

City Airport Development Programme (CADP1)

Condition 87: Construction Design and Method Strategy



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1. Introduction

1.1 The City Airport Development Programme (CADP1) planning application (13/01228/FUL) was granted planning permission by the Secretaries of State for Communities and Local Government and Transport in July 2016 following an appeal and public inquiry which was held in March/April 2016.

1.2 On 5th January 2017, the London Borough of Newham (LBN) approved some minor non-material design changes to the appearance of the western and southern elevations of the Western Terminal Extension (WTE) (16/03797/NONMAT). A further non-material amendment (17/02865/NONMAT) to the Planning Permission was approved on 27 September 2017 for minor amendments to the Terminal Buildings and associated Western Service Yard, East Pier, Forecourt and Decked Car Park. These minor changes to the design have been incorporated into the details provided to satisfy this condition

1.3 ‘Condition 87: Construction Design and Method Strategy’ of the CADP1 permission states that:
Development of the relevant Phase of Development shall not Commence until there has been submitted to the Local Planning Authority for approval in writing a detailed Construction, Design and Method Strategy for all of the foundations basement and ground floor structures, and any structures below ground level including piling (temporary and permanent) for that Phase.

Such a Strategy shall include (but not be limited to) details of the following in respect of each Phase:

- *specification and erection methodology for all façade treatments, roof sections and windows;*
- *specification, construction methodology, calculations and lifting plan for any cranes proposed to be used;*
- *the location of existing DLR structures and how the Phase of Development will accommodate these, i.e. demonstrate that there will be no potential security risk to DLR railway, property and structures; and*
- *Mitigation of the effects of noise and vibration arising from the adjoining operations within the structures.*

Each relevant Phase shall thereafter be carried out in accordance with the relevant approved Construction Design and Method Strategy.

Reason: To ensure a satisfactory standard of Development and to safeguard amenities of the surrounding area.

1.4 It was agreed with London Borough of Newham (LBN), in September 2016, that the requirements of Condition 87 relate to the protection of the DLR assets only, which are subject to an Asset Protection Agreement (APA). The APA was signed by both Parties on the 13th May 2016. Relevant extracts of this agreement are attached in Appendix D. This strategy should therefore focus solely on the infrastructure being delivered in proximity to the DLR assets rather than the entire CADP1 site.

1.5 The Airport submitted a Construction Phasing Plan to LBN pursuant to Condition 4 of the CADP1 permission in February 2017. It was proposed to build out CADP1 as a single uninterrupted period of construction over 5 years split into two distinct phases. Consistent with terminology used in the UES, the two phases were referred to as the ‘Interim Works’ and the ‘Completed Works’ – each delivering different parts of the CADP infrastructure. The Interim Works would be delivered first and would be immediately followed by the Completed Works. This Construction Phasing Plan was approved by LBN in March 2017

(ref. 17/00500/AOD) and the details pursuant to Condition 87 for the 'Interim Works' were also approved in May 2017 (ref. 17/00949/ AOD).

- 1.6 Ahead of the commencement of construction of CADP1, the Airport's Delivery Partner have identified a number of programme efficiencies and improvements to the 5 year build which would reduce the duration of the construction programme by 14 months to 3 years and 10 months and deliver the full CADP1 infrastructure in an accelerated single phase (2017 Accelerated Construction Plan. The new 2017 Accelerated Construction Plan has been submitted to London Borough of Newham pursuant to Condition 4 under separate cover.
- 1.7 This submission seeks approval of the details pursuant to Condition 87 for all of the approved CADP1 infrastructure. The substance of the document has not changed from that approved in March 2017 and as agreed with Docklands Light Railway Limited (DLRL) and Transport for London (TfL) in February 2017. The only changes are highlighted in blue text and relate to updated phasing of the CADP1 construction.
- 1.8 At the request of LBN Officers, new text added to the previously approved details (17/00949/AOD) has been distinguished in blue text in this document.

2. Construction Design and Method Strategy

Strategy

Scope of Strategy

- 2.1. The location of the [CADP1 infrastructure](#) (see Appendix A) relative to the DLR assets are such that the build out of the deck and new aircraft stands; [ETE; East Pier and Dockside Upgrades](#) are not [considered relevant and therefore this strategy focusses solely on those infrastructure elements that are located proximate to the DLR assets](#); namely the construction of the Western Terminal Extension (WTE) and Western Energy Centre (WEC) in the Western Service Yard (WSY).
- 2.2. The proximity of the WEC and WTE buildings in relation to DLR assets is shown on the Construction Works Site Layout Drawings contained within Appendix B.
- 2.3. In accordance with the requirement outlined within the APA (see appendix D) all construction activities planned to occur within the WSY, WEC and WTE site area (herein referred to as the 'site') will be discussed with the DLRL at regular interface meetings. The meetings will be attended by DLRL Representatives, the Airport and, where relevant, any of the Airport's appointed suppliers. The meetings will be recorded in accordance with the APA.
- 2.4. It was agreed during discussions on 24 February 2017 between the Airport CADP team and DLRL Representatives that the Construction Design and Method Strategy document will set out requirements for both the Airport and appointed Contractor(s) to comply with through the development of both design and construction phases of work.
- 2.5. To ensure compliance with Condition 87 the Construction Design and Method Strategy document, including all appendices, will be included in design and both pre-contract [stages](#) i.e. tender and contract documents. The Construction Design and Method Strategy document outlines the requirements and constraints that the appointed suppliers must contractually adhere to when preparing the detailed method statements for the construction of the WTE and WEC and any other works proximate to DLR assets.
- 2.6. The construction activities are described in detail in later sections of the document and include, but are not limited to, the following:
 - Groundworks for construction of the WEC and WTE;
 - Superstructure for WEC and WTE;
 - Cladding for WEC and WTE;
 - Installation of plant on the WTE roof; and
 - Any temporary structures to facilitate the construction such as scaffolding and hoists.
- 2.7. Notwithstanding the approach described in Sections 2.1 to 2.6, the details to satisfy requirements of Condition 87 are described in the following sections. As the CADP1 programme develops, additional information on construction methodology will be provided by the appointed Contractor(s) in line with the method outlined below.

Delivery of Strategy

- 2.8. To ensure works undertaken in the proximity of the DLR assets are effectively implemented, in line with the requirements and constraints as required by DLRL, the following strategy for the development and communication of detailed information has been agreed with the DLRL Third Party Interface Manager (TPIM). The strategy has been divided into three distinct areas:
- i. Design
 - ii. Pre-Contract (Tender)
 - iii. Construction

Design

- 2.9. The Airport will procure the services of design consultancies for the development of the project designs up to and including RIBA Stage 3 and 4 (depending on procurement strategy). All design consultancies will be issued with relevant extracts from the APA, which can be found in Appendix D, and also the Infrastructure Protection Regime – Guidance for 3rd Parties; which can be found in Appendix C. Designs will follow the guidance and restrictions as stated within the document.
- 2.10. The Airport will ensure that conceptual designs are shared with the DLRL TPIM and the Airport will identify those designs that fall within the Protection Zone identified in the Infrastructure Protection Regime – Guidance for 3rd Parties document. For works proposed within the Protection Zone the Airport shall issue a technical submission to the DLRL TPIM for approval prior to any works commencing.
- 2.11. Notwithstanding the prescribed information contained within the Infrastructure Protection Regime – Guidance for 3rd Parties document The Airport shall share with the DLRL TPIM designs for works in and around the structure, but outside of the Protection Zone, for information and visibility of the extent of the works. This strategy has been agreed with the DLRL TPIM
- 2.12. The airport will ensure the prescribed DLRL 28 day review period is identified in the design.

Pre-Contract (Tender)

- 2.13. The Airport will procure the services of prime contractors to undertake final RIBA Stage 4 design and construction works. To ensure compliance with the DLRL APA, the tender documents will include the relevant designs (with DLRL endorsement), extracts from the APA agreement and the Infrastructure Protection Regime – Guidance for 3rd Parties document which describes the process for both design and construction compliance.
- 2.14. The Airport will ensure that Contractor(s) deliverables are listed in the tender. These items include, but are not limited to:
- i. Further design deliverables to be issued to the DLRL TPIM for approval;
 - ii. Risk assessments;
 - iii. Detailed construction methodology, including plant use, cranes, logistics, heavy plant movements;
 - iv. Any requirements to work during Engineering Hours or Possessions;
 - v. Health, safety, security and fire requirements;
 - vi. Pre-construction condition surveys; and
 - vii. DLR asset monitoring.

- 2.15. The Contractor will be required to identify a single point of contact within their organisation for the coordination of detailed information for submission to the DLRL TPIM (via the Airport).

