

The John Innes Centre
at
The Norwich Research Park. //

BDP.





Centrum

Rec.
Centre

Conference
Centre

Chatt

The Genome
Analysis
Centre

Training Suite

Canteen
Gallery

Basement
controlled
environment
and seedstore
growing

Collaboratory

Greenhouses

Centre for
Food and
Health



BDP.

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The John Innes Centre

P2006405

SHOWN 1:10

**JIC
Masterplan**

**@A1
1:1000
11.02.15**

Proposed Area Schedule

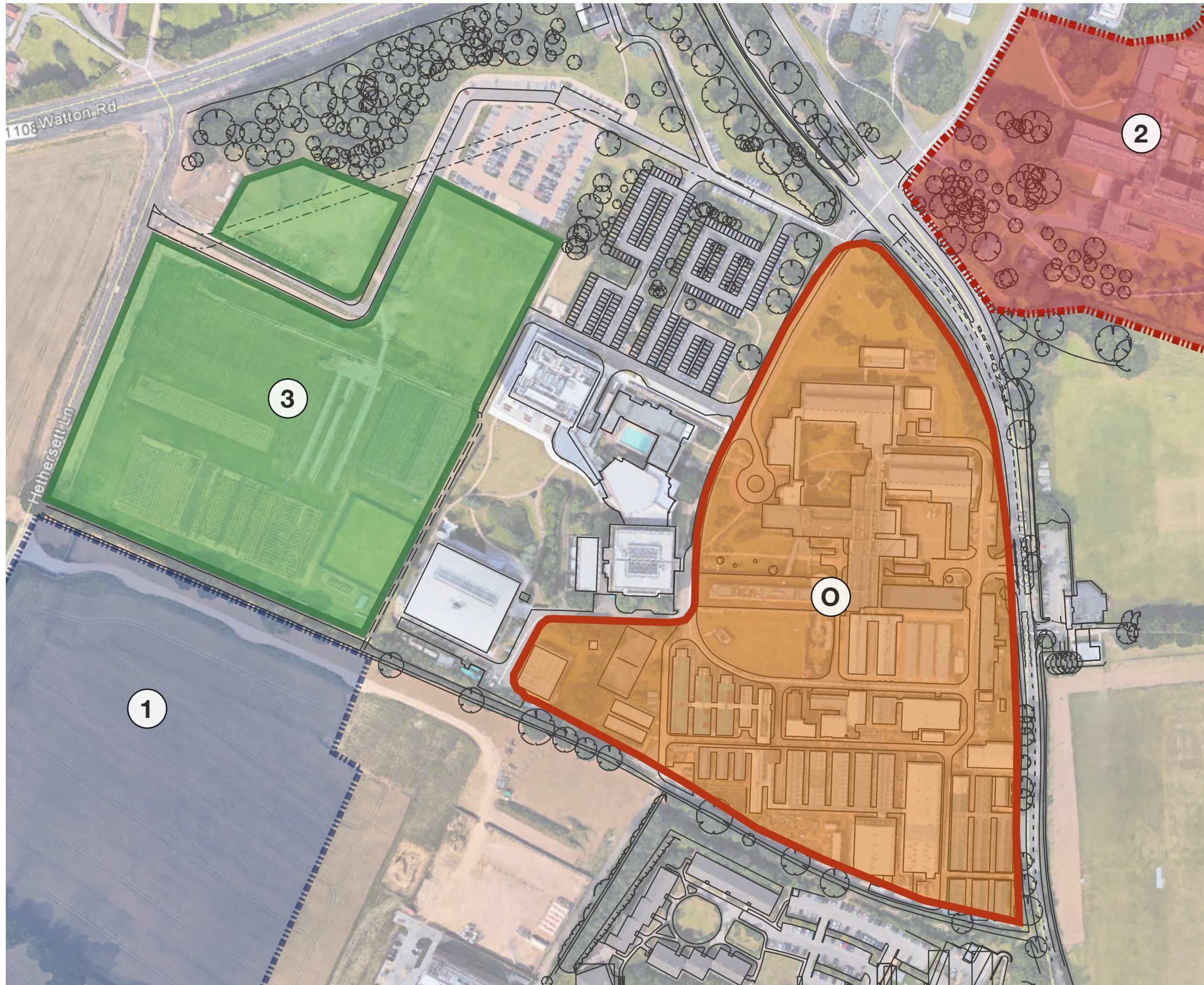
Total Gross Areas	
Gross Area Lab	Gross Area non lab
17419	14256
Total Gross Area Building	31675
CER and Seedbank	4600
Total gross area Insectary	550
Total Glasshouses incl plant	4510
Total Hort prep	1062
Total Gross Built Area (excl Glasshouse & Hort Prep)	36825

