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West Burton C Gas Fired Generating Station
Additional information for the Canal & River Trust

1 BACKGROUND

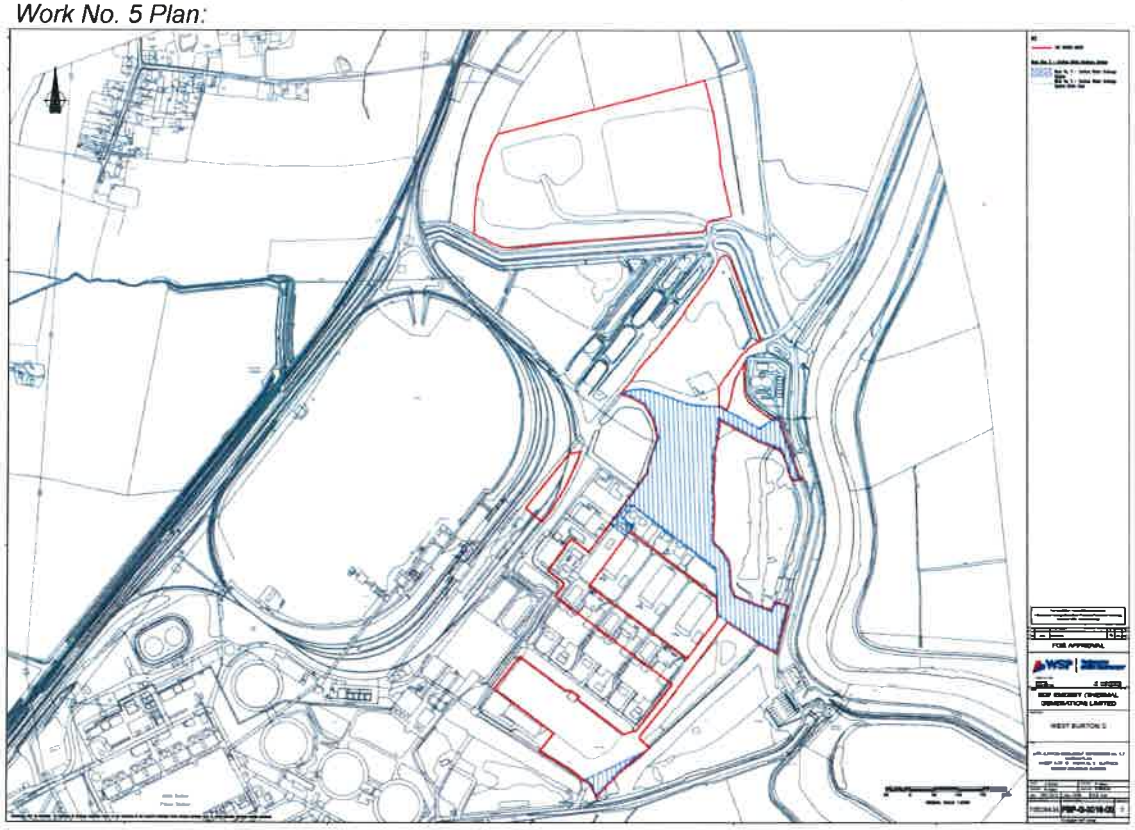
1.1 This document has been prepared on behalf of EDF Energy (Thermal Generation) Limited (the "Applicant") for the purpose of providing the Canal & River Trust (the "Trust") with additional information regarding the proposed West Burton C gas fired generating station (the "Proposed Development"). The note sets out details concerning the nature of the works proposed for Work No. 5 (section 2 below) and impacts on the Trust's interests (section 3 below).

1.2 Document references relate to the DCO Examination Library, accessible here.

2 NATURE OF WORKS PROPOSED (WORK NO. 5)

2.1 The Development Consent Order ("DCO"), once granted, will provide consent for Work No. 5 shown on Figure 3.2 (Sheet 5 of 10) of the application works plans (**APP-013 – Document 3.2**). This comprises a new surface water drainage system, comprising pond(s) and/or a tank or similar, including a surface water drainage pipeline connecting the Proposed Development into the existing West Burton Power Station site purge line that runs approximately parallel with River Road from the West Burton A ("WBA") Power Station cooling towers to the River Trent and forms part of the drainage system.

