Department of Physics, Cavendish III

West Cambridge Community Consultation
4th July 2016

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DRAFT
For Consultation

Pre-Application Presentation
Agenda

1. Introductions
2. Background
3. Programme
4. Plot Constraints & Opportunities
5. Design Principles
6. Q&A

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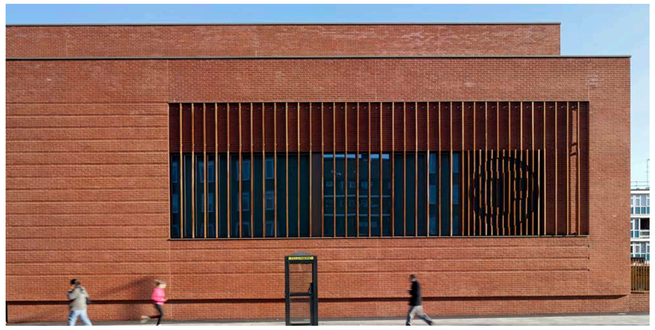
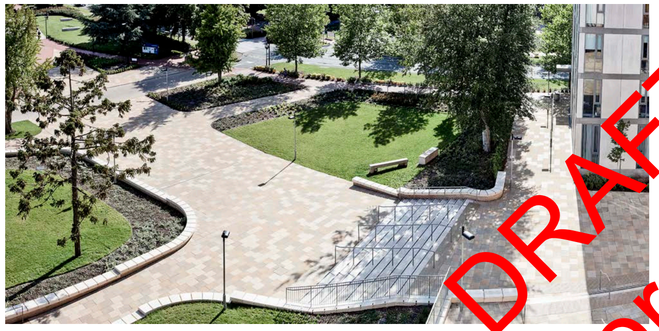
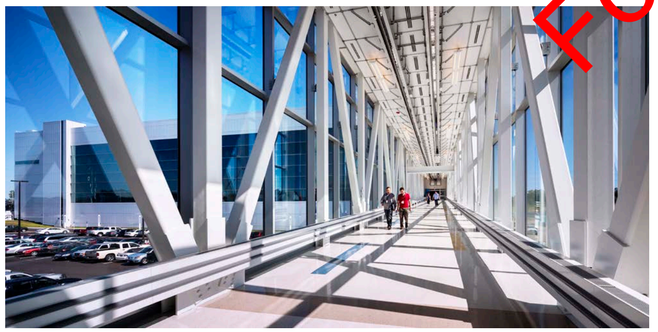
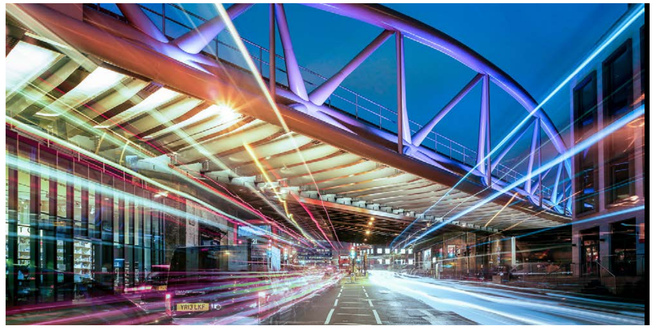
Introduction

Jestico + Whiles









1 Introduction

Experience of Laboratory Design

Mountbatten Building
University of Southampton

National Graphene Institute
University of Manchester

Australian Institute of Physics
University of Sydney

Pre-Application Presentation
Background

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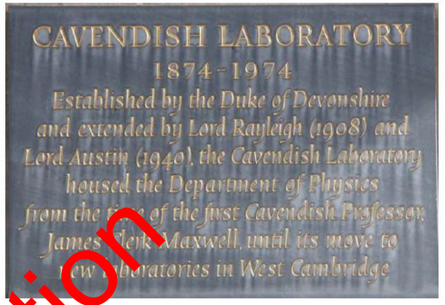
The Cavendish Laboratory: Past & Present

Background

Founded in 1874: building funded by the Duke of Devonshire – William Cavendish



Martin Ryle, Anthony Hewish and Jocelyn Bell : discover pulsars 1967 (clocks?)

James Clerk Maxwell : electromagnetism (radio, radar, motors….)

John William Strutt: discovered argon 1894 (double glazing…)

Brian Josephson : oscillation in some superconducting circuits 1962 (squids…)

What has the lab done for "us"?

