THIS DRAWING MAY BE USED ONLY FOR THE PURPOSE INTENDED AND ONLY WRITTEN DIMENSIONS SHALL BE USED

JNM
CIVIL ENGINEERING DESIGN CONSULTANTS

## NOTES:

1. ALL DIMENSIONS IN METRES UNLESS STATED OTHERWISE.
2. ALL PRIVATE DRAINAGE WORKS ARE TO COMPLY WITH THE REQUIREMENTS OF BS 752 BUILDING DRAINAGE AND BUILDING REGULATIONS 2010 APPROVED DOCUMENT H 2002 EDITION. ALL ADOPTABLE DRAINAGE TO COMPLY WITH THE REQUIREMENTS OF SEVERN TRENT WATER AND SEWERS FOR ADOPTION (7th EDITION), INCLUDING THE RELEVANT PROVISIONS OF THE COMBINED ADDENDUM.
3. ALL MATERIALS, UNLESS SPECIFIED OTHERWISE, SHALL COMPLY WITH THE RELEVANT BRITISH STANDARD. SOURCES OF MATERIALS ARE TO BE AGREED WITH THE EMPLOYER'S REPRESENTATIVE/ENGINEER IN ADVANCE OF THE WORKS.
4. ANY DISCREPANCIES IN THE DETAILS SHOWN TO BE REPORTED TO THE EMPLOYER'S REPRESENTATIVE/ENGINEER PRIOR TO CONSTRUCTION.
5. ALL EXISTING SERVICES TO BE LOCATED PRIOR TO THE COMMENCEMENT OF ANY DRAINAGE WORKS WHERE NECESSARY PROTECTION OR DIVERSIONS TO BE UNDERTAKEN TO AVOID CONFLICT WITH THE PROPOSED WORKS.
6. TYPICAL PIPE BEDDING TO DRAINAGE WHERE DEPTH TO SOFFIT IS GREATER THAN 600mm IN LANDSCAPED AREAS AND GREATER THAN 1200mm IN ADOPTABLE HIGHWAYS AND 900mm IN OTHER TRAFFICKED AREAS IS TO BE CLASS S (I.E. 10-14mm GRADED IMPORTED GRANULAR BED AND SURROUND FOR PIPES UP TO 525 Dia AND 20 - 40mm GRADED IMPORTED GRANULAR BED AND SURROUND FOR PIPES GREATER THAN 525 Dia)
7. BACKFILL TO DRAINAGE TRENCHES UNDER CARRIAGEWAYS TO BE TYPE 1 SUB-BASE MATERIAL, ELSEWHERE BACKFILL TO BE FREE DRAINING READILY COMPATIBLE MATERIAL, FREE FROM RUBBISH AND ORGANIC MATTER, FROZEN SOIL CLAY LUMPS AND LARGE STONES. TO BE COMPACTED IN LAYERS NOT EXCEEDING 150mm THICK.
8. A FLEXIBLE JOINT SHALL BE PROVIDED AS CLOSE AS IS FEASIBLE TO OUTSIDE FACE OF ANY STRUCTURE INTO WHICH A PIPE IS BUILT, COMPATIBLE WITH THE SATISFACTORY COMPLETION AND SUBSEQUENT MOVEMENT OF THE JOINT. THE LENGTH OF THE NEXT PIPE (ROCKER PIPE) AWAY FROM THE STRUCTURE SHALL BE AS SHOWN IN THE TABLE BELOW.

| NOMINAL DIAMETER (mm) | EFFECTIVE LENGTH (m) |
|---|---|
| 150-600 | 0.6 |

9. FINISH FLOOR LEVELS & DRAINAGE DESIGN LEVELS ARE INDICATIVE AND TO BE AMENDED FOLLOWING RECEIPT A OF FORMAL TOPOGRAPHICAL SURVEY.
10. SVP AND RWP POINTS TO BE CONFIRMED PRIOR TO CONSTRUCTION
11. FOUL OUTFALLS ARE ASSUMED AND ARE TO BE CONFIRMED PRIOR TO CONSTRUCTION
12. IF ANY INFORMATION ON SITE DIFFERS FROM THE DETAILS ON DRAWINGS JNM ENGINEERING LTD MUST BE INFORMED IMMEDIATELY

KEY:

- 450mm (DIA MH) SWS — PRIVATE SURFACE WATER SEWER. PIPE TO BE 100mm IN DIAMETER AND MANHOLE TO BE POLYTHENE 450mm IN DIAMETER UP TO 1m DEPTH AND 1200mm DIAMETER CONCRETE RINGS GRATER THAN 1m DEPTH OR WITHIN ROAD
- RODDING EYE SW
- 1500mm (DIA MH) SWS
- 1200mm (DIA MH) FWS — PRIVATE FOUL SEWER. PIPE TO BE 100mm IN DIAMETER AND MANHOLE TO BE POLYTHENE 450mm IN DIAMETER UP TO 1m DEPTH AND 1200mm DIAMETER CONCRETE RINGS GRATER THAN 1m DEPTH OR WITHIN ROAD
- 450mm (DIA MH) FWS

60 cum of attenuation with a depth of 800mm.

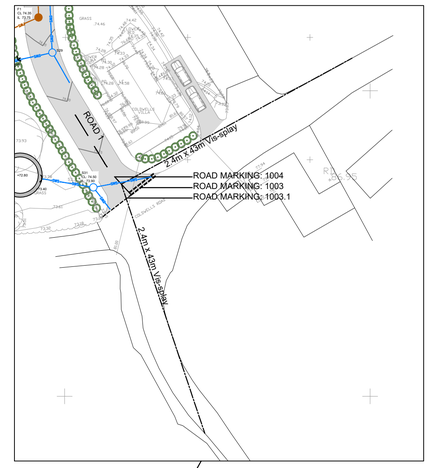
Hydro brake manhole with maximum permitted discharge rate of 5 l/s from 1m head. Up stream attenuation designed not to flood in the worst case 1 in 100 year storm event + 35% for CC. Refer to Micro drainage simulation results for climate change.

