Proposed Residential Redevelopment of
51 Fitzroy Park

Construction Management Plan

for

Mehdi and Elli Norowzian

motion
transport planning

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project number:	90421
prepared by:	PS
checked by:	
issue date:	June 2009
status:	DRAFT

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1.0 Introduction

1.1 Motion Transport Planning has been instructed by Mehdi and Elli Norowzian to produce a Construction Management Plan (CMP) in relation to the proposed redevelopment of 51 Fitzroy Park, London. The development proposals involve the demolition of the existing 1950's house and the construction of a high quality 2 storey family home with basement.

1.2 The purpose of the CMP is to ensure that the impact of demolition and construction work on the local residents and the immediate highway network is kept to an absolute minimum. The CMP provides detail of all measures that are considered appropriate at this time; however, the CMP is a live document that will evolve as necessary to address issues that may be identified through ongoing consultation with local residents as the project progresses.

1.3 The Construction Project Manager will be responsible for implementing measures contained in the CMP and will be the point of contact for local residents. The Project Managers name, telephone number and email address will be added to the CMP once he/she has been appointed.

1.4 This document has been prepared with input from the project architects, planning consultants, structural and civil engineers to ensure that the CMP can comprehensively address all issues that may arise during demolition and construction works.

2.0 Programme

2.1 As planning approval has yet to be granted, the programme below provides an indication of the duration of each phase of the works. The programme will be updated with the dates envisaged for each phase of works once planning permission has been granted and the date for works to start on site has been determined.

Activity	Weeks	Workers on Site
Site Preparation, Building Regulations and Health & safety Documentation	8	2 Occasional
Demolition	4	6
Excavation	4	6
Concrete Footing, Slab and Retaining Walls	6	6
Building Frame	3	8
Cladding	3	8
Roof	3	6
Ground Works	4	6

Table 2.1 – Programme of Works

Demolition Phase

2.2 The proposal is to demolish the existing building by hand and the use of a JCB excavator for two reasons, one to reclaim and recycle any materials possible to eliminate the amount of material that needs to go to land fill and also to minimise disruption to the surrounding residents.

Excavation Works and Concrete Works

2.3 The next phase of the works is to complete the foundation slab and retaining walls. This will be carried out by the use of the JCB excavator, which will be located on site.

2.4 Approximately 800 cubic metres of soil and clay will be excavated to form the new lower ground floor level. Some of this material will be used as part of the new landscaping on the site with the remainder removed from the site by truck. The soil and clay removed will be loaded onto trucks efficiently within the site compound thus not disrupting the local residents or the flow of traffic on Fitzroy Park.

House Construction

2.5 A crane will be positioned on site and will be used to erect the pre fabricated wall panels. A plan showing where the crane will be sited is attached at **Appendix A**. As soon as the walls have been constructed the crane will be used to lay down internal materials to the site i.e. bulk items plasterboard plant etc all of this will be carried out before the floor and roof panels are complete.

2.6 Once the structure is complete the crane will be used to install the glazing. It is envisaged that this will take approximately two weeks to complete and then the crane will be removed from site.

2.7 The final phase of construction will be ground works, which will involve landscaping works and laying external materials.

3.0 Access

3.1 All demolition, construction and delivery vehicles will approach the site from the southern end of Fitzroy Park, via Merton Lane. The following list provides detail of the type of vehicles that will need to gain access to the site during the demolition construction process.

- Skip Lorry 4 Wheel, 17 Tonne, G.V.W
- Concrete Delivery Vehicle 6 Wheel, 24 Tonne, G.V.W
- Building Panel Deliveries 4 Wheel, 17 Tonne, G.V.W

- Ballast and Loose Materials 4 Wheel, 17 Tonne, G.V.W, Tipper
- General Building Materials 4 Wheel, 17 Tonne, G.V.W, HIAB Flat Bed
- Wheeled 360 Excavator, 23 Tonne GVW
- Mobile Crane, 24 Tonne GVW

3.2 Construction vehicle movements will not be permitted at weekends or during public holidays and will be scheduled to take place between the hours of 10:00 and 16:00. The following table provides a breakdown of the number of vehicle movements, and the type of vehicle, that will occur during each phase of the construction process. The table will be updated to provide more specific detail of anticipated delivery times once planning permission has been granted and the date for works to start on site has been determined.

Construction Phase	Duration (Weeks)	Total Vehicle Movements	Daily Vehicle Movements
Demolition	4	40 Movements using 17 Tonne GVW Tipper	Max 6 Movements per Day
Excavation	4	100 Movements using 17 Tonne GVW Tipper 2 Movements using 23 Tonne GVW Excavator	Max 8 Movements per Day
Concrete Delivery	6	30 Movements using 24 Tonne Concrete Delivery vehicle	Max 6 Movements per Day
Building Frame	3	12 Movements using 17 Tonne GVW flatbed Vehicle 1 Movement using 24 Tonne Mobile Crane	Max 4 Movements per Day
Cladding	3	8 Movements using 17 Tonne GVW flatbed Vehicle/17 Tonne Building Panel GVW Vehicle	Max 4 Movements per Day
Roof	3	8 Movements using 17 Tonne GVW flatbed Vehicle 1 Movement using 24 Tonne Mobile Crane	Max 4 Movements per Day
Ground Works	4	16 Movements using 17 Tonne GVW Tipper Vehicle	Max 4 Movements per Day

Table 3.1 – Vehicle Movements by Construction Phase

3.3 Swept path analysis has been undertaken using the computer programme AutoTrack to demonstrate that the mobile crane and concrete delivery vehicle can negotiate the junctions of Highgate West Hill with Merton Lane and Merton Lane with Fitzroy Park in a satisfactory manner. These are the two largest vehicles that will need to manoeuvre to and from the site and therefore it is not necessary to repeat this exercise for smaller vehicles. It should be noted that these manoeuvres will not require the suspension of any on-street parking bays.

3.4 A temporary ramp off Fitzroy Park will be formed to the front of the property. This will enable deliveries and collection of recyclable materials, timber, metal etc from an area in front of the existing building. The ramp will be positioned clear of the existing trees at the existing garage/driveway area. Swept path analysis has also been undertaken to demonstrate how construction and delivery vehicles will manoeuvre to and from this area from Fitzroy Park.

3.5 Following demolition of the existing building, a further temporary ramp will be created from the centre of the site frontage with Fitzroy Park. Vehicle access to and from this area has also been assessed using AutoTrack.

The swept path analysis work is attached at **Appendix B**. No swept path analysis has been undertaken for the Wheeled 360 Excavator, as this vehicle is smaller and more manoeuvrable than other construction vehicles. The specification of this vehicle is enclosed at **Appendix B** for reference.

4.0 Nuisance Control

4.1 A range of measures will be implemented to ensure that the potential impact of the works on local residents and neighbours will be minimised. These measures are discussed in turn below.

Dust Control

4.2 Water dampening measures will be used during the demolition process, which will significantly control dust generation. Dust screens could also be incorporated during this element of the project. However, it should be noted that as concrete is delivered wet, and that the timber frame is delivered as prefab panels with the cladding panels pre cut to size, dust during the construction phase will be limited when compared to more traditional construction methods.

Wheel Wash

4.3 Site vehicles will have wheels washed down prior to leaving the site so as to reduce unwanted debris spreading onto Fitzroy Park. A temporary concrete slab will be

installed at the southern most entrance to the site to form an impervious area that can be used as a wheel wash area.

4.4 This area will drain into a temporary underground holding tank to contain all contaminates liquid, which will be empted on a regular basis. The operation of the wheel wash will be controlled by the Principle Contractor and he will have an empting schedule in place prior to work commencing.

Noise Control

4.5 Trees and walls that surround No.51 will assist in acting as a noise barrier. Deliveries to the site will take place between the hours of 10:00 and 16:00 and scheduled to distribute vehicle movements throughout these hours so as to avoid periods of intensive activity therefore limiting noise and vehicle emissions.