Francis Crick and James Watson: structure of DNA 1953 (genomics…)

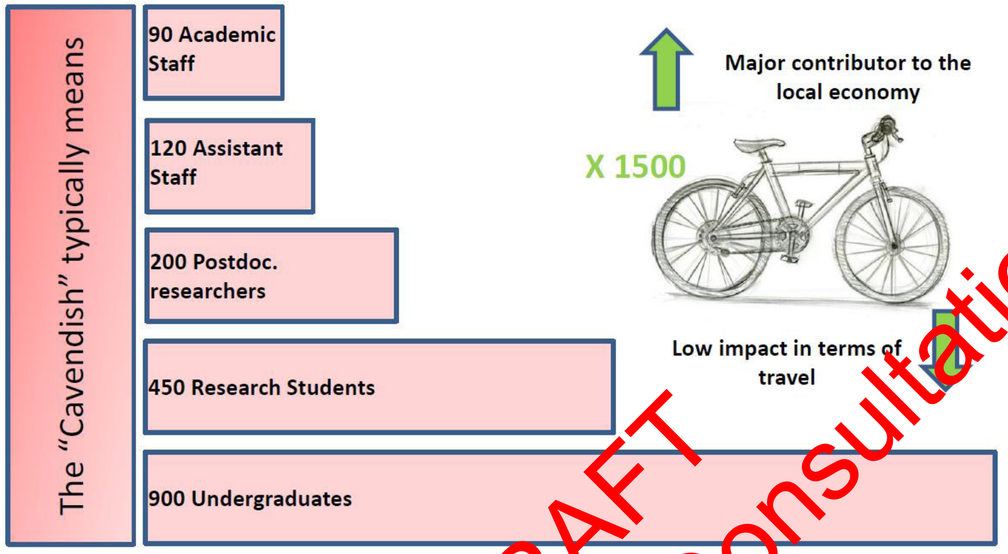
James Chadwick : discovered the neutron 1932 (nuclear power, bombs…)

J J Thomson: discovered the electron 1897 (need I say more….)

… and the impact on the Local Economy

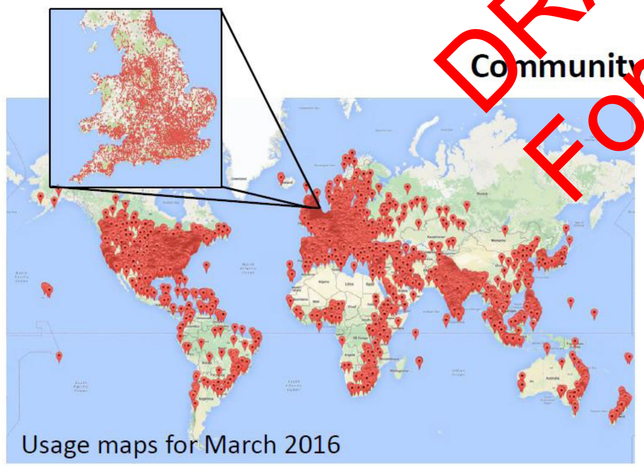
People are a more important “Product” than “Research Output”

Background



Graduating students making a difference in diverse fields – some becoming household names.

An international institution, and see a future in which the lab’s contribution through people is as global as it has always been through creation and dissemination of ideas.



Community Engagement

- Typically 2000 members of the public visit the open laboratories during science week
- 2500 School children and staff visit during physics at Work
- International on-line resources for the study of physics through the Isaac Physics Project

The “Swynnerton-Dyer Ellipse” and the move to West Cambridge (1972-74)

