

St Mary's Old Secondary School Demolition Project

M&E SERVICES ISOLATION STRATEGY SCHEDULE OF WORK



Client:
Council for the Isles of Scilly
St Marys
Isles of Scilly
TR21 0JY
Tel: 01720 424025

Consultant:
SJH Design Services Ltd
Pentidna Barn
Prosper Hill
Gwithian, Hayle
TR27 5EB
Tel: 01736 757624

AUGUST 2015

CONTENTS

CONTENTS	2
1.0 INTRODUCTION	3
2.0 HEATING	4
2.1 Existing	4
2.2 Proposed	4
3.0 WATER	6
3.1 Existing	6
3.2 Proposed	6
3.3 Standards	6
3.4 IOS Water Department Supervision Costs	6
3.5 Site Temporary Water Supply	6
4.0 ELECTRICAL SUPPLY	7
4.1 Existing	7
4.2 Proposed	7
4.3 WPD Costs	7
4.4 Electricity Supplier	7
4.5 Site Temporary Electrical Supply	7
5.0 BT / TELEPHONES	8
5.1 Existing BT Supply to School	8
5.2 Existing BT Supply(s) to Adjacent Dwellings	8
5.3 Proposed BT Supply(s)	8
5.4 Site Temporary BT Service	8
6.0 DATA / FIBRE	9
6.1 Existing Data / Fibre	9
6.2 Proposed Data / Fibre	9
7.0 SUMMARY OF TENDER	10
8.0 APPENDIX A – PHOTOGRAPHS	11
8.1 Photo – Route of Underground Heating Mains	11
8.2 Photo – Mismatched Paving Slabs	11
8.3 Photo – Carn Thomas Heating Header	12
8.4 Photo – Heating Mains & Water Rising in Corner of OSS Electrical Room	12
8.5 Photo – BT Supply Rising from Ground	13
8.6 Photo – BT Supply Entering Building	13
8.7 Photo – BT Distribution Point & Telephone Switch	14
8.8 Photo – Overhead BT Line to Adjacent Houses	15
8.9 Photo – BT Supply Across Building & Overhead BT Line to Adjacent Dwelling	15
8.10 Photo – Carn Thomas TX/RX	16
8.11 Photo – OSS Block TX/RX	16
8.12 Photo – Electrical Switchgear in Old Senior School Electrical Cupboard	17
9.0 APPENDIX B – ENQUIRIES / QUOTES FROM UTILITIES PROVIDERS	18
9.1 Western Power Distribution Quote	18
10.0 APPENDIX C – DRAWINGS	19

1.0 INTRODUCTION

1.1.1 General

This part of the document must be read in conjunction with the tender drawings as scheduled within this document.

1.1.2 The Site

St Mary's old senior school is located: -

Lat 49°54'57.46"N
Long 6°18'38.07"W

The building is already largely vacated although part of the main block is presently being used as a temporary site office for Kiers whilst they carry out works on the quay. It is proposed to demolish the building and completely clear the site of all arisings.

Prior to the main demolition works commencing

Mechanical and electrical services serving the old secondary school shall be isolated prior to the main demolition works commencing. The works associated with the isolation of the M&E services include: -

- Heating
- Domestic / Mains Water Service
- BT / Telephones
- Data / Fibre Links
- Electrical Services

1.1.3 Standards

The works shall comply with all current and relevant Statutory Instruments and Regulations including, but not limited to the following: -

- Regulations under the Supply Regulations 1937
- Construction (Design and Management) Regulations 2015
- The Health & Safety at Work Act (inc. COSHH Regulations)
- IEE Wiring Regulations and relevant British Standard Codes of Practice.
- Building Regulations
- Bye laws of the Local Water Undertaking

2.0 HEATING

2.1 Existing

The old senior school (OSS) is / was served by heating plant located in the Carn Thomas (CT) boiler room on the other side of the road. Heating mains run from the CT boiler room and rise up in the OSS electrical room. The route of the heating mains is apparent from the scar in the CT yard and a mismatched paving slab outside the OSS electrical room – refer photographs 8.1 and 8.2

Refer also drawing No 190815/SK/M1 showing route of underground heating mains.

