City of Westminster

Project Execution Plan

AD920

Morgan House, Lillington Gardens Estate
Boiler room works

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Introduction

Purpose

This Project Execution Plan (PEP) is based on WCC client brief following on from recent failures of the district heating network, its aim is to set out the scope and methodology of the works and all associated management structures and resident communications required.

Background

The Lillington Gardens Estate was constructed in 1961 over a 10-year period and the anticipated age of the original elements in the plant room and distribution network is estimated to be around 50 - 60 years old

There is a significant history of repairs being carried out on the heating systems throughout this estate and these repairs have become more frequent over the last few years. It has been identified that the existing pipework to the estate is being compromised due to the ageing components coming to the end of their serviceable life and preventative measures are urgently required to reduce the risk of further failures.

The AD920 project is the mechanical hydraulic separation of the primary heating network serving the Lillington Gardens Estate.

This separation will enable the control and reduction of the district heating operating pressure to reduce the stress on the ageing service to all dwellings served by the district network connection via Morgan House.

This new Hydraulic separation will also enable WCC to continue with their future integration work of new technologies in order to honour its commitment to the Carbon Neutral 2030/40 Challenge

Properties

- Charlwood house
- Exbury house
- Fairchild house
- Forsyth house
- Goodyer house
- Henry Wise house
- Longleat house
- Morgan house
- Parkinson house
- Priory house
- Repton house
- Stourhead house
- Thorndike house
- Wisley house

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Project specific aims

- The reduction of the operating pressure of the LTHW service to the estate
- Local isolation of services
- Additional connection points for future works
- Facilitate compliance to the Heat Network (Metering & Billing) Regulations.
- Demonstrate commitment to WCC's ambitious carbon reduction targets to be a net-zero carbon City by 2040
- Mitigate fuel poverty risks to vulnerable residents
- Reduce operational and maintenance costs and callouts for heating system faults as a result of better system control.
- Increase the lifespan of district heating infrastructure through improvements in long-term system management.
- Improve resident comfort and reduction in complaints and costs to service.
- Provide data-backed, empirical, design parameters for future, new and replacement district and communal heating systems leading to long-term energy and cost savings
- Provide greater accountability for designers, installers, and term maintenance contractors to WCC now and for the longer-term.
- Mould and temperature monitoring of resident dwellings using internal IoT sensors to review the effectiveness of energy efficiency improvements, e.g., window replacement programmes, insulation

Key Resident Issues

We will communicate extensively with Westminster and residents to fully understand all expectations and requirements in advance, and ensure we deliver against these. Frequent and detailed updates will be provided to Westminster and residents, so all eventualities are considered.

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Scope of works

Access Requirements

GEM will require access to the boiler and oil tank room located in Morgan House, and the communal areas of all blocks across the estate to access internal pipe risers.

Surveys

- GEM and WCC have carried out surveys of all associated works
- GEM will employee the services of and accredited consultant to carry all design calculations and produce all required drawings and O&Ms

Mechanical works

The below description is to be carried on completion of Asbestos remove works by others.

The proposed works to be carried out at Morgan House consists of the removal and disposal of the redundant oil tanks and associated pipework, the supply and installation of two new 2,000 Kw Plate Heat Exchangers, complete with new circulating pumps, Buffer Storage Vessel and Pressurisation unit, all located within the existing plant room.

It is proposed that each Plate Heat Exchanger is to have the individual capacity to serve 75% of the total network Heat Load demand. The Plate Heat Exchanger Primary Flow and Return will connect to the District Heating Network, with new Secondary Flow and Return interconnecting pipework complete with Circulating Pumps, Isolating Valves connected to the new Buffer Storage Vessel.

From this Vessel new distribution pipework will connect into the existing distribution networks within the Plant Room that currently serve the properties within Lillington Gardens estate.

The new plant will be controlled by the BMS with software upgrades to enable control via the Pump House network operator.

Making Good

All pipework passing through any part of the building fabric will be fire stopped and all work areas are to be deep cleaned on completion.

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Design strategy

To ensure project success and resident satisfaction it is essential that the works are planned, and any potential problems are designed out in advance.

Design process

The delivery team, along with our specialist subcontractors will identify each task required to enable the following:

- Develop a realistic design programme linked to task procurement and construction requirements.
- Understand Westminster requirements / brief and key stakeholder issues
- Promote value engineering considering all issues that will directly benefit the project, Client and residents
- Promote a team ethos along with excellent communication and knowledge sharing and design out risk to ensure all design proposals are cost effective and practical
- Sustainability: product longevity, social sustainability; social value initiatives etc.
- Design co-ordination and risk mitigation (development of the risk register)

The Contract Manager and project team will ensure cost controls and site activities are considered so that the right solution is adopted with safe systems of work. Key to design development will be to ensure the Client Team is fully engaged.

