

APP 01

Application Number: 12/00628/FUL

Other

Erection of electricity sub-station and associated access from H7 Chaffron Way

AT Land To The East of, Chaffron Way V1 To V2, Milton Keynes

FOR Western Power Distribution

Target: 11th May 2012

Ward: Emerson Valley

Parish: Shenley Brook End & Tattenhoe PC

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1.0 INTRODUCTION

(A brief explanation of what the application is about)

1.1 Update

The application was deferred from the 14th March Development Control Committee following concerns neighbours had not been notified of the meeting.

1.2 The Site

The application site is a grassed area on the side of the H7 (Chaffron Way), which is a main grid road. Banking topped with vegetation and trees exists to the northern, eastern and southern boundaries of the site and forms part of the overall structural landscaping adjacent to the grid road. Residential properties exist beyond this banking. A drop kerb and grasscrete access already exists from the grid road into the site. Details of the location of the site and its relationship to surrounding properties can be seen in the plans attached to this report.

1.3 The Proposal

The current application seeks consent to erect a new 33/11kV primary sub-station on the site. The sub-station would be enclosed within brickwalls with a maximum height of approximately 4.5 metre. The substation would accommodate two transformers and associated switch rooms. The transformers would be housed in acoustic enclosures. The site would be accessed from the grid road using the existing grasscrete access. The trees

around the site would be retained and protected during construction. Details of the proposal as described above can be seen in the plans appended to this report.

2.0 RELEVANT POLICIES

(The most important policy considerations relating to this application)

2.1 National Policy

National Planning Policy Framework paragraph:

7. Sustainable Development

14. Presumption in Favour of Sustainable Development

17. Core Planning Principles

19, 22. Economic Growth

46. Health safeguards relating to communications equipment

Chapter 7 . Design

109 : Natural Environment – Noise and Biodiversity

118. Biodiversity

120: Suitability of Land

123: Noise

2.2 Local Policy

Core Strategy

CS13 Ensuring High Quality, Well Designed Places

CS20 The Historic and Natural Environment

Adopted Milton Keynes Local Plan 2001-2011

D1 Impact of Development Proposals on Locality

D2 Design of Buildings

D2A Urban Design Aspects of New Development

NE2 Protected Species

T10 Traffic

3.0 MAIN ISSUES

(The issues which have the greatest bearing on the decision)

- 3.1 1. Impact on the amenity of the neighbouring properties in terms of visual intrusion and noise. With regard to visual impact, the proposed development will be separated from the existing properties by banking and trees. Whilst some views will be available from the neighbouring properties these would be largely filtered through by the existing banking and associated trees and vegetation which is considered to mitigate any significant visual impact. The proposed development has been accompanied by a noise survey which demonstrates the proposals will not unacceptably impact on the amenity of the neighbouring properties in terms of noise.
- 3.2 2. Health issues. The Government sets guidelines for electric and magnetic fields (EMF) on the advice of the Health Protection Agency (HPA). International guidelines set by the International Commission on Non-Ionizing Radiation Protection (ICNIRP) have been adopted in the UK to avoid exposures to electromagnetic fields (EMF) that could have health or biological

effects. These are based on the best available scientific evidence on health effects from EMF. The applicant has confirmed that the proposed equipment would comply with the International Commission on Non-Ionizing Radiation Protection (ICNIRP) Guidelines in regard to EMF. On this basis it is not considered that refusal of the planning application could be substantiated on impact to health. It is not the role of the Planning system to control what levels of EMF are acceptable to public health and it would be for other agencies such as the Health Protection Agency to enforce this. However it should be noted that whilst the generally accepted scientific evidence may not indicate the proposal would create a health risk, the perception of health risk is a material consideration.

4.0 RECOMMENDATION

(The decision that officers recommend to the Committee)

- 4.1 It is recommended that planning permission be granted subject to the conditions set out at the end of this report.

5.0 CONSIDERATIONS

(An explanation of the main issues that have lead to the officer Recommendation)

- 5.1 Impact on character and appearance of the area and neighbouring properties
The proposed development would have a functional appearance and be based on other similar substations that are adjacent to main grid roads in Milton Keynes. From the main grid road the proposal would be clearly visible however it would be set back from the road and screened by the banking and vegetation from a number of viewpoints and so it is not considered it would appear overly prominent.
- 5.2 The applicant has provided a number of sections through the site to show the relationship of the proposed substation with the neighbouring residential properties. At the closest point the boundary of the proposed substation would be approximately 13 metres from the closest residential property (including garden). The orientation of the residential properties is varied as shown on the location plan with some properties having their side elevations facing the site and others backing onto the site.
- 5.3 The proposed development would be separated from the residential properties by an area of planted banking which is located on the north, east and west side of the proposed substation. The banking separating the proposed substation from the properties varies in height from approximately 1.2 to 1.6 metres and has a mix of planting on it which generally varies in height between 3 and 6 metres. It is proposed that the banking and trees will be retained. The banking and planting will largely screen the proposed development from the residential properties and surrounding streets within the residential area. Some filtered views will be available of the proposed development particularly in winter months when there are no leaves on the trees however this would be limited. The proposals are considered to be a sufficient distance from the properties, taking into account their orientation, not to appear overbearing in terms of their outlook.

5.4 Overall taking into account the presence of the banking and vegetation around the proposed substation site and the orientation and distance to the neighbouring dwellings it is not considered that the proposal would significantly impact on the neighbouring properties in terms of visual prominence or outlook to justify refusal of the application.

5.4 Noise

During the course of the application a number of concerns have been raised relating to the potential for noise disturbance to the neighbouring properties from the equipment in the substation. The applicants have submitted a noise assessment which has been reviewed by the Councils Environmental Health Officer. The noise survey notes that the proposed substation is located in a very quiet area of Milton Keynes at night time. The walls around the substation would act as an acoustic barrier and the transformers would also be housed within separate acoustic enclosures. The noise survey concludes that the noise from the transformers (potential hum) will be at least 10dB below the quietest octave background noise at the nearest residential property. It is therefore considered that transformer 'hum' will not be audible at the nearest residential property.

5.5 Whilst the transformer noise will not be audible from the closest residential properties there are also cooling fans associated with the transformers that will generate noise when in use. The noise survey concludes that during the daytime the noise level from the operation of the fans will be 9 decibels lower than the typical background noise levels. However at night, given the quiet background noise levels, the proposed fans will be 6 decibels higher than the typical background noise external to the nearest properties.

5.6 The applicant has stated that following the initial commissioning of the substation the use of the cooling fans will be very infrequent and only operate either during a network failure or routine maintenance. It is not possible to predict the frequency of failures on the network but the applicant is duty bound to ensure there is appropriate resilience in the network and power is restored within a prescribed period. To ensure this two transformers are installed at each primary substation on the basis that if one fails the other can pick up customer demand. The cooling fans are fitted to each transformer to extend its output but will only operate when the load on that individual unit exceeds its natural cooling limit. The applicant has advised that it is not envisaged that the substation will exceed its natural cooling limited for at least 5 years and then the cooling fans would only operate under emergency situations when there is a network failure. In regard to the routine maintenance the applicant has advised that this occurs once every six years during summer months and would be a limited number of hours during the daytime. Therefore the use of the cooling fans would be rare.