4.6 The use of electrically powered Modec vehicles has been considered but this has had to be discounted as most materials requiring movement will be in bulk and heavy and no commercially available vehicles of the size needed are yet available. In addition, there will be no power on site for safety reasons, and therefore on site charging of electric vehicles would not to be possible.

Site Security

4.7 All construction materials will be stored on site. It is proposed that Heras type hoardings will be erected along the site boundary with Fitzroy Park. These will be the 2.4 metre high of open mesh design. Access gates will be formed in the fence to serve the two temporary entrances to the site. The site will be locked outside of working hours to ensure that all materials and equipment are stored securely.

Consultation with Local Residents

4.8 It is proposed that a Construction Working Group will be formed by the Construction Project Manager to ensure that residents are aware of how the construction works are progressing and provide them with the opportunity to raise any issues that may arise as they occur. Representatives of the Residents Association will be invited to join the Construction Working Group as well as any other parties affected by the works and Council Officers. This will include residents of neighbouring properties, Fitzroy Close and properties that border the construction vehicle route on Fitzroy Park.

4.9 The Construction Project Manager will keep in regular contact with local residents, affected parties and the Council by sending a fortnightly update by email, and post if necessary. It is also proposed that fortnightly meetings will be held with local residents if all parties agree that they are required.

Travel Plan

4.10 There will typically be a total of 6 construction workers on site, although at times, this will increase to 8. To minimise the potential impact of construction workers travelling to the area, a Travel Plan will be implemented to promote and encourage the use of sustainable mode of travel to and from the site and minimise the use private cars. Construction workers will be asked not to park private vehicles on Fitzroy Park.

4.11 The Travel Plan will take the form of a leaflet that will include details of local public transport services, promote walking and cycling and encourage car sharing. Consideration will be given to the operation of a shuttle bus service to and from the site from nearby public transport nodes.

Concrete Production

4.12 Consideration has been given to the production of concrete on-site in order to minimise the quantity of concrete to be transported. However, the compact nature of the site and the fact that the land is on a gradient make the installation of a production plant impractical and a major safety hazard.

5.0 Pedestrian and Road User Safety

5.1 Fitzroy Park is a privately maintained road, which has a carriageway width that varies between 3.6 and 5 metres between the site and Merton Lane. Therefore, it is proposed to implement measures to ensure that pedestrian and road user safety is maintained throughout the construction process.

5.2 To enable consideration to be given to the types of measures appropriate, a count of all pedestrian and vehicle movement on the southern end of Fitzroy Park was undertaken on 1 June 2009 between the hours of 15:00 and 16:00. A full copy of this survey is attached to this report as **Appendix C**, whilst the table below provides a summary of results.

Travel Mode				
Pedestrian	**Car**	**HGV**	**Cycle**	**Motorcycle**
38	22	0	5	1

Table 5.1 – Total pedestrian and vehicle movements 15:00 – 16:00 01 June 2009

5.3 The survey shows that there is a relatively light, although steady flow of pedestrian and vehicle movement on this section of Fitzroy Park. To ensure that pedestrian and road user safety can be maintained, it is proposed to implement a banksman strategy, which will be managed by a Banksman Co-ordinator. The strategy will comprise of the following measures.

- The Banksman Co-ordinator will keep a log of all construction vehicle movements to and from the site in order to monitor them closely.

- No construction vehicles will be permitted to stop, be held, or wait in the public highway (including Fitzroy Park). Vehicles will instead be waived on by a banksman stationed at the top of Merton Lane down Highgate West Hill into a circling pattern if either Merton Lane or Fitzroy Park is occupied by an exiting construction vehicle.

- Vehicle manoeuvres into and out of the site from Fitzroy Park will be monitored by a banksman stationed outside the entrance to the site. All loading will take place on site.

- A banksman will be stationed at the junction of Fitzroy Park and Merton Lane to monitor construction vehicle manoeuvres into Fitzroy Park. This will ensure that pedestrians crossing from Merton Lane, Millfield Lane or from the Heath do not conflict with construction vehicles.

- A banksman will be required to walk in front of, and monitor all lorries along Fitzroy Park to ensure they only travel at walking speed (4mph). When vehicles approach the site, the banksman stationed at the junction of Fitzroy Park with Millfield Lane and Merton Lane will carry out this task. When leaving the site, the vehicle will be accompanied by the banksman usually stationed at the site entrance.

- The banksman team will have three members, who will all be on site from Monday to Friday between 10:00 and 16:00 when construction traffic movements will take place. The banksmen will have radios in order to contact each other whilst working.

- Temporary road signage will be positioned on Fitzroy Park at either end of the construction vehicle route warning road users of the presence of construction traffic.

5.4 As discussed, the carriageway of Fitzroy Park varies in width between 3.6 and 5.0 metres between the site and the junction with Merton Lane and Millfield Lane. The narrowest section of carriageway occurs at the southern extent of the road between the junction with Merton Lane and Millfield Lane and Fitzroy Lodge. Between Fitzroy Lodge and the site, the carriageway is typically in excess of 4.1 metres wide, which is sufficient for a Heavy Goods Vehicle and cyclist to pass. Figure 5.1 shows suitable location that pedestrians can take refuge on the narrower section of road when a construction vehicle passes. This plan also shows the proposed location of temporary road signage.

6.0 Fitzroy Park Road Surface

6.1 Fitzroy Park is a private road, which is managed and maintained on behalf of residents by the Fitzroy Park Residents Association. The banksman strategy will minimise the potential for damage to street furniture as all construction vehicle manoeuvres will be assisted and supervised.

6.2 It is proposed that a suitable method of funding any repair works necessary in the event that construction vehicles cause damage to street furniture, the road surface or services will be agreed with the Residents Association.