Construction

- 2.16. The information provided in the tender documentation will be incorporated into the contract to ensure the appointed Contractor(s) work within the constraints identified in the Infrastructure Protection Regime – Guidance for 3rd Parties document, relevant sections of the APA and to approved designs.
- 2.17. The Airport and the appointed Contractor(s) will ensure the DLRL TPIM and other DLRL Representatives are engaged as construction progresses in line with the requirements and strategy outlined in this document. This will include:
- i. Identifying the key personnel from the Airport and the Contractor(s) who shall act as the principal points of contact with the DLRL TPIM;
 - ii. Establishing regular formal meetings between the DLRL, the Airport and the Contractor(s);
 - iii. Establishing lines of communication with the DLRL; and
 - iv. Identifying the programme of submissions from the airport to the DLRL related to the site works
- 2.18. The Airport shall require the appointed Contractor(s) to identify milestones for submission of detailed construction methodology and the appropriate DLRL approval period, which has been agreed as 28 days.
- 2.19. The Airport will coordinate the interface between the Contractor and the DLRL.

Description of Substructure Works

- 2.20. The following sections describe the method of construction of the substructure and groundworks works in the Western Service Yard (WEC and WTE).
- 2.21. For both WEC and WTE groundworks there is a requirement to install piles to support the superstructures. The methodology will be to install continuous flight auger (CFA) piles which will minimise disturbance to the surrounding ground and structures. A typical piling rig is shown in Figure 3-1.
- 2.22. Detailed construction methodology for the piling and excavation, for the WEC basement, will be submitted to the Airport by the appointed Contractor(s) and will be issued to the DLRL TPIM for approval.

WEC Substructure

- 2.23. The WEC will have a single storey part-plan basement which will house mechanical plant, a sprinkler tank and a potable water tank. The ground floor slab above the basement is supported on reinforced concrete (RC) beams spanning between the capping beams and RC columns. The excavation to form the basement and basement floor slab will be down to approximately 5.5m below ground level. The basement will be formed using a secant piled retaining wall with in situ RC liner wall and RC capping beam. The piled basement raft slab supports a large water tank approximately 15m x 5m x 3m deep and 3 internal RC columns.
- 2.24. The remaining ground floor slab that is not situated above the basement comprises electrical transformers and switchgear. This incorporates a 1.5m trough, to be infilled with lightweight concrete, to accommodate incoming electrical cables.

- 2.25. Geotechnical site investigations indicate made ground is present from existing ground level to 5.00m, followed by Alluvium to 10.00m, Shepperton Gravel to 22.00m and Thanet Sand until a maximum proven depth of 25.00m.
- 2.26. Piled foundations will be installed to support the basement slab and ground floor slab. Settlement under the anticipated loads for a piled foundation solution should be expected to be less than 10mm.
- 2.27. The WEC basement construction will be sequenced as follows:
- install secant bored-pile retaining walls to create a box;
 - install temporary waling beams and struts at the top of box walls;
 - bulk excavation within the box walls;
 - temporary dewatering;
 - cut down the internal piles to underside of the basement raft level;
 - install the basement raft;
 - install RC capping beam to piles forming the basement box;
 - install RC lining walls to the box walls;
 - install the basement columns; and
 - build suspended ground floor slab/ downstand beam.
- 2.28. The design of the WEC substructure has ensured that pile foundations are kept away from the DLR viaduct abutment pile caps. The closest WEC pile foundation is expected to be 7.8m away from the nearest DLR abutment pile cap and therefore outside of the Protection Zone identified in the Infrastructure Protection Regime – Guidance for 3rd Parties document.

WTE substructure

- 2.29. Due to the ground conditions (summarised above) a piled foundation solution is proposed using 600mm diameter sleeved bored piles. 600mm diameter piles are expected to a depth of approximately 14 to 20m below ground level. Internal columns are proposed to be founded on a three-pile cap. One and two-pile caps are also proposed where vertical loads are lower. The pile caps support RC ground beams typically running east-west which in turn support the ground floor slab.
- 2.30. All existing buried services within the footprint of the proposed WTE will be neutralised and abandoned or removed.
- 2.31. The outline construction of the WTE substructure will likely be conventional and comprise:
- reinforced concrete (RC) bored piling, installed by mobile continuous flight auger equipment;
 - in-situ RC pile caps;
 - in-situ RC ground slab;
 - concrete would be delivered to site by readymix lorries and placed by concrete pumps;
 - excavation and piling arisings would be removed from site in tipper trucks; and
 - construction materials would be delivered and removed on flatbed trucks
- 2.32. The design of the WTE substructure has ensured that pile foundations are kept away from the DLR viaduct abutment pile caps. The closest WTE pile foundation is expected to be 11.6m away from the nearest DLR abutment pile cap.
- 2.33. The distance between the foundation slab of the DLR single storey ticket hall and the nearest WTE pile foundation is expected to be 6.8m outside of the DLR Protection Zone.
-

- 2.34. DLRL will be informed of proposed date of construction of the piles nearest to the DLR zone of influence

Ground Contamination

- 2.35. The measures to be adopted to deal with ground contamination are detailed in the response to Condition 39 – Contamination. The report prepared to discharge this condition (RPS, [updated January 2018](#)) concludes that there is no significant risk of major contamination, based on the results of various site investigations in the location of the WTE and WEC. However, as a relatively large amount of material will be derived from the WEC basement excavation and WTE substructure excavation, the Contractor will be required to undertake their own Waste Acceptance Criteria (WAC) testing of this material and to adopt suitable precautions to deal with any unforeseen contamination in accordance with the Remediation Strategy submitted for Condition 39 and their own Site Waste Management Plan.

Steel frame Superstructure of WTE and WEC

WEC Superstructure

- 2.36. The WEC is a single-storey steel frame with a concrete flat roof.
- 2.37. The method for erecting the WEC steel frame will be as follows:
- Erect steel columns;
 - Erect roof beams;
 - Installed profiled sheet decking;
 - Pour in-situ concrete roof slab;
 - Lay roofing membrane and finishes; and
 - Install cladding panels to facades.

WTE Superstructure

- 2.38. The WTE is a three-storey steel frame with a concrete flat roof.
- 2.39. The method for erecting the WTE steel frame will be as follows:
- Erect steel frame working westwards from the main terminal building (MTB) side;
 - Install profiled sheet metal decking to upper floors at levels L10, L20, L30;
 - Pour insitu concrete upper floors and roof slab;
 - Install roofing membrane and finishes; and install cladding facades.
- 2.40. The contractor will comply with the requirements of the Infrastructure Protection Regime – Guidance for Third Parties.

Specification and erection of WTE facades

- 2.41. The proposed cladding system is expected to consist of lightweight insulated components. The system comprises an expanded metal mesh rain screen on brackets on an insulated backing supported by steel purlins.
- 2.42. All cladding panels will be manhandled from the delivery truck and erected from a mobile elevated working platform (MEWP) scissor lift within the site hoarding line.
- 2.43. All glazed panels will be erected by mobile crane.

- 2.44. Where there is insufficient space between the hoarding and the WTE south façade for a MEWP, suspended access platforms will be erected on the roof edge.
- 2.45. Detailed erection plans, lifting plans, and a façade erection methodology will be developed by the contractor when appointed and agreed with the DLRL.
- 2.46. The contractor will comply with the requirements of the Infrastructure Protection Regime – Guidance for Third Parties, provided in Appendix C.

Specification and lifting plan for cranes

- 2.47. Specific crane positions on the site will be determined for each specific lifting operation.
- 2.48. Crane calculations will include outrigger leg positions, leg loads, and spreader details for leg feet bearing on the site ground surface.
- 2.49. Calculations will include drawings indicating restrictions on the slewing angle and elevation angle of the jib, to ensure that no loads can over-sail the site hoarding.
- 2.50. Indicative locations for cranes are set out in section 2.2 of this document.
- 2.51. All lifting operations will be supervised by the nominated Lift Operator in compliance with the current legislation relating to lifting activities e.g. The Lifting Operations and Lifting Equipment Regulations 1998 (LOLER).
- 2.52. The detailed lifting plans and method statements will be finalised by the Contractor, once appointed.
- 2.53. The contractor will comply with the requirements of the *Infrastructure Protection Regime – Guidance for Third Parties*, provided in Appendix C.

Location of existing DLR structures

- 2.54. Existing DLR structures are indicated on drawings A400-ATK-S-00-L00-DR-GA-940-001, A400-ATK-S-00-L00-DR-GA-940-002, A400-ATK-S-00-L10-DR-GA-940-003 and A400-ATK-S-00-L30-DR-GA-940-004 (see Appendix B). These include:
- Viaduct pier pilecaps
 - Viaduct piers
 - Viaduct cross heads
 - Viaduct track beams
 - Station canopy frames
 - Station canopy cladding
 - Ticket hall perimeter walls
 - Access route to DLR substation
 - Ticket hall flat roof
 - External substations

Security risk to DLR railway and property

- 2.55. Refer to P&W site layout drawing A400-PAW-A-14-XXX-XX-DR-GA-900-006 in Appendix B for the layout of the WSY construction compound and hoarding as submitted under Condition 96 of CADP1.

- 2.56. The site demise will be hoarded securely with 3m high hoarding with secure entrance/exit [as shown indicatively on the details provided to](#) satisfy Condition 96 and included at Appendix B. To ensure there is no un-planned impact on the DLR security measures the hoarding and construction site security will be discussed with the DLR and details of the arrangements issued for review and acceptance.
- 2.57. Once the works are complete heightened [airport](#) security measures will be initiated. These measures will be shared and agreed with DLRL and designed in accordance with the APA.