5.7 Whilst the above issues will mean that the cooling fans are only used infrequently the applicants' noise consultant has considered the potential for noise disturbance arising from the use of the cooling fans at night. The British Standard 'BS8233: 1999: Sound Insulation and Noise Reduction for Buildings' advises that the expected sound reduction through an open window

is likely to be 10-15 dB. It is predicted therefore that noise due to a single cooling fan will be between 22-27 dBA inside the nearest dwelling and this level of noise is below the criteria detailed in WHO guidelines and BS8233 for "good" internal sleeping conditions within bedrooms. The ambient noise levels inside the bedrooms of the nearest noise sensitive properties has not been measured and so it is not possible to comment directly on whether fan noise would be audible, but it is expected that the noise from a cooling fan would be at a similar level to typical ambient conditions when bedroom windows are open. In the unlikely event that the fans were both to operate at the same time, then a relatively small increase of 3 dB(A) in noise level is predicted at the nearest sensitive properties. Fan Noise from both the cooling fans would therefore be no higher than 40 dB(A) outside the nearest dwelling and between 25 and 30dBA inside the dwelling. Again this would be within the BS82333 for "good" internal sleeping conditions.

5.8 Following examination of the details the Environmental Health Officer has raised no objection to the proposal in regard to the noise and impact on the neighbouring properties. For the reasons outlined above the proposed development is considered to be acceptable in regard to noise and is not considered to significantly impact on the neighbouring properties in terms of noise.

5.9 Health and perception of health risk

A number of public representations in regard to the application have raised concerns relating to health risk and electromagnetic fields (EMF) associated with placing a substation adjacent to residential properties. There is no specific Government guidance on substations and the planning system. However in relation to exposure to EMF and the effect on human health, the Health Protection Agency has advised that the government has adopted the International Commission on Non-Ionizing Radiation Protection (ICNIRP) guidelines to avoid public exposure to fields that could have health and biological effects. These are based on the best available scientific evidence on health effects from electromagnetic fields. In a government response in 2009 to a Stakeholder Advisory Group (SAGE) assessment on EMF for high voltage power lines it is further stated that in the absence of any further guideline it is the Governments view that the ICNIRP guidelines remain relevant. The applicant has confirmed that all equipment will be compliant with the ICNIRP guidelines and it is therefore considered the application could not be refused on this basis. It should be noted that it is not the role of the planning system to control level of exposure to EMF and the government has adopted the ICNIRP guidelines as advised by the Health Protection Agency. It is also of note that there are other examples of properties in proximity to substations in Milton Keynes such as at Wavendon Gate.

5.10 Whilst the actual health risks associated with the development are not considered to be unacceptable given the available advice, the perception of health risk is capable of being a material consideration in determining the application. As can be seen by the neighbouring properties objections there is evidence to suggest that residents would perceive there would be health risks associated with the proximity of the proposed development to their

dwellings. A number of properties would have windows facing onto the development site and whilst many of the views would be screened and filtered by the banking and tree belt, there would be some views available through the trees particularly in the winter when they have shed their leaves from habitable rooms in dwellings. Where this is the case, for residents who have concerns regarding health risk, this would remind occupiers of the presence of the substation and the associated health risk they perceived and create anxiety to occupiers. This would affect the residential amenity of the occupiers of these properties and needs to be considered in the planning balance. However given the screened nature of the site in this case, this is not considered to be so significant to justify refusal.

5.11 Alternatives and Need

A number of representation in relation to the application have stated that whilst they recognise there may be a requirement for additional substations in Milton Keynes it should be sited away from residential properties in areas such as Snelshall industrial area or the Tattenhoe Park where it would not be next to existing residential properties. It should be noted that the Council has a duty to determine the application placed before them and determine whether it is acceptable in the context of local and national planning policy. The fact that alternative locations may be regarded as more suitable is not a reason to refuse the application. The application site has no allocation in the Local Plan but is located within the development boundaries of Milton Keynes. Therefore the relevant planning policy to determine the application in accordance which are outlined in Section 2 of this report.

5.12 In relation to the need the applicant, Western Power, has stated that there is an urgent and immediate need for an additional 33/11KV substation in Tattenhoe area to provide suitable electrical load for the surrounding area. Tattenhoe is located to the south west corner of Milton Keynes and at present the area is supplied via two. 33/11KV substations located at Shenley Wood and Primary Road. These substations are approximately 4km from the proposed primary substation in opposite directions. The central location of the application site between these two existing substations is a key principle so that it is able to transfer the electrical load to the nearby residential and commercial areas in the most efficient and effective manner. Due to the increased area the existing substations are currently required to supply, the Shenley Wood substation is operating above its design capacity. As a result should there be an issue on the network that feeds the area it is not possible to guarantee the restoration of customers supply within suitable timescales and it is not possible to utilise either substation to take addition capacity whilst network issues are addressed.

5.13 The applicant has stated that the new substation will take some of the load from the Shenley Wood substation and will mean that electricity supplies in the area will be secure in the event of an electrical fault on the 33KV system. It will also help avoid similar issues with the Newton Road substation which is also approaching its electrical capacity. They also state the substation is required to feed an extension to an industrial unit which is a major employer in the area and other developments in the area which cannot be fed from the

existing network until the proposed substation is constructed including the large Tattenhoe Park development. Therefore there are benefits arising from the proposal.

5.15 As outlined above the fact that alternative sites may be more suitable for a development is not a ground to refuse a planning application. The Council has a duty to determine the application placed before them in accordance with national and local planning policy. The applicant has however provided some information on why they consider this to be the most suitable site. The applicant has stated that it is their understanding that the site has been identified for a substation by the Development Corporation and this is the reason for the layout of the adjacent residential properties. The site has been owned by Western Power for a number of years, and the long standing intention to develop the land as a substation is reflected in the tapering of the network at this location and the central location in the network. Cables and other infrastructure have been installed on the basis that the Site would at some point come forward for its intended use, as and when it was required. In view of the above, alternative locations are less viable on the basis that they would be costly to deliver, would be an inherently less efficient in distributing power due to their decentralised position, and would take longer to deliver as Western Power would need to find a new site and purchase it.

5.16 One objector has requested that the substation be moved closer to the main grid road. However this land is part of the public highway and the dualing reserve. It also sits outside land in the applicants' control.

5.17 Conclusion

The noise and visual impact of the proposed development has been assessed and are considered to be acceptable. The applicant has confirmed that all the equipment will be ICNIRP compliant in relation to EMF and therefore it is not considered that the application could be refused on health risk grounds. The perception of health risk is a material consideration however given the screened nature of the site this is not considered to be significant. The applicant is not required to demonstrate need for the site however they have provided some information and also explained why alternative sites would be less effective. Overall it is concluded that the development would comply with national and local planning policy and it is recommended that planning permission be granted.

6.0 **CONDITIONS**

(The conditions that need to be imposed on any planning permission for this development to ensure that the development is satisfactory. To meet legal requirements all conditions must be Necessary, Relevant, Enforceable, Precise and Reasonable)

1. The development hereby permitted shall be begun before the expiration of three years from the date of this permission.

Reason: To prevent the accumulation of planning permissions; to enable the Local Planning Authority to review the suitability of the development in the light of altered circumstances; and to comply with section 51 of the Planning and Compulsory Purchase Act 2004. (D11)

2. The external materials to be used in the development shall be in accordance with details to be submitted to and approved in writing by the local planning authority before any work is commenced. (M02)

Reason: To ensure that the development does not detract from the appearance of the locality.

