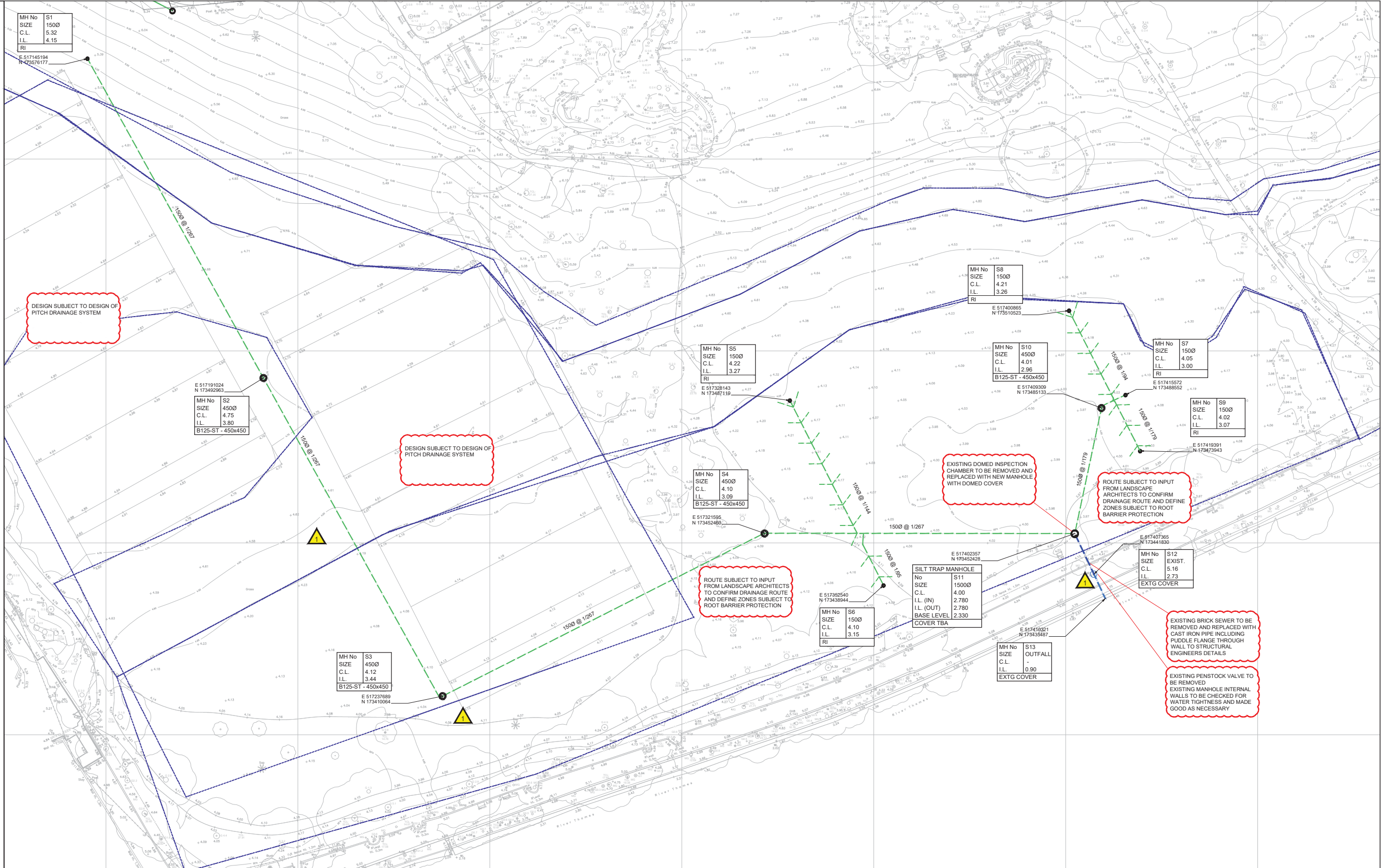
BELOW GROUND DRAINAGE
HISTORIC HOUSE
GENERAL ARRANGEMENT

SCALE: 1:100 DRAWN BY: WGO
DATE: July 2017 CHECKED BY: JC

DRG No. 17549/D/50/3-1/P06

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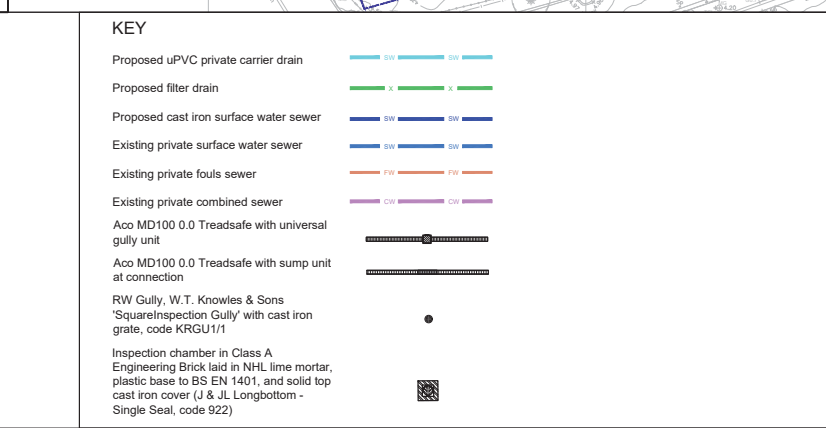
Landscape Architect:
JLG 581_170630_JLG_Landscape Base_clean issue

Pitch Drainage:
TOHA ... [TBC]

Topographical:
GHG MHH16T01-17

Reports:
CET Marble Hill House - Interpretative Geotechnical Report FINAL
FRA: FRA 40811 Marble Hill Park FRA_ISSUED
PBA 16281001 Marble Hill Park Flood Risk Assessment

CCTV:
Soakage:



NO	DESCRIPTION	DATE	BY
P03	ISSUED FOR COMMENT	JC	14/05/18
P02	ISSUED FOR COMMENT	JC	12/12/17
P01	ISSUED FOR COMMENT	JC	10/10/17
REV	AMENDMENT	CHK	DATE

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SPORTS PITCH DRAINAGE
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SCALE: 1:500
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