Originally the heating served the OSS and the CT building, the heating plant fell into disuse a number of years ago when the OSS students relocated to the new school. Heating within the CT building is now provided by electric heaters.

2.2 Proposed

2.2.1 *Electrical Isolation within Carn Thomas Boiler Room*

There are 4No sets of twin head pumps within the CT boiler room: -

- Boiler primary pumps – located on pipework at high level
- Fitness Centre circulation pumps – located adjacent the header
- Youth Club circulation pumps – located adjacent the header
- Secondary School circulation pumps – located adjacent the header

Isolate the electrical supplies to the pump head at the local isolators and remove the flexes from between the local isolators and the pump heads. Blank off the outlet gland on the local isolators.

There are three boilers within the CT boiler room. Isolate the electrical supplies to the boilers at the local isolators and remove the flexes from between the local isolators and the boilers. Blank off the outlet gland on the local isolators.

2.2.2 *Carn Thomas Heating System Feed & Expansion*

Feed and expansion is provided by a tank located in the OSS tank room on the roof. F&E pipework runs under the road and connects in to the CT header. Isolate the MWS feed to the F&E tank located in the tank room on the roof of the OSS, also, isolate the feed pipework adjacent the header.

Fix warning signs within the CT boiler room: -

F&E Tank in Old Senior School has been removed.

Do not attempt to operate the boilers without installation of a new packaged pressurisation unit.

2.2.3 *Carn Thomas Heating Flow & Return*

Isolate the heating flow & returns to the OSS adjacent to the Carn Thomas header – refer photograph 8.3 and drawing No 190815/SK/M3

Isolate valve No17 & valve No32 on the heating flow. Remove the Grundfos UPC 65-120 twin head pump. Fit a blanking flange (2 1/2" PN6 DN65) adjacent valve No17.

Isolate valve No23 on the heating return.

Remove the blanking plugs from the valves indicated on drawing No 190815/SK/M3, fit drain hoses, open the valves and drain the OSS heating mains.

Cut the pipework between valve No23 and the OSS heating mains. Unscrew the pipe stub from valve No23 (2 1/2"). Fit a blanking plug to valve No23.

2.2.4 Old Senior School Heating Flow & Return

The heating flow & return rise up in the corner of the OSS electrical room (refer photograph 8.4) and connects to two blue coloured expansion bellows. The F&E pipework is concealed from view behind the expansion bellows.

Disconnect the flanges from the bottom of the expansion bellows and allow the heating system to drain. Allow for a sump pump to prevent flooding of the electrical room.

Cut the F&E pipework before it drops into the pit adjacent the expansion bellows.

Refer photograph 8.2 indicating two mismatched paving slabs in the pavement outside the OSS electrical room. Excavate between the OSS electrical room and the mismatched paving slabs, cut the underground heating mains and the F&E pipework at this point. Strip out the excavated underground heating mains (and F&E pipework) back to where the pipework rises from the pit in the corner of the OSS electrical room.

3.0 WATER

3.1 Existing

The old senior school (OSS) is served by mains water which rises up in the corner of the OSS Electrical Room – refer photograph 8.4 and drawing Nos 190815/SK/M2 & M3.

A water meter belonging to the IOS Water Dept is installed adjacent the point where the supply rises from the pit. Incoming supply pipework is 54mm copper.

After the main meter, the pipework tees to provide a 1" supply to a sub meter, after the sub meter the pipework drops back into the pit and runs under the road to serve Carn Thomas. Outgoing pipework is 35mm MDPE.

3.2 Proposed

It is proposed to excavate the incoming pipework in the pavement outside the OSS electrical room (refer photograph 8.2 indicating two mismatched paving slabs in the pavement outside the OSS electrical room) and install a direct link between the incoming water main and the outgoing sub main to Carn Thomas.

Allow for carrying out the installation of the water mains diversion / direct link to Carn Thomas, works to be carried out under the supervision of the IOS Water Department (contact Mathew Thompson 07775 816279, mthompson@scilly.gov.uk).

Strip out the excavated redundant water pipework back to where the pipework rises from the pit in the corner of the OSS electrical room.