7.0 Emergency Access

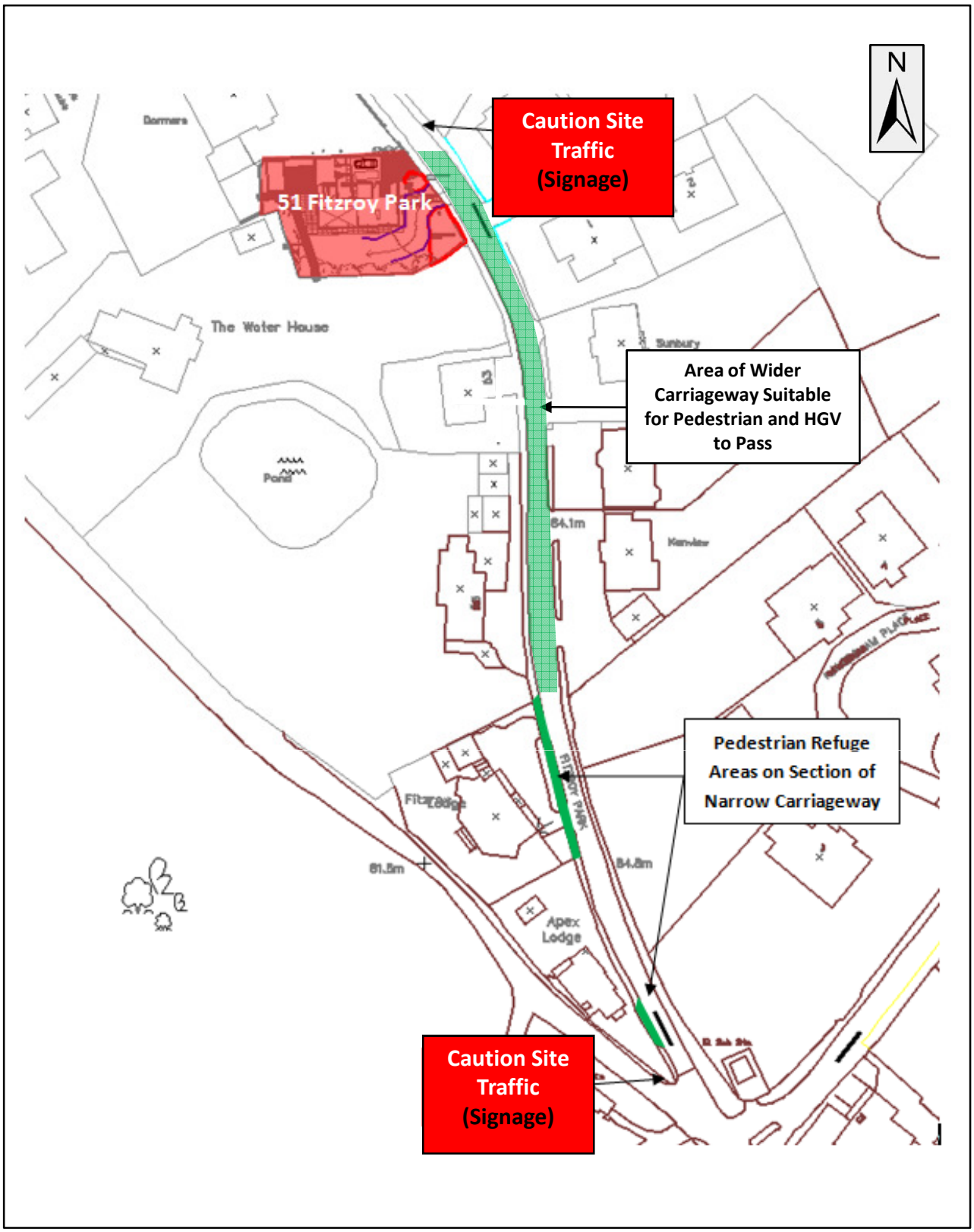
7.1 The redevelopment of 51 Fitzroy Park will not prevent access to Fitzroy Park in normal circumstances. In the event that a construction vehicle breaks down, blocking access to the southern end of Fitzroy Park, the Construction Project Manager will arrange for the broken down vehicle to be repaired/recovered at the earliest opportunity and liaise with the emergency services to ensure that they are aware that access to Fitzroy Park is temporarily only available from the northern end of the road.

8.0 Summary

8.1 This Construction Management Plan relates to the proposed redevelopment of 51 Fitzroy Park, London. The purpose of the CMP is to ensure that the impact of demolition and construction works on the local residents and the immediate highway network is kept to an absolute minimum.

8.2 The agreed contents of the Construction Management Plan must be complied with unless otherwise agreed with the Council. The person responsible for implementing the CMP shall work with the Council to review this Construction Management Plan if problems arise in relation to the construction of the development and complaints from local residents and Heath users. Any future revised plan must be approved by the Council and complied with thereafter.

Figures



51 Fitzroy Park

Figure 5.1 – Pedestrian and Road User Safety Plan

Appendix A

Plan Showing Location of Crane on Site

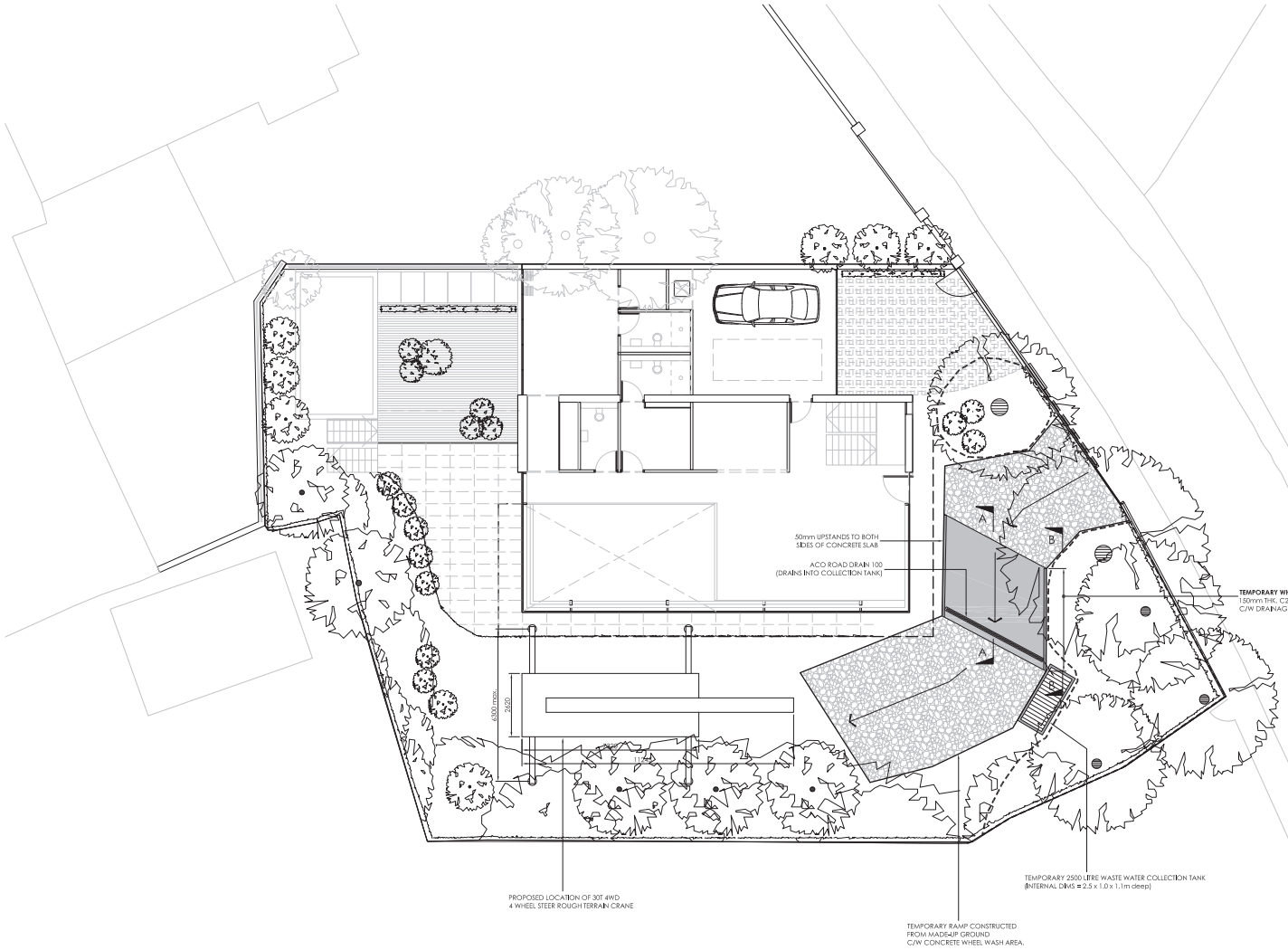
NOTES:

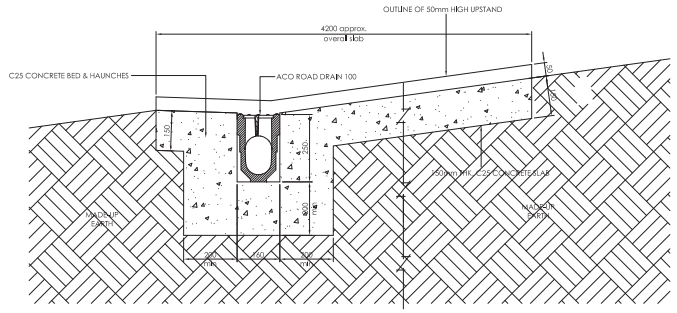
1) DO NOT SCALE, IF IN DOUBT ASK.

2) TO BE READ IN CONJUNCTION WITH THE ARCHITECTS DRAWINGS.

