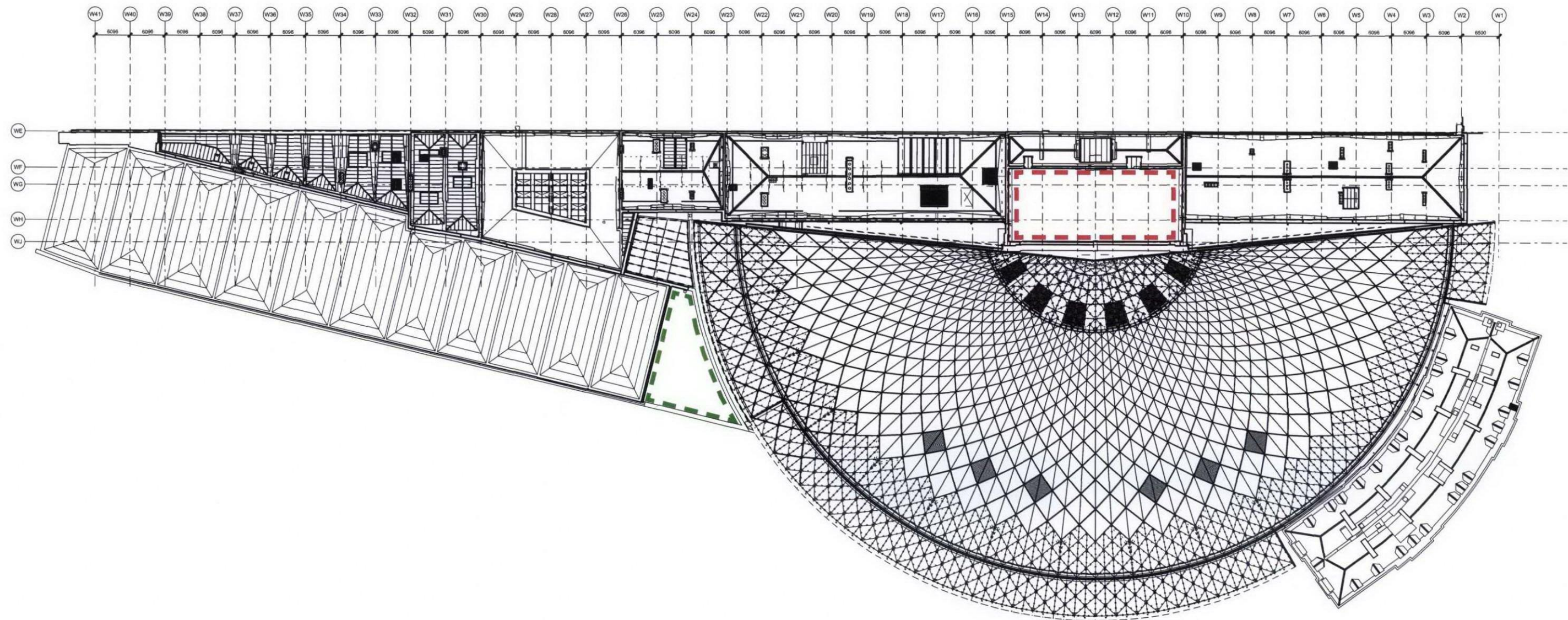


3 Description and Justification of Relevant Works

3.1 Work areas covered in the submission

The features for which partial discharge of LB 08 are sought are:

1. Roof top plant to the Central Block ---
2. Plant on the Plant Deck above the STS ---



3.2 Information Requirements and Evidence

This application has been drawn up with reference to PPS 5 and mindful of the key tests set out therein. Firstly, however we have sought guidance from the LPA on the level of information provided. As policy HE 6.1 states, the LPA must require and should expect suitable and proportionate information. HE 6.1 reads as follows (in part):

HE6.1 Local planning authorities should require an applicant to provide a description of the significance of the heritage assets affected and the contribution of their setting to that significance. The level of detail should be proportionate to the importance of the heritage asset and no more than is sufficient to understand the potential impact of the proposal on the significance of the heritage asset.

The Kings Cross Conservation Plan (JMP 2004) records the significance of the historic station and defines policies for the protection and enhancement of significance.

Concerning the 'Setting and relationship to wider King's Cross Area' the conservation plan states:

With a different character on all four sides, King's Cross Station is prominent in the urban landscape and provides a counterpoint skyline to St Pancras Station. The most significant views are close to, particularly from Euston and Pancras Roads and York Way, but there are also dramatic views of both stations from Goods Way by night.

There are no policies which describe the setting of the station or visual impacts of the proposed development. The following particular policies are relevant, however:

17.3 New roof level extensions (access points, lift over-runs etc) should be located where they are least visible from the street. They should reflect the scale, materials and colour....

17.4 All roof-top additions, including telecommunications equipment, should be controlled and located in less sensitive areas....

We have therefore consulted the Kings Cross Conservation area statement (LBoC June 2004). The following statements are germane to this application, however it should be noted that the Statement was issued before the Kings Cross development project was planned.

