

Utility Report
GTX001 | Site Infrastructure
Gartree 2

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1.0 Introduction

The new Gartree site will be developed on undeveloped land adjacent to the existing men's prison at HMP Gartree in Leicestershire.

As this new development will be on extensively a green field site there will be a requirement for new building utility services including electrical supply, water supply and foul and surface water drainage provision.

Information on the foul and surface water drainage can be found in a separate report.

Site investigations have been conducted to identify the availability of existing utility services to the site and surrounding areas.

Existing site drawings have also contributed to the available knowledge of the proposed site.

The proposal is for a new Category B prison to house 1715 residents across 7 accommodation house blocks.

This site is covered by the following local authorities.

- Western Power Distribution
- Seven Trent Water

2.0 Site Description

2.1 Existing Site

The proposed site is located to the South of the existing HMP Gartree. The proposed site extends across several open fields with boundaries to further to agricultural areas on all sides.



Existing Site & Proposed Site

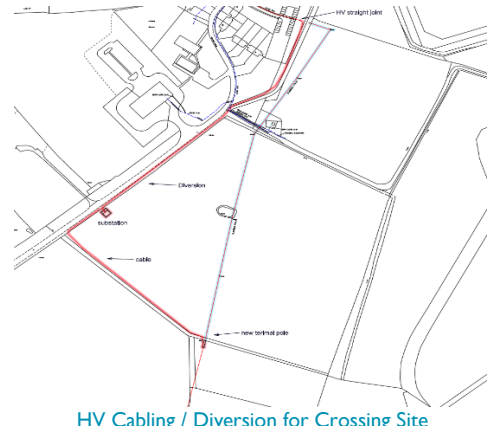
To construct the new Prison at the proposed location the demolition of three existing unused farm buildings along with the disconnection of their utility connections will be required, as well as the diversion of an overhead 11kv HV line form Western Power.

Just further south of the red line boundary, and outside of the site is a high-pressure gas main that we are aware of and will be informing the local authority and owner of this system as to the possible proximity of the construction.

The images below show the location of an existing medium pressure gas main and HV cable route that will need diverting to facilitate the development of the site.