Gross building area plus 50% (labs, offices, meeting rooms, only) for future site take	44487
Future growth =	12813

Summary changes:

- 644m² additional Labs
- 529m² reduction in other space
- 2366m² reduction in glasshouse

Potential Site Options



Site Topography

This topographic map illustrates the site layout for a development, featuring building footprints, parking lots, and topographic contours. The map includes numerous elevation labels such as FFL +23.25, FFL +22.50, FFL +21.00, FFL +20.30, FFL +18.00, FFL +17.00, FFL +16.00, FFL +15.00, FFL +14.50, FFL +14.00, FFL +13.00, FFL +12.00, FFL +11.00, FFL +10.00, and FFL +9.00. The map also shows a red boundary line, blue contour lines, and a network of roads and parking areas.

NOTES

- | | | | |
|---|--------------|----|-------------|
| - | - | - | - |
| - | - | - | - |
| - | - | - | - |
| - | - | - | - |
| A | FOR PLANNING | JT | CS 10.08.12 |
| - | FOR COMMENT | JT | CS 06.07.12 |



Norwich Research Park

P2004544

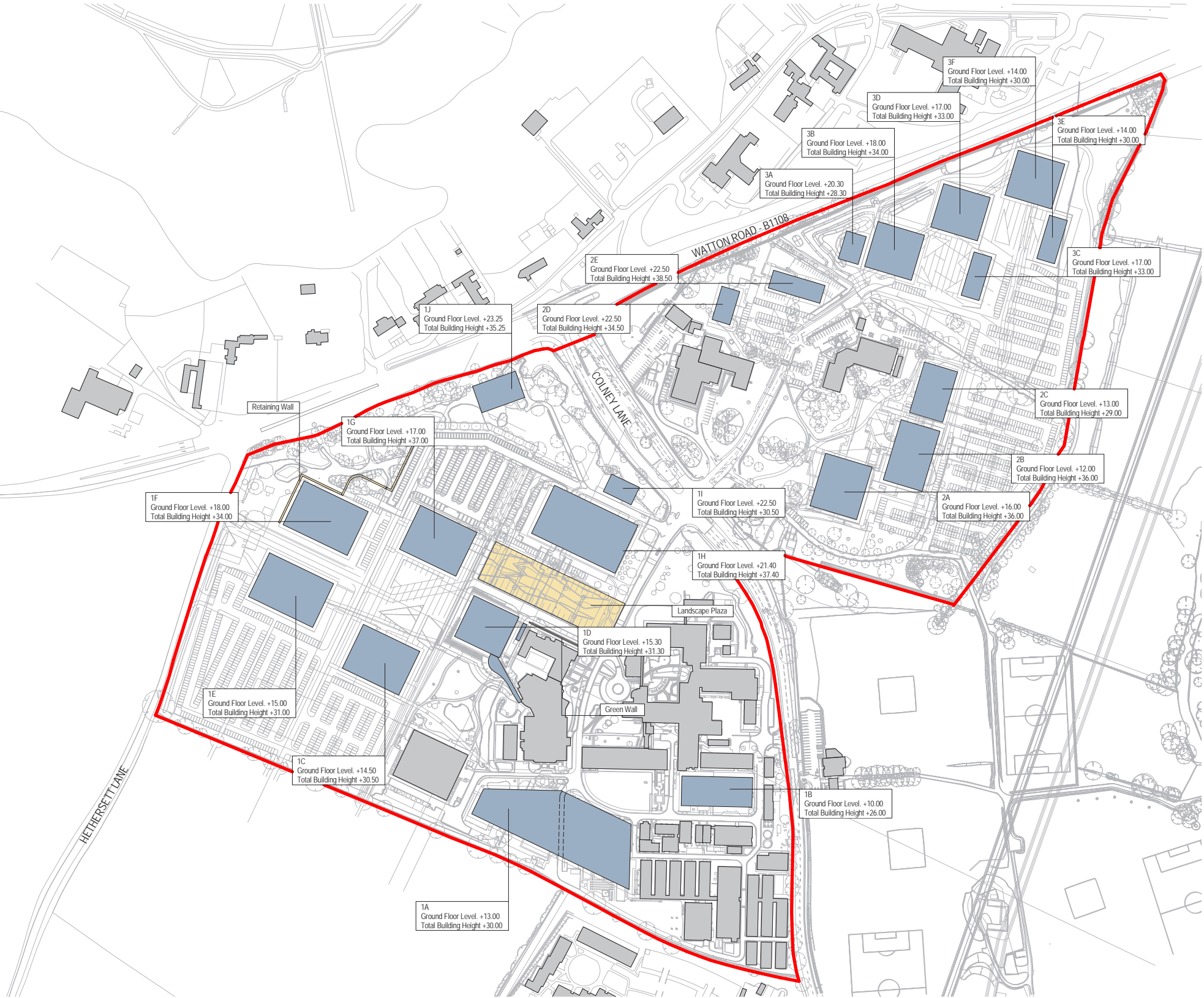
PROJECT LEVELS PLAN	SCALE 1:1000 @ A1
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LEVELS PLAN	1:1000 @ A3
	NOT