Background

Constructed using the CLASP System

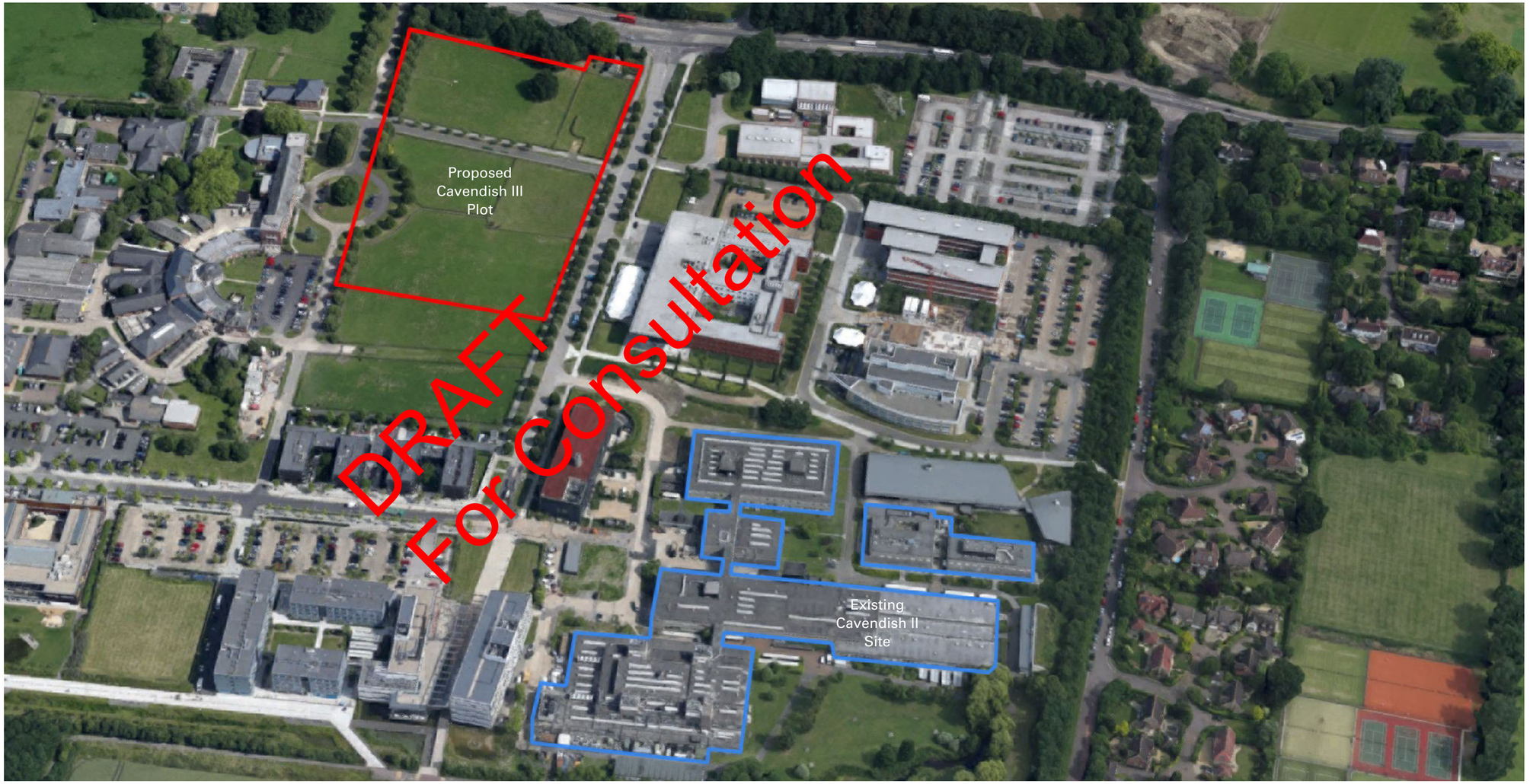
- Cheap and quick.
- No elegance, longevity or sustainability.

Buildings have been flexible. But…

- Leaked through the roof from day one.
- Asbestos used in construction.
- Single Glazed, leaking aluminium fenestration- no mitigation for solar gain.
- No insulation- problems with temperature and humidly.
- Upper floors cannot be used for sensitive work- steel frame shakes!
- Piecemeal additions over time in reaction to funding opportunities.
- Operations become disjointed, less effective with minimal interaction.

Background

Existing & Proposed Sites



Pre-Application Presentation
Programme

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3 Programme

Stage 2 Design Programme

- RIBA Stage 1 Review	January 2016
- RIBA Stage 2 Concept Design commenced	March 2016
- RIBA Stage 2 Concept Design completes	September 2016
- RIBA Stage 3 Concept Design commences	October 2016
- Masterplan to Planning Committee (target)	November 2016
- Cavendish Plot Reserved Matters Application	May 2017
- Enabling Works Commences	October 2017
- Construction Commences	March 2018
- Completion	June 2020

Pre-Application Presentation
Plot Constraints & Opportunities

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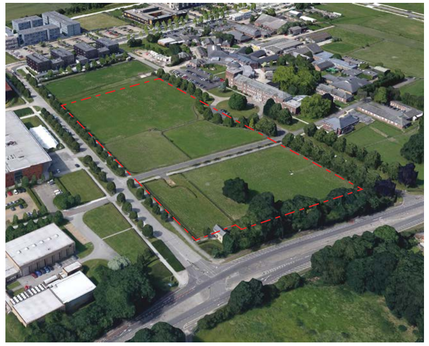
4 Plot Constraints & Opportunities