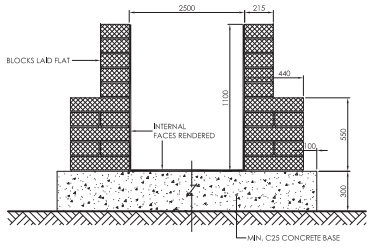
TREE PROTECTION

WASTE WATER COLLECTION TANK





SECTION 'A - A' THROUGH TEMPORARY WHEEL WASHAREA (1:10)



SECTION 'B - B' THROUGH TEMPORARY WATER COLLECTION TANK (1:20)

REV.		DATE
A	TREE PROTECTION ADDED & COLLECTION TANK RELOCATED	JUNE 2009

CONTRACT TITLE:

FITZROY PARK

DRAWING CONTENTS:

PLAN SHOWING PROPOSED HEAVY PLANT ACCESS

PETER EATON & ASSOCIATES LTD

32 ROYAL SCOT ROAD
PRIDE PARK
DERBY DE24 8AJ

TELEPHONE: (01332) 201881
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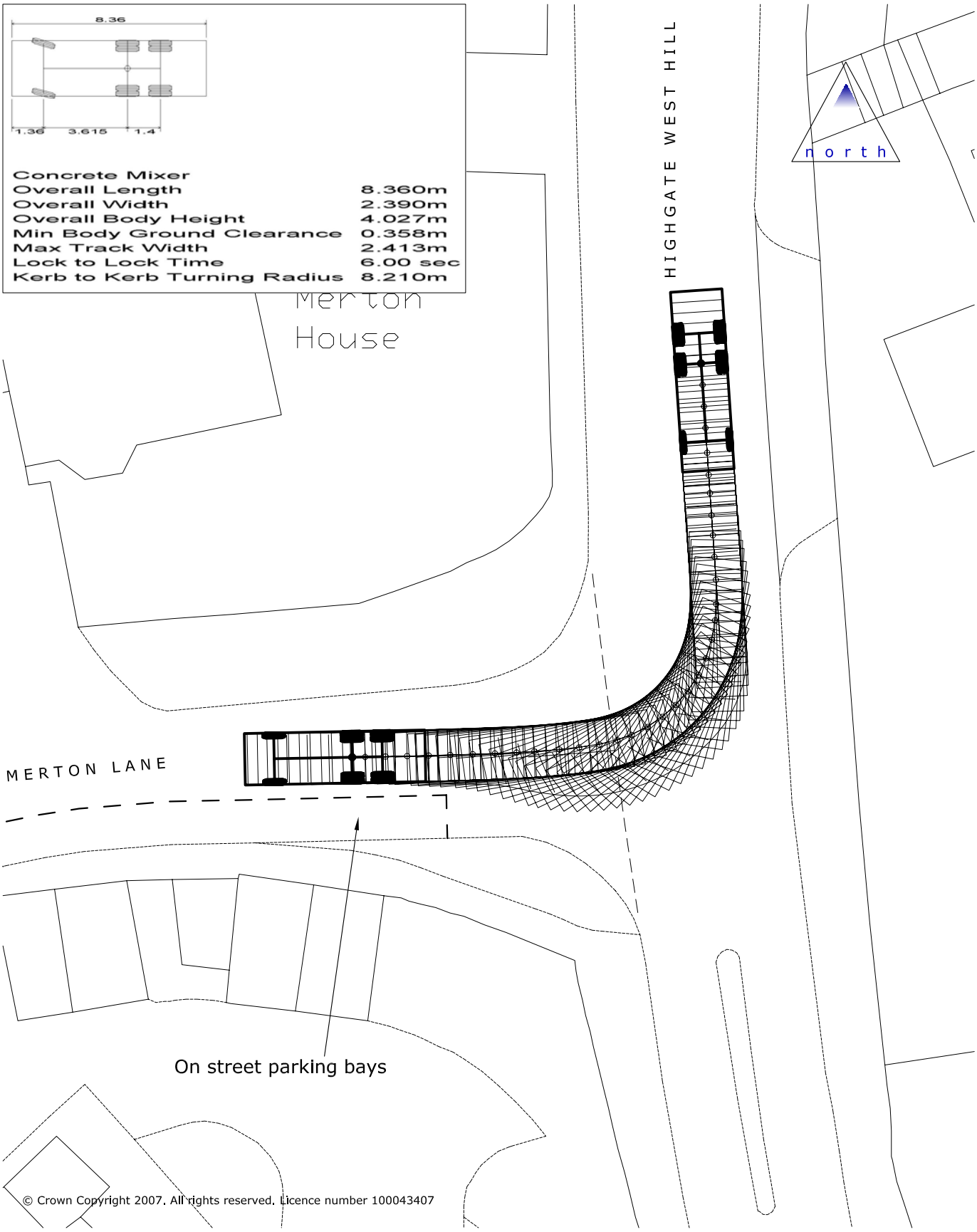
CONSULTING CIVIL AND STRUCTURAL ENGINEERS

DATE: JUNE 2009	SCALE: 1:100	
DRAWN: A.M.H.	DRAWING No. 12575 - 01	REV. A
CHECKED:		

Appendix B

Vehicle Swept Path Analysis



motion
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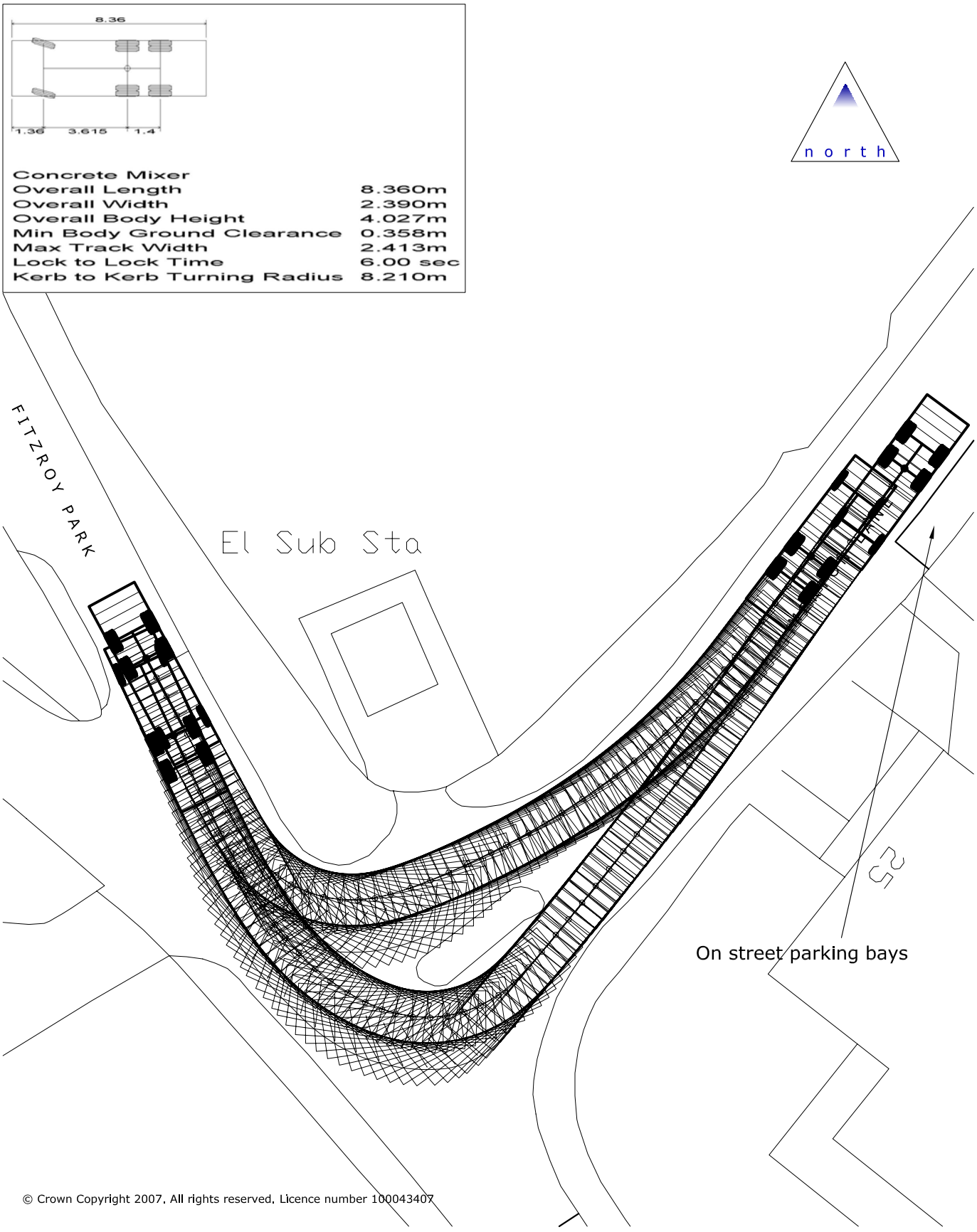
Fitzroy Park, London
Swept Path of 24 Tonne Concrete Mixer
Turning From Highgate West Hill to Merton Lane