Work No. 5 Plan:



2.2 All three potential drainage connection options under consideration would connect to the existing WBA Power Station drainage infrastructure (purge line) for subsequent discharge to the River Trent. Consequently, there is no need for the Proposed Development to construct any new outfall into the river and none of the drainage options under consideration require works under or adjacent to the existing Environment Agency maintained flood defences and no new outfall structures are proposed.

2.3 Only one of the three drainage options will be developed, and the decision as to which option will be used will be made at the detailed design stage. Details of the finalised drainage drawings clearly indicating the drainage routes and emissions points for the Proposed Development will be developed as part of the design process and approved by Bassetlaw District Council under the provisions of the DCO. This information would also be supplied to the Environment Agency prior to commencement of commissioning, as part of the Environmental Permit.

2.4 Surface water drainage options under consideration are presented in the Outline Drainage Strategy (**APP-142 – Document 7.8**) and described in **Chapter 4**: The Proposed Development (**APP-033 – Document 5.2**). Each of these options is assessed in the Environmental Impact Assessment ("EIA").

Option C

2.5 'Option C' presented in the Outline Drainage Strategy (**APP-142 – Document 7.8**) is to connect into an existing chamber (WBB GU36) within the existing West Burton B ("WBB") Power Station drainage system and for surface water to then be transmitted onto the permitted discharge point W6 of the Environmental Permit regulated by the Environment Agency, via a connection into the existing purge line chamber 15 south of the Proposed Development. The availability of this option is dependent on the final plant design and associated volumes of surface water drainage. This option may include the installation of an oily water separator to the south-east corner of the WBB Power Station site, as shown in the 'triangular' hatched area on Work Plan 5 above.

Option B

2.6 An alternative option 'Option 'B' in the Outline Drainage Strategy (**APP-142 – Document 7.8**) is to connect to the existing purge line chambers P3 or P4 and outfall prior to the sluice gate to the River Trent, near the existing Severn Trent Water sewage treatment works. This pipeline route (approximately 250m in length and referred to as the 'northern drainage connection corridor') would largely follow an existing access road (the Ash Road) that is used for access to the Severn Trent Water sewage treatment plant.

Option A

2.7 A third alternative option (Option 'A' in the Outline Drainage Strategy – **APP-142 – Document 7.8**) has also been identified. This pipeline route known as the 'southern drainage connection corridor' is approximately 350m in length and would connect into the existing WBB GMX/purge line chamber 7, (permitted discharge point W5 in the existing WBB Environmental Permit), to the south-east of the gas receiving facility for WBB Power Station. As explained in paragraph 5.2.9 of the Outline Drainage Strategy, due to the technical difficulties and risks present with the connection option 'A' (refer to Section 6.1), calculations and layouts have only been carried out for options 'B' and 'C'. The land required for Option A is included on Work Plan 5 and the option to construct and use this drainage connection corridor has been include in the EIA in order to ensure a worst-case assessment.

3 IMPACTS ON THE TRUST'S INTERESTS

River Trent users (lighting effects on navigation)

3.1 Lighting required during the operational stage of the Proposed Development would be designed to reduce unnecessary light spill outside of the Proposed Development site boundary, in accordance with the Lighting Strategy (**APP-138 - Document No. 7.4**). Due to the screening effect of intervening vegetation and the restrictions placed on lighting by the Lighting Strategy (refer to **APP-138 - Document 7.4**) it is anticipated that, overall, the effects of night-time lighting at sensitive receptors (including users of the River Trent for navigation) resulting from the Proposed Development will not materially increase above current baseline levels from WBA and WBB Power Stations.

3.2 During construction, the Applicant has sought to limit the impact of light pollution from artificial light on local amenity through the Lighting Strategy. Paragraph 4.5.26 explains that lighting may be required around the site for night-time construction and during core working hours within winter months, but will be designed adopting the mitigation principles outlined in the Lighting Strategy to avoid excessive glare and minimise spill of light to nearby receptors (including navigational users of the River Trent) outside of the site as far as reasonably practicable.