3. Prior to commencement of development full details of the acoustic enclosures for the transformers has be submitted and approved in writing by the local planning authority. The development shall thereafter be carried out in accordance with the approved details and permanently retained.

Reason: To protect the character and appearance of the area and to ensure the transformers are located within acoustic enclosures.

4. All existing trees and structural planting to be retained are to be protected according to the provisions of the submitted RPS tree survey and recommendations and also BS 5837: 2012 'Trees in relation to design, demolition and construction - Recommendations' All protective measures including the fencing and ground protection must be put in place prior to any other work commencing on site (this includes vegetation clearance, ground-works, vehicle movements, machinery / materials delivery etc). The fencing shall be of the same specification as that depicted in figure 2, page 20 and ground protection as specified in 6.2.3.1 - 6.2.3.5 pages 21/22 in BS 5837: 2012. The Root Protection Area (RPA) within the protective fencing must be kept free of all construction, construction plant, machinery, personnel, digging and scraping, service runs, water-logging, changes in level, building materials and all other operations, personnel, structures, tools, storage and materials, for the duration of the construction phase. Prior to the development commencing the developer shall submit details of the proposed layout and general arrangements of the site in relation to the trees to be retained. The details should include site levels to enable risks posed to tree to be quantified. These details shall be approved in writing by the local planning authority and thereafter carried out in accordance with the approved detail.

Reason: To protect the landscaping during construction.

5. Prior to any development commencing full details of any underground works for services shall be submitted and approved in writing by the local planning authority. The development shall thereafter be carried out in accordance with the approved details.

Reason: To ensure landscaping is not affected by the provision of underground services.

6. All mitigation for Great Crested Newts as detailed by ADAS in their letter to Alliance Planning (dated 24 July 2012) should be implemented under the supervision of a suitably qualified ecologist unless otherwise agreed in writing by the local planning authority.

Reason: To ensure that European Protected Species are adequately

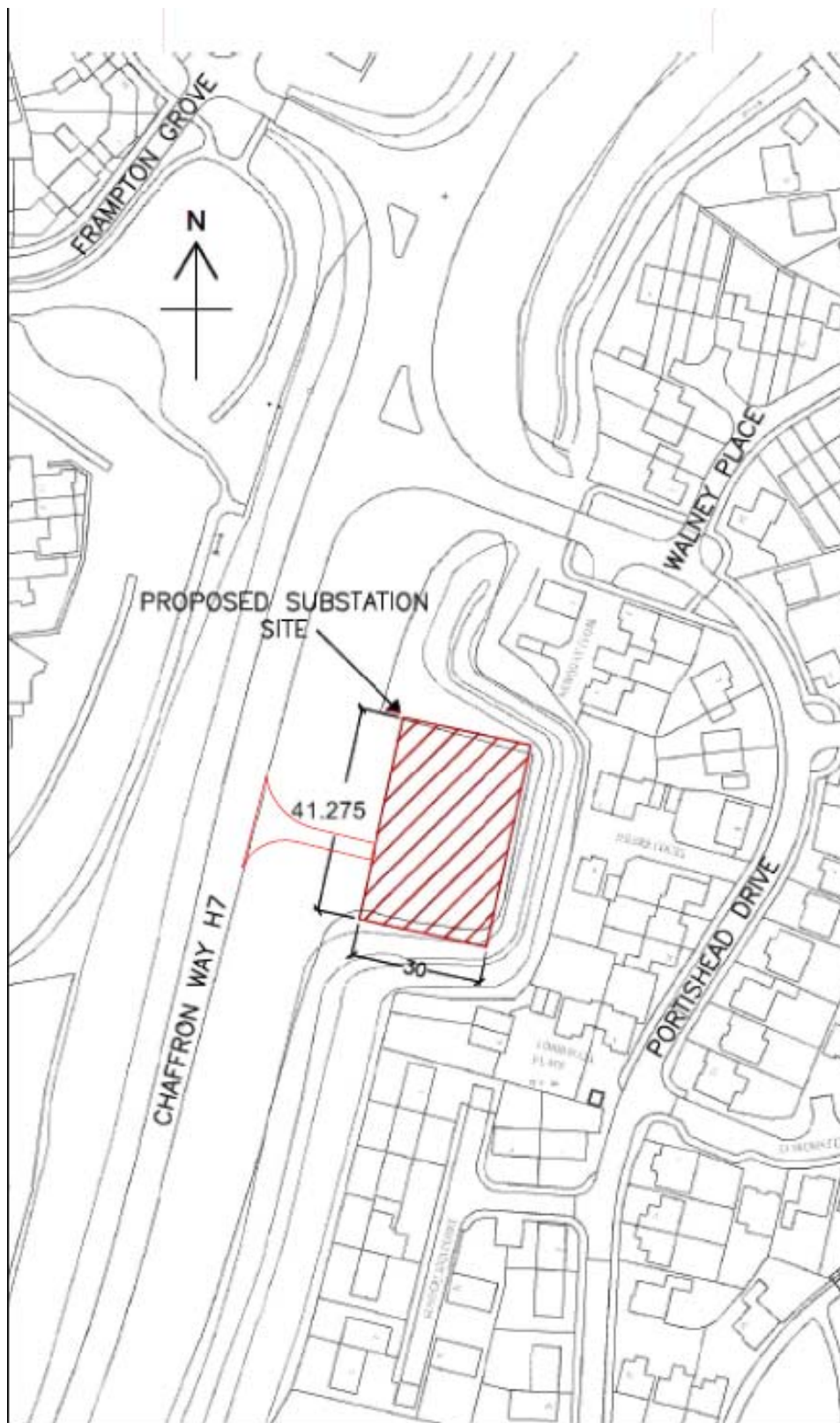
protected in accordance with the NPPF.

7. Prior to the installation of any lighting at the substation hereby permitted, full details of the proposed lighting and lux plan shall be submitted and approved in writing by the local planning authority. The development shall thereafter be carried out in accordance with the approved details and shall thereafter be retained in accordance with the approved details.

Reason: To protect the amenity of the neighbouring properties.