3.3 Standards

All contractors working on the water network shall have a current National Water Hygiene (blue) Card which shall be inspected prior to works commencing. Works to be carried out in accordance with mainland water bye-laws.

3.4 IOS Water Department Supervision Costs

Allow a provisional sum of £500 for IOS Water Department Supervision Costs.

3.5 Site Temporary Water Supply

Allow a provisional sum of £500 for the IOS Water Dept to provide a site temporary supply for use during the demolition works.

4.0 ELECTRICAL SUPPLY

4.1 Existing

The old senior school (OSS) is served by a three phase electrical supply. The underground incoming cable rises from below within the electrical cupboard, WPD cut-outs are installed adjacent this point along with the suppliers meter and bus bar system – refer photo 8.12

All distribution boards within the OSS (Main Block and Science Block) are served from the bus bar system via switched fuses and armoured sub mains. Locations of distribution boards are shown on drawing Nos 190815/SK/E1 & E2.

The MPAN number of the electrical supply is MPAN 22 0002 4236 439

4.2 Proposed

It is proposed to excavate the incoming electrical supply cable in the pavement outside the OSS electrical room and terminate the supply cable with a resin bonded termination kit.

Allow for employing the WPD to terminate the supply cable and remove the WPD cut outs, contact George Badcock, 01209 616714, WPD Ref 2306356 / 815040/1

Strip out all the bus bar system and all the switched fuses shown in photo 8.12

Inspect and test all distribution boards throughout the school and label them confirming that they are isolated.

4.3 WPD Costs

An enquiry for the termination of the supply cable and removal of the cut-outs was sent to WPD 21st August 2015 – reference No 2306356. Allow for payment of WPD costs and all necessary attendances – refer *9.1 Western Power Distribution Quote*

4.4 Electricity Supplier

The electricity supplier is British Gas (contact number 0800 652 4040). Once WPD have terminated / removed the supply, allow for contacting British Gas, advising them that the supply is no longer required and that their meter is available for collection.

4.5 Site Temporary Electrical Supply

Allow a provisional sum of £500 for WPD to provide a site temporary supply for use during the demolition works.

5.0 BT / TELEPHONES

5.1 Existing BT Supply to School

The incoming BT supply rises from the ground by the corner of the school – refer photo 8.5

The BT cable rises up about 3m and runs across the face of the building (refer photo 8.9) towards the old head head teachers office.

The BT cable then drops to enter the building just below the window cill of the old head teachers office – refer photo 8.6

Once inside the building the BT cables terminates into a BT distribution point (refer photo 8.7), a telephone switch is located adjacent and various outgoing voice cables are apparent.

5.2 Existing BT Supply(s) to Adjacent Dwellings

An overhead BT line runs from a pole on the other side of the road to a bracket fixed to the school (refer photo 8.8), beneath the bracket there is a distribution point where the line is split to serve the two adjacent dwellings via overhead cables (refer photo 8.9).

Standard cost to diver the BT lines to the two dwellings would be £189.72 (inc vat), payment is required up front and works would normally be completed within two weeks.

5.3 Proposed BT Supply(s)

It is proposed to strip back the incoming BT supply to the school back to an underground location away from the building.

It is proposed to divert the BT lines serving the adjacent dwellings away from the school building.

Allow a **provisional sum of £1,000** to: -

- Employ BT Openreach to dispatch a BT Surveyor to site to provide cost of diversions and removal of supply to school.
- Employ BT Openreach to carry out the diversions and removal of supply.

Allow for contacting the 'Openreach External Network Relocation Team on 0800 023 2023 (select option 3), advise that the building is being demolished and requesting that a BT Surveyor attend site to advise.

Allow for contacting BT Openreach a **minimum of six weeks** prior to the works being required.

5.4 Site Temporary BT Service

If required, allow for a site temporary BT service within contract preliminaries.

6.0 DATA / FIBRE

6.1 Existing Data / Fibre

When the building was originally occupied and used as a school broadband was provided by via the BT telephone line. Originally there were no fibre links between the Town Hall and the School.

The new Carn Gwavel school is presently connected to the Town Hall as follows: -

- There is a fibre link from the new Carn Gwavel school to the OSS Science Block.
- The OSS Science Block is connected to Carn Thomas via TX/RX units located externally on each building – refer photographs XXXX.
- There is a fibre link from Carn Thomas to the Town Hall.