Mitigate effects of noise and vibration

- 2.58. The measures to mitigate noise and vibration are set out separately in the Construction Noise and Vibration Management and Monitoring Strategy (CNVMMS) which forms part of the Construction Environmental Management Plan (CEMP) submitted in accordance with Condition 88. All construction works will observe the maximum noise and vibration limits set out in planning Conditions 90, 91 and 97.

Sewers and underground utilities

- 2.59. Sewers and underground utilities design within the WSY is being developed with due consideration for the DLRL Asset Protection Agreement, with a view to minimising installation of utilities within the DLRL Protection Zone, limiting the depth of service trenches, and ensuring the necessary consultation with the DLRL is undertaken before utilities installation works are undertaken. The contractor will also complete a survey of utilities within the WSY before commencement of works.

Installation of HVAC plant on roof of WTE

- 2.60. After completion of the WTE superstructure and roof finishes, certain items of mechanical equipment such as chillers and air conditioning units will be installed on the flat roof using a specially-commissioned large mobile crane (Figure 3-6). Such lifting operations will be planned as one-off events as described in sections 2.1.30 to 2.1.36.
- 2.61. The contractor will comply with the requirements of the Infrastructure Protection Regime – Guidance for Third Parties, provided in Appendix C.

Drawings showing construction plant

- 2.62. All equipment selection, erection and positioning shall be planned with close liaison between suppliers and DLRL prior to orders being placed. The details below and in Section 3 set out the likely plant and methodology but will be subject to confirmation once contractors are appointed.

Piling rig- delivery to site and working tracked path

- 2.63. An indicative piling rig is shown in Figure 3-1. It will likely be delivered in its folded configuration on a low-loader (Figure 3-2). After delivery and set-up, the rig will likely work within the site hoarding, starting at the east side of WTE and tracking westwards; and then at the west end of WEC and tracking eastwards.
- 2.64. For details refer to drawing A400-ATK-S-00-L00-DR-GA-940-001 (see Appendix B).

Delivery and placement of concrete

- 2.65. Ready-mix trucks will discharge into the adjacent concrete pump (Figure 3-4), which will place the concrete via the extending hose at each pile cap location. Options will be investigated to source the concrete from an on-site concrete batching plant located within the dockside construction compound.
- 2.66. A similar pump will place concrete on the upper floors of WTE and the roof of WEC, poured onto profiled sheet steel permanent decking.
- 2.67. For details refer to drawing A400-ATK-S-00-L00-DR-GA-940-002 (see Appendix B).

Delivery and placement of reinforcing steel bars

- 2.68. The reinforcement bar bundles will be delivered by flatbed truck (Figure 3-3) and placed in position using a small mobile crane (Figure 3-5).
- 2.69. For details refer to drawing A400-ATK-S-00-L00-DR-GA-940-002 (see Appendix B).

Delivery and erection of structural steel frame

- 2.70. The steel beam and column elements will be delivered to site by flatbed truck (Figure 3-3) and lifted into position using a small mobile crane (Figure 3-5). Steelwork erectors will use MEWP's or cherry-picker platforms for bolting elements together.
- 2.71. The WTE frame will be erected from the east side adjacent to MTB, working westwards.
- 2.72. The WEC frame will be erected from the west end, working eastwards.
- 2.73. For details refer to drawing A400-ATK-S-00-L10-DR-GA-940-003 (see Appendix B).

Delivery and installation of cladding facades

- 2.74. All cladding panels will be manhandled from the flatbed truck (Figure 3-3) and erected from a MEWP scissor lift platform within the site hoarding line.
- 2.75. All glazed panels will be erected by small mobile crane (Figure 3-5).

- 2.76. Where there is insufficient space between the hoarding and the WTE south façade for a MEWP, suspended access platforms will be erected on the roof edge.
- 2.77. For details refer to drawing A400-ATK-S-00-XXX-DR-GA-940-005 (see Appendix B) and sections 2.1.41 to 2.1.46.

Delivery and placement of HVAC plant on WTE roof

- 2.78. Plant will be delivered to site by flatbed truck (Figure 3-3).
- 2.79. The plant will be lifted into position on the WTE roof using a large mobile crane (Figure 3-6).
- 2.80. For details refer to drawing A400-ATK-S-00-L30-DR-GA-940-004, A400-ATK-S-00-XXX-DR-SE-940-006 and sections 2.1.60 to 2.1.61.

3. Typical Construction Plant / Equipment

PRODUCTS

E 7050	CFA 240
Continuous Flight Auger Kit	
Download	

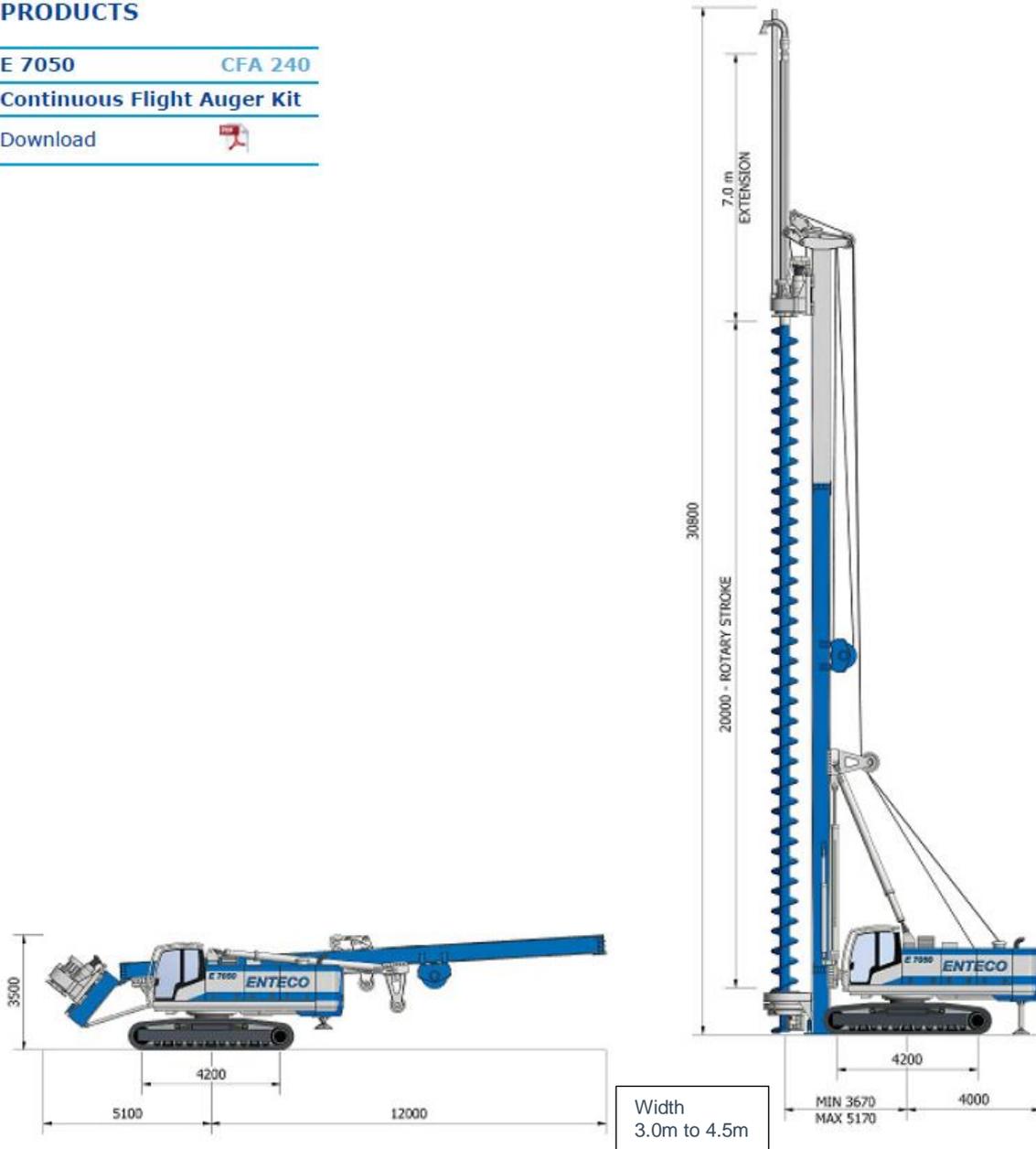
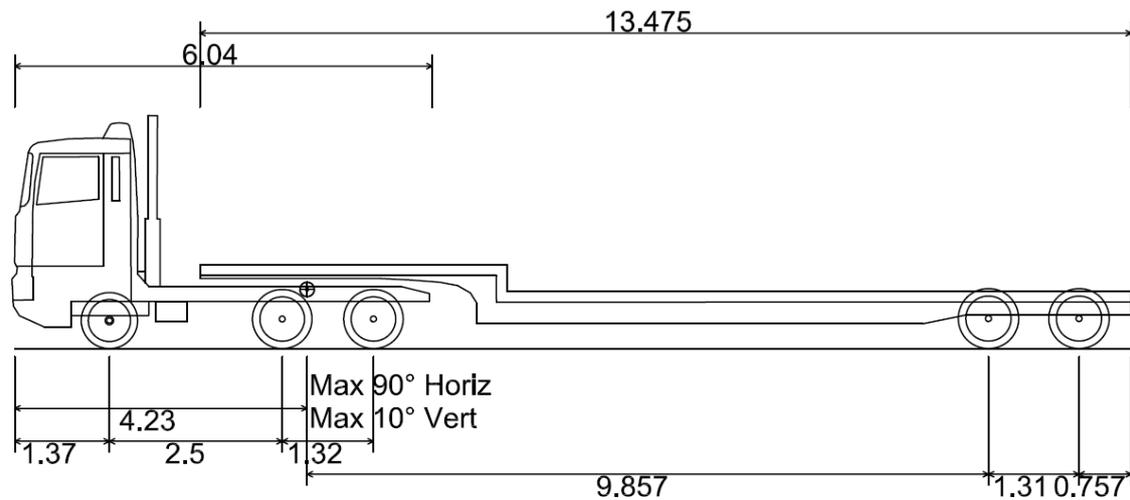
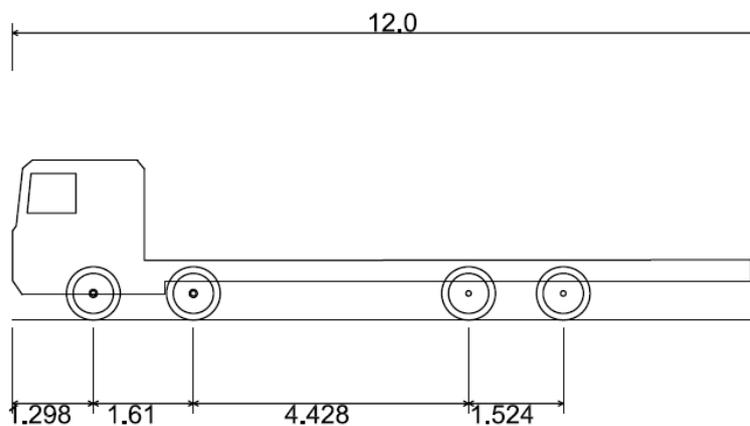