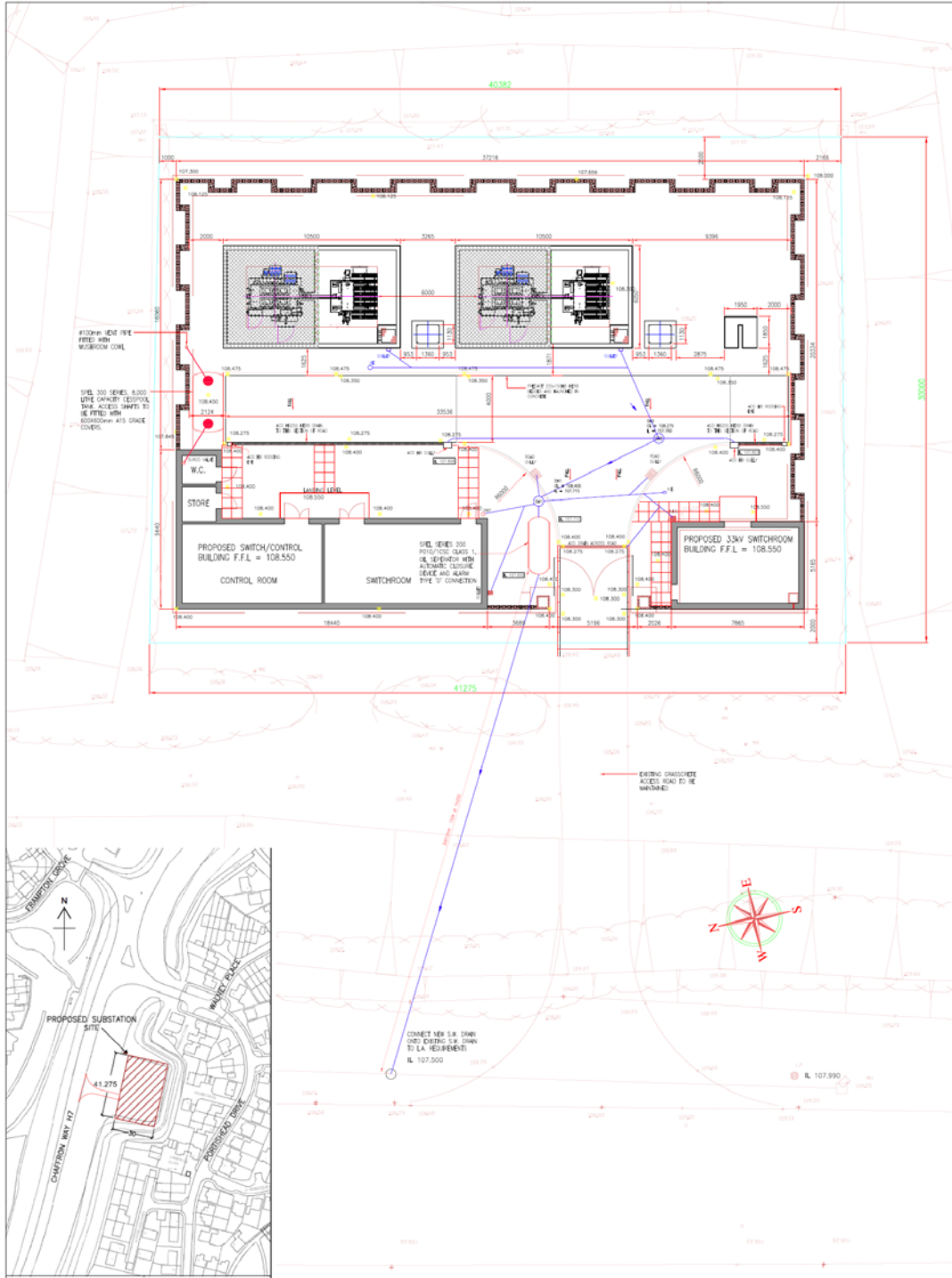
8. Prior to the installation of any CCTV at the substation hereby permitted, full details of the proposed CCTV shall be submitted and approved in writing by the local planning authority. The development shall thereafter be carried out in accordance with the approved details and shall thereafter be retained in accordance with the approved details.

Reason: To protect the amenity of the neighbouring properties.



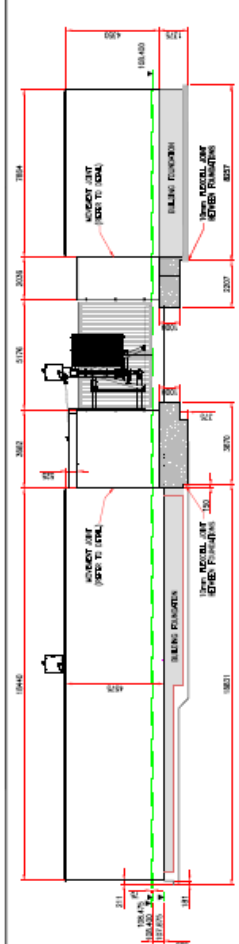
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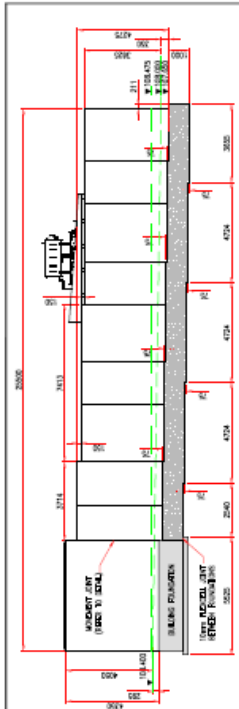


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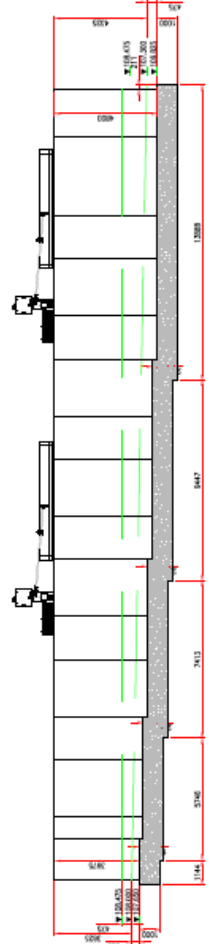
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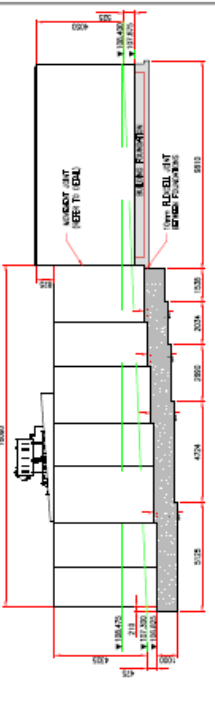
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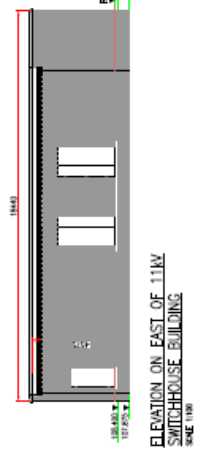
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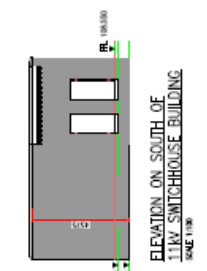
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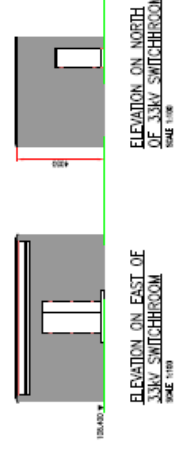
ELEVATION ON NORTH WALL
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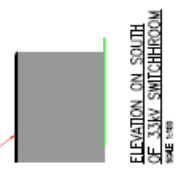
ELEVATION ON EAST OF 11KV SWITCHHOUSE BUILDING
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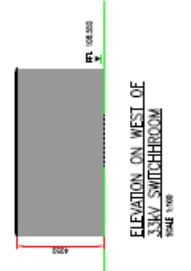
ELEVATION ON SOUTH OF 11KV SWITCHHOUSE BUILDING
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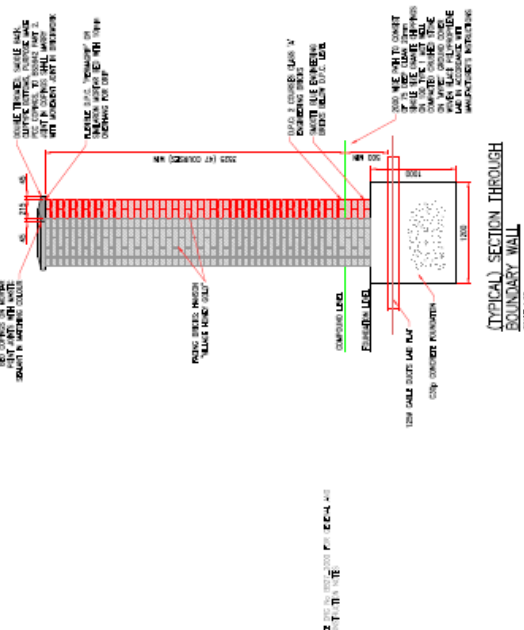
ELEVATION ON EAST OF 33KV SWITCHROOM
SCALE 1/8"=1'-0"