6.2 Proposed Data / Fibre

The IOS IT Department propose to set up a VPN from the Town Hall to Carn Gwavel school, VPN will sit on BT lines.

Once the VPN has been set up then the existing link from Carn Gwavel school to the Town Hall will become redundant. The IOS IT Department propose to set up the VPN in October 2015.

Contact IOS IT Dept (Pete Williams, PWilliams@scilly.gov.uk) to confirm VPN link is in place prior to demolition of OSS Science Block

7.0 SUMMARY OF TENDER

	Description of Service	£
2.0	Heating
	SubTotal (Exc. VAT)

	Description of Service	£
3.0	Water
	Prov Sum for IOS Water Dept Supervision	£500
	Prov Sum for Site Temp Water Supply	£500
	SubTotal (Exc. VAT)

	Description of Service	£
4.0	Electrical
	WPD Costs	£916.66
	Add Profit on WPD Cost
	Prov Sum for Site Temp Elec. Supply	£500
	SubTotal (Exc. VAT)

	Description of Service	£
5.0	BT / Telephones
	Prov Sum for BT Openreach	£1,000
	SubTotal (Exc. VAT)

	Description of Service	£
6.0	Data / Fibre	£0
	SubTotal (Exc. VAT)	£0

TOTAL (Exc. VAT)

Name of Contractor

I/We hereby agree to carry out the above works in accordance with the M&E Services Isolation Strategy / Schedule Of Work and associated Tender Drawings.

Signed.....

Date

8.0 APPENDIX A – PHOTOGRAPHS



8.1 Photo – Route of Underground Heating Mains



8.2 Photo – Mismatched Paving Slabs



8.3 Photo – Carn Thomas Heating Header



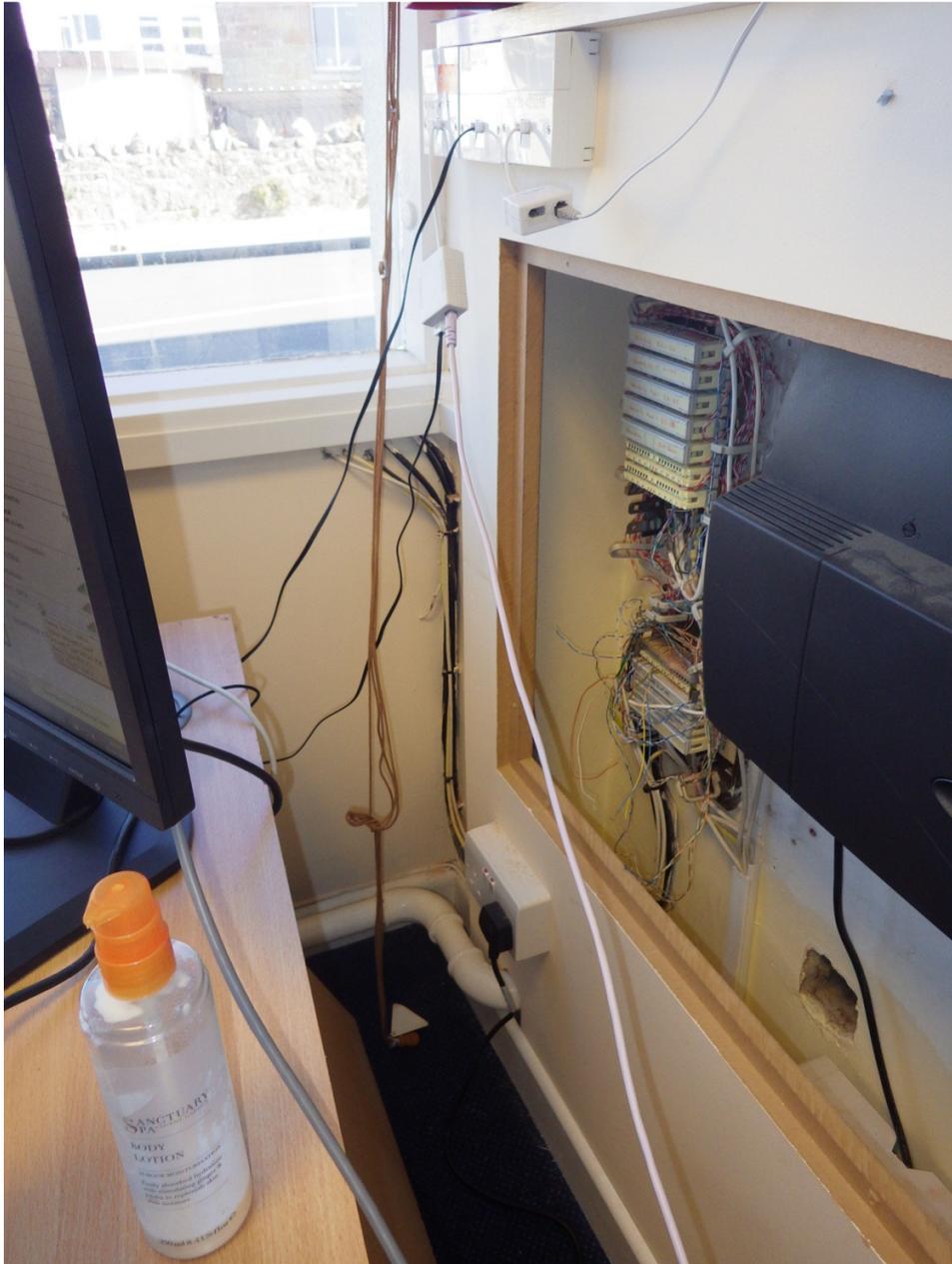
8.4 Photo – Heating Mains & Water Rising in Corner of OSS Electrical Room