06.07.12

(93)LP001	A
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Approved Masterplan



KEY

Building Plots

Existing Buildings

Retaining Structure / Landscape Features

Site Boundary

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ALL DIMENSIONS SHOULD BE CHECKED ON SITE.

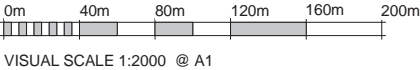
DO NOT SCALE FROM THIS DRAWING

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NOTES

SCHEDULE OF PLOTS

Plot	Maximum Length (m)	Maximum Width (m)	Ground Floor Level (mAOD)	Maximum Height (mAOD)
1D	39.10	42.90	15.30	31.30
1G	42.00	54.00	17.00	37.00
1I	16.60	26.60	22.50	30.50
1J	24.20	39.40	23.25	35.25
3A	17.80	25.00	20.30	28.30
3B	42.00	40.50	18.00	34.00
3C	16.00	39.00	17.00	33.00
1A	56.50	150.80	13.00	30.00
1C	54.00	42.00	14.50	30.50
1E	42.00	61.50	15.00	31.00
1F	42.00	61.50	18.00	34.00
2D	16.00	30.00	22.50	34.50
2E	46.50	16.00	22.50	38.50
1B	61.10	25.60	10.00	26.00
1H	80.00	46.00	21.40	37.40
2A	42.00	47.25	16.00	36.00
2B	35.00	54.15	12.00	36.00
2C	29.90	45.50	13.00	29.00
3D	42.00	39.00	17.00	33.00
3E	16.00	39.00	14.00	30.00
3F	42.00	40.50	14.00	30.00



N Issue for Outline Planning Application MK JB 06.07.12

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PROJECT TITLE
Norwich Research Park
Masterplan