Figure 3-1 Enteco E7050-CFA240 Piling Rig



Low Loader	
Overall Length	16.154m
Overall Width	2.520m
Overall Body Height	3.393m
Min Body Ground Clearance	0.318m
Max Track Width	2.500m
Lock to Lock Time	6.00s
Kerb to Kerb Turning Radius	6.990m

Figure 3-2 Typical Low Loader



Rigid Flatbed Truck	
Overall Length	12.000m
Overall Width	2.500m
Overall Body Height	3.928m
Min Body Ground Clearance	0.412m
Track Width	2.393m
Lock to Lock Time	6.00s
Kerb to Kerb Turning Radius	11.900m

Figure 3-3 Typical Rigid Flatbed Truck

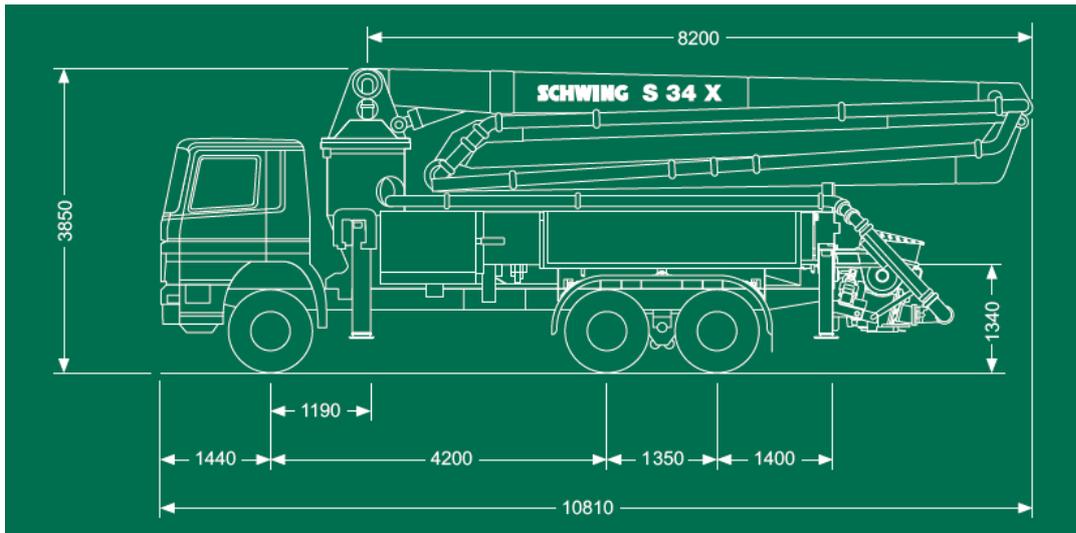
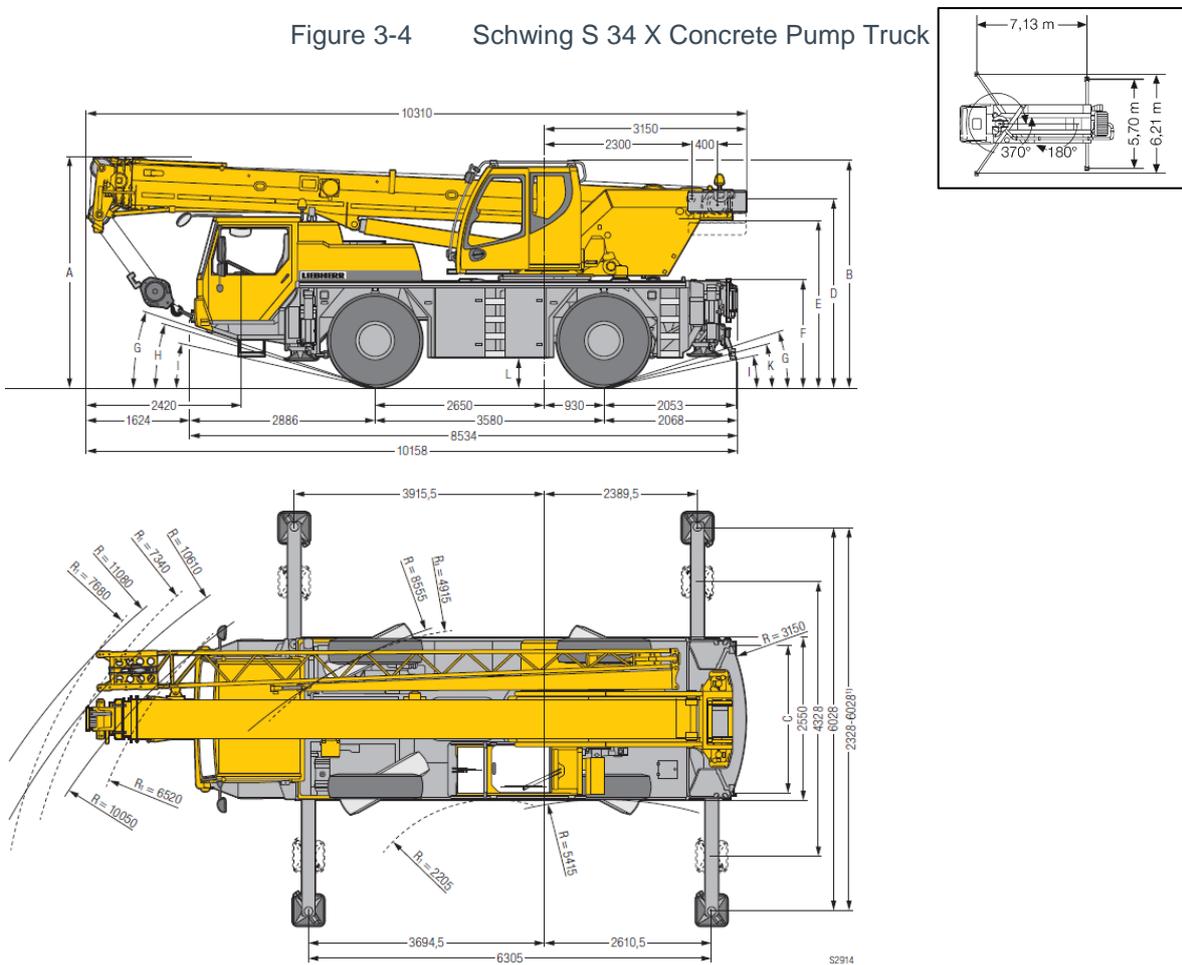