ELEVATION ON SOUTH OF 33KV SWITCHROOM
SCALE 1/8"=1'-0"



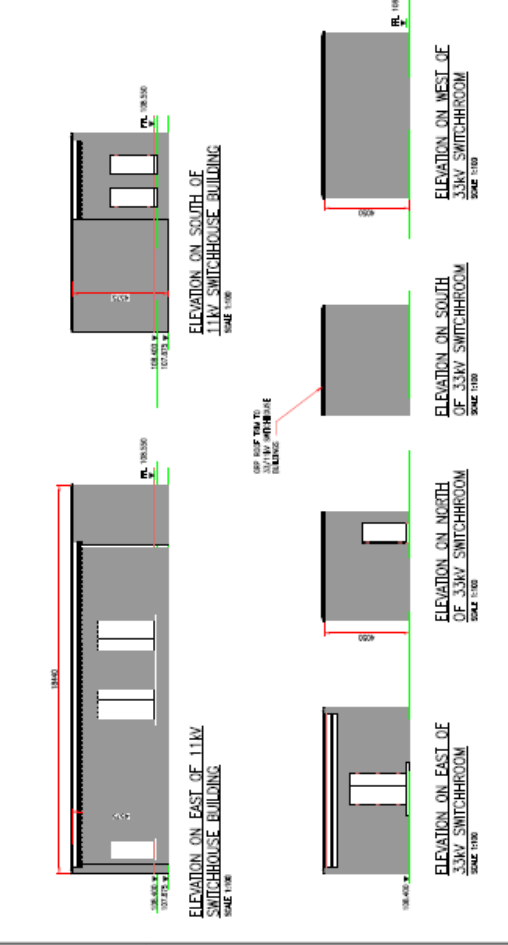
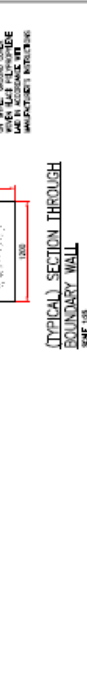
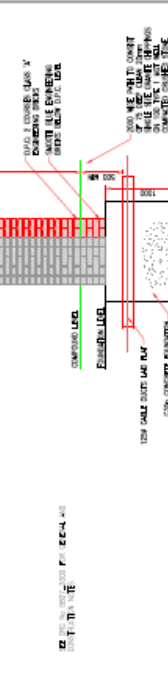
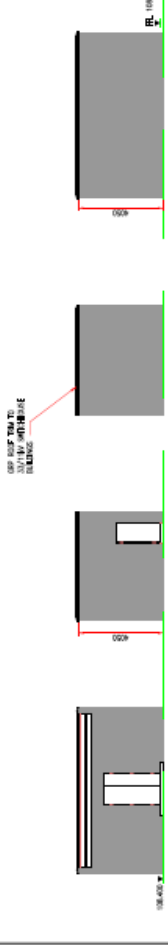
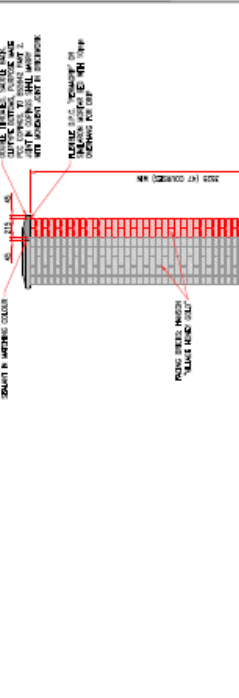
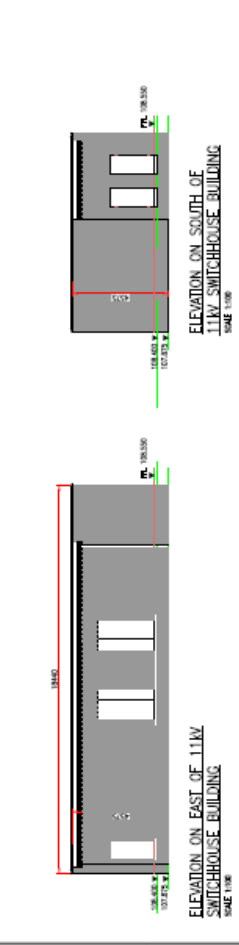
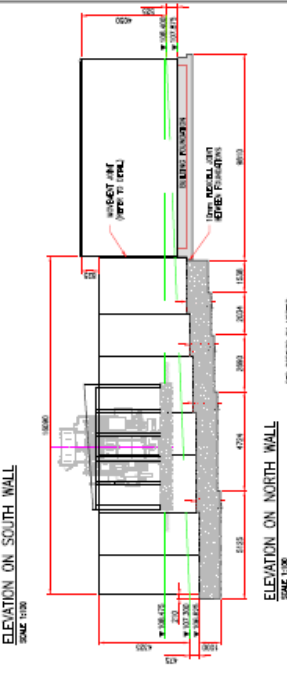
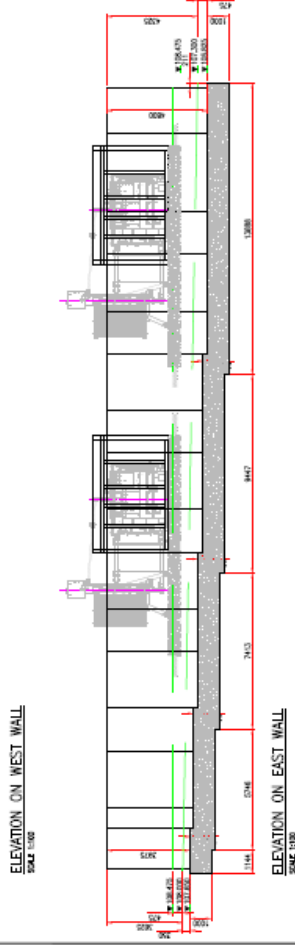
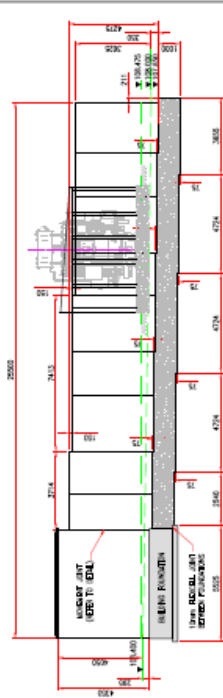
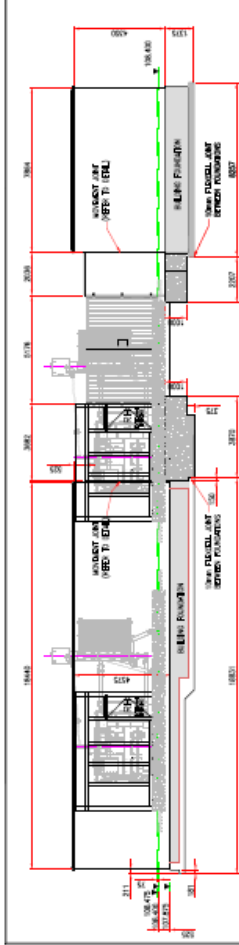
ELEVATION ON WEST OF 33KV SWITCHROOM
SCALE 1/8"=1'-0"