P2004544
SUBJECT TITLE
Maximum Building Height
Parameters

REVISION
BDP - (00) AP 301

SCALE
@ A1
1 : 2000
DATE
06.07.12
REVISION
N

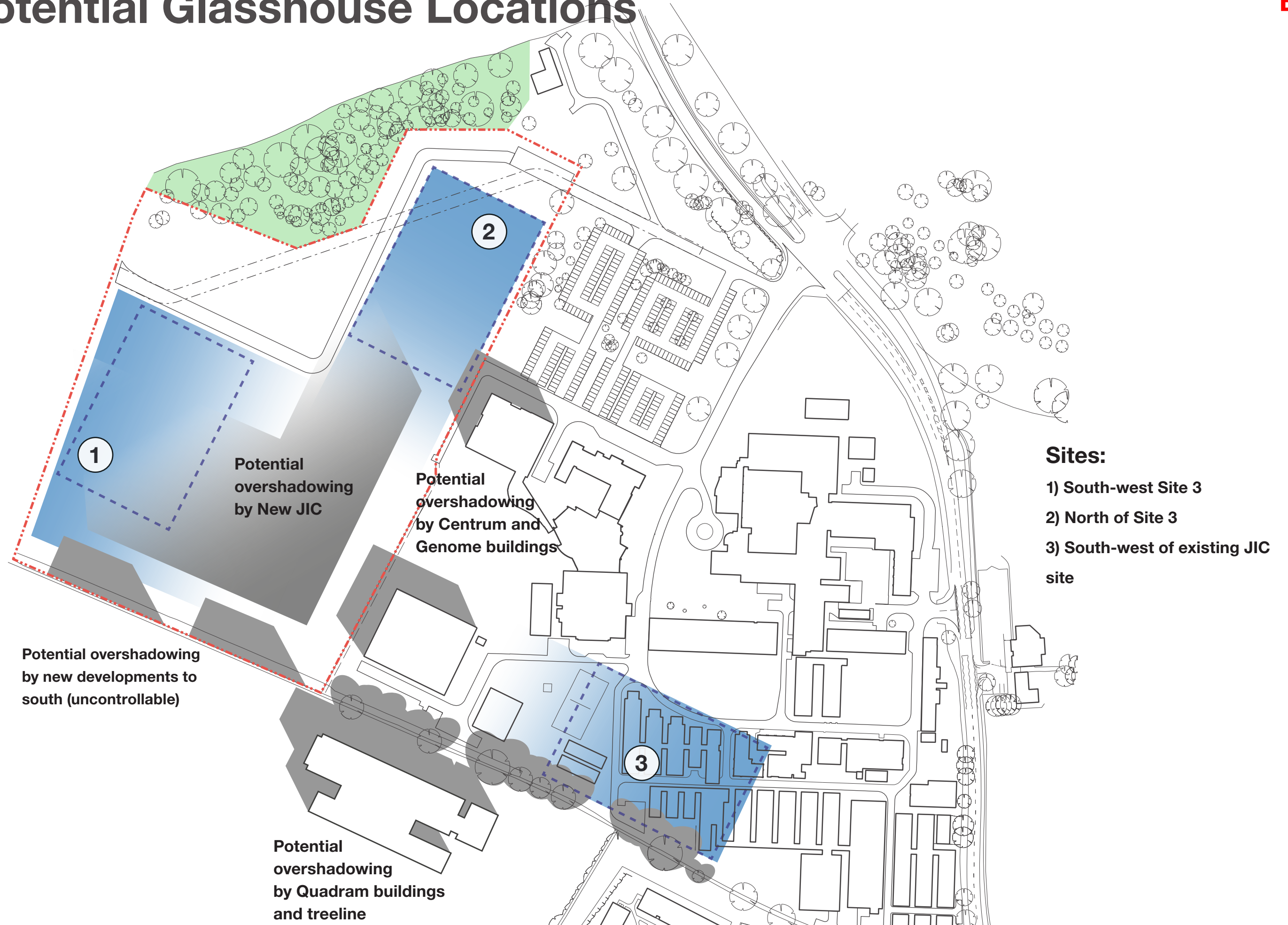
Potential Overshadowing

BDP.



Shadow on Site
demonstrating the effect of a
3~4 floor height object (of
Scientific research typology)
placed on southern boundary
of the Adjacent Site

Potential Glasshouse Locations



Other Impacts of Site

	Pros	Cons	Potential Impact
JIC Site (Site 0)			
	Retains site 3 NRP Development opportunity		Avoids complexity of land swap agreement
		Complex decanting & phasing requirements	Potential impact on staff careers & retention and ongoing funded work (& consequential reputational damage) by adjacent construction works
		Limited room for growth	Growth opportunity limited by phasing requirements of existing buildings on site
		Significant demolition requirements	Effect of working within a building site creating dust and noise may affect workings of JIC
		Disruption to Phase 1 during construction	Phased building work may have detrimental effect on ongoing work and staff retention
Site 3			
	Low construction impact on existing bldgs		Minimal impact on business continuity, funded work and staff personal development not impacted by adjacent construction work
	Provides opportunity for re-use of some existing JIC buildings		Benefit to NRP of providing «ready to use» scientific incubator space
	No requirement for phasing		Low impact on people and work of JIC
		Existing planning permission may limit development	Inability to develop site to maximum potential for JIC
		Restricts NRP Commercial Development opportunity on Site 3	Impact may be offset by future development on JIC site (Site 0)
	More attractive as one campus		Site creates opportunities for better links with Earlham Institute, Centrum and wider NRP

What makes a successful *new* JIC?

