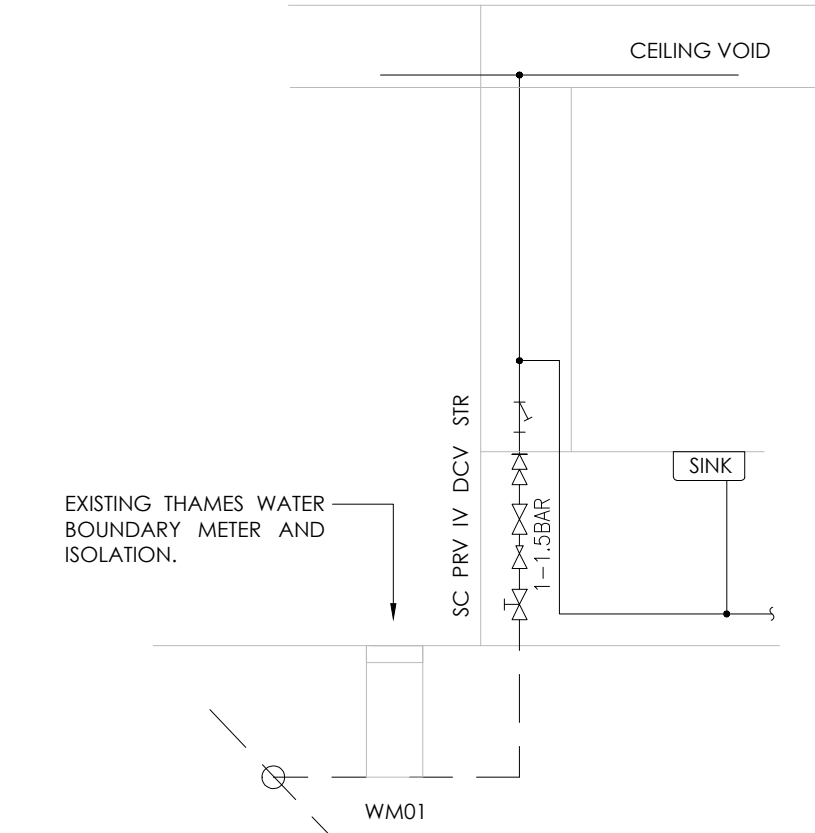


## PROPOSED HOT AND COLD WATER SERVICES LAYOUT



## HOT & COLD WATER INSTALLATION STANDARDS

### 1.1 HOT & COLD WATER SUPPLY SYSTEM

|                      |  |
|----------------------|--|
| PIPEWORK MATERIAL:   | COPPER PIPELINES:  |
| VALVES:              | ISOLATING VALVES; BALL VALVES,<br>MIXING VALVES; THERMOSTATIC MIXING VALVES,<br>DRAINING DEVICES; DRAINING TAPS. |
| THERMAL INSULATION:  | PHENOLIC FOAM INSULATION,  |
| SANITARY APPLIANCES: | SINK ASSEMBLIES,   |
| EXECUTION:           | INSTALLING HOT AND COLD WATER SYSTEMS.   |

### 1.2 INSTALLING HOT & COLD WATER SYSTEMS GENERALLY

- HYDRAULIC PRESSURE TESTING OF HOT AND COLD WATER SUPPLY SYSTEMS;
- FLUSHING HOT AND COLD WATER SYSTEMS;
- DISINFECTION OF HOT AND COLD WATER SYSTEMS,
- COMMISSIONING OF HOT AND COLD WATER SUPPLY SYSTEMS;
- INSPECTION AND TEST RECORDS;
- DOCUMENTATION:
- WATER QUALITY TESTS;
- AND MAINTENANCE.