4.2.36 The two stations, both grade I listed, form a part of our architectural and historical heritage and are of national importance; they form a national set piece. They are the most dominant elements of this area in terms of scale and use. With their wide train shed roof spans, they are also

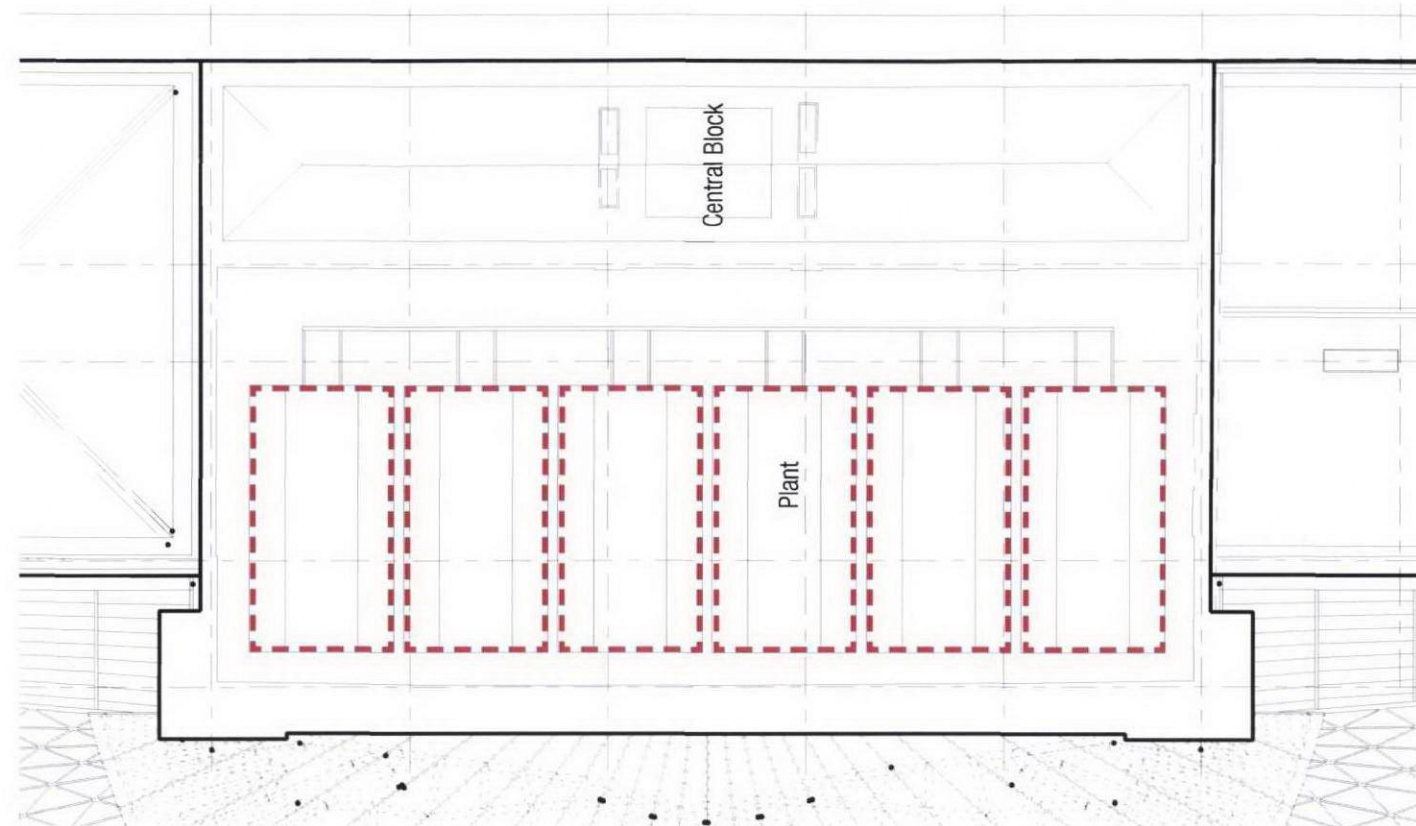
examples of technological virtuosity. Together with the Great Northern Hotel, this group reflects the power of the Railway age and is of notable historic value. It is the most important group of railway buildings in Britain. The extension of St Pancras train shed using new technology is in keeping with the tradition of that of the railway stations.

4.2.55 The Great Northern Hotel, King's Cross station and the Chambers are prominent in views from just southeast of the canopy. The main elevation of the station is prominent in views from local streets including Gray's Inn Road, Euston Road, Pentonville Road, Birkenhead Street and Crestfield Street.

4.2.61 From a point close to the eastern corner of the German Gymnasium looking south, a wide panorama of the space between the stations has been opened up. This is due to the demolition of various buildings under the CTRL Act, including the Red Star parcels building formerly between King's Cross station and the hotel. This panorama across the former London Underground construction site includes the suburban train shed and King's Cross Station western range to the left, the Great Northern Hotel with the eastern tower of St Pancras Chambers appearing above it and the eastern frontage of the Barlow train shed and roof, which will be re-glazed. The curved elevation of the hotel in perspective adds to the attractiveness of this view. The view therefore contains a group of buildings of significant heritage importance. Whilst the main frontage to King's Cross Station and St Pancras Chambers primarily relate to Euston Road, and are therefore described later, the western range of King's Cross Station and the Barlow train shed primarily address the space between the stations to the south of the German Gymnasium.