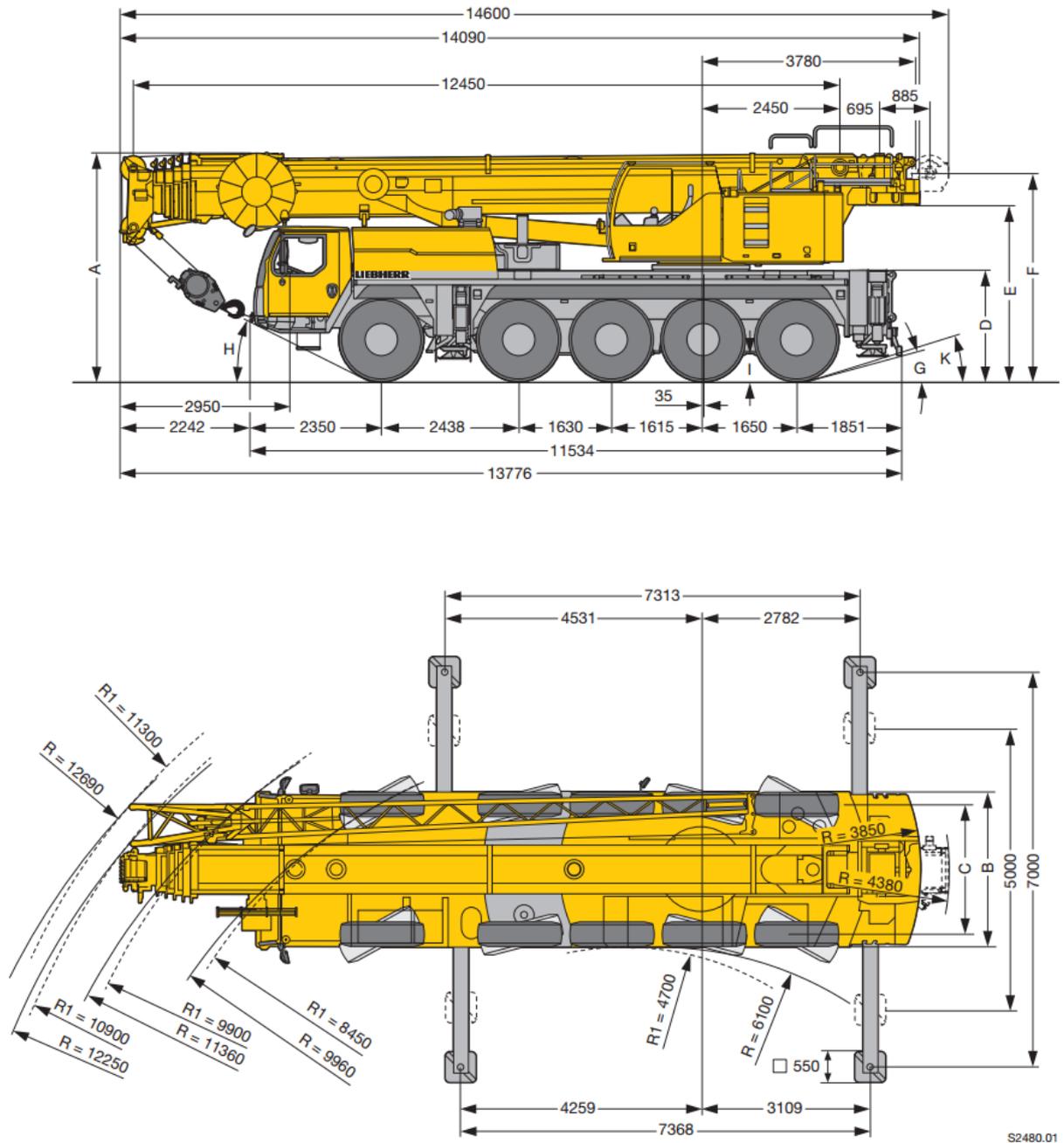
Figure 3-4 Schwing S 34 X Concrete Pump Truck



Maße/Dimensions/Encombrement/Dimensioni/Dimensiones/Габариты крана

	A	A	B	C	D	E	F	G	H	I	K	L
		100 mm*										
385/95 R 25 (14.00 R 25)	3550	3450	3480	2160	2884	2554	1598	18°	16°	11°	14°	375
445/95 R 25 (16.00 R 25)	3600	3500	3530	2100	2934	2604	1648	19°	17°	12°	15°	425

Figure 3-5 Liebherr LTM 1030-2.1 Mobile Crane



⊙	Maße · Dimensions · Encombrement · Dimensioni · Dimensiones · Размеры mm										
	A	A 100 mm*	B	C	D	E	F	G	H	I	K
385/95 R 25 (14.00 R 25)	3950	3850	2750	2313	1890	3035	3695	12°	23°	375	14°
445/95 R 25 (16.00 R 25)	4000	3900	2750	2301	1940	3085	3745	13°	25°	425	16°
525/80 R 25 (20.5 R 25)	4000	3900	2850	2323	1940	3085	3745	13°	25°	425	16°

* abgeseckt · lowered · abaissé · abbassato · suspensión abajo · шасси осажено

Figure 3-6 Liebherr LTM 1095-5.1 Mobile Crane

4. Summary

- 4.1. As the CADP programme develops and contractors are appointed by the Airport further detailed information on the construction methodology will be discussed with the DLRL at formal and regularly held meetings. Where detailed construction information is required to be approved, such as lifting plans, the strategy for approval is agreed and described in this document.
- 4.2. This document along with the supporting DLRL APA and Infrastructure Protection Regime – Guidance for Third Parties documents will form part of all relevant construction contracts awarded by the Airport. The combined documents outline the requirements and constraints that the appointed contractor(s) must adhere to when preparing detailed method statements for the construction of the WTE and WEC.
- 4.3. The measures set out in this document combined with the adherence with the DLRL APA will ensure that DLR assets will be adequately protected throughout the construction of CADP1.
- 4.4. TfL and DLRL have been consulted in the preparation of this report and confirmed agreement in principle with the approach in relation to the discharging of Condition 87.

Appendices



Appendix A.

CADP1 Site Plan

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION
 In addition to the hazards and risks normally associated with the type of work detailed on this drawing, NOTE SIGNIFICANT HAZARDS AS IDENTIFIED

CONSTRUCTION:
 FOR CONSTRUCTION, OPERATION, MAINTENANCE AND DEMOLITION RISKS REFER TO COMBINED CADP RISK REGISTER: A400-01-U-REG-00001-02

MAINTENANCE:
 SEE ABOVE

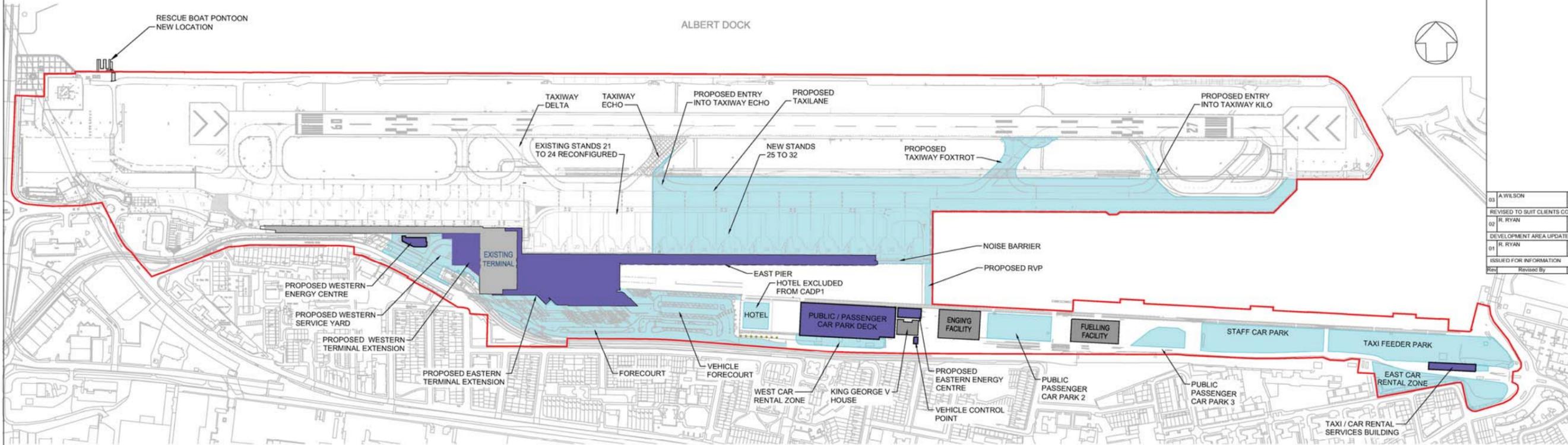
DECOMMISSIONING / DEMOLITION:
 SEE ABOVE

It is assumed that all works will be undertaken by a competent contractor, working where appropriate, to an approved method statement.

DO NOT SCALE FROM THIS DRAWING
 Copyright in all documents and drawings prepared by TPS Consult Ltd. and in any works executed from those documents and drawings shall remain the property of TPS Consult Ltd. unless otherwise agreed at project inception.

- NOTES**
- ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED.
 - STAND MARKINGS ARE SHOWN FOR ILLUSTRATION PURPOSES ONLY.