Design compliance

- Only appointing specialist subcontractors and consultations competent for their role with subcontract agreements fully aligned with Westminster Partnering contract with clear scope of services agreements are to be engaged.
- Regular Design Team meetings will be held to monitor progress against programme and Design Management Tracker e.g., planning application submission, surveys, preparing specifications for business case tendering, review of headline issues and agreement of action, review compliance with Client requirements, review risk register and consider value engineering opportunities
- Document Management system to be used to manage and co-ordinate all design information; fully auditable with version control tracking to manage business case returns
- Procurement schedule aligned to construction programme will be produced by the Contract Manager and Commercial Team to identify inputs required and programme and procurement for each subcontract package. High value and long lead-in packages will be prioritised

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Roles and responsibilities schedule for the Design Team

All Design Team members

- To identify and consider Health & Safety risks as part of design and support development of the risk register.

Principal Designer

- Ensuring Health & Safety risks are considered and mitigated in design with regular review and audit.

Specialist Contractors/Manufactures

- Site surveys and approved methods and materials required for the compliant installation

Client Team

- WCC will work with GEM and comment on all designs to provide approval

Operations Manager and Supervisor Team

- Selection and appointment of Design Team competent for their roles to develop a specifications and bill of quantities for scope of works packages, supported by specialist manufacturer in line with WCC requirements.

GEM Co-ordinator

Co-ordination of all design; development of design register, establishing milestone dates for provision of information and managing progress against programme; informing Operations and Contract Manager for reporting.

Design monitoring

To ensure design compliance and the highest level of quality for Westminster and residents, we will continually monitor quality and meet your standards in the following ways:

- GEM Quality Management System
- Design meetings during mobilisation, where we will:
- Align Client expectations, design predictions and operational performance
- Assign all design tasks
- Agree all elements that require sign off
- Identify immediate key deliverables such as preparing surveys / investigation
- Agree reporting formats and meeting frequencies
- Confirming warranty / guarantee agreements and minimum insurance levels required.
- Review compliance with Westminster requirements

We will ensure only competent / appropriately qualified operatives are allocated to complete each work element.

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Continuous monitoring

For consistently high quality and focused management, we will implement an approach to quality management and validation to ensure.

- Check quality of workmanship and materials
- Ensure process and specification adherence and use of best practice working methods
- Monitor individual performance and identify training needs
- Rapidly resolve any emergent issues
- Make sure work is progressing to programme
- Ensure remedial works takes place pre-handover

Final inspection of each completed work element will be conducted jointly with WCC to ensure all quality standards have been met.

Enabling Works

The project enabling works that are required are as follows:

- Design stage calculations and working drawings
- Procurement of long lead time items in line with the POW
- Production of CCP
- Resident communications and consultation as required

Survey strategy

- GEMs H&S department will survey the site to produce CPP and any other site wide measure that are required
- Mechanical designer will liaise with district heat network team to assist with the design and ensure all control and material specifications are adhered to.
- On completion, the design is to be submitted to WCC for approval and comment

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Resident communication plan

A focused approach to Resident involvement, management and communications will be essential to maintaining a customer-lead delivery.

Resident Liaison and management

To ensure excellent resident services for WCC and residents, we will allocate a Resident Liaison Officer to the Project

Overall Resident Liaison will be managed by Concetta Marziale who will be supported by the management team to ensure all communications are delivered accurate and in a timely manner.

The RLO key duties will include:

- Ensuring high levels of resident satisfaction where achievable at every stage
- Maintaining and implementing comprehensive bespoke resident communications processes
- Attending any resident on site queries, building trust and rapport
- Distributing all resident communications.
- Responding to residents and other stakeholders' queries face to face, phone and emails within the agreed timescales
- Investigating and resolving all complaints and compensation requests within agreed timescales
- Recording all complaints and issues which may affect the reputation of Westminster City Council. Ensure that these are submitted to Westminster within 24 hours
- Keeping Westminster up to date by sharing resident information data throughout the project and attending client meetings
- Maintaining a log of all resident communications and visits
- Notifying Westminster of any issues promptly

The appointed RLO will act as the main point of contact for all residents. The RLO will be available full time between 08:00 and 17:00 Monday to Friday and will be available via mobile phone and email, ensuring a fully accessible and responsive resident support service. Contact details will be provided to residents within all resident communications.

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Site set up proposal

It is proposed that Gem will use the existing boiler room office and WC areas for the site office and welfare facilities.

Appropriate signage will be in place to:

- Direct any deliveries from the main road to the drop off area located outside the boiler room.
- Notify residents of the GEM site Manager, Project RLO and emergency contact details

Program

Please refer to the POW which is provided as a separate document

Risk register & Method Statement

This is to be issued on receipt of order and will form part of the CCP

Cost plan

Please refer to the cost plan which is provided as a separate document