Summary & Commentary

4.2.94 This part of the King's Cross Conservation Area has experienced significant change. This has resulted in the loss of elements of heritage merit, fragmentation of the urban grain and radical change to the character and appearance of the area. The changes resulting from the CTRL and London Underground works have resulted in the widening of the settings of most of the principal buildings, mostly those to the south of, and including, the German Gymnasium. Change has also resulted in some buildings and structures standing alone, comparatively isolated from their former context. For example, Stanley Buildings sit somewhat uncomfortably in the context of the new St Pancras Station extension and the remaining gasholder and Culross Buildings are currently somewhat isolated. Nevertheless, these buildings continue to contribute positively to the character and appearance of the Conservation Area, although as a result of the CTRL construction works, they currently do lack a meaningful and coherent visual context.



3.3 Compare and Contrast

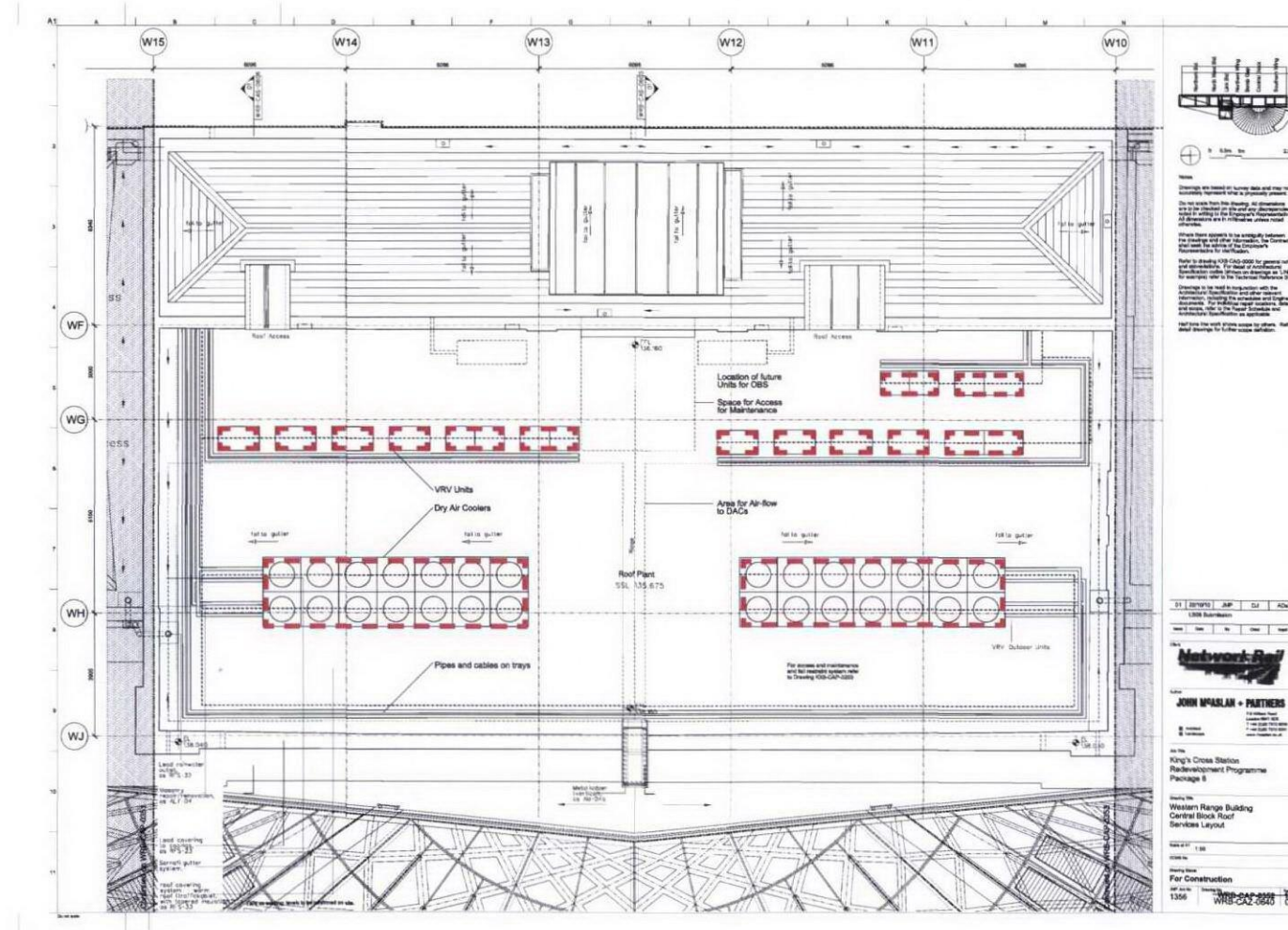
The drawings following show the consented scheme proposals and the proposals now submitted.

As will be noted:

1. The quantity of plant in both locations is reduced.
2. Volume of plant is also less extensive.
3. And the plant on the Central Block roof is set further back from the edges of the roof.