Scale 1:250@A4

90421-TK09

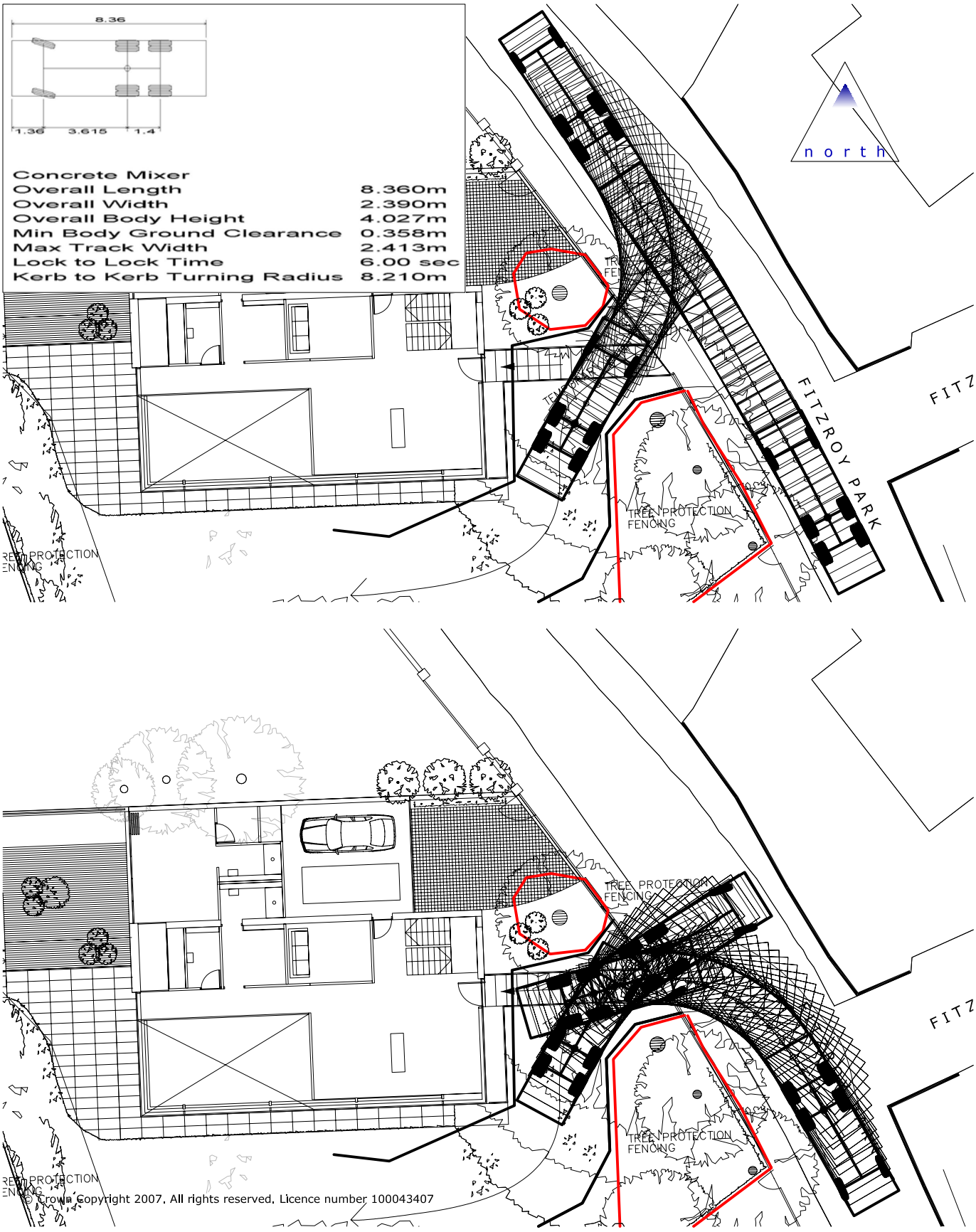


motion
transport planning

Fitzroy Park, London
Swept Path of 24 Tonne Concrete Mixer
Turning Into and Out of Fitzroy Park

Scale 1:250@A4

90421-TK10



motion
transport planning

Fitzroy Park, London
Swept Path of 24 Tonne Concrete Mixer
Accessing and Leaving Site

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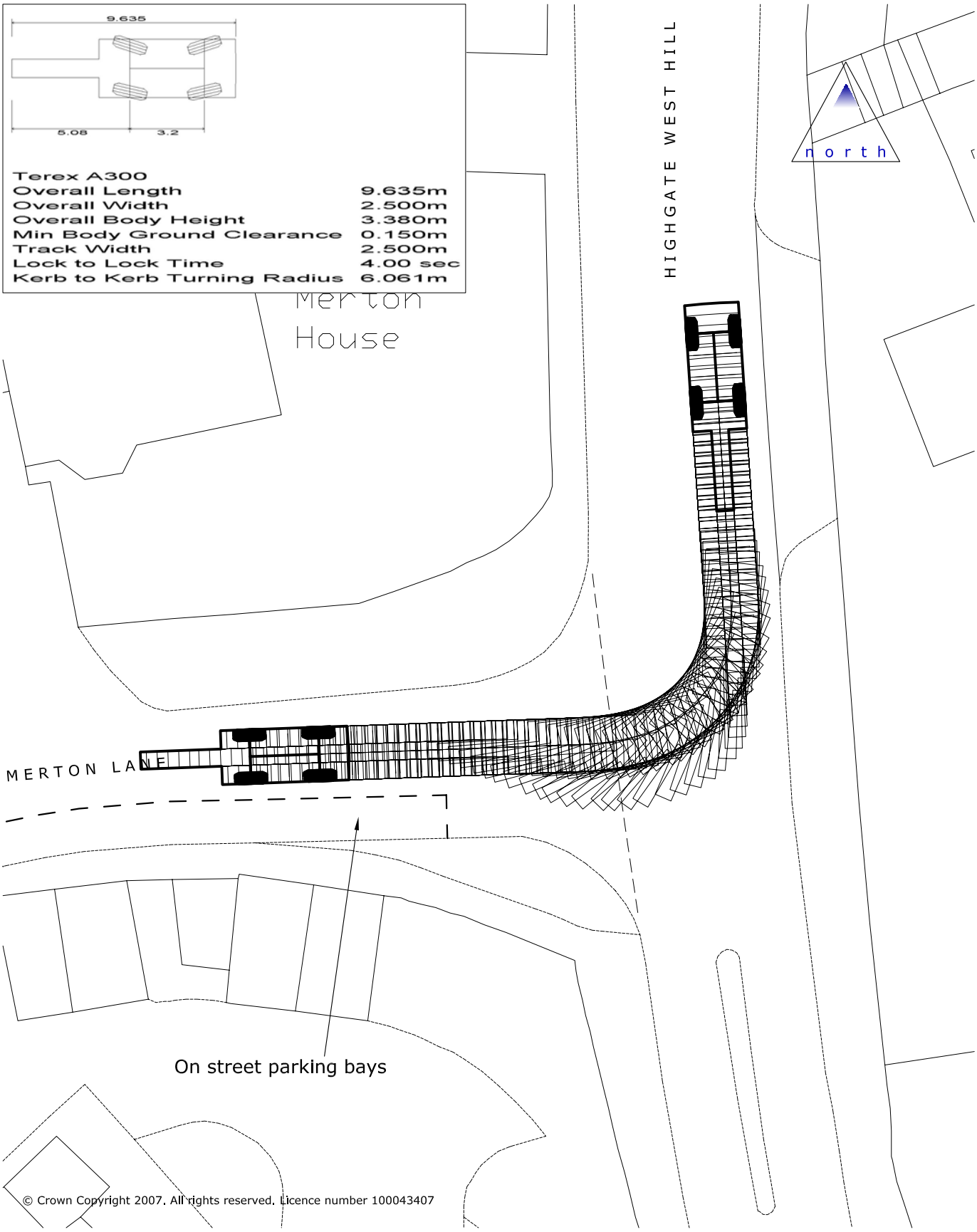
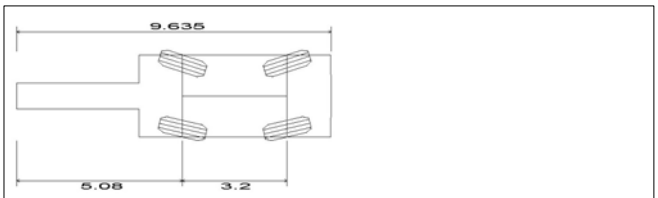