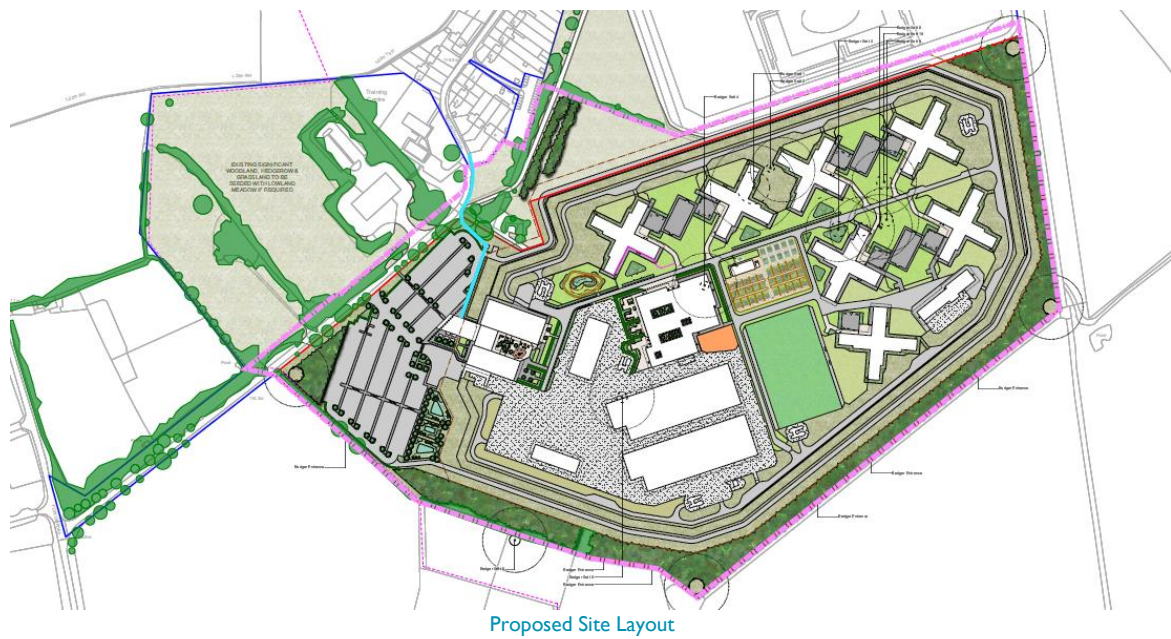
Gas System South of the Site



HV Cabling / Diversion for Crossing Site

3.0 Proposed Site

The site is to be developed to provide a new Category B prison, to provide facilities for 1715 residents. Accommodation will be provided in 7 houseblocks, with several additional support buildings providing all necessary facilities.



4.0 Electrical Services

The new development will be an all-electric site to meet the zero carbon targets set out for the project. To facilitate the anticipated demand a budget cost request for 6.8MVA has been applied for to Western Power Distribution along with the diversion works required.

At this time Western Power Distribution are not prepared to provide a HV study for us via direct application to them until planning applications have been submitted.

As an alternative they have suggested that they will provide a HV study should the same application arrive with them through an ICP.

Works are continuing to try and gain budget cost and an understanding of the HV works required outside of the site area to energise the supply. At this stage we are expecting substantial costs and time frames to be issued once the HV study has been completed.

The chosen provider will terminate their new supply into a substation located within the carpark area. This location will be the end of the DNO service and allow them unrestricted 24hr access as they require and the start of the new private HV system that will supply the secure side of the Prison.

Also, for this stage initial external lighting plots have been designed and can be seen on the following drawings.

- 661277-0000-PEV-GTX0011-ZZ-DR-E-6310 Sheet 1
- 661277-0000-PEV-GTX0011-ZZ-DR-E-6311 Sheet 2
- 661277-0000-PEV-GTX0011-ZZ-DR-E-6312 Sheet 3

5.0 Potable Water & Fire Fighting

Applications have been made to Seven Trent Water and applicable fees paid to progress the design, based on an estimation of the connected water load to serve all house blocks and ancillary support buildings of 10 l/s, to facilitate the water demand and tank sizing we are expecting for the site.

The incoming Mains Water service will feed two separate tanks located within an External Water Service Compound (complete with packaged booster pump sets) and terminating with one metered connection for Potable water and one unmetered connection for firefighting.

Based on the details provided in PEV application, STW Network team have determined that although a connection to the existing 6" AC main in Welland Avenue, Market Harborough maybe an option, they may need to reinforce their network.

At present, the offsite reinforcement solution has not yet been determined, as STW require more information regarding the inmate population of the existing prison and the proposed inmate population (the latter was indicated as part of the original clean water application).

The existing inmate population is currently being sought and upon receipt will be forwarded onto STW.

6.0 Communications

The MoJ are still to detail their requirements for telephones and data connections, and we expect the MoJ to make these applications based their needs.

A diverse incoming below ground ducting system will be provided to the Entrance Resource Block to facilitate the incoming provision from the service provider, from here communication services will distribute around the site to each block.

7.0 Conclusions

We expect extensive programme dates for the delivery and final design and installation of all utility provisions and would advise that decisions are made at the earliest opportunity when choices and options need to be evaluated so that the way forward can be made in a timescale that meets the construction programme.

Once we have budget costs for the electrical connections from the DNO and acceptation has been given that the budget is viable for this project, then we propose formal quotes are pursued via the DNO and IDNOS for competitive pricing of this work.

Awaiting confirmation of the existing HMP Gartree inmate population numbers, these will then be forwarded onto STW with re-confirmation of the proposed inmate population proposed for HMP Gartree 2.

The utility services are in continuous development with each authority at this stage.