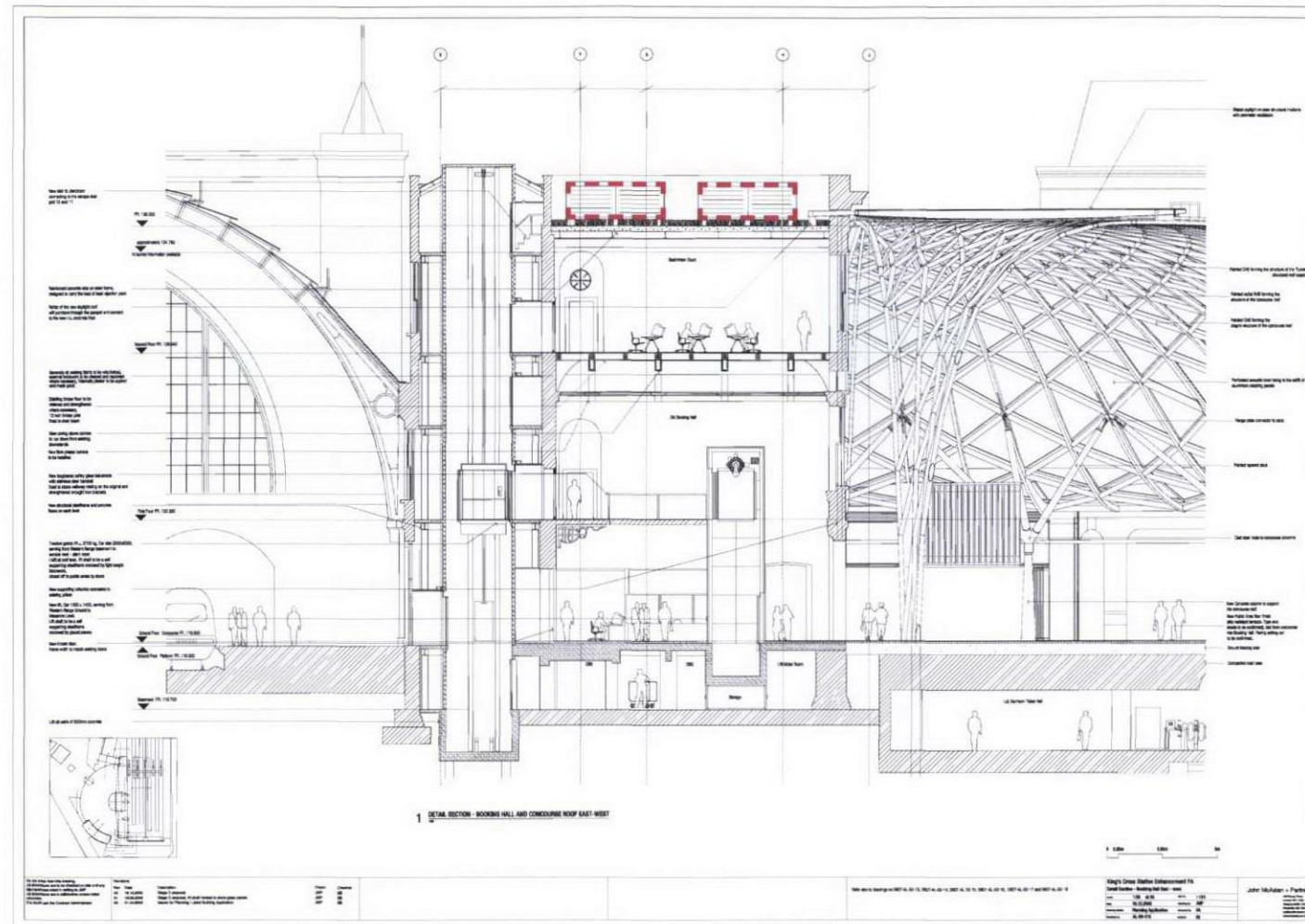
Roof Plan Central Block - Consented Scheme:

- high quantity of plant
- high volume of plant
- position of plant close to parapet
- free space for airflow around plant units not sufficient

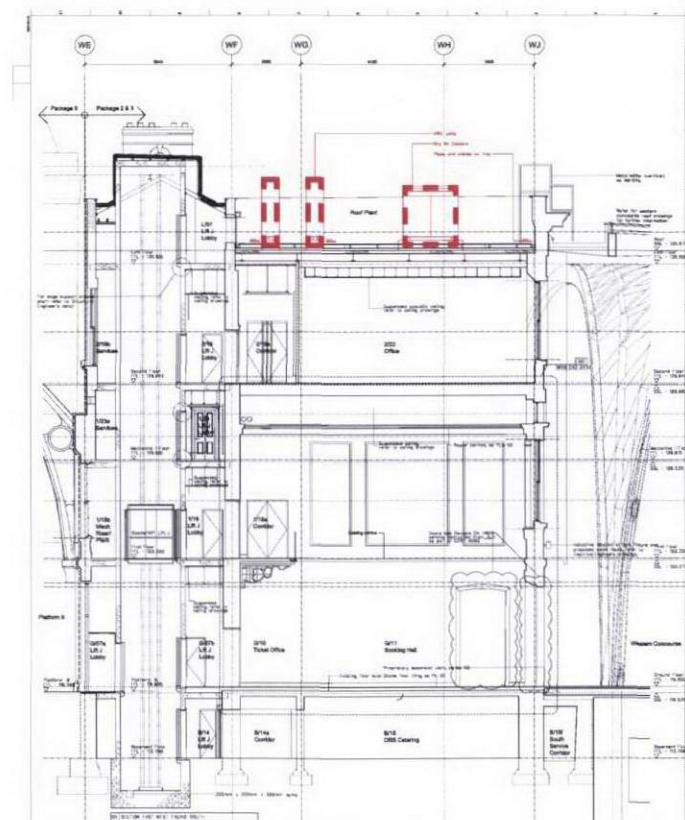


Roof Plan Central Block - Proposed Scheme:

- large Dry Air Coolers (DAC) and smaller Variable Refrigerant Volume (VRV) units
- quantity of plant reduced
- volume of plant reduced
- position of plant set back from parapet
- free space for airflow around plant units as required for operation

**Section Central Block - Consented Scheme:**

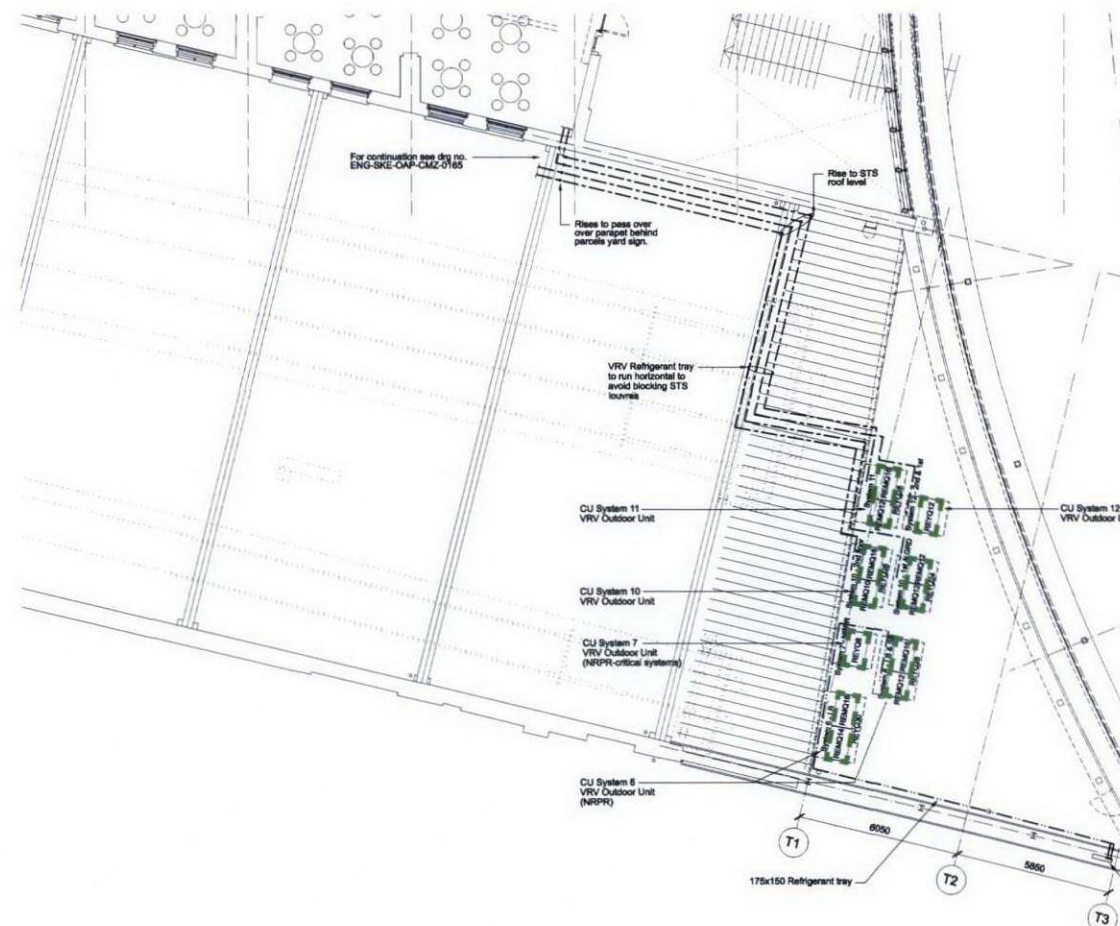
- high quantity of plant
- high volume of plant
- position of plant close to parapet
- free space for airflow around plant units not sufficient
- height of plant below level of parapet

**Section Central Block - Proposed Scheme:**

- larger DAC units and taller VRV units
- quantity of plant reduced
- volume of plant reduced
- position of plant set back from parapet
- free space for airflow around plant units as required
- height of plant slightly above level of parapet

**Roof Plan Suburban Train Shed - Consented Scheme:**

- large plant area
- large quantity of plant
- large volume of plant
- consent given without screening

**Roof Plan Suburban Train Shed - Proposed Scheme:**

- VRV units
- plant area reduced by one bay (less demolition of historic fabric)
- quantity of plant reduced
- volume of plant reduced
- no screening proposed

3.4 Evaluation Tests

PPS 5 defines a weighting test in policy HE 9.4 as follows:

Where a proposal has a harmful impact on the significance of a designated heritage asset which is less than substantial harm, in all cases local planning authorities should:

- (i) weigh the public benefit of the proposal (for example, that it helps to secure the optimum viable use of the heritage asset in the interests of its long-term conservation) against the harm; and
- (ii) recognise that the greater the harm to the significance of the heritage asset the greater the justification will be needed for any loss.

