

Planning and Building Control
Croydon Council
Bernard Walk
Croydon
CRO 1EA

Date: 16th February 2024

Dear Sir / Madam

Croydon Borough Custody Centre, 90 Windmill Road, West Croydon, Surrey CRO 2XP – Planning Application for Net Zero Works

Knight Frank Planning has been instructed by the Metropolitan Police Service (MPS) (hereinafter 'the Applicant') to submit the enclosed planning application in respect to Croydon Borough Custody Centre, 90 Windmill Road, West Croydon, Surrey CRO 2XP (hereinafter 'the Site'). The applicant is seeking planning permission in relation to a proposal for the installation of Air Source Heat Pumps and the erection of associated elevated platform and plant enclosure.

In accordance with the pre-application responses received in relation to these proposals, please find enclosed the following documents to support out pre-application advice request:

- ◆ Planning application forms and notices
- ◆ Design & Access Statement
- ◆ Acoustic Assessment
- ◆ Fire Exception Statement
- ◆ Drawing 0001 P1 Site Location Plan
- ◆ Drawing 0101 P1 Existing Site Plan
- ◆ Drawing 1001 P3 Proposed Site Plan
- ◆ Drawing 1201 P1 Proposed Platform Plans
- ◆ Drawing 3008 P1 Proposed Plant Platform Elevations
- ◆ Drawing 3006 P1 Existing Site Elevations
- ◆ Drawing 3007 P4 Proposed Site Elevations
- ◆ Drawing 1010 P1 Swept Path Analysis

We trust the information accompanying this submission is sufficient to validate this planning application.

The Site

Croydon Borough Custody Centre is situated in Croydon, south London, wholly within the London Borough of Croydon ('LBC'). The Site is located halfway between West Croydon and Selhurst, on Windmill Road. The area has a mix of residential and commercial uses.

The Site itself comprises a two storey police building, which is modern in appearance. To the side there is a car park, enclosed with high security walls / fencing. To the front of the site there is an area with grass and trees, which screens views to the car park.

The Site and area do not have any Locally or Nationally Listed Buildings and there are not any Conservation Areas. There are therefore no heritage constraints.

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Figure 1: Site Location and Context

Planning History

From a review of LBC’s available online planning records, the planning history for the site is as follows:

- ◆ Alterations; Erection of single storey storage building and cycle store roof canopy R/O MPS Croydon Custody Centre; Ref. No: 13/02895/P | Received: Tue 03 Sep 2013 | Validated: Thu 05 Sep 2013 | Status: Decided.
- ◆ Part-discharge of condition 9 attached to planning permission 10/02929/P for the Demolition of existing buildings; erection of two storey building to provide a policing facility; access via existing main crossover to Windmill Road and Secondary/emergency access crossover to Willis Road; Ref. No: 11/03558/RES; Received: Wed 14 Dec 2011; Validated: Wed 21 Dec 2011; Status: Decided.
- ◆ Discharge of conditions 1,3(a), 3(b), 3(c), & 3(d) attached to planning permission 10/02929/P for the demolition of existing buildings; erection of two storey building to provide a policing facility; access via existing main crossover to Windmill Road and Secondary/emergency access crossover to Willis Road; Ref. No: 10/04073/RES; Received: Thu 23 Dec 2010; Validated: Fri 24 Dec 2010; Status: Decided.
- ◆ Demolition of existing buildings; erection of two storey building to provide a policing facility; access via existing main crossover to Windmill Road and Secondary/emergency access crossover to Willis Road; Ref. No: 10/02929/P; Received: Wed 08 Sep 2010; Validated: Wed 08 Sep 2010; Status: Decided

Pre-Application Advice

MPS attended two pre-application meetings and secured pre-application advice letters from the Council on 18th December 2023 and 9th February 2024 (references 23/03781/PRE and 24/00156/PRE). The feedback sought a green wall screening the areas of the proposed heat pump enclosure that do not need to be kept free for airflow. This suggestion has been incorporated into the proposals, which led to a supportive pre-application response.

Met Zero Programme

The Mayor of London has set a target for London to be Net Zero Carbon (NZC) by 2030, this target means that all MET buildings must be operationally Net-Zero by this point. In order to meet the Mayor’s 2030 target, it is pressing that the MET makes significant progress in delivering its Net Zero estate strategy ‘Met Zero’.