Vision

- 1) Provides **Human scale** clusters creating **Collaborative workspaces** for all
- 2) Encourages working practices that allow JIC to work as a **Single Organism**
- 3) Provides **excellent Natural Daylight** and **Links to Garden Spaces** for all users
- 4) Delivers a Design that **Takes advantage of the Physical Site** within context of the **masterplan**
- 5) Designed to provide a **Successful Outreach Programme** and providing Controlled and **logical public access** whilst **Maintaining Site Security**

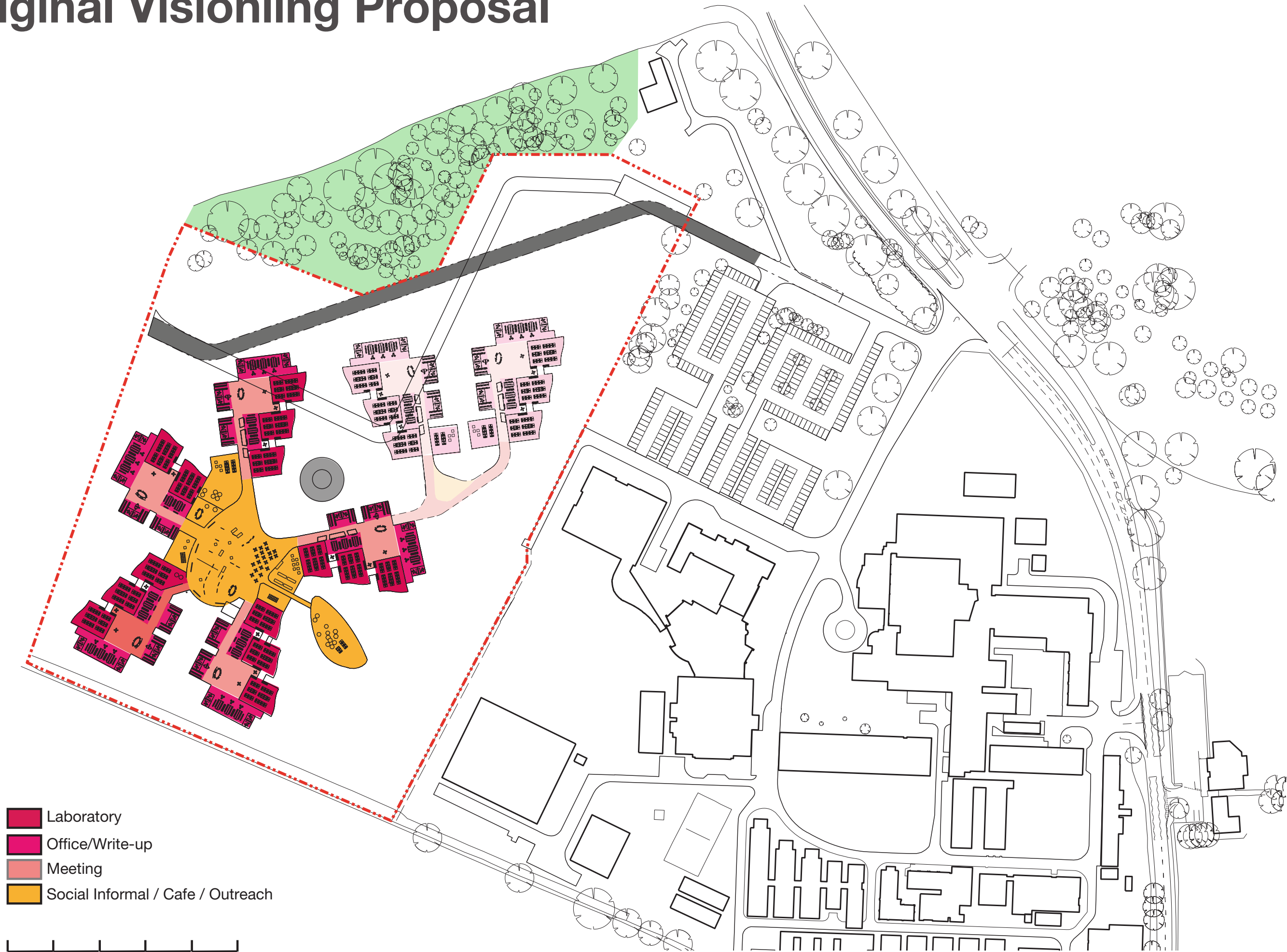
Cost

- 6) Designed so that it provides a **Cost Effective** delivery of the above criteria for a successful new JIC
- 7) **Minimises cost** which does not directly benefit the scientific mission of JIC
- 8) Creates a showcase for JIC and **reflects the quality** of JIC output in quality of building/working environment
- 9) Allows for projected **Future Growth**