This document is therefore structured firstly to demonstrate the need for and benefits from the interventions proposed.

3.5 Purpose of Proposed Plant

The plant is required for the comfort cooling for the Western Range Building. In sizing plant and service runs, an allowance has been made (based on comparable benchmarking for the types of space) for areas which are to be fitted out by others, and which do not form part of this submission.

3.6 Noise

An Acoustic Study has been carried out on the noise from the plant in relation to the surroundings.

The maximum noise levels required by Planning Condition 30 have been calculated as 49dB during the day and 47dB at night.

In order to achieve these levels, acoustic cowls are required to the VRV units on the Central Block roof.

The remainder of the equipment is either inherently quieter, or situated in a location where it is shielded by the form of the building.

The 900mm height of the acoustic cowls considerably increases the height of the VRV units. From being lower than the DAC units, and level with the existing parapet, the additional height makes them higher, and therefore the highest units on this roof.

3.7 Visual Impact

We have evaluated the impacts in two principal ways:

Quantitative:

Visual impacts clearly must be evaluated in relation to the viewer. The number of viewers is clearly germane to this analysis. We have therefore considered the impacts of these proposals in two distinct ways. Firstly in relation to the impacts from public spaces - these are mostly at ground level and raised public terraces at St Pancras station. We have separately appraised the impacts on other raised, private spaces, such as offices in the surrounding buildings as, clearly, fewer people are likely to be affected.

Qualitative:

A further consideration must be the nature of a visual impact and how it is perceived. Again, these are subjective matters, however we have distinguished between the visual impact of views looking up, with the sky as a background, and views looking down or with objects behind. Furthermore there are distinctions to be drawn in relation to the specific context of a view point - what is around; what is the viewing angle; how does light fall etc?

The structure of this document and our objective in making this submission is to attempt to address both Quantitative and Qualitative issues as lucidly as possible, given the subjectivity involved.

Sightlines are three-dimensional; assessment of visual impact is subjective. The analysis of impacts within this report has been based on a careful appraisal of technical drawn information and demonstrable trials on site. The methodology of these trials is further described below.

It is important to recognise that while the plant in the consented scheme, being lower than the retained parapet, would not be visible from ground level, from above it would be no less visible than the proposed equipment.

3.8 Methodology (Central Block roof plant)

Considerable care has been taken to collect evidence and to faithfully depict the issues. The analytical drawings within this report are diagrammatic and are a synthesis of the evidence. Each drawing analyses a particular issue. Our conclusions are drawn from the diagrams.

Information gathering has been undertaken as follows:

1. Section Analysis based on the detailed CAD models.

The dotted lines on the plans indicate the 'visibility terrain'. These lines have been derived and interpolated from the sections sight-lines. We show the plan terrain for the two elements of the roof top plant - the (lower) DAC's and the slightly taller VRV units which include the acoustic cowls. We then show the 'cut off' lines for intervening structures. The resulting zones where there is potential visibility are hatched on the ground level plans. Please note that we have not attempted to re-draw sections obliquely. Eye level has been taken as 1.5m (ie for a person 1.6m or 5'4" tall)

2. Section analysis of views from adjoining sites and buildings:

Similarly we have used sections from survey information to plot where there are windows on adjoining buildings which have a sightline – showing the levels at which visibility may be an issue and the location in plan on the façade where there is a view. Again, note that we have not attempted to re-draw sections obliquely, but the assumptions on the diagrams can be re-produced and checked by others if required.

3. Views and photographs from ground level.

The overall form and volume of the new buildings around the station are now clear and actual sightlines can be established. In some instances, we have been able to access adjoining buildings and take photographs.

4. Sightline ranging:

Since the new roof slab to the Central Block has now been constructed, we have also been able to use ranging poles to establish exactly what can be seen from particular vantage points. The process involved three people; one on the central block roof; the others in the public places around Kings Cross. Using poles and binoculars we fixed the height above roof level that can be seen from key vantage points. The results of this exercise are recorded below.

A 4-metre staff was used at three locations on the Central Block roof, marked with 250mm bands from top down to 2m - red and yellow down to 3m, blue and yellow to 2m, then red to 1m, then blue to the base. Photographs were taken from strategic points around the site perimeter, to record the height visible above the parapet level. The camera used was a Nikon D50 with 80-300mm lens (used at near-maximum zoom). Heights in the table below represent the length of the staff hidden behind the parapet of the Central Block. All figures are measured in metres above Structural Slab level.