TYPICAL SECTION THROUGH BOUNDARY WALL
SCALE 1/8"=1'-0"

NO.	DATE	BY	CHKD.	REVISED BY	REVISIONS	PC	PK	DATE	BY	CHKD.	DATE	BY	CHKD.	DATE
01	10/10/2019	MM	MM	MM	MM	MM	MM	MM	MM	MM	MM	MM	MM	MM
02	10/10/2019	MM	MM	MM	MM	MM	MM	MM	MM	MM	MM	MM	MM	MM

<p>DATE: 10/10/2019 TIME: 10:00 AM DRAWN BY: MM CHECKED BY: MM PROJECT NO: 88127_2102 SHEET NO: 1 OF 1</p>											
<p>WESTERN POWER DISTRIBUTION PROJECT NO: 88127_2102 SHEET NO: 1 OF 1</p>											
<p>TATCHEE 33/11KV SS BUILDING AND SCREEN WALL ELEVATIONS</p>											



NO.	REV.	DATE	BY	CHK.	APP.	DESCRIPTION
01	01	01/15/2020

NO.	REV.	DATE	BY	CHK.	APP.	DESCRIPTION
01	01	01/15/2020

TATUM & ASSOCIATES, P.C.			WESTERN POWER DISTRIBUTION		
BUILDING ARCHITECT ELEVATIONS			PROJECT NO. 8827_2102		
DATE: 01/15/2020			SCALE: 0.2		
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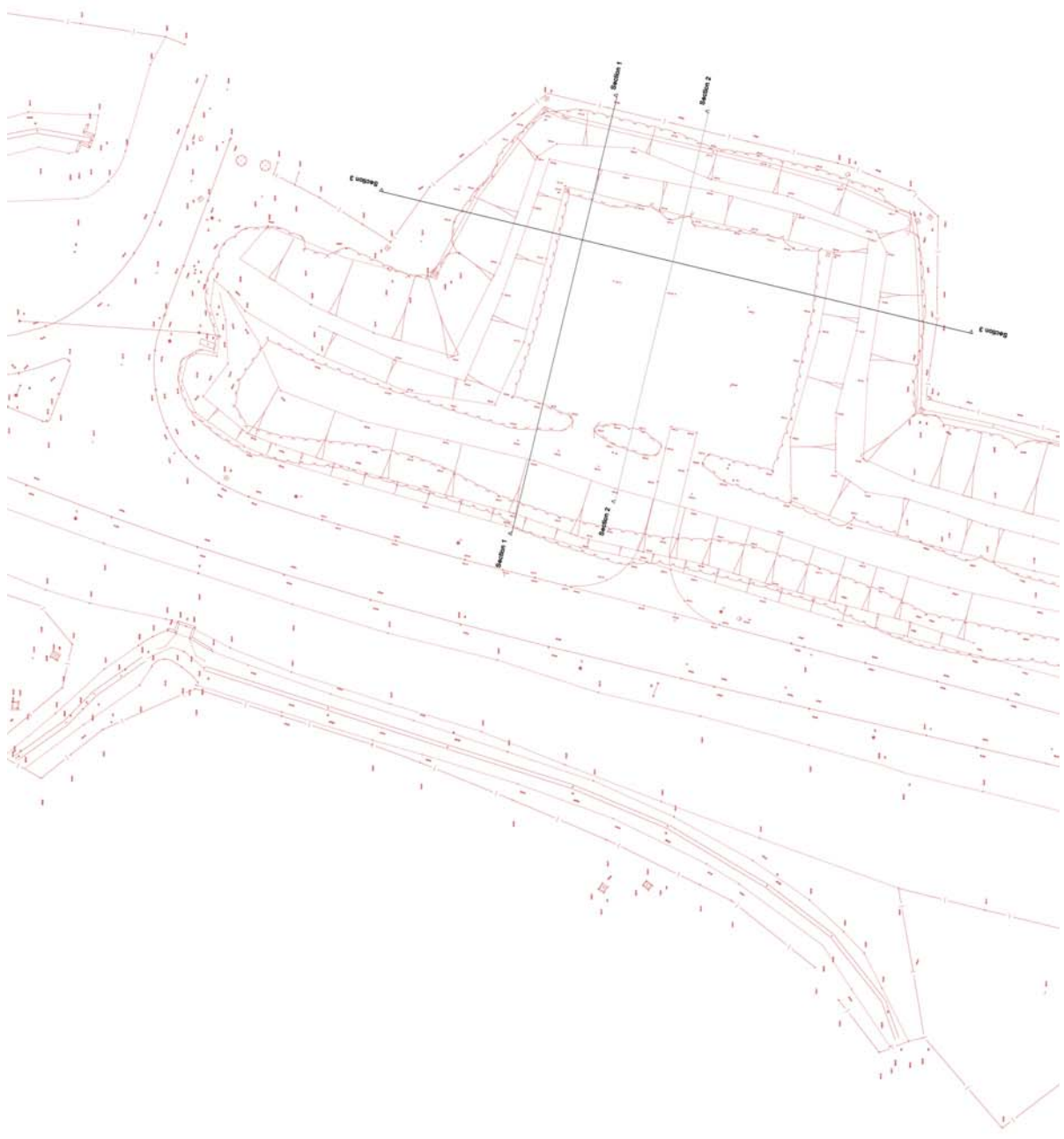
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- Doors (various types)
- Furniture (tables, chairs, etc.)
- Structural elements (columns, beams)
- Other architectural symbols