Operation

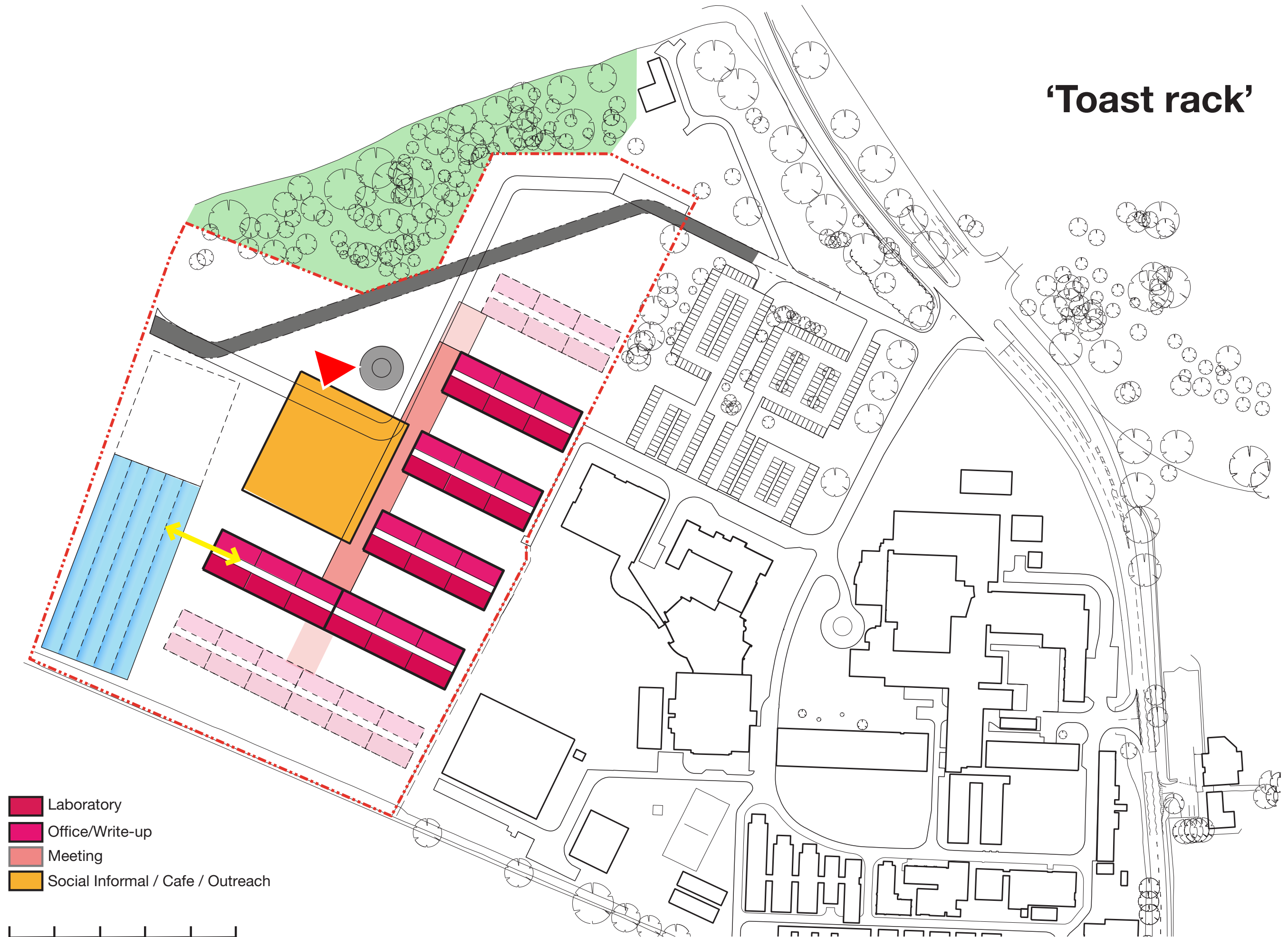
- 10) Builds **Flexibility** for future use into services and structural design
- 11) Provides a facility that is future proofed and is **Expandable**
- 12) Utilises good design to **encourage interaction** between the Horticultural and Scientific sectors of the JIC
- 13) Creates a **Sustainable Design** which minimises JIC impact on the environment and reduces running costs
- 14) Provides **Adaptable Spaces providing Flexibility** of use between Wet/Dry Lab and Office use
- 15) Ensures optimal glasshouse arrangement to receive **maximum sunlight/daylight** to minimise energy use