	Staff 1 - NW corner of Plant (DAC)	Staff 2 - SW corner of Plant (DAC)	Staff 3 - SW corner of Plant (VRV)
Photo A - new side entrance to St Pancras (South of rounded corner, at Ground level)	2.90	2.95	3.70
Photo B - inside entrance to St Pancras (in original building, at Ground Level)	(not visible)	(3.30 - but WCC roof will obscure)	(not visible)
Photo C - south side of Euston Road, entrance to LB Camden Offices, at Ground level	(not visible)	3.15	(not visible - cut-off by Southern Wing)
Photo D - inside new St Pancras, at Mezzanine level (against glass)	2.70	2.65	3.20
Photo E - face of St Pancras where cut off by South corner of German Gym, at Ground level	2.85	2.85	3.55
Photo F - East corner of German Gym (adjacent to circular "turret"), at Ground level	3.35	3.30	(not visible)



Photo A



Photo B



Photo F



Photo C

3.9 Setting and Analysis of Viewpoints of Central Block roof plant

There is no question that the setting of the station is of high significance. Both the CMP and the Conservation Area Statement (CAS) recognise that the area as a whole is subject to significant change. Both documents identify views from the Euston Road as significant. The statement in the CAS that the significant buildings "currently do lack a meaningful and coherent visual context" is of interest given the new context that is being formed with buildings and the new public realm all round the stations, especially with the development of the new Western Concourse, which effectively creates a new and highly coherent context.

We also note the statements concerning skyline and CMP policy 17.3 to minimise the visual impact of rooftop additions.

Diagram 1: Analysis of Central Block roof level plant visibility from Ground level (WRB-CAZ-2053)

There is a small area of visibility on the corner of Argyle Street and the Euston Road. A very tight, oblique end-on view of the VRV units is possible, seen against the skyline at a distance of 180m or more. There is also a slither of visibility in the width of the Euston Road, but we discount this as this is really not a safe place to stand to admire the view. The area of pavement in question is well populated. There is a considerable quantity of street furniture in the vicinity, in relation to the cycle route and newsagents stands and the ramps into Camden's offices. Whilst many people cross the road at this location, most are focussed on their immediate context and safely crossing one or other of the roads. Qualitatively, the impact is insignificant and would require the keenest eyesight to pick out the edge view of the plant within the overall roofscape. Just behind this line of sight is the central chimney. The Southern buildings have many chimneys which are more prominent in the foreground. The element of plant which is just visible above the parapet will appear little more significant than a chimney stack.

Consideration of mitigation:

Three alternatives:

- Omit the 900mm high acoustic cowls from the VRV units.
- Plant screening: from this vantage point, any plant screening would significantly increase the visibility of 'something on the roof'.
- It might be preferable for the plant to be painted brickyellow (like the existing chimney stacks).

Diagram 2: Analysis of Central Block roof level plant visibility on St Pancras Terrace (WRB-CAZ-2057)

As indicated there is a modest area where the parapet of the central block roof is visible from the Eastern end of the raised terrace of St Pancras frontage, divided by the steps up to the terrace. The issues are almost identical to diagram one, with one exception. In this view it is possible to see in the far distance the chimney stack of the Northern wing (located at grid line 19/20). The VRV units would look almost identical to this stack – a further argument to paint the plant a similar colour.

Assessment of impact:

The terrace is used as out-door seating/smoking area for the Bar. There are external tables and parasols. Pedestrian traffic is limited; the number of people who come to this location is not more than 15-20 at any one time – subject to weather.

Equally in this context the object which has the greatest impact is the 'egg' - London Underground vent – and to a limited extent the new concourse roof. As the VRV units are over 130 meters from this location and extend only 0.9 metres above the parapet, they subtend only a small angle and are not significant in the overall view.

Consideration of mitigation:

Consideration could be given to raising the inside edge of the Central Block parapet by 200mm.

Alternatively, paint the plant to blend into the large existing chimney stack (at grid lines 19/20) in the far distance.

Diagram 3: Analysis of Central Block roof level plant visibility from Mezzanine Inside St Pancras Station (WRB-CAZ-2054)

The mezzanine is approximately 4.5 metres above Ground Level. However, this is not sufficient to gain a view of the plant over the parapet of the Central Block.

On that basis, the visibility from this location is not an issue.

However, any screening introduced to screen the plant from above would be visible from this location.

Diagram 4: Analysis of Central Block roof level plant visibility from the German Gymnasium (WRB-CAZ-2061)

The plant is screened from the First Floor of this building by the parapet of the Central Block.

As before, visibility of the plant from this location is not an issue. But again, any screening introduced to the top of the plant would be visible from here.

Diagram 5: Analysis of Central Block roof level plant visibility from the upper floors of Euston Road (south side) Offices (WRB-CAZ-2061)

St Pancras (the former Midland Grand Hotel) and the Kings Cross Main Train Shed cut off views from Euston Road apart from a short length (around 110 metres, a minimum of 163 metres away), including part of the London Borough of Camden Offices.

We have been able to access the Library at the corner of the Fifth floor to take a photograph, showing the view from approximately the centre of this length. This is included as Photograph 1 in Appendix C. This photograph has been enlarged to show the detail.

From this viewpoint the prominence of the stacked chimneys is quite obvious. The breadth of the chimneys to the Southern Wing and the further Northern Wing far outweighs the small projection of the VRV units above the parapet. As discussed for diagram 2 painting the VRV units the same colour as the chimneys would make them almost unidentifiable from this distance.

Diagram 6: Analysis of Central Block roof level plant visibility from the upper levels of the Great Northern Hotel (WRB-CAZ-2059)

This is the nearest building from which the plant is visible, being 52 metres away at the nearest point. It is not known whether any vertical extension of this building will be permitted; we have therefore considered only the existing envelope. The parapet of the north-east elevation is approximately the same level as that of the Central Block. Therefore the mansard windows on the top floor will look down on the Central Block roof, while views upwards from the Fourth Floor will see the top of the units above the parapet against the backdrop of the Central Block.