motion
transport planning

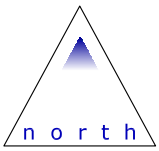
Fitzroy Park, London
Swept Path of 24 Tonne Mobile Crane
Turning From Highgate West Hill to Merton Lane

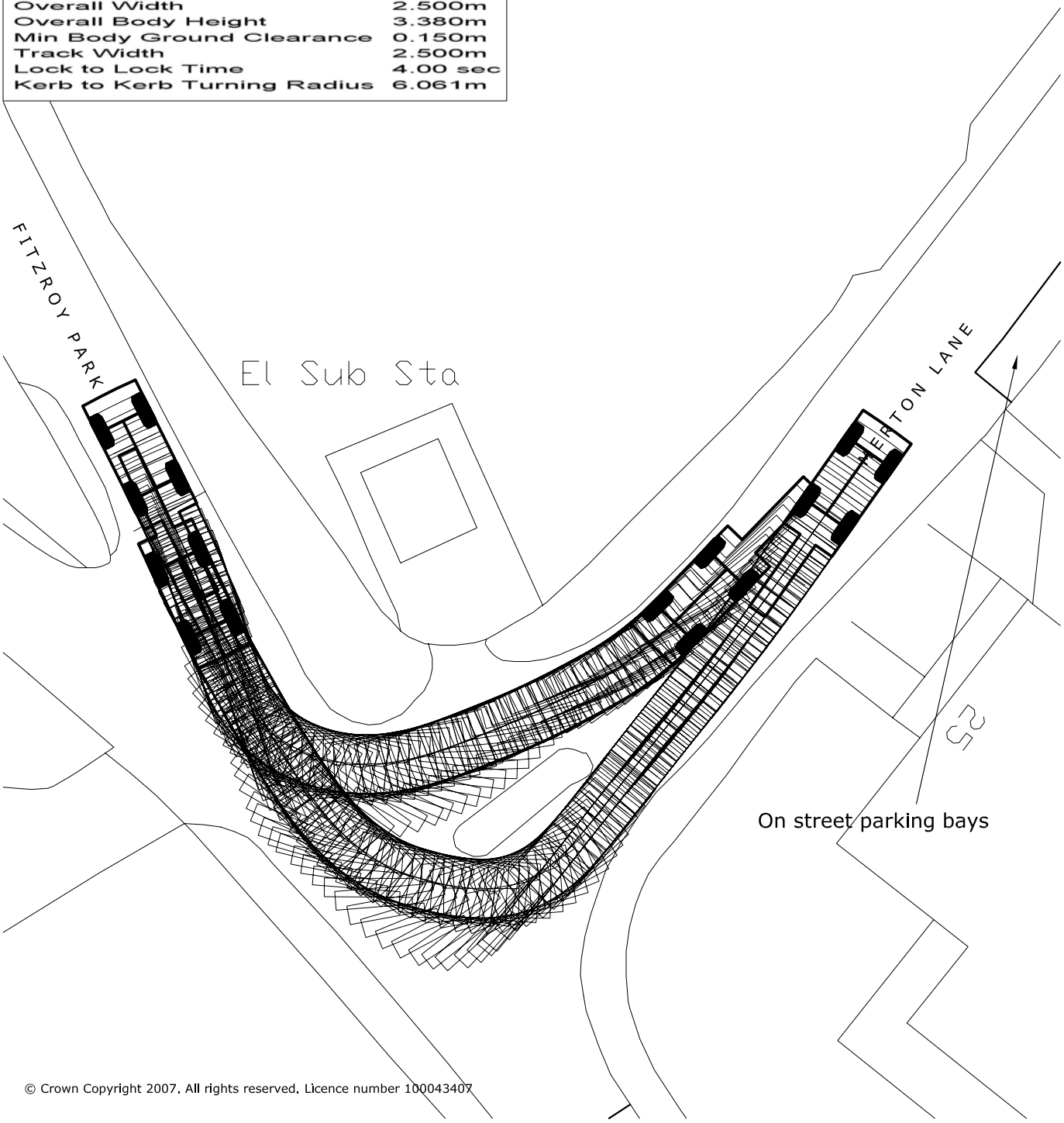
Scale 1:250@A4

90421-TK12



Terex A300	
Overall Length	9.635m
Overall Width	2.500m
Overall Body Height	3.380m
Min Body Ground Clearance	0.150m
Track Width	2.500m
Lock to Lock Time	4.00 sec
Kerb to Kerb Turning Radius	6.061m