In 2018 the GLA Environment Strategy reported that the MPS emits 80% of all GLA family members’ carbon (noting that TFL exclude trains and buses from this calculation). Within this, 60% of MPS’s carbon emissions come from its property portfolio and 40% from its vehicle fleet.

In order to meet the Mayor's NZC target, the MPS needs to accelerate and deliver its programme of carbon related lifecycle works (such as building fabric improvements and boiler and window replacements) within the next seven years. As part of the Met Zero programme to meet the Mayor's target, the MPS has identified sites where (a) lifecycle works are due, and (b) there are opportunities for additional interventions that will enable NZC (such as gas boilers being replaced with heat pumps).

Funding and Timescales

The MPS does not have specific funding to deliver its decarbonisation programme in line with the Mayor's target, however, there are central Government grant opportunities to 'top-up' the additional costs over and above like for like replacement works. The ability of the MPS to access grant funding opportunities, such as Public Sector Decarbonisation Scheme (PSDS), is critical to support the transition to Net Zero Carbon.

Grant funding is currently available through the Public Sector Decarbonisation Scheme which provides grants for public sector bodies to fund heat decarbonisation and energy efficiency measures through the replacement of current energy system components with Net Zero Carbon (NZC) versions (such as moving from gas boilers to heat pumps). The current scheme (Phase 3b) will allocate up to £635m of funding to public sector organisations to be spent in the financial years 2023/24 and 2024/25.

At least one Met Zero decarbonisation project has recently lost funding due to the fact that planning delays resulted in the scheme not being sufficiently progressed in line with the funding milestone deadlines. As a result, that project is no longer deliverable, and the MET is keen to ensure this does not happen again given its implications on the Met Zero programme.

The programmes provide funding to enable the delivery of capital energy efficiency and heat decarbonisation projects within public sector non-domestic buildings, including central government departments and non-departmental public bodies in England. This scheme will help reduce fossil fuels as well as making public buildings more comfortable and efficient to warm which is important given most public sector buildings still rely on burning fossil fuels for heating, hot water and catering.

The proposed decarbonisation scheme for Croydon Borough Custody Centre will be funded through phase 3b of the Public Sector Decarbonisation Scheme, as such in order to secure this funding planning permission must be secured for the proposed works quickly to ensure the scheme can be delivered before the end of the funding deadline.

Decarbonisation Strategy for Croydon Borough Custody Centre

The existing dual fuel boilers and heating infrastructure of Croydon Custody Centre have reached the end of their economic life and are now due replacement.

Options have been explored for replacing this plant with new, with proposals including like-for-like replacement of the existing dual fuel boiler plant and associated equipment and also proposals for decarbonising the heating system by replacing the existing dual fuel heating plant with electric heat pumps.

Thermal modelling software and a review of gas meter records covering the past five years have been used to establish the anticipated heating demand of the building, which has demonstrated that the existing heating plant capacity of 564 kW could be reduced to 385 kW. By using a green energy tariff for electricity with an effective carbon factor of zero due to the use of renewable energy sources, the carbon emissions associated with the heat pump heating system become zero, therefore decarbonising Croydon Custody Centre's heating system, saving approximately 106 tonnes of carbon dioxide per annum based on current carbon emissions.

A study has also been carried out into options for upgrading the existing thermal envelope of Croydon Custody Centre, which has concluded that the most viable option is to install triple glazing to all windows of the building. Thermal modelling has indicated that this measure could reduce the required heating plant capacity for the building by almost 2% and yield 3% savings in heating energy. Given this modest saving and a payback of over 1,300 years, it has been deemed that fabric improvements are not the most cost effective option to be pursued.

Decarbonisation Options

Decarbonisation Options When considering heating decarbonisation solutions for Croydon Custody Centre, at the outset, several options were reviewed:

1. Electric heat pumps
2. Direct electric heaters
3. Variable refrigerant flow (VRF / VRV) direct expansion systems
4. Biofuel boilers / CHP

5. Connection to District Energy Network

Of the above, the electric heat pump option was deemed the most favourable and so passed to further technical analysis. The other options did not progress to further review for the following reasons.