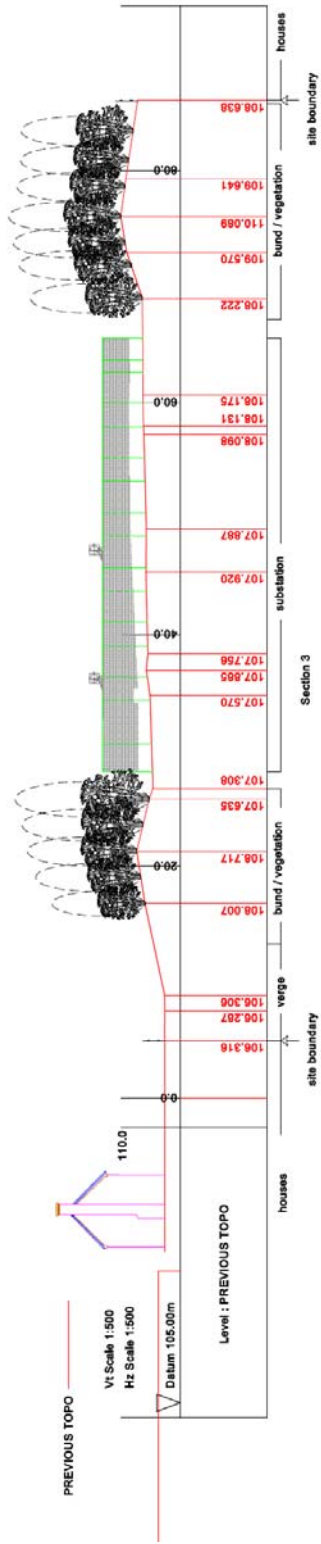
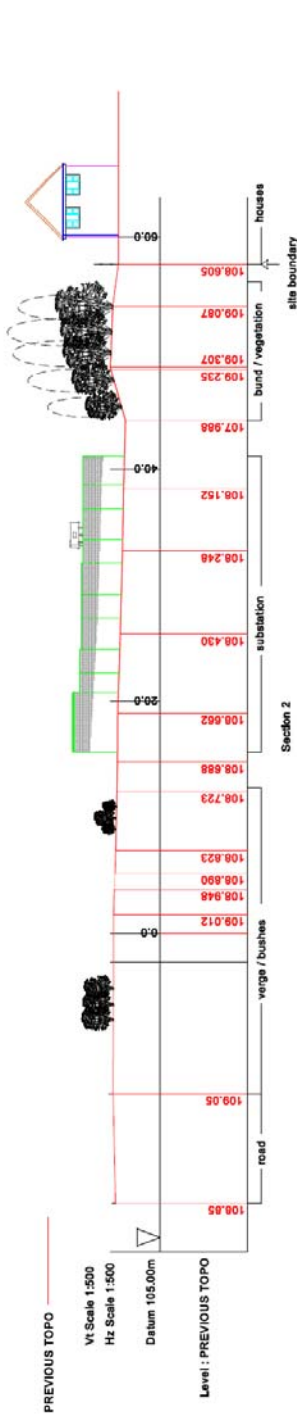
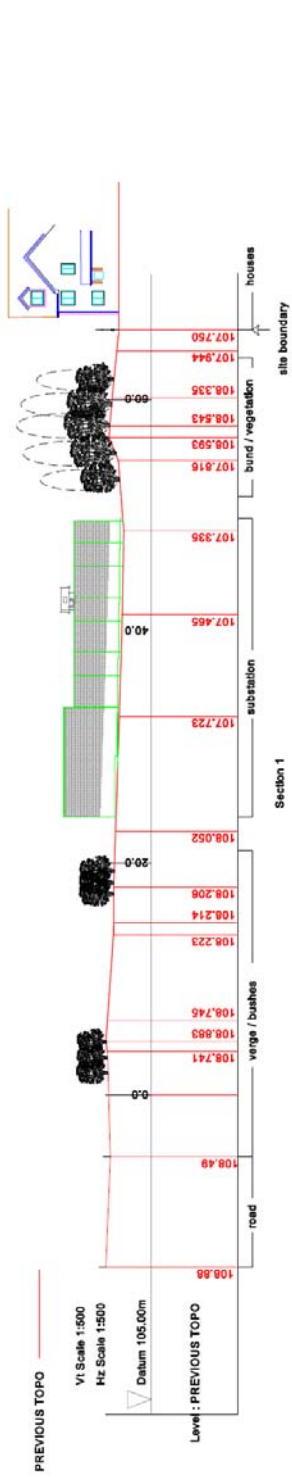
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Logos:

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- Logo 2: [Blank]





A1.0 RELEVANT PLANNING HISTORY

(A brief outline of previous planning decisions affecting the site – this may not include every planning application relating to this site, only those that have a bearing on this particular case)

- A1.1 10/02655/FUL – Erection of electricity sub-station and associated access from H7 Chaffron Way – Withdrawn

A2.0 ADDITIONAL MATTERS

(Matters which were also considered in producing the Recommendation)

A2.1 Highway

The proposed substation would utilise the existing drop kerb and grasscrete access which exists off the main grid road. The highway engineer and been consulted and has raised no objection to this.

A2.2 Ecology

The application is accompanied by an extended Phase 1 Habitat Survey and Protected Species Assessment. Whilst the site does not contain any ponds the site forms part of a larger area of suitable intermediate foraging terrestrial habitat for great crested newts and a survey found a single great crested newt on the site which is a European Protected Species. Further works was therefore undertaken to confirm the size and distribution of the Great Crested Newt population including survey nearby ponds with indentified the presence of GCN in ponds to the north west and south east of the site. Given the presence of the GCN the applicant will need to apply to Natural England for a Great Crested Newt License.

- A2.3 Whilst the site would lead to the loss of a small area of suitable foraging terrestrial habitat given the large area of total terrestrial habitat available to the species in the immediate area this loss is not considered to be significant and the conservation status of the GCN can be maintained through appropriate mitigation which is proposed to be conditioned. The mitigation will include fencing and trapping of GCN and then translocation to a suitable nearby habitat which the GCN already use. This would also be subject to a licence application to Natural England which based on the information is likely to be granted. Overall the development is therefore considered to be acceptable in this regard. The Ecologist has raised no objection to the impact on Howe Park Wood SSI which is designated on the basis of its flora and rich diversity of moths. The proposal it is not considered to be significantly upon this area.

A2.4 Other matters

Concern has been raised over the use of CCTV and lighting at the substation and the subsequent impact this may have on the neighbouring properties. The applicant has confirmed that lighting will be provided but it will only be used when operatives are on site during the hours of darkness and the substation will not be permanently lit. The applicant has stated that all will be positioned to point downwards. It is recommended that full details of the

lighting scheme be conditioned. In regard to CCTV the application has stated that where this is present it will point away from the neighbouring properties to protect their privacy. It is recommended full details of this be conditioned.

A3.0 CONSULTATIONS AND REPRESENTATIONS

(Who has been consulted on the application and the responses received. The following are a brief description of the comments made. The full comments can be read via the Council's web site)

Comments	Officer Response
<p>A3.1 Ward - Emerson Valley - Cllr Burke Object to this proposal as it is too close to the nearby houses and Howe Park Wood which is a SSSI. Requests this application is either rejected by officers using delegated powers or comes before a committee for determination</p>	See paragraph 5.1-5.10 and A2.2-2.3
<p>A3.2 Ward - Emerson Valley - Cllr Bald This sub station is too close to the houses in Portishead Drive and will be unacceptably noisy. A better location would be in the industrial estate off Snelshall Street in Tattenhoe.</p>	See paragraph 5.1-5.11 and 5.15.
<p>A3.3 Parish - Shenley Brook End & Tattenhoe Following the meeting at the parish office with the planning officer and Western Energy Company, the various issues were discussed at our planning meeting and our only reservation is the question of noise. Provided the environmental health experts can resolve this matter we would have no further objections to this development.</p>	See paragraph 5.4-5.8
<p>A3.4 Highways Development Control No objections as the proposal make use of an existing access.</p>	See paragraph A2.1
<p>A3.5 Environmental Health Manager Following the receipt of the Noise Survey and additional information on the use of cooling fans raises no objection to the proposed development in regard to noise.</p>	See paragraph 5.4-5.8

A3.6 Councils Countryside Officer

An Extended Phase 1 Habitat Survey was undertaken at this site which identified reptiles and Great Crested Newts as being a potential constraint on the development. Great Crested Newt surveys had previously been undertaken on this site in 2008 and 2010, both of which identified 3 ponds containing medium populations of Great Crested Newts within 500 metres of the site. A further Great Crested Newt Survey of these and other ponds close to the site was undertaken in 2012 which confirmed that 8 ponds near to the site contained medium or large populations. A Natural England Great Crested Newt Development Licence will be required before any work on site commences. However, the licence cannot be applied for until after planning permission has been granted and any ecological conditions imposed on it have been discharged. All mitigation for Great Crested Newts as detailed by ADAS in their communication with Alliance Planning (24 July 2012) should be implemented under the supervision of a suitably qualified ecologist.