- LEGEND**
- DEVELOPMENT AREA
 - EXISTING BUILDINGS
 - PROPOSED BUILDINGS
 - PROPOSED DEVELOPMENT BOUNDARY LINE



03	A. WILSON	23/01/2018	S. HAWLEY	23/01/2018
02	R. RYAN	19/10/2017	S. SOBECKI	19/10/2017
01	R. RYAN	18/10/2017	S. SOBECKI	18/10/2017

Rev	Revised By	Date	Checked By	Date

FOR INFORMATION

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Project
CITY AIRPORT DEVELOPMENT PROGRAMME

Drawing Title
CADP1 EXTENT OF WORKS

Originating Office
 TPS Croydon - Interchange
 81-85 Station Road
 Croydon
 CR0 2RD
 United Kingdom
 Tel +44 (0)1902 422431
 www.tpsconsult.co.uk
 info@tpsconsult.co.uk

TPS Job Manager
 R. KNAPTON
 Signature Date
 Drawn By: R. RYAN 17/10/2017
 Checked: S. SOBECKI 18/10/2017
 Authorised: S. GUNESS 18/10/2017

TPS Project No: 112931
 Drawing Status: FOR INFORMATION
 Scale (at A1): 1:3000 (at A3)

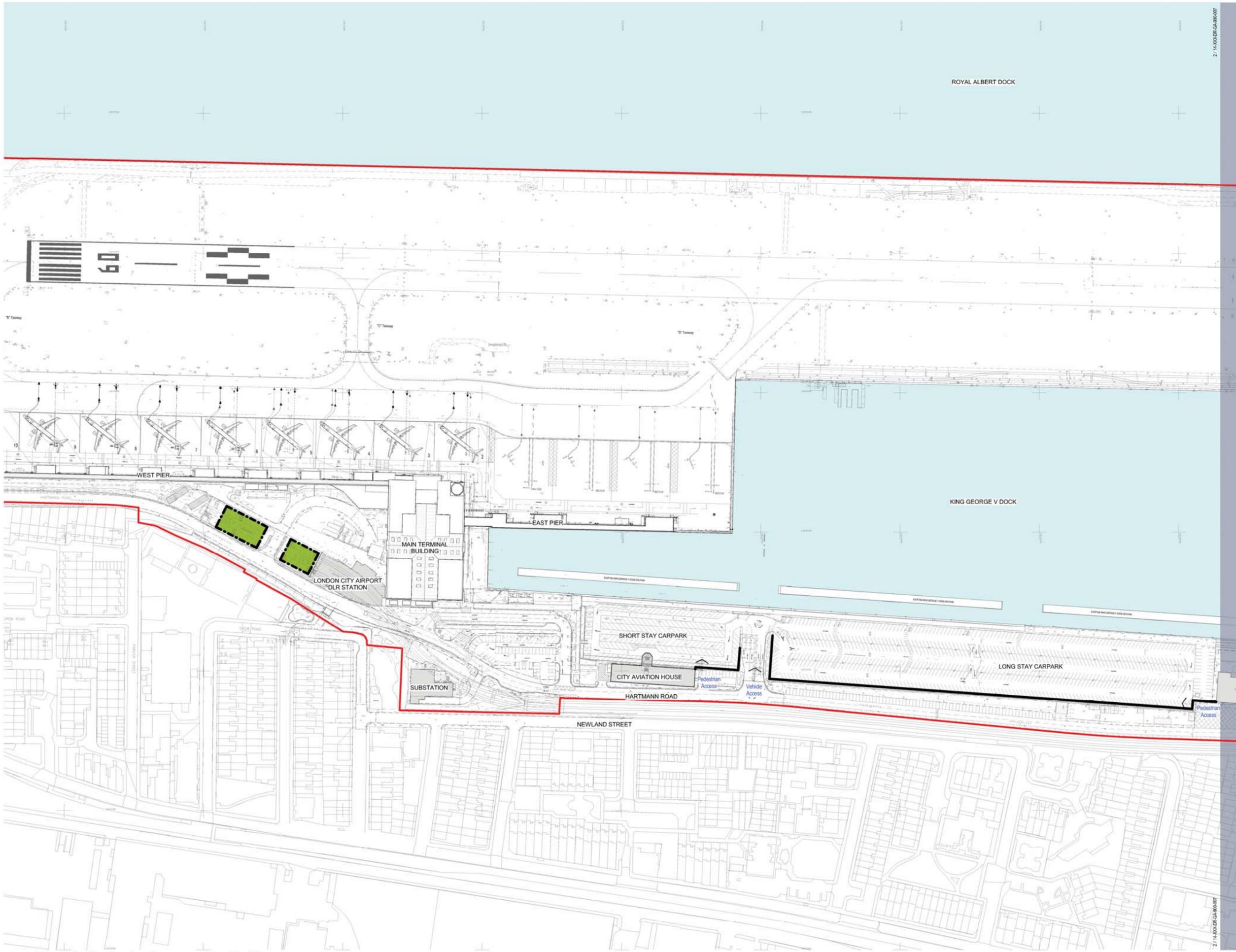
Project No	Org	Disc	Zone	Level	Type	Sub Type	Series	She No	Rev
A400-TPS-C-00-L00-DR-GA-100-201									03

PLOT SCALE

Appendix B.

Construction Compounds and Site Layout Drawings

A400-PAW-A-14-XXX-XX-DR-GA-900-006	CADP CONDITION 96 FIGURE 1: CONSTRUCTION COMPOUND & DETAILS
A400-ATK-S-00-L00-DR-GA-940-001	SITE PLAN PROPOSED WEC AND WTE PILING CONSTRUCTION PLANT
A400-ATK-S-00-L00-DR-GA-940-002	SITE PLAN PROPOSED WEC AND WTE SUBSTRUCTURE CONSTRUCTION PLANT
A400-ATK-S-00-L10-DR-GA-940-003	SITE PLAN PROPOSED WEC AND WTE STEEL FRAME CONSTRUCTION PLANT
A400-ATK-S-00-L30-DR-GA-940-004	SITE PLAN PROPOSED WTE ROOF LEVEL PLAN CHILLER INSTALLATION
A400-ATK-S-00-XXX-DR-GA-940-005	SITE PLAN PROPOSED WTE CLADDING INSTALLATION PLANT
A400-ATK-S-00-XXX-DR-SE-940-006	CROSS SECTION SHOWING CRANE INSTALLATION OF CHILLERS ON WTE ROOF



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- All information shown outside the Proposal Boundary is for illustrative purposes only.
- Internal layouts are for illustrative purposes only.
- Base building survey information by LCY and MSA

Legend

- Indicative Compound Area
Total Area: 0.09278 hectares
- Proposed Construction Compound Timber Hoarding and Noise Barrier - 3 metres
- Application Boundary

SCALE BAR

N

C	MDS	09/01/18	For Approval
Previously Issued as A400-PAWA-13-XXX-DR-GA-948-001			
B	MDS	02/12/16	For Approval
A	MDS	25/10/16	For Planning Approval
Rev	Dm	Date	Description

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Client
LONDON CITY AIRPORT

Project Name
CITY AIRPORT DEVELOPMENT PROGRAMME

File
CADP Condition 96
Figure 1: Construction Compound & Details

Discipline Architecture		Purpose of Issue For Approval	
Drawing Originator Pascall+Watson architects		Originators Job No. 5077	
Checked By TA	Checked Date 09/01/18	Drawn By MS	Drawn Date 25/10/16
Approved By MN	Approved Date 09/01/18	Scale @ A1 1 : 1250	

Proj Code	Orig	Disc	Zone	Level	File	Type	Buildings/Orig	Series/Int	Rev	Status
A400PAWA	A	14	XXXXX	DR	GA900-006	C			5	S3