|                        |                                   |
|------------------------|-----------------------------------|
| <u>1.4 BALL VALVES</u> |                                   |
| GENERAL REQUIREMENTS:  | FOR ISOLATION OF SERVICE          |
| MANUFACTURER:          | CONTRACTOR'S CHOICE.              |
| MATERIAL:              | BRASS COPPER ALLOY.               |
| CONNECTIONS:           | COMPRESSION.                      |
| EXECUTION:             | INSTALLATION OF VALVES GENERALLY. |

| 1.6 DRAINING TAPS     |                                   |
|-----------------------|-----------------------------------|
| GENERAL REQUIREMENTS: | DRAINING DOWN OF SYSTEM           |
| MANUFACTURER:         | CONTRACTOR'S CHOICE.              |
| STANDARD:             | TO BS 2879.                       |
| MATERIAL:             | BRONZE.                           |
| CONNECTIONS:          | THREADED.                         |
| ACCESSORIES:          | LEVER PATTERN KEY.                |
| EXECUTION:            | INSTALLATION OF VALVES GENERALLY. |

1.8 PIPEWORK JOINING METHOD

|                    |                                 |
|--------------------|---------------------------------|
| ACCESSIBLE JOINTS: | COMPRESSION                     |
| DISSIMILAR METALS: | PREVENT ELECTROLYTIC CORROSION. |

1.10 COPPER PIPELINE FITTINGS

|               |   |
|---------------|---|
| MANUFACTURER: | CONTRACTOR'S CHOICE.  |
| STANDARDS:    | CAPILLARY: TO BS EN 1254-1.<br>COMPRESSION: TO BS EN 1254-2<br>FLANGES: TO BS EN 1092-3 |

1.12 INSTALLATION OF VALVES GENERALLY

|                          |  |
|--------------------------|--|
| INSTALLATION:            | IN ACCORDANCE WITH BS 6683.  |
| POSITION:                | LOCATE VALVES SO THEY CAN BE READILY OPERATED AND MAINTAINED. LOCATE NEXT TO OUTLET WHICH IS TO BE ISOLATED. |
| ARE TO ISOLATION VALVES: | PROVIDE AT EQUIPMENT AND ON SUB-CIRCUITS.  |

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|   |   |
|---|---|
| ACCESS:   | LOCATE VALVES SO THEY CAN BE READILY OPERATED AND MAINTAINED. LOCATE NEXT TO EQUIPMENT WHICH IS TO BE ISOLATED.                                 |
| CONNECTION TO PIPEWORK:   | FIT WITH JOINTS THAT SUIT THE PIPE MATERIAL.  |
| <b><u>1.13 INSTALLING PHENOLIC FOAM INSULATION ON PIPELINES</u></b> |   |
| GENERAL REQUIREMENTS:   | INSTALL INSULATION AND PROTECTION PRODUCTS  |
| STANDARD:   | IN ACCORDANCE WITH BS 5790.   |
| JOINTS:   | CLOSE BUTT. SEAL WITH 50 MM WIDE CLASS 0 TAPE ON BOTH LONGITUDINAL AND CIRCUMFERENTIAL JOINTS. MIRE. SECURE WITH TAPE.                          |
| AT FITTINGS:  | SAFE EXPOSED INSULATION MEMBRANE. SEAL VAPOUR BARRIER AT PIPE SUPPORT WITH CLASS 0 TAPE.  |
| VAPOUR SEAL:  | INSULATE AFTER INSTALLED SYSTEM HAS BEEN FULLY TESTED AND JOINTS PROVED SOUND.  |
| TIMING:   | DO NOT ENCLOSE ADJACENT JOINTS TOGETHER.  |
| INSULATION:   | MAINTAIN BETWEEN PIPES.   |
| CLEARANCE:  | NEATLY FINISH JOINTS, CORNERS, EDGES AND OVERLAPS.  |
| FINISH:   |   |
| <b><u>1.14 INSTALLING HOT AND COLD WATER SYSTEMS GENERALLY</u></b>  |   |
| STANDARD:   | TO BS 8558 AND BS EN 806-4.   |
| PERFORMANCE:  | FREE FROM LEAKS AND THE AUDIBLE EFFECTS OF EXPANSION, VIBRATION AND WATER HAMMER.   |
| FIXING:   | FIX SECURELY, PARALLEL OR PERPENDICULAR TO THE STRUCTURE OF THE BUILDING.   |
| CORROSION RESISTANCE:   | IN LOCATIONS WHERE MOISTURE IS PRESENT OR MAY OCCUR, AVOID CONTACT BETWEEN DISSIMILAR METALS BY USE OF SUITABLE WASHERS, GASKETS, AND THE LIKE. |