See paragraph A2.2-A2.3

A3.7 Landscape Services Manager - Trees

No objection. The tree protection measures must all be implemented in accordance with the submitted tree survey and recommendations in the report.

Noted. See condition 4.

A3.8 Environment Agency

No comments

Noted.

A3.9 Health Protection Agency

Not able to help with site specific detail but provide some general comments. International guidelines set by ICNIRP, the International Commission on Non-Ionizing Radiation Protection, have been adopted in the UK to avoid exposures to fields that could have health or biological effects. These are based on the best available scientific evidence on health effects from electromagnetic fields.

Noted. See paragraph 5.9.

The power frequency magnetic fields recorded around local area substations, that convert electricity at 11,000 volts to 415 volts, are much less than the ICNIRP reference levels for public exposure of 100 microteslas (μT) and 5 kilovolts per metre. For example, at distances varying between 5 and 10 metres from the boundary fence

of an 11,000 volt substation, magnetic fields due to substations are undetectable above between 0.02 and 0.05 μT . These levels are typical of low household magnetic fields associated with domestic electricity supply systems. Most UK homes have background magnetic fields in the range 0.01 to 0.1 or 0.2 μT .

A small fraction (less than 2.5%) of UK homes have background magnetic fields above 0.2 mT, associated with the electricity power supply, and most of these are not close to major power lines or electricity substations. This is the conclusion of an extensive study of sources of power frequency magnetic fields associated with nearly 200 homes identified from the UK Childhood Cancer Study (UKCCS). The most common source of magnetic field exposure above 0.2 mT in homes was found to be due to currents flowing in the supply to the home and possible wiring faults (32%) followed by nearby high voltage power lines of 132 kV (kilovolts) and above (20%). The effect of currents in low voltage distribution mains cables located near to homes was also identified as a source of exposure (16%). For homes with exposures of 0.4 mT and above, the most common source of exposure was high voltage overhead lines (43%).

Although the maximum guideline exposure level for the UK public is 100 μT , there is some epidemiological evidence that time-weighted average exposure to power frequency magnetic fields above 0.4 μT is associated with a small increase in the absolute risk of leukaemia in children from about 1 in 20,000 to 1 in 10,000 a year. On a relative scale, this corresponds to a doubling of the risk. In the view of the HPA, the epidemiological evidence that time-weighted average exposure to power frequency magnetic fields above 0.4 μT is associated with a small absolute raised risk of leukaemia in children is, at present, an observation for which there is no sound scientific explanation. There is no clear evidence of a carcinogenic effect of extremely low frequency (ELF) electromagnetic fields (as from power lines) in adults, and no plausible biological explanation of the association can be obtained from experiments with animals or from cellular and molecular studies.

Alternative explanations for this epidemiological association are possible; for example, potential bias in the selection of control children with whom leukaemia cases were

compared in some studies and chance variations resulting from small numbers of individuals affected. Thus any judgements developed on the assumption that the association is causal would be subject to a very high level of uncertainty. It has therefore been concluded that currently the results of these studies, taken individually, or as collectively reviewed by expert groups, are insufficient either to make a conclusive judgement on validity or to quantify appropriate restrictions

The Health Protection Agency (HPA) keeps the world-wide research findings on EMF continually under review. In 2004, on the basis of a comprehensive review of the existing body of research to date, the then National Radiological Protection Board, recommended the adoption of new EMF exposure guidelines in this country. In addition, in view of the scientific uncertainties, the HPA recommended the Government "consider the need for further precautionary measures" in relation to power frequency electromagnetic fields. They have also noted that the majority of elevated magnetic fields are due to variations in the electricity supply and distribution system, the presence of substations, and equipment in the home rather than proximity to power lines.

A3.10 **Local Residents**

The occupiers of the following properties were made aware of the application:

1-14, 20, 21, 22, 27 Portishead Drive, Tattenhoe
The Coach House 4 Shenley Park, Shenley Church End
1- 11, 4 Sunderland Court, Tattenhoe
1 St Thomas Court, Tattenhoe
17 – 23 (odd), 39, 44, 53- 59 (odd) Miserden Crescent, Westcroft
41-49 (odd) Babylon Grove, Westcroft
1-5 Newquay Close, Tattenhoe
1, 2, 4 Hilbre Court, Tattenhoe
1- 4 Corsewall Place, Tattenhoe

Site notices were also placed at the site.

A3.11 Letters of objection have been received by 16 properties. These have raised the following concerns:

- A3.12 - The proposal will be visually intrusive from the properties and a visual eyesore with no architectural merit given its excessive size, appearance and equipment. Noted. See para 5.1 –5.4
- The proposal is too close to residential properties.
- The proposal will affect one of the oldest and prettiest estates in Milton Keynes.
- The proposal would ruin the tranquillity of the estate
- A3.13 - The noise from the transformers and cooling fans will be audible outside neighbouring properties and when properties windows are open and would unacceptably impact on the enjoyment of these properties. Noted. See para 5.4-5.8
- The other sites, including Wavendon Gate, the applicant points too are not comparable in noise terms due to higher background noise levels at the other site. Whilst there have been no noise complaints from residents to this site are social housing who would be less likely to refuse the housing as they would not be offered alternative housing. The housing stock around the current proposal is large owner occupier.
- Concerns over noise from maintenance.
- A3.14 - The substation should be relocated closer to the road or in an industrial area such as Tattenhoe Park or Snelsnall Industrial Area away from sensitive residential properties. Noted. See para 5.11 and 5.15 and 5.16
- The substation should be built away from properties or near new properties so residents buy their properties in the knowledge of the substation.
- The applicant has not demonstrated that the development can not be situated elsewhere.
- The substation should be located closer to the main grid road away from residential properties.

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| A3.15 | - The proposal would lead to unacceptable health risks to residential and children associated with electro-magnetic fields which is linked to cancer, depression, dementia, infertility, miscarriage, heart problems, and leukaemia. There are many children living in the area. | Noted. See para 5.9 – 5.10. |
| A3.16 | - The proposal will affect property values and saleability. | Not a material planning consideration. |
| A3.17 | - The brick walls will attract anti-social behaviour such as graffiti. | |
| A3.18 | - The applicant justifies the application on the basis of supporting jobs and growth. This is not acceptable. | Noted. |
| A3.19 | - Impact on wildlife. | Noted. See A2.2 –A2.3 |
| A3.20 | - Loss of privacy from CCTV and light pollution. | Noted. See A2.4 and conditions |