3.3 Control of lighting during construction is set out in the Framework Construction Environmental Management Plan (**APP-137 – Document 7.3**) (the "CEMP") including measures to protect, manage and enhance existing trees and vegetation that is to be retained in the drainage connection corridors that would assist in reducing the impact of construction lighting associated with the Proposed Development. The CEMP also includes the commitment that *"construction temporary site lighting required to enable safe working during construction in hours of darkness would be designed as far as reasonably practical so as not to cause a nuisance outside of the Site"*.

3.4 Furthermore, it is considered that the mitigation principles set out in paragraphs 3.1.3 and 3.1.4 of the Lighting Strategy to minimise the potential for excessive glare towards adjacent habitats used by bats will provide equal benefits to users of the River Trent, given that some of the important bat habitat referred to occurs in the West Burton Reedbed and West Burton Power Station Local Wildlife Sites, both adjacent to the River Trent. Impacts due to construction lighting on navigational users of the River Trent will therefore be minimised, as far as reasonably practicable, and effects on navigational safety are not considered likely.

Impacts on the riverbank due to construction activities

3.5 Appendix E.2 of the Outline Drainage Strategy (**APP-142 - Document 7.8**) provides an outline connection method statement to assist in the understanding of the likely procedure for connection of drainage from the Proposed Development to the existing WBA drainage systems.

3.6 If either Option B or Option C are chosen, working methods will involve the removal of vegetation along the line of the proposed drain, the formation of an access road and hardstanding, excavations within the ground down to the connection invert point and potential measures to prevent instability of excavations, coring works at the connection point to connect the new drainage pipeline, grouting and backfilling excavations. The activities proposed are considered low risk with regard to the potential to generate levels of vibration above which damage to buildings or structures would be expected. Such levels are set out in **APP-037** (**Chapter 8**: Noise and Vibration) of the EIA, taking into account ISO 4866:2010 which defines different categories of building damage.

3.7 In relation to the potential effects of construction vibration, it is acknowledged in **APP-037** (**Chapter 8**: Noise and Vibration) that construction works have the potential to affect buildings within the existing WBB Power Station site, during piling, if required. However, this effect relates to annoyance to building occupants, rather than building damage. Paragraph 8.3.37 explains that the levels of vibration for building damage are far in excess of those that may cause annoyance, and no piling is proposed in relation to construction of the drainage works. Paragraph 8.6.19 notes that if piling, heavy earthworks, vibratory rollers or other significant vibration-producing operations are proposed in close proximity to any existing sensitive buildings, further consideration will be given to potential impacts, once the contractor is appointed and the construction methods and requirements are developed. This risk is included within the CEMP (**APP-137 – Document 7.3)** for assessment and mitigation when the construction techniques and exact plant locations have been finalised, and would extend to any activities during construction that might result in vibration that could affect structures along the riverbank.

3.8 In particular, the Trust is referred to Table 4 of the CEMP which describes the best practicable means that would be applied to minimise vibration during construction,

including ensuring, for example, that where reasonably practicable, vibration is controlled at source (e.g. the selection of low vibration equipment). The final CEMP will be secured by Requirement 15 of the draft DCO.

Users of assets such as public rights of way adjacent to River Trent

3.9 The effects of the Proposed Development on recreational users of definitive footpaths that provide access to the riverside (River Trent, Wheatley Beck and Catchwater Drain) have been considered in **APP-041** (**Chapter 12**: Flood Risk, Hydrology and Water Resources) (refer to paragraph 12.4.44) of the EIA. The possibility of effects on recreational activity, including walking along the River Trent, in the unlikely event of a pollution incident has been considered in paragraphs 12.6.7 (River Trent).

3.10 Public footpath FP4 is located immediately to the east of the Order limits, running along River Road. There is no specific identified need to temporarily stop up, alter or divert this, or any other public right of way, along the River Trent at this stage. If required, works to facilitate construction of the southern drainage connection corridor or, to a lesser extent, the other two drainage options under consideration above, are likely to require removal of a small amount of existing vegetation within areas of scrub near the approach to the River Trent. No other on-site or off-site landscape features on or adjacent to the River Trent would be impacted as a result of construction activities. Consequently, footpaths along the River Trent are therefore not being affected by the Proposed Development and will continue to be available for users throughout the construction and operational phases of the Proposed Development. The effects on users of the footpaths along the River have been assessed in the EIA and are not considered significant during either construction or operation of the Proposed Development.