Existing Plot



Plot Constraints & Opportunities

Plot Analysis

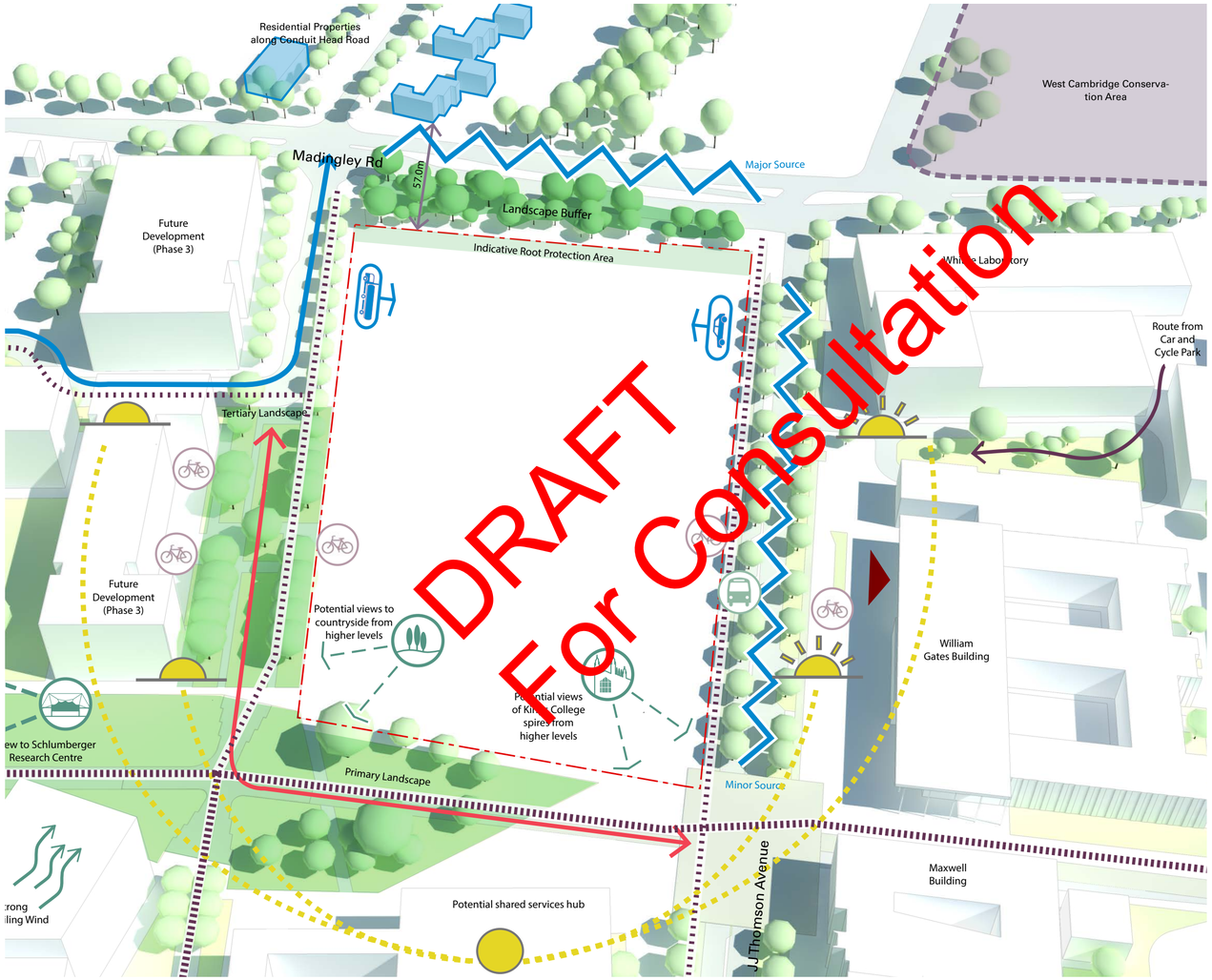
Source of noise and vibration

Pedestrian/cycle route

Service Route

Emergency/Maintenance (access to be confirmed)

Indicative Plot Boundary



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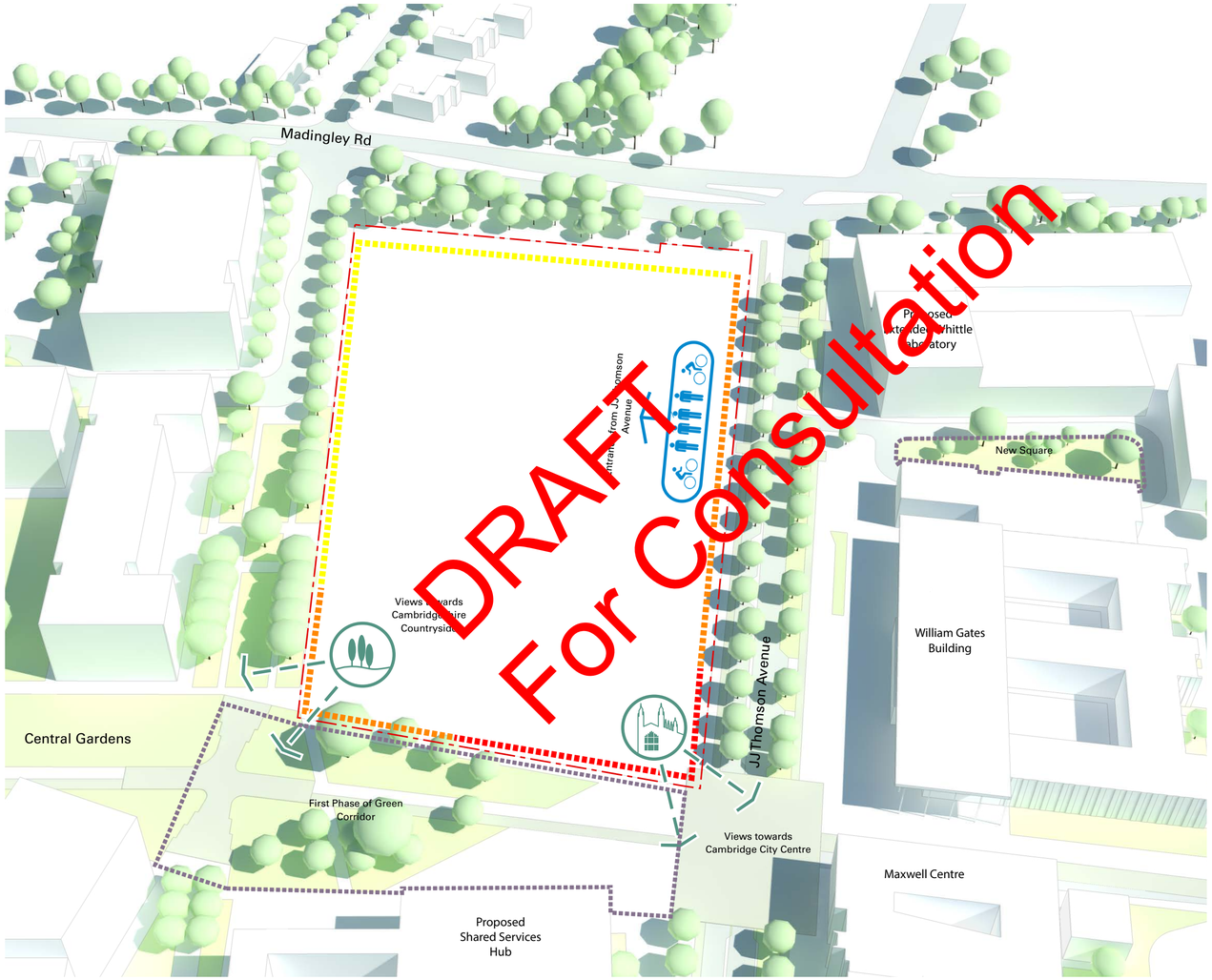
Plot Constraints & Opportunities