Original Visioning Proposal



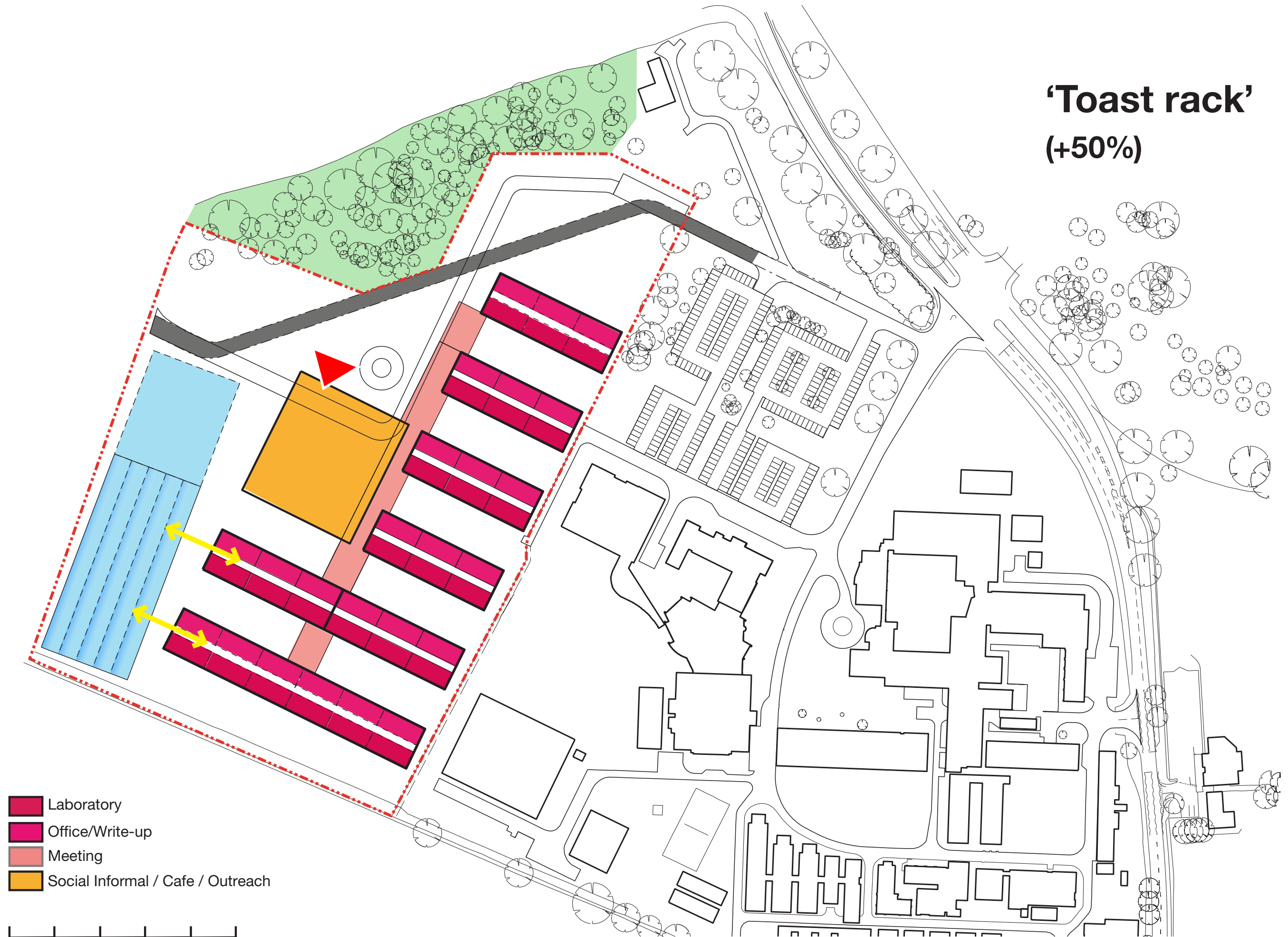
0 20m 100m

'Toast rack'



0 20m 100m

'Toast rack' (+50%)



- Laboratory
- Office/Write-up
- Meeting
- Social Informal / Cafe / Outreach

0 20m 100m

‘Toast Rack’