Water quality

3.11 The Water Framework Directive ("WFD") status and value of the watercourses for water quality, recreation/other uses, water supply and biodiversity, including the River Trent, has been fully taken into account in **APP-041** (**Chapter 12**: Flood Risk, Hydrology and Water Resources) (refer to paragraphs 12.4.22 – 12.4.39 and Table 12-7). As described in paragraph 12.6.49, given the nature of the impacts (notably that they are largely of temporary nature and/or unlikely to affect the WFD elements), and assuming the design and impact avoidance measures included in Section 12.5 would be effectively implemented, there would be no effect on WFD status and objectives of any of the watercourses assessed. The Proposed Development will not interfere with the mitigation measures already in place on the River Trent, Wheatley Beck and Catchwater Drain include the strategic management of sediment, bank rehabilitation, reducing impact of dredging and reducing sediment suspension.

4 THE APPLICANT'S PROPOSAL

4.1 In summary, assets of interest to the Trust will remain open and continue to be available for users, as they currently are, with no significant effects predicted. In addition, there are no proposed construction activities for the Proposed Development that create a risk to the Trust's assets or its ability to maintain these assets. On this basis, the Applicant's position is that there is no need to include protective provisions for the benefit of the Trust in the DCO.

4.2 However, the Applicant proposes the following changes to the DCO and the Lighting Strategy to ensure that the Trust is consulted as part of the final surface water drainage strategy and that any risks to navigation are mitigated:

(a) Inclusion of the Trust as a consultee for the surface and foul water drainage system. **Requirement 9: Surface and foul water drainage** of the DCO will be updated to include reference to Work No. 5 and include the Trust as a consultee. This will ensure that the Trust is able to monitor and contribute to the detailed design of the surface water drainage system and be satisfied that the scheme approved is as set out in the draft DCO and application documents.

The proposed wording of the amended Requirement is:

Detailed design

5.—(1) In relation to Work No. 1, Work No. 2, Work No. 4 and Work No. 5, no development must commence until details of the following, where relevant for that Work, have been submitted to and, after consultation with the Lead Local Flood Authority and Canal and River Trust in relation to Work No. 5, approved by the relevant planning authority—

(a) the siting, layout, scale and external appearance, including the colour, materials and surface finishes of all new permanent buildings and structures;

(b) finished floor levels;

(c) hard standings;

(d) the internal vehicular access and circulation roads, loading and unloading, vehicle parking and turning facilities, cycle parking and routes and pedestrian facilities and routes; and

(e) surface water management.

(2) Work No. 1, Work No. 2, Work No. 4 and Work No. 5 unless otherwise agreed with the relevant planning authority must be carried out in accordance with the approved details.

(b) Inclusion of the Trust as a consultee for the detailed design of the surface water management system. **Requirement 5: Detailed design** of the DCO will be updated to include reference to Work No.5 and include the Trust as a consultee in relation to the approval of the detailed design of surface water management (Requirement 5(1)(e)). This will ensure that the Trust is able to input on the detailed design of the Proposed Development to the extent that it has an interest.

The proposed wording of the amended Requirement is:

Surface and foul water drainage

9.—(1) In relation to Work No. 1, Work No. 2, Work No. 4 and Work No. 5, no development must commence until, where relevant for that Work, details of temporary surface and foul water drainage systems, including means of pollution control, have been submitted to and, after consultation with the Environment Agency, Lead Local Flood Authority, relevant internal drainage board and Canal and River Trust, approved in writing by the relevant planning authority.

(2) Details of the permanent surface and foul water drainage systems, including a programme for their implementation and maintenance, must be submitted to and, after consultation with the Lead Local Flood Authority and Canal and River Trust in relation to the permanent surface water drainage system, Environment Agency and relevant internal drainage board, approved by the relevant planning authority prior to the start of construction of any part of those systems.

(3) The details submitted and approved pursuant to paragraphs (1) and (2) of this requirement must be in accordance with the outline drainage strategy.

(4) The schemes must be implemented as approved and maintained throughout the construction and operation of the authorised development unless otherwise agreed with the relevant planning authority.