Direct electric heaters

- ◆ Effective coefficient of performance (COP) of 1 as 1 kW of electric energy becomes 1 kW of heat energy. This is significantly less than other heat pump options which have COPs of at least 2, even under the least favourable conditions. This low COP would result in higher running costs and larger electrical infrastructure requirements.
- ◆ Significant additional refit works required to replace existing radiators, trench heaters and heating coils throughout the whole building.
- ◆ Covered electric heaters can lead to heightened fire hazards.
- ◆ Significant electrical works to provide supplies to units throughout the building.

VRF systems

- ◆ Due to the heating capacity required for the building, an extensive number of separate systems would be required due to limitations in the maximum capacity of VRF systems, especially when considering that it is desirable to operate on the refrigerant R32 to have less sensitivity to potential F-Gas phase down of the typical R410A.
- ◆ Whilst this VRF system itself offers reasonable COPs and the ability to both heat and cool the building, recovering heat in the case of a 3-pipe / 4-pipe system, significant works would be required to fit units throughout the building.
- ◆ VRF indoor units are not suitable for every space in the building requiring heating, such as WC's, showers, stores and the custody suite. When factoring in that these areas may be heated by electric panel heaters with a COP of 1, the SCOP for the overall system could be reduced to below 2.
- ◆ Refrigerant pipe length and height change limitations add complications to finding suitable external plant locations for outdoor units.
- ◆ Significant electrical works to provide supplies to units throughout the building.
- ◆ Future replacement of units may require significant works throughout the building.

Biofuel boilers / biofuel combined heat and power

- ◆ These systems tend to have elevated nitrous oxide (NOx) emissions which exceed NOx emission guidance set out in the London Environment Strategy, London Plan Air Quality Positive and the London Borough of Croydon Air Quality Plan for the Air Quality Management Area (AQMA). Biofuel boilers have higher NOx emissions than equivalent ultra-low and low NOx gas boilers.
- ◆ The efficiency of boiler plant tends to be lower than equivalent gasfired boilers. This can be offset in part by using biofuel combined heat & power for suitable applications.
- ◆ Additional on site fuel storage would be required to store sufficient supplies of biofuel, which would be subject to various environmental and technical requirements.
- ◆ Fuel would need to be delivered to the site by delivery vehicles.

Connection to District Energy Network

- ◆ No District Energy Networks (DEN) are currently available in the vicinity of Croydon Custody Centre.
- ◆ Given the above noted obstacles for alternative decarbonisation options, heat pumps have been recommended as the preferred decarbonisation method. Below are several advantages of this approach.
- ◆ Aligns well with ongoing plans to decarbonise the electricity grid. No carbon generation at the point of use.
- ◆ A reasonably good efficiency / coefficient of performance (COP) can be achieved.
- ◆ Ability to connect to existing chilled water system as a heat source, helping to improve the effective COP and recycle heat which would otherwise be rejected to atmosphere back into the building.
- ◆ Existing heat distribution system and heat emitters can be retained and reused.
- ◆ Centralised plant in a dedicated plant area permits maintenance of the system without requiring access into office areas.
- ◆ Centralised plant limits the extent of works areas and associated mechanical and electrical infrastructure.
- ◆ Fed with mains electricity, so no transport fuel deliveries required to site.
- ◆ Running cost is comparable and perhaps slightly less than equivalent gas-fired plant. This is subject to variances in electricity and gas unit costs and efficiency levels achieved by plant.
- ◆ Can use non-HFC refrigerants and therefore not subject to future F-Gas phasedown.

Reasons for selecting Air Source Heat Pumps

In consideration of the above issues with the alternative decarbonisation options, heat pumps have been recommended as the preferred decarbonisation method. Below are several advantages of this approach.

- Heat pumps align well with ongoing plans to decarbonise the electricity grid. No carbon generation at the point of use.
- A reasonably good efficiency / coefficient of performance (COP) can be achieved.
- Ability to connect to existing chilled water system as a heat source, helping to improve the effective COP and recycle heat which would otherwise be rejected to atmosphere back into the building.
- Existing heat distribution system and heat emitters can be retained and reused.
- Centralised plant in a dedicated plant area permits maintenance of the system without requiring access into office areas.
- Centralised plant limits the extent of works areas and associated mechanical and electrical infrastructure.
- Fed with mains electricity, so no transport fuel deliveries required to site.
- Running cost is comparable and perhaps slightly less than equivalent gas-fired plant. This is subject to variances in electricity and gas unit costs and efficiency levels achieved by plant.
- Can use non-HFC refrigerants and therefore not subject to future F-Gas phasedown.