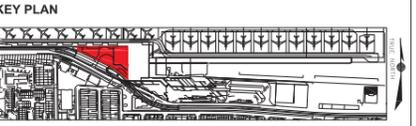
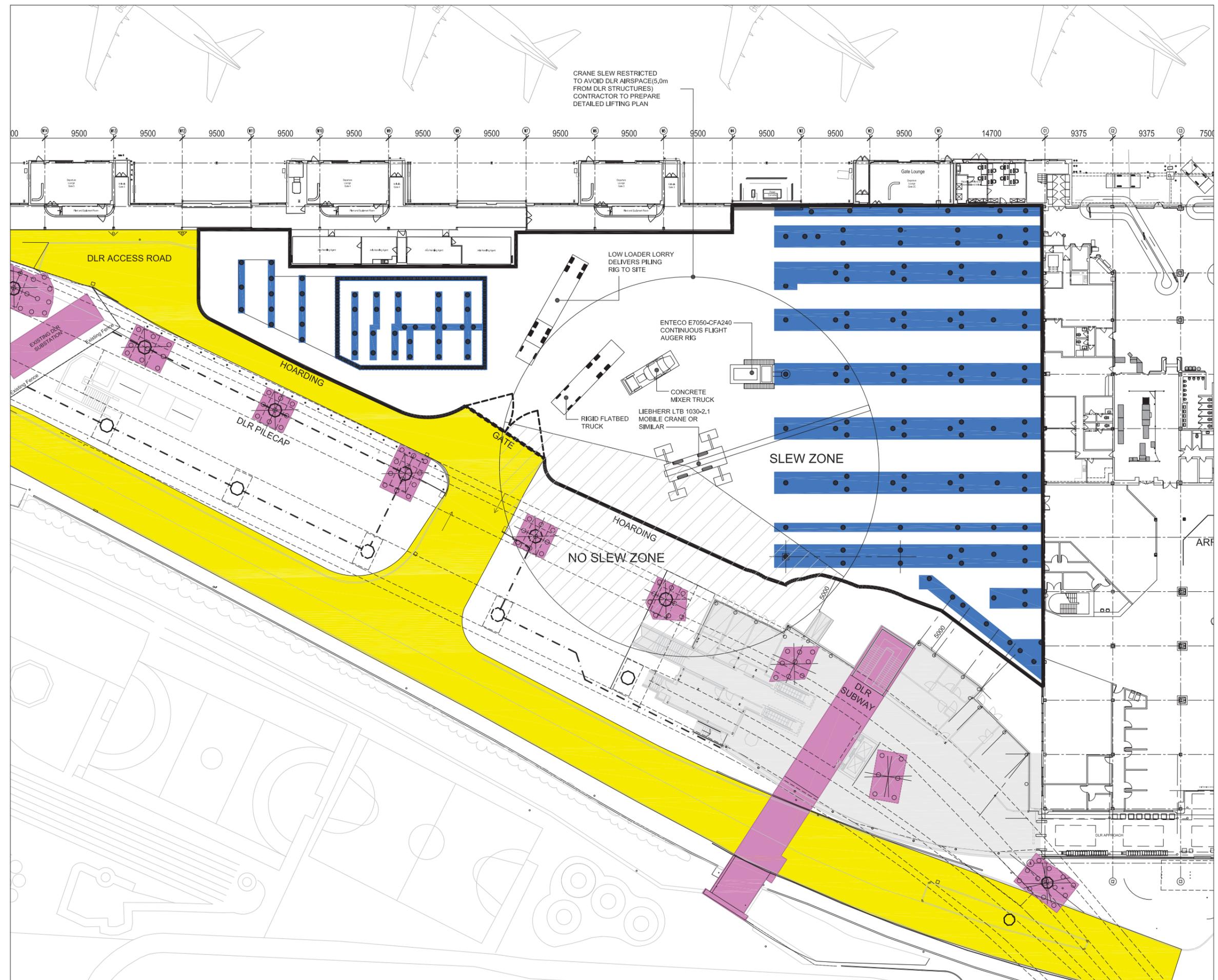
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DO NOT SCALE

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:

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 - MAINTENANCE/CLEANING
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Rev.	Date	Description	By	Chk'd	App'd

Drawing Status: **WORK IN PROGRESS** Substage: **SO**

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Client: **LONDON CITY AIRPORT CITY AIRPORT DEVELOPMENT PROGRAMME**

Drawing Title: **SITE PLAN PROPOSED WEC AND WTE PILING CONSTRUCTION PLANT**

Scale	1:250	Designed	CJB	Drawn	RK	Checked	RDB	Authorised	MDS
Original Size	A1	Date	30/9/16	Date	30/9/16	Date	30/9/16	Date	30/9/16

Drawing Number: **A400-ATK-S-00-L00-DR-GA-940-001-01-S0**

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Millimetres

DO NOT SCALE

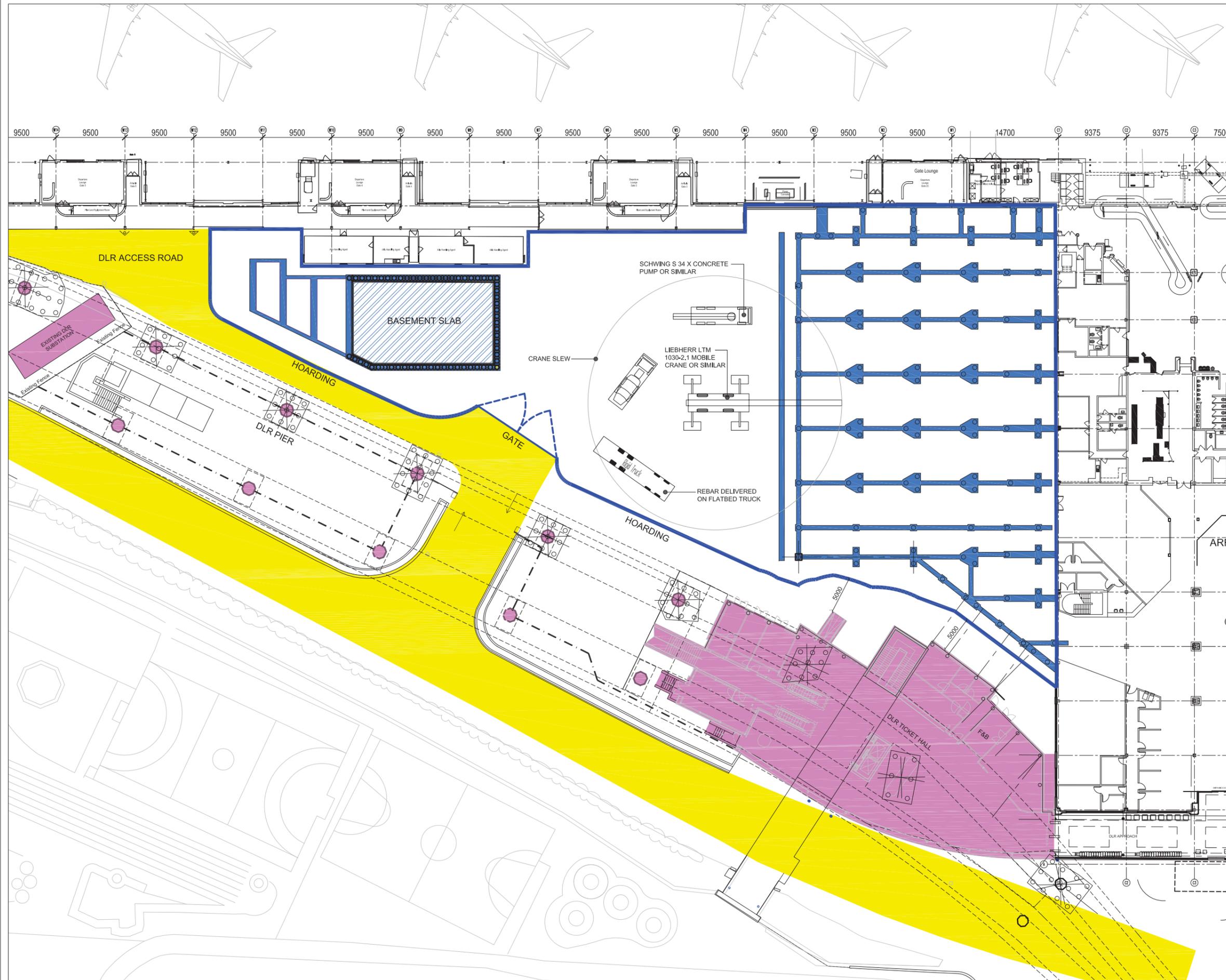
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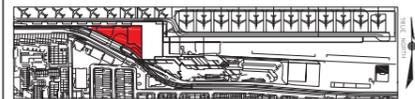
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MAINTENANCE/CLEANING

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KEY PLAN



1	30/9/16	Planning Condition PCC 87 - First issue	CJB	RB	MDS
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Rev.	Date	Description	By	Chk'd	App'd
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Drawing Status: **WORK IN PROGRESS** Suitability: **S0**

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CITY AIRPORT DEVELOPMENT
PROGRAMME**

Drawing Title: **SITE PLAN
PROPOSED WEC AND
WTE SUBSTRUCTURE
CONSTRUCTION PLANT**

Scale	Designed	Drawn	Checked	Authorised
1:250	CJB	RK	RDB	MDS
Original Size	Date	Date	Date	Date
A1	30/9/16	30/9/16	30/9/16	30/9/16

Drawing Number: **A400-ATK-S-00-L00-DR-GA-940-002-01-S0**

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Millimetres

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SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