(c) Amendment to the Lighting Strategy to ensure any impacts on navigation are minimised. The Lighting Strategy will be updated so that **Section 3: Design Principles** and **Section 7: Construction Site Lighting** make specific reference to ensuring that the impacts of lighting on the navigation of the River Trent will be minimised and that the lighting will be designed to pose no hazard to the navigation of the waterway.

Outline Method Statement

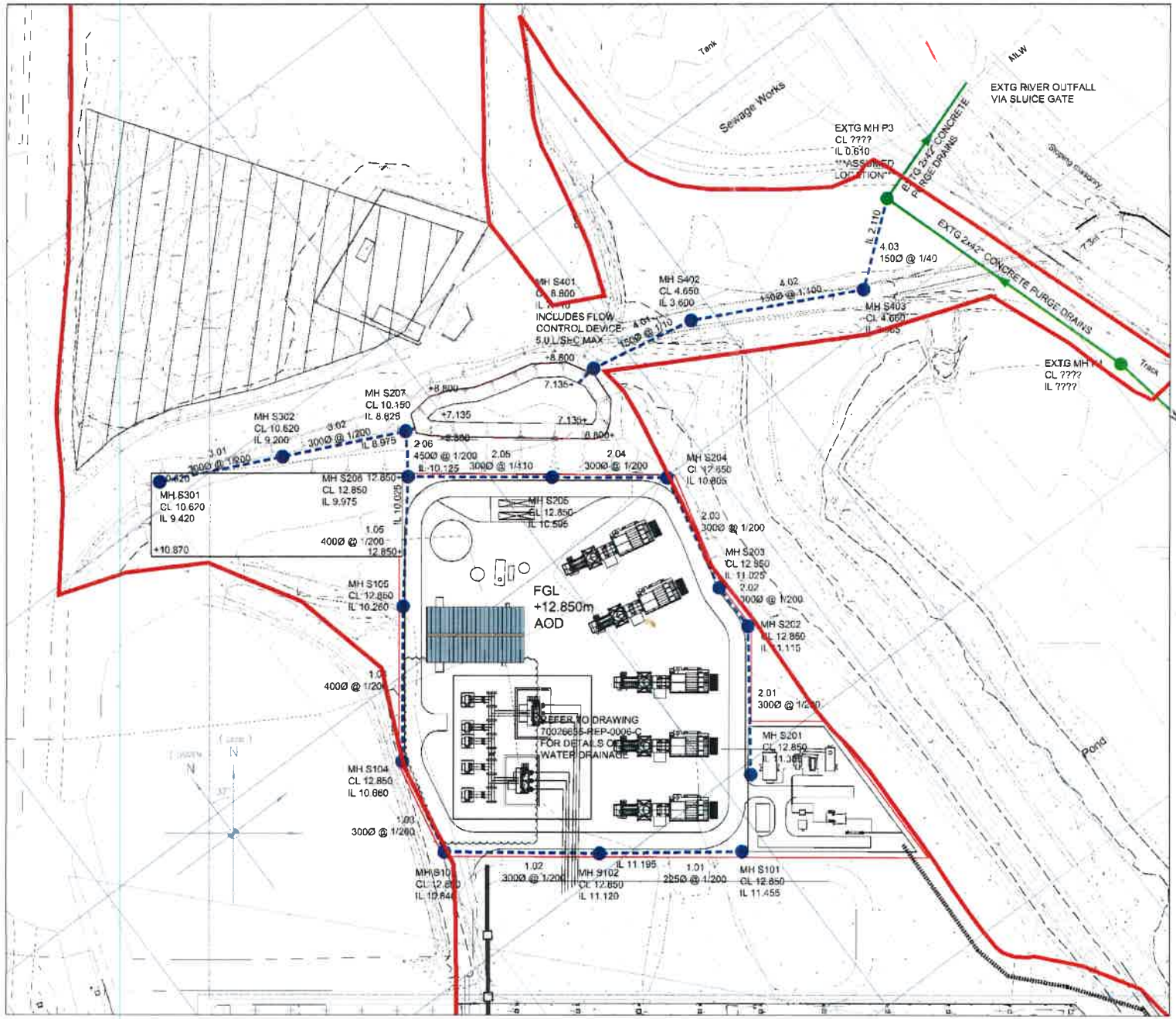
PROJECT NUMBER	70026635	**DATE**	20 November 2017
PROJECT NAME	West Burton 'C'	**PRODUCED**	C. Moore
CLIENT	EDF Energy (Thermal Generation) Limited	**CHECKED**	S. MacKillop
SUBJECT	Connection of WBC drainage to existing WBA Purge Line Chamber P3		