| 1.16 FLUSHING HOT AND COLD WATER SYSTEMS |   |
|--|---|
| STANDARD:                                | TO BS EN 806-4.   |
| WATER ANALYSIS:                          | ANALYSE WATER SAMPLES BEFORE TREATMENT.   |
| PRELIMINARY CHECKS:                      | THOROUGHLY INSPECT PIPEWORK, COMPLETE PRESSURE TESTS BEFORE CLEANING OR CHEMICAL TREATMENT. |
| WASTE PRODUCTS:                          | NEUTRALISE, AND DISPOSE OF TO DRAIN, PREFERABLY DIRECT TO GULLEY OR DRAIN POINT.            |

### 1.18 SYSTEM COMMISSIONING

|                    |  |
|--------------------|--|
| PRE-COMMISSIONING: | IN ACCORDANCE WITH BSRIA 2/89.3 AND CIBSE COMMISSIONING CODE W.              |
| COMMISSIONING:     | IN ACCORDANCE WITH BS EN 806-4, BSRIA 2/89.3 AND CIBSE COMMISSIONING CODE W. |
| OUTLETS:<br>RATE   | CHECK OPERATION OF OUTLETS FOR SATISFACTORY<br>OF FLOW AND TEMPERATURE.      |

OPERATING AND MAINTENANCE INSTRUCTIONS:

PRODUCT INFORMATION: INCLUDE PRODUCT DESCRIPTION, DATE OF PURCHASE, PERFORMANCE CHARACTERISTICS, APPLICATION (SUITABILITY FOR USE), METHOD OF OPERATION AND CONTROL, AND CLEANING AND MAINTENANCE REQUIREMENTS.

FORMAT: PAPER COPY FOR O&M MANUAL AND PDF COPY ON CD

**1.20 RECORD DRAWINGS**

FORMAT: PAPER COPY FOR O&M MANUAL AND PDF COPY ON CD

SUBMITTAL DATE: AT HANDOVER.

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NOTES:

|      |            |                             |       |         |
|------|------------|-----------------------------|-------|---------|
| P1.1 | 28/09/2017 | CHANGES AS PER MCA REQUESTS | NGS   | JDB     |
| REV  | DATE       | DESCRIPTION                 | DRAWN | CHECKED |

PROJECT  
SHRUB END CLINIC  
ICENI WAY  
COLCHESTER

DRAWING TITLE  
PROPOSED  
HOT & COLD WATER SERVICES LAYOUT  
SHEET 01 OF 01

| DATE       | DESIGNED | DRAWN | CHECKED | SCALE(S) |
|------------|----------|-------|---------|----------|
| 08/08/2017 | LE       | SP    | JDB     | 1:50.@A1 |

**create**  
CONSULTING ENGINEERS LTD

NORWICH LONDON CHELMSFORD GLASGOW

15 PRINCES STREET,  
NORWICH,  
NORFOLK, NR3 1AF,  
TEL: 01 603 877010

| DRAWING STATUS |     |
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| FOR TENDER |      |      |       |      |      |       |          |        |        |          |
|------------|------|------|-------|------|------|-------|----------|--------|--------|----------|
| PROJ       | ORIG | ZONE | LEVEL | TYPE | ROLE | CLASS | PRESENT. | NUMBER | STATUS | REVISION |
| 1321       | CCE  | 00   | GF    | DR   | M    | 55    | P        | 0102   | D2     | P1.1     |