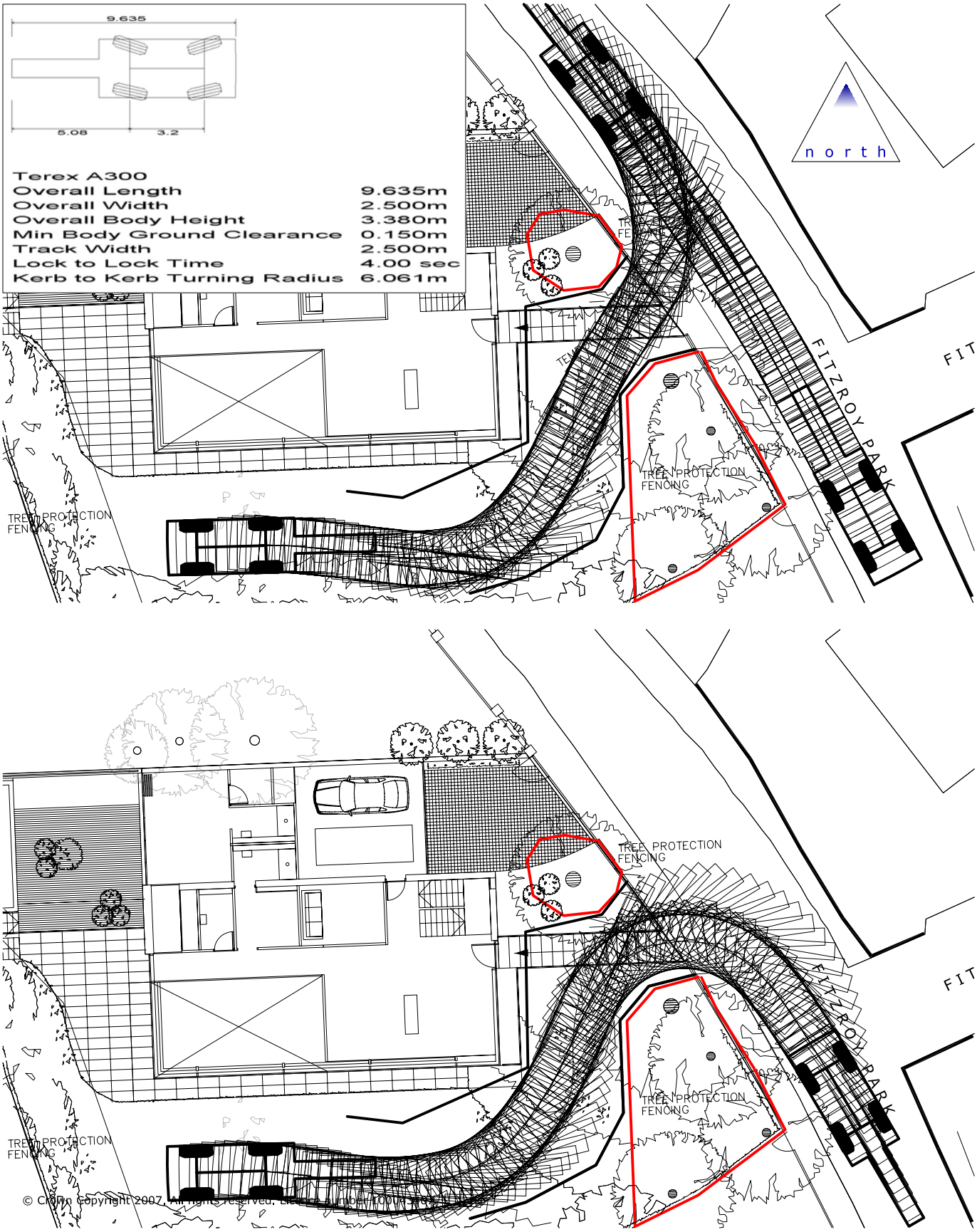


motion
transport planning

Fitzroy Park, London
Swept Path of 24 Tonne Mobile Crane
Turning Into and Out of Fitzroy Park

Scale 1:250@A4

90421-TK13



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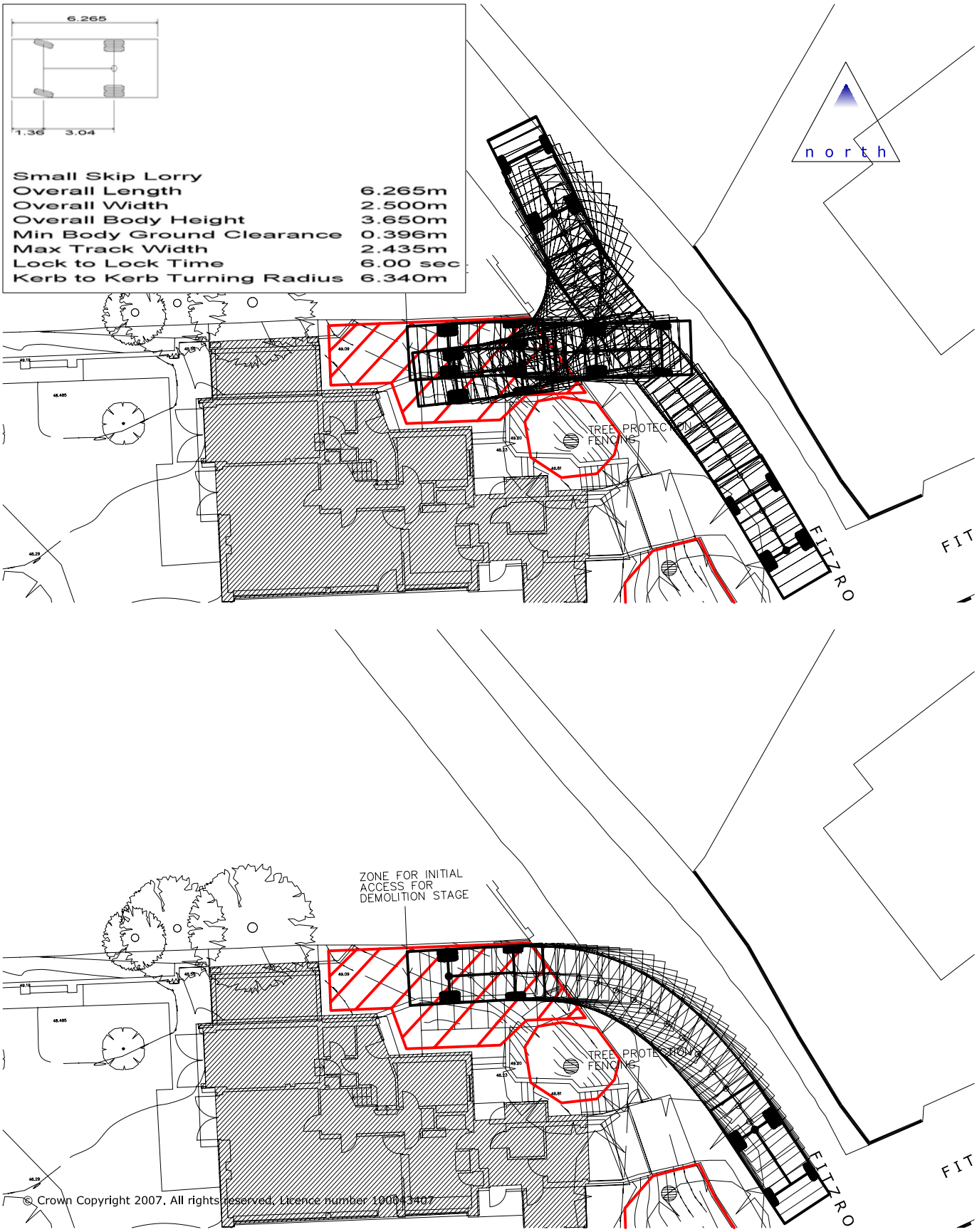
Fitzroy Park, London
Swept Path of 24 Tonne Mobile Crane
Accessing and Leaving Site