Entrance & Frontages

- Active Frontage
- Primary Frontage
- Secondary Frontage



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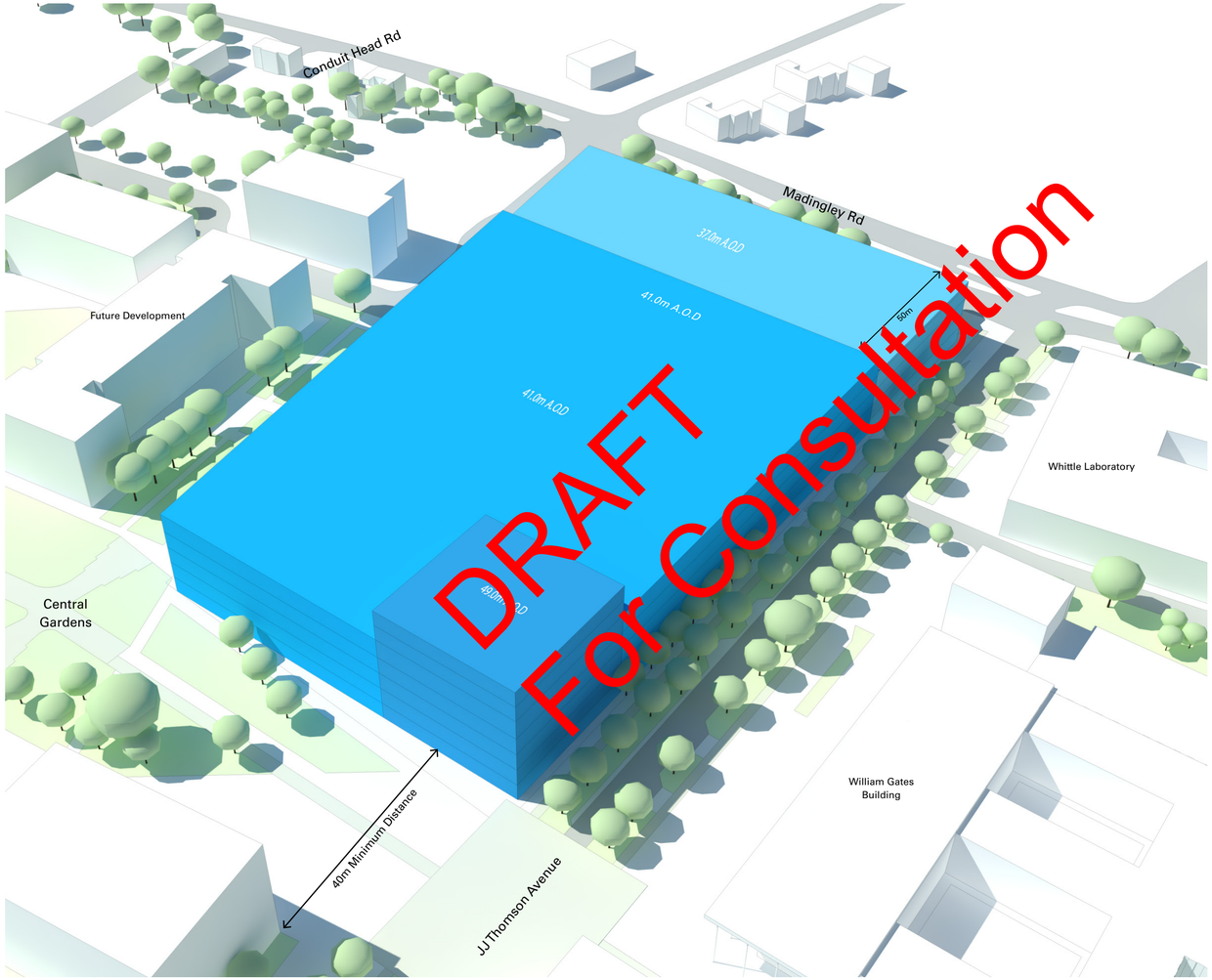
Plot Constraints & Opportunities