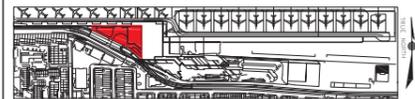
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1	30/9/16	Planning Condition PCC 87 - First issue	CJB	RB	MDS
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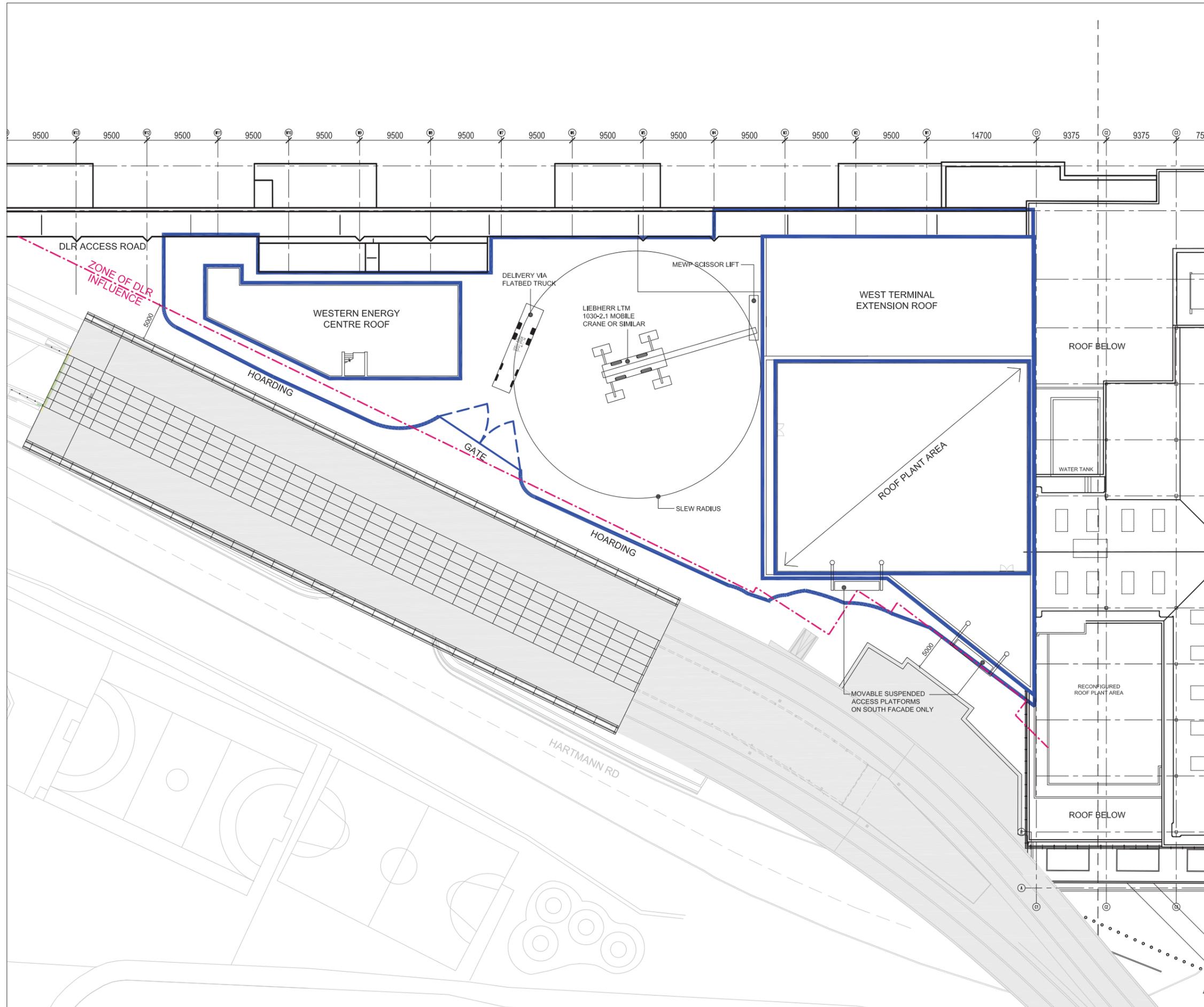
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Drawing Number: **A400-ATK-S-00-L10-DR-GA-940-003-01-S0**

0 10 100
Millimetres

DO NOT SCALE



SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

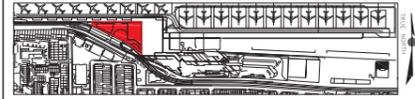
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KEY PLAN



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Rev. Date Description By Chk'd App'd

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Drawing Title: **SITE PLAN PROPOSED WTE CLADDING INSTALLATION**

Scale	1:250	Designed	CJB	Drawn	RK	Checked	RDB	Authorised	MDS
Original Size	A1	Date	30/9/16	Date	30/9/16	Date	30/9/16	Date	30/9/16

Drawing Number: **A400-ATK-S-00-XXX-DR-GA-940-005-01-S0**

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Millimetres

DO NOT SCALE

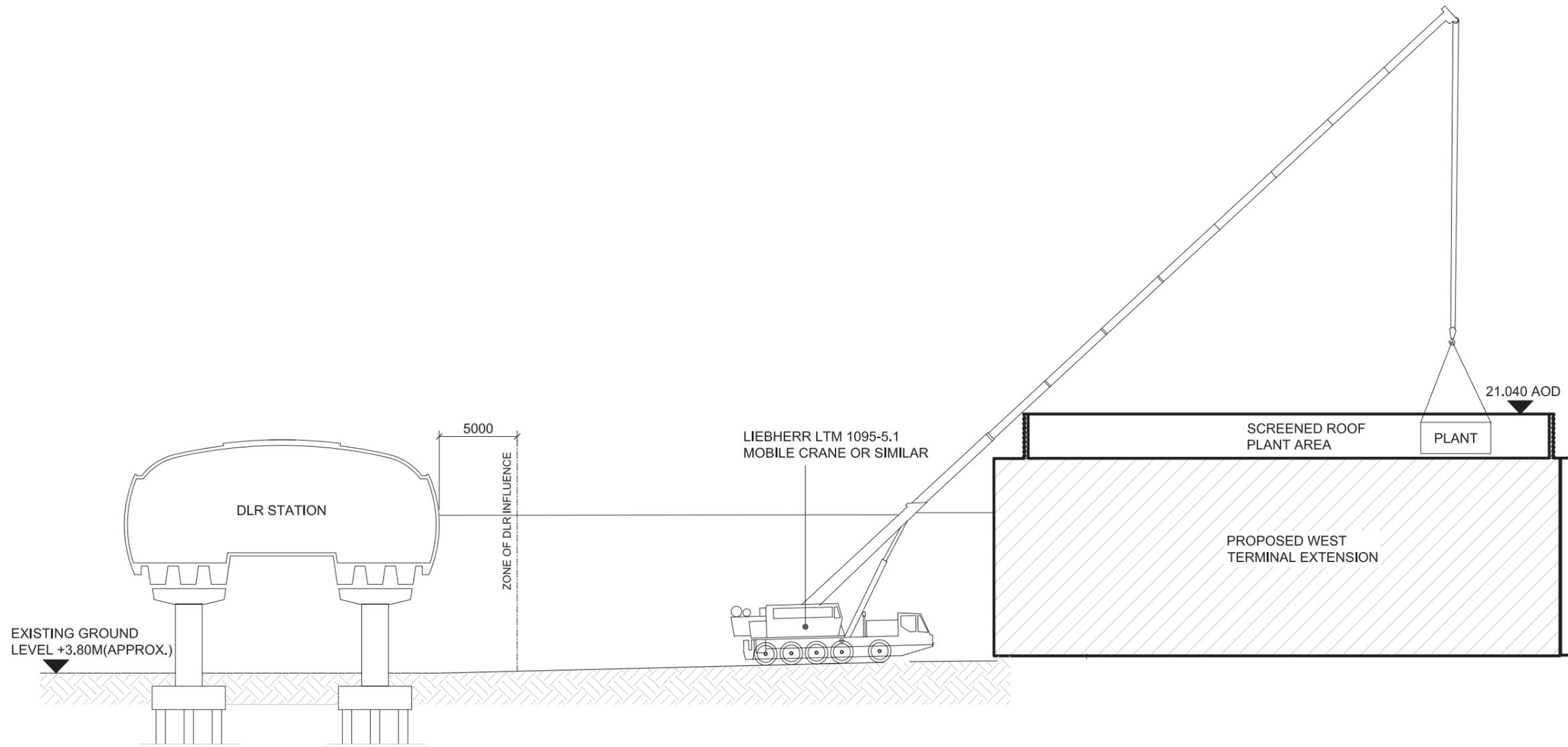
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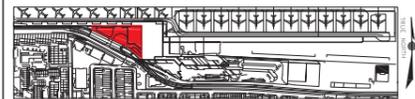
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SECTION 1 - CRANKED SECTION THROUGH DLR STATION AND WEST TERMINAL EXTENSION

SCALE 1:150

KEY PLAN



1	30/9/16	Planning Condition PCC 87 - First issue	CJB	RB	MDS
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Rev.	Date	Description	By	Chk'd	App'd
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Project Title
**LONDON CITY AIRPORT
CITY AIRPORT DEVELOPMENT
PROGRAMME**

Drawing Title
**CROSS SECTION SHOWING
CRANE INSTALLATION
OF CHILLERS ON WTE**

Scale	1:150	Designed	CJB	Drawn	RK	Checked	RDB	Authorised	MDS
Original Size	A1	Date	30/9/16	Date	30/9/16	Date	30/9/16	Date	30/9/16

Drawing Number	A400-ATK-S-00-XXX-DR-SE-940-006-01-S0								
Proj. Code	Orig	Dis	Zone	Level	Type	Sub	Series / Num	Rev	Status