Scale 1:250@A4

90421-TK14

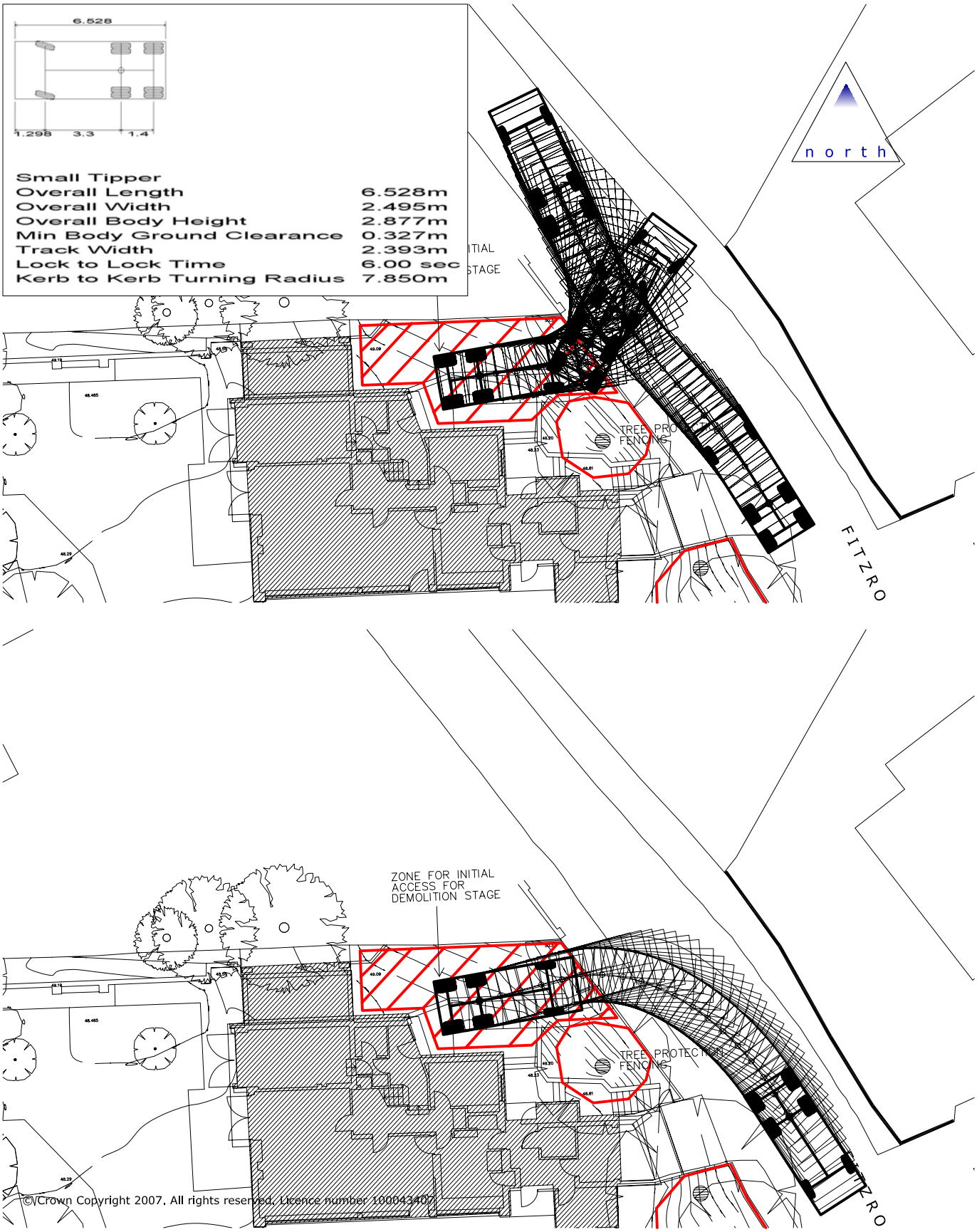


motion
transport planning

Fitzroy Park, London
Swept Path of 17 Tonne Skip Lorry
Accessing and Leaving Site

Scale 1:250@A4

90421-TK15



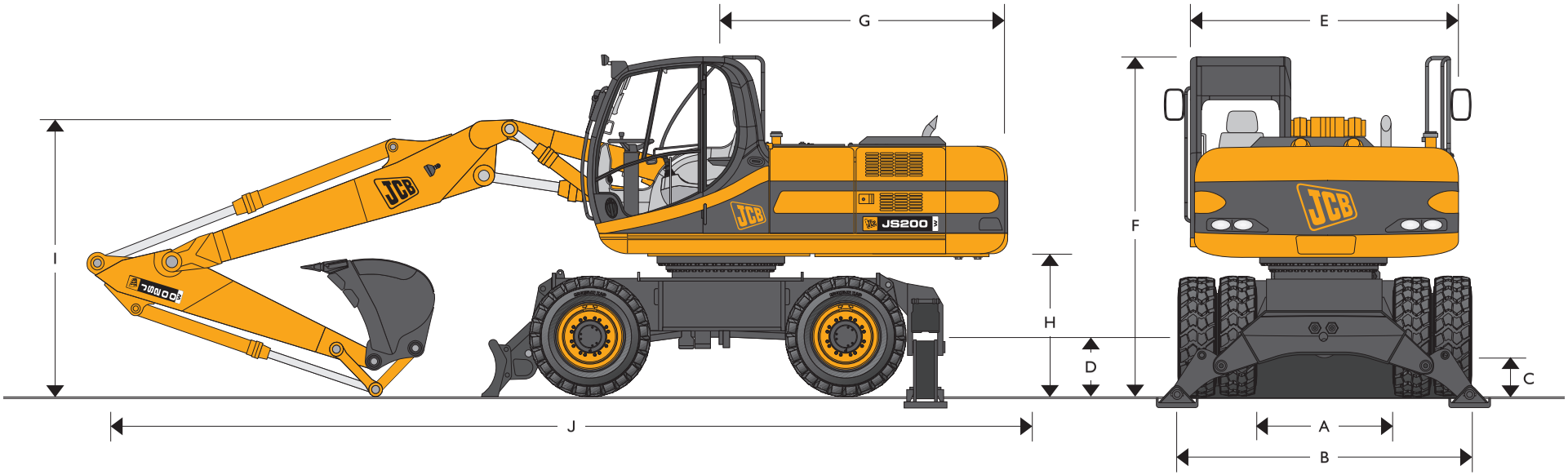
motion
transport planning

Fitzroy Park, London
Swept Path of 17 Tonne Small Tipper
Accessing and Leaving Site

Scale 1:250@A4

90421-TK16

MAX. OPERATING WEIGHT: MONO 23202kg (51151lbs) / TAB 23273kg (51308lbs) ENGINE POWER: 128kW (172hp)



STATIC DIMENSIONS

Dimensions in millimetres (ft-in)		
A	Internal width between dual wheels	1330 (4-4)
B	External width over dual wheels	2530 (8-4)
C	Ground clearance	260 (0-10)
D	Height to axle centre line dual wheels	515 (1-8)
	Height to axle centre line single wheels	556 (1-9)
E	Overall width (handrail removed)	2500 (8-2)
F	Height over cab	3250 (10-8)
G	Tail length	2530 (8-3)
H	Clearance under counterweight	1335 (4-4)

Monoboom 5.70m (18-8)					
Dipper length			1.91m (6-3)	2.40m (7-10)	3.00m (9-10)
I	Transport boom height	mm (ft-in)	3120 (10-2)	3200 (10-6)	3050 (10-0)
J	Transport length	mm (ft-in)	9450 (31-0)	9450 (31-0)	9330 (30-7)
Triple articulated boom 5.63m (18-6)					
Dipper length			1.91m (6-3)	2.40m (7-10)	3.00m (9-10)
I	Transport boom height	mm (ft-in)	3320 (10-10)	3400 (11-1)	3700 (12-1)
J	Transport length	mm (ft-in)	9175 (30-1)	9190 (30-1)	9200 (30-2)

Appendix C

Fitzroy Park Pedestrian and Vehicle Movement Data

51 Fitzroy Park - mnfitz 90421

Pedestrian and Vehicle Movements on Fitzroy Park
at Junction with Merton Avenue and Millfield Lane

Monday 1 June 2009

Time	Pedestrian	Car	HGV	Cycle	Motorcycle
15:00	1				
15:05	1	1			
15:09		1			
15:11		1			1
15:12	2	1			
15:15	1	1			
15:16	1	1			
15:17		1			
15:19	2				
15:20	2				
15:24	1	1			
15:26	1	1			
15:28	2				
15:29	2	1			
15:31	2	3			
15:33	2	1			
15:35		2		1	
15:38				1	
15:40		2			
15:43	1	1			
15:44	1				
15:46	1			1	
15:47	1				
15:48	4				
15:49		1			
15:50	3	1			
15:52	1				
15:53	1				
15:54	2			1	
15:57		1			
15:58	1			1	
16:00	2				
Total	38	22	0	5	1