8.5 Photo – BT Supply Rising from Ground



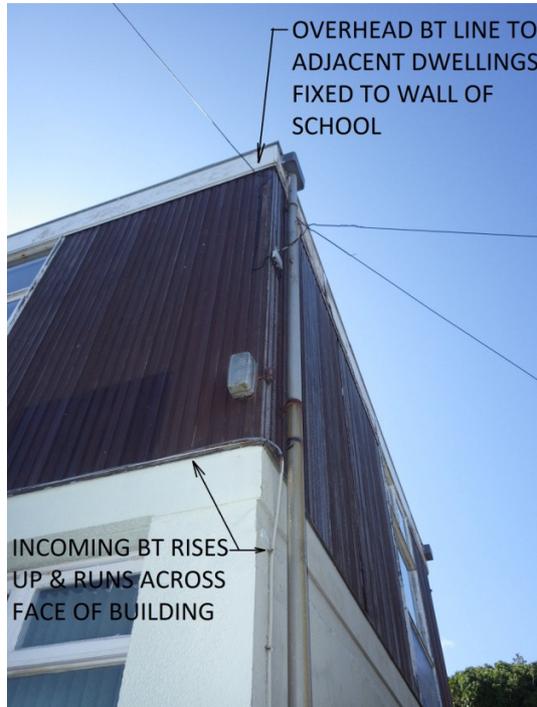
8.6 Photo – BT Supply Entering Building



8.7 Photo – BT Distribution Point & Telephone Switch



8.8 Photo – Overhead BT Line to Adjacent Houses



8.9 Photo – BT Supply Across Building & Overhead BT Line to Adjacent Dwelling



8.10 Photo – Carn Thomas TX/RX



8.11 Photo – OSS Block TX/RX



8.12 Photo – Electrical Switchgear in Old Senior School Electrical Cupboard



9.0 APPENDIX B – ENQUIRIES / QUOTES FROM UTILITIES PROVIDERS

9.1 Western Power Distribution Quote

Insert WPD quote behind this page.

10.0 APPENDIX C – DRAWINGS

Following drawings to be inserted behind this page: -

- 090815/SK/M01 – Route of Underground Heating Mains
- 090815/SK/M02 – Proposed Water Mains Diversion
- 090815/SK/M03 – Heating & Water Schematics
- 090815/SK/E01 – Grd Floor School Layout & Location of Distribution Boards
- 090815/SK/E02 – 1st Floor School Layout & Location of Distribution Boards