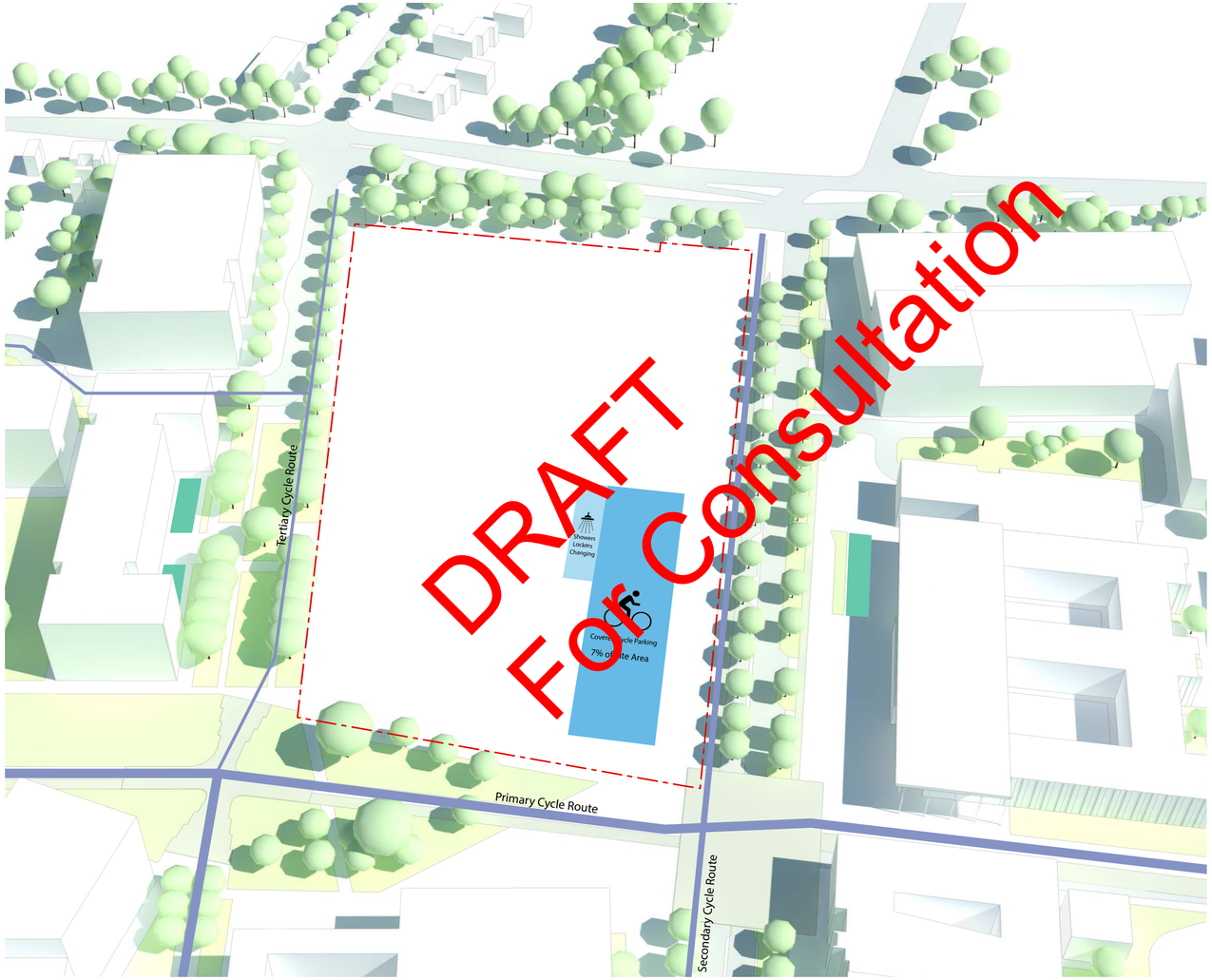
Parameter Plan Massing

- 49.0m A.O.D
- 41.0m A.O.D
- 37.0m A.O.D
- 34.0m A.O.D



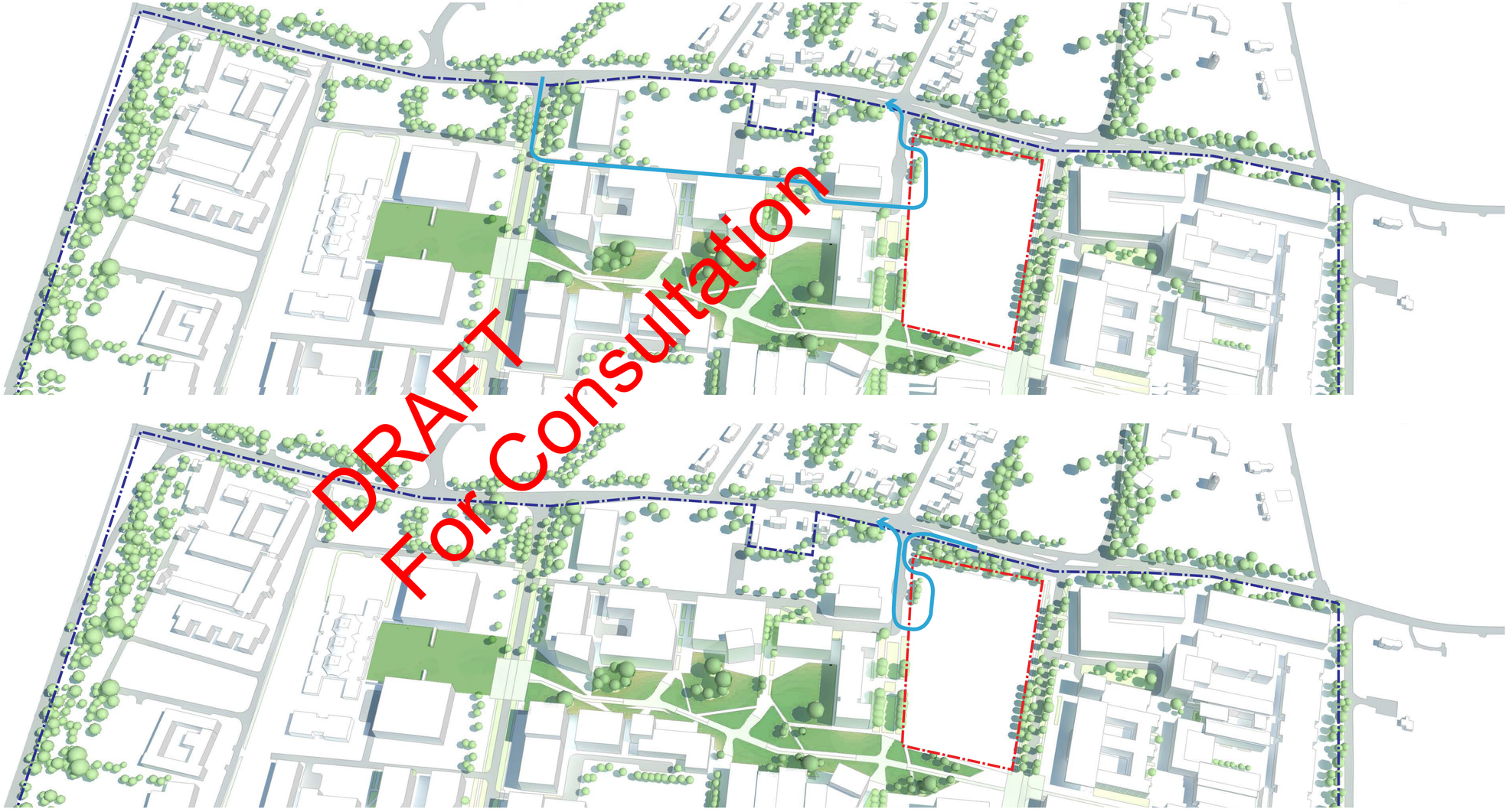
4 Plot Constraints & Opportunities

Cycling Provision



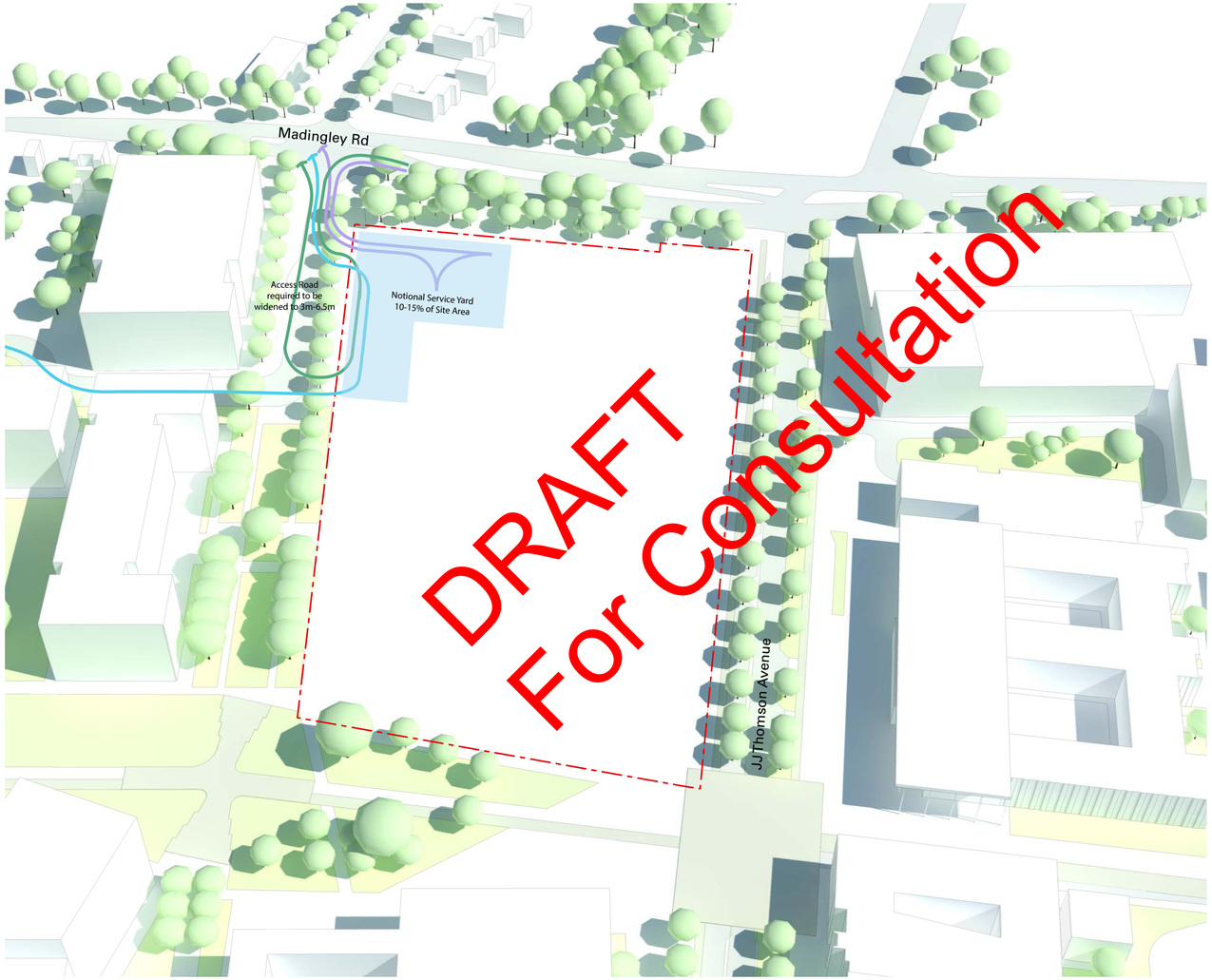
4 Plot Constraints & Opportunities

Site Access Options



4 Plot Constraints & Opportunities