Given the options analysis and reasoning above, it is clear that Air Source heat Pumps are the preferred solution for Croydon Borough Custody Base and would deliver wide ranging carbon reduction benefits.

The Proposed Development

In consideration of the above, the proposals involve the installation of Air Source Heat Pumps and the erection of associated elevated platform and plant enclosure.

In order to minimise the noise and visual impact of the heat pumps, the proposed plant will be housed on an elevated platform enclosed with acoustic screening which will both reduce noise impact and mean the heat pumps cannot be seen from the ground or first floors of surrounding buildings.

The decision to elevate the heat pumps on a steel frame was taken to ensure no loss of car parking on the site. The proposed structural grid of the proposed platform will provide sufficient clearance to allow cars to park under the proposed elevated heat pump enclosure.



Figure 2: Visualisation of the proposed heat pumps and associated platform

Noise

We recognise that the Site is located within a residential area with sensitive noise receptors, as such the scheme has been designed to ensure that there will be no unacceptable noise impact on neighbouring residents. A Noise Impact Assessment is submitted as part of the planning application.

Visual Impact & Heritage

The proposed plant will be sympathetically screened by a green wall and also by existing trees along Windmill Road. As such the proposed plant will have a limited visual impact on the surrounding area.

The site is also not subject to any heritage constraints.

Swept Path Analysis

As requested in the second pre-application response letter, a vehicle tracking plan has been prepared showing how vehicles can pass unobstructed into and out of the parking spaces under the proposed plant platform.

Planning Policy Context

The Development Plan

Section 38(6) of the Planning and Compulsory Purchase Act (2004) states that applications for development are to be determined in accordance with the Development Plan unless material considerations indicate otherwise.

For the purposes of the proposed development the Development Plan comprises:

- ◆ London Plan (2021); and
- ◆ Croydon Local Plan (2018)

The following are also relevant material considerations:

- ◆ National Planning Policy Framework (2021);
- ◆ Croydon Regulation 19 Draft Local Plan (2022)

The NPPF (2021) provides the overarching planning guidance to which all development plans must conform. It is therefore a material consideration of significant weight.

The London Plan is the overarching strategic plan for London, and sets out an integrated economic, environmental, transport and social framework for the development of London over the next 20-25 years.

Planning Policy

Paragraph 152 of the NPPF sets out that the planning system should support the transition to a low carbon future in a changing climate and support renewable and low carbon energy and associated infrastructure.

The London Plan sets out that developments are required to contribute towards London's ambitious target to become zero-carbon by increasing energy efficiency, including through the use of smart technologies, and utilising low carbon energy sources.

Adopted London Plan Proposals Map identifies the site as being within an Integrated Industrial Location.

Strategic Policy 8 relates to Environment and Climate Change. It notes that '*climate change is a global issue with impacts that are felt most acutely at the local level in terms of more extreme weather, including hotter summers and periods of heavy rainfall... there is a council target of a 34% reduction in carbon emissions in Croydon by 2025... percent of heat and power used in London must be generated through the use of localised decentralised energy systems by 2025*'.

Policy SP6 also relates to Environment and Climate Change. The policy states that 'in order to reduce greenhouse gas emissions and deliver development that is acceptable in a changing climate, the council will apply a presumption in favour of development provided applications meet the requirements of policy SP6 and other applicable policies of development plan'. Much of Policy SP6 relates to more specific requirements for major developments (the proposed development would be minor), but the policy does signify the Council's support for renewable energy projects of the kind proposed.

In conclusion, relevant planning policies at all levels strongly support delivering net-zero infrastructure such as Air Source Heat Pumps.

Conclusion

In conclusion, the proposal to install Air Source Heat Pumps and an associated raised platform will deliver significant environmental benefits and is key to enabling the MPS to meet the Mayor of London's Net Zero target. As noted in this letter, the proposal will save approximately 106 tonnes of carbon dioxide per annum based on the Sites current carbon emissions.

The proposed development will have no adverse visual impact and the scheme has been designed to ensure there will be no noise impact on the surrounding area.

The proposals have been subject to pre-application advice, which was supportive.

Because the funding for the project is time limited, MPS is keen to secure planning permission at the earliest possible opportunity. Otherwise there is a real possibility that funding could be lost for the proposals.

Yours faithfully,



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