NOTE: The following outline methodology is provided to assist in the understanding of likely procedure for connection of WBC drainage to existing WBA drainage. The Contractor shall produce his own method statement for approval prior to commencement of the works, based on the detailed drainage design and proposed method of construction.

1. Undertake full dimensional survey of interior of chamber P3, plus accurately determine location and levels, in order to confirm outline design proposals. [HOLD POINT] NOTE – Chamber P3 is likely to be a CONFINED SPACE and suitable working methods should be adopted if man access cannot be avoided.
2. Remove vegetation along line of proposed drain from MH S403 to P3, plus sufficient working and laydown room.
3. Form temporary (permanent?) access road and hardstanding as necessary for duration of works (and future O&M?)
4. Excavate down to connection point invert on outer wall of chamber P3, plus additional depth locally for man / plant access for coring through existing chamber wall. Shoring / appropriate battering to excavation perimeter, plus dewatering as necessary, to prevent instability of excavation and for ease of access / working.
5. Remove access cover to chamber P3 in order to check internal water level is sufficiently low to prevent outflow once chamber wall is breached by core drill.
6. Coring works at connection point in accordance with appropriate risk assessment & method statement.
7. Insert pipe stub through new entry hole to chamber P3 and support as necessary.
8. Grout annulus between perimeter of pipe and wall of new entry hole using non-shrink cementitious grout* and allow to cure in accordance with manufacturer's instructions (note outer end of pipe stub should be capped if left exposed for any extended period of time)
9. Excavate, prepare and lay drain from pipe stub back towards new manhole S403 before backfilling full run up to chamber P3.

Note * - may necessitate man entry to chamber to complete works, in which case suitable working methodology required to mitigate confined space hazards.

Note – dewatering of chamber may be necessary prior to man access, if required by proposed working methodology. This could be achieved temporarily by insertion of dam boards at purge line entrance and exit from the chamber and removal of chamber water by pump to suitable tank or agreed location above ground



DO NOT SCALE

KEY TO LINES & ABBREVIATIONS

- SURFACE WATER DRAIN
- EXISTING WBA PURGE LINES
- WBC DEVELOPMENT BOUNDARY
- MH MANHOLE
- CL COVER LEVEL (m AOD)
- IL INVERT LEVEL (m AOD)

REV	DATE	BY	DESCRIPTION	CHK	APP
P01	23/11/2017	CMM	FIRST ISSUE		

DRAWING STATUS: S2 - FOR INFORMATION

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CLIENT: EDF ENERGY (THERMAL GENERATION) LIMITED

ARCHITECT:

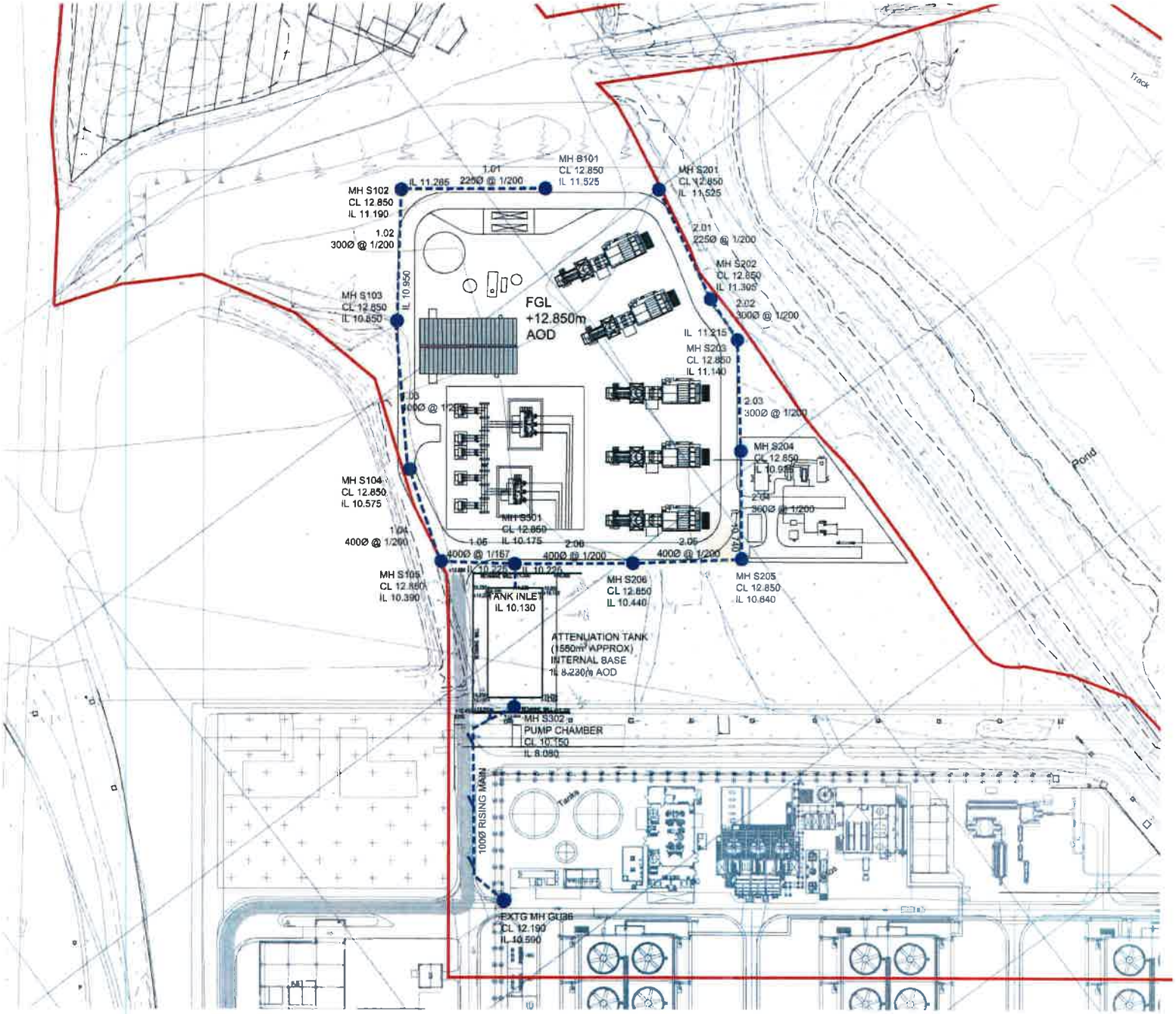
PROJECT: WEST BURTON C

TITLE: OUTLINE STORM WATER DRAINAGE ARRANGEMENT

SCALE @ A2	CHECKED	APPROVED
1:1000	SM	RM

PROJECT No.	DESIGNED	DRAWN	DATE
70026635	CMM	CMM	November 17

DRAWING No.	REV.
70026635-REP-0006-D4	P01



DO NOT SCALE

KEY TO LINES & ABBREVIATIONS

- SURFACE WATER DRAIN
- EXISTING WBA PURGE LINES
- WBC DEVELOPMENT BOUNDARY

MH	MANHOLE
CL	COVER LEVEL (m AOD)
IL	INVERT LEVEL (m AOD)

REV	DATE	BY	DESCRIPTION	CHK	APP
P01	03/04/2018	CMM	FIRST ISSUE		

DRAWING STATUS: S2 - FOR INFORMATION

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CLIENT: EDF ENERGY

ARCHITECT:

PROJECT: WEST BURTON C

TITLE: OUTLINE STORM WATER DRAINAGE ARRANGEMENT OPTION 'C' - CONNECTION TO EXISTING WBB DRAINS

SCALE @ A2	CHECKED	APPROVED
1:1000	SM	RM

PROJECT No	DESIGNED	DRAWN	DATE
70026635	CMM	CMM	March 18

DRAWING No: 70026635-REP-0006-D6 REV: P01