We have not had access to take photographs from this building.

The plant will clearly be visible from the upper floors as noted. However, it is a small part of the overall prospect, which ranges from the Southern end of the Main Train Shed on the right to the King's Cross Central development on the left. It is also no more visible than the plant on the Consented Scheme.

Diagram 7: Analysis of Central Block roof level plant visibility from St Pancras Chambers (WRB-CAZ-2055)

No access has been obtained to this construction site. The building has no current active use but is in the process of conversion to apartments. The main bulk of the building is screened from the plant by the Great Northern Hotel, with only the eastern rooms on the First Floor and above able to see past the Hotel (and above the LUL 'egg' on the Kings Cross forecourt), with the nearest plant 134 metres away. However, the upper levels of the eastern and the top floor of the western towers do not benefit from this screening, and will therefore be able to look down on the plant from distances of 142 and 268 metres respectively. The VRV units are at the limit of visibility in the panorama of the view. It is also evident that from the higher levels, the proposed plant is less apparent than the Consented Scheme.

Diagram 8: Analysis of Central Block roof level plant visibility from East Range offices, St Pancras Station (WRB-CAZ-2060)

This building is two storeys along its full length, significantly lower than the Central Block. We have not had access but we understand that occupancy of these spaces is low. Most of the length of the building is too close to view the plant above the curve of the Western Concourse roof, with only a length of 24 metres (122 metres away) at the northern end having a view. The units will be seen against the backdrop of the Central Block.

Diagram 9: Analysis of Central Block roof level plant visibility from King's Cross Central (WRB-CAZ-2056)

Since the proposed Argent development has not yet commenced construction, there can only be a hypothetical consideration of actual visual impacts. The only information available to us is the developer's model, which we have photographed to plot the approximate locations and heights of the buildings. From the analysis, it is clear that the upper floors of the easternmost building have the major view, with this building screening views from all but the southern ends of the other buildings. Views from the lower floors of the western buildings (along Pancras Road) are shielded either by nearer Argent buildings, or by the German Gymnasium. The nearest point from which the plant is visible is 88 metres away.

The impact of the plant on this development is minimal, considering the bulk of the proposed buildings. The development will not be complete until considerably after the King's Cross Station Redevelopment has been completed. The proposed plant will be visible from the upper floors of the new buildings, but less apparent than the plant in the Consented Scheme.

3.10 Visibility of STS Plant Deck

The plant deck is bounded by the southern end of the Suburban Train Shed, the flank wall, and the wall of the new Western Concourse. The proposed plant is contained below the surrounding walls and is therefore not visible from Ground level, including from within the new Western Concourse.

It will be visible from the upper floors of the nearest adjacent buildings (King's Cross Central), but, as has been noted above, the proposed plant is smaller than the generator which was originally consented, therefore the impact will be less.

4 Conclusions

4.1 Evidence provided

We suggest that the information within this submission satisfies the requirements of HE 6.1 and furthermore provides appropriate and proportionate documentation and evidence in relation to visual impacts.

4.2 Review of suggested proposals for mitigation (Central Block roof plant)

Omit the 900mm high acoustic cowls from the VRV units:

This proposal would improve visibility from Ground as the VRV units would be not higher than the existing parapet level, as on the original consent.

As demonstrated in the visibility study, visibility from above is the main concern and omitting the cowls would not reduce the visibility from above. We therefore suggest that the acoustic benefit of the cowls outweighs their omission.

Omission of acoustic treatment would in any case require relaxation of the Planning Condition.

Plant Screening:

Any plant screening would still need to maintain the free air circulation to the DAC units. Specifically, the required free area is such that no enclosure should be closer than 3 metres in any direction, to allow the units to achieve their rated performance.

Any possible plant screening would therefore be at least 5.5m above the plant deck and 3.3m above the existing parapet. Consequently the visibility from ground level would increase dramatically. The number of people at ground level which would be impacted by this proposal would be far greater than the number able to look down on the plant from above, who would in any case see the plant in the consented scheme. Therefore this is not a realistic option.

Plant to be painted brickyellow:

This is suggested in relation to the viewpoints and angles from which the plant can be seen. The visibility study shows clearly that most of the views of the plant from ground level will be against the sky in the context of the existing chimneys. Painting the units yellow to match the brickwork will make them similar in appearance to the existing chimney stacks and reduce the visual impact. This can be assessed on site once the plant has been installed.

Raising the inside edge of the Central Block parapet by 200mm:

This proposal would reduce visibility from Ground level. However, since visibility from above is greater than from ground level, and considering the impact this proposal would have on the heritage value of the existing building, the minimal mitigation of this proposal can not be justified.

4.3 Conclusion

As demonstrated before, the plant units and pipework on the Central Block roof have been arranged in a considered and organised way, which minimises the additional visual impact compared to the consented scheme.

With respect to the roof plant on the STS, there has been a significant reduction in plant area (which resulted in less demolition of historic fabric) and a reduction in quantity and volume of the plant. The proposed scheme is therefore a significant improvement to the consented scheme.

Having reviewed all the concerns and issues in detail we believe that the proposal minimises the impact on the character of the listed building, and updates the building to meet modern requirements. It should therefore be permitted.