Package treatment plant. Model to be confirmed. Phosphate monitoring/removal required Power required.
Cover Level = 73.85m
Incoming Invert Level = 73.25m
Outgoing Invert Level = 73.20m

Downstream sample chamber
Incoming Invert Level = 73.15m
Outgoing Invert Level = 73.10m

Proposed new head wall to be constructed on onto existing watercourse subject to EA approval.
iil: 73.00

Proposed 22m3 infiltration basin design based on 76mm storm event.




| STORM Network 1 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Pipe Code | Diameter (mm) | Gradient (1:) | Pipe Length | Upstream Manhole Number | Invert | Cover | Downstream Manhole Number | Invert | Cover |
| 1.000 | 100 | 90 | 7.100 | S1 | 77.00 | 77.85 | S2 | 76.92 | 77.85 |
| 1.001 | 100 | 90 | 8.409 | S2 | 76.92 | 77.85 | S3 | 76.83 | 77.85 |
| 1.002 | 100 | 20 | 8.291 | S3 | 76.83 | 77.85 | S6 | 76.41 | 77.75 |
| 1.003 | 100 | 24 | 6.571 | S6 | 76.41 | 77.75 | S10 | 76.13 | 77.45 |
| 1.004 | 150 | 83 | 10.757 | S10 | 76.08 | 77.45 | S17 | 75.95 | 77.67 |
| 1.005 | 150 | 36 | 19.479 | S17 | 75.95 | 77.67 | S24 | 75.41 | 76.38 |
| 1.006 | 225 | 299 | 13.147 | S24 | 73.38 | 76.38 | S25 | 73.33 | 75.75 |
| 1.007 | 225 | 302 | 9.059 | S25 | 73.33 | 75.75 | S26 | 73.30 | 75.56 |
| 1.008 | 225 | 250 | 31.454 | S26 | 73.30 | 75.56 | S27 | 73.18 | 74.78 |
| 1.009 | 225 | 200 | 23.989 | S27 | 73.18 | 74.78 | S29 | 73.06 | 74.18 |
| 1.010 | 225 | 200 | 11.807 | S29 | 73.06 | 74.18 | S30 | 73.00 | 73.70 |
| 2.000 | 100 | 60 | 14.189 | S4 | 77.00 | 77.85 | S5 | 76.76 | 77.85 |
| 2.001 | 100 | 22 | 7.600 | S5 | 76.76 | 77.85 | S6 | 76.41 | 77.75 |
| 3.000 | 150 | 103 | 7.300 | S7 | 76.35 | 76.85 | S8 | 76.28 | 76.85 |
| 3.001 | 150 | 74 | 14.377 | S8 | 76.28 | 76.85 | S10 | 76.08 | 77.45 |
| 4.000 | 100 | 41 | 8.789 | S9 | 76.35 | 76.85 | S10 | 76.13 | 77.45 |
| 5.000 | 100 | 10 | 6.428 | S11 | 77.51 | 78.75 | S16 | 76.87 | 78.33 |
| 5.001 | 100 | 11 | 9.921 | S16 | 76.87 | 78.33 | S17 | 76.00 | 77.67 |
| 6.000 | 100 | 103 | 14.400 | S12 | 77.25 | 77.85 | S13 | 77.11 | 77.85 |
| 6.001 | 100 | 103 | 7.300 | S13 | 77.11 | 77.85 | S14 | 77.04 | 77.60 |
| 6.002 | 100 | 103 | 8.683 | S14 | 77.04 | 77.60 | S15 | 76.95 | 77.85 |
| 6.003 | 100 | 103 | 8.790 | S15 | 76.95 | 77.85 | S16 | 76.87 | 78.33 |
| 7.000 | 150 | 90 | 7.700 | S18 | 76.25 | 76.85 | S19 | 76.16 | 76.85 |
| 7.001 | 150 | 90 | 8.598 | S19 | 76.16 | 76.85 | S20 | 76.07 | 76.85 |
| 7.002 | 150 | 90 | 7.401 | S20 | 76.07 | 76.85 | S21 | 75.99 | 76.85 |
| 7.003 | 150 | 25 | 7.176 | S21 | 75.99 | 76.85 | S23 | 75.70 | 76.65 |
| 7.004 | 150 | 12 | 3.656 | S23 | 75.70 | 76.65 | S24 | 75.41 | 76.38 |
| 8.000 | 100 | 30 | 14.875 | S22 | 76.25 | 76.85 | S23 | 75.75 | 76.65 |

| Revision Details | By / Check | Date | Suffix |
|---|---|---|---|
| SITE REDESIGNED, MODELLED | RJS/JJM | 12.02.19 | C |
| OUTFALL LOCATION AMENDED | RJS/JJM | 07.01.19 | B |
| TYPO IN SITE ADDRESS FIELD REVISED | RJS/JJM | 24.10.18 | A |

Drawing Number J01849/A1/001 — Revision

# LAND ADJACENT TO COLDWELLS VILLA HOLMER, HEREFORD

Drawing Title

## PROPOSED ENGINEERING LAYOUT

| Scale at A1 1:200 | Detailed | | Approved James Mewis |
|---|---|---|---|
| Drawn RJS | Tech Chk JJM | Det Chk | Date 24.09.18 |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