Service Access



Pre-Application Presentation
Design Principles

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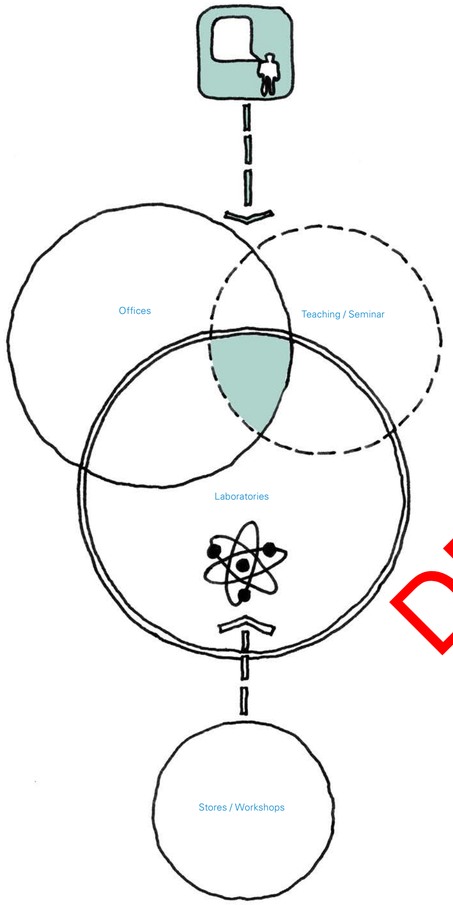
Pre-Application Presentation

Key Design Principles



Collaboration

JJ Thomson

Discovered the electron in 1897

Ernest Rutherford

Rutherford became Director of the Laboratory in 1919

James Chadwick

Discovered the neutron in 1932

Francis Crick & James Watson

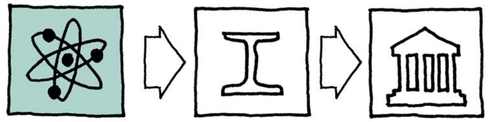
Determinated the double-helix structure of the DNA molecule in 1953

Nobel Prize awarded in 20??

Identity

Fashionable = Transient

Classic = Timeless



Timeless Design

6 Pre-Application Presentation
Any Other Business

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