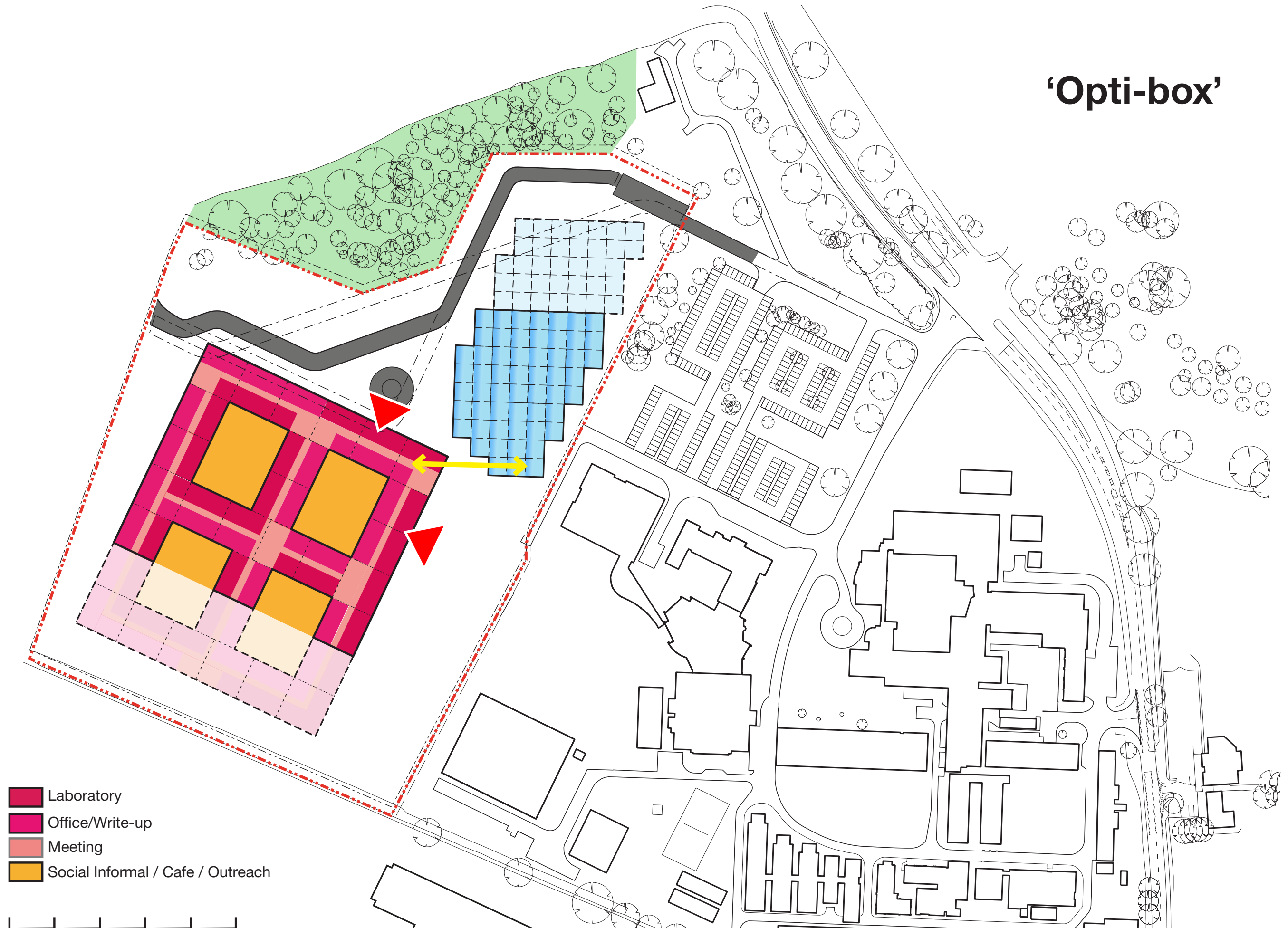
Pro's

- Can be built and expanded in small increments.
- Increases site density.
- Potentially one entry point to building.
- Potentially obvious entrance.
- Provides space on site for glasshouses in one of the preferred locations.
- Potential to link glasshouse and science spaces internally
- Potentially speedy build / phased occupation.
- Suited to requirement for phased completion.
- Road could remain in place with further development work
- Clear hub space

Con's

- Does not fulfil many key aspects of the brief, thus providing limited value for money.
- Poor collaborative workplace design.
- Lacks cohesive design approach potentially resulting in a 150m walk to nearest joint workspace.
- Layout creates isolationist workblocks.
- Linear approach to layout minimises potential for daylit space.
- No daylight into the centre of the blocks.
- Blocks face opposing blocks restricting views out.
- Servicing to Eastern labs may be challenging.
- Creates a series of isolated, disparate ‘garden spaces’
- Does not encourage the ‘one organism’ mentality
- Turns its back on the rest of NRP
- Hub spaces does not Link to Chatt Building, Conference Centre or Recreation Centre
- After expansion of 50%; potentially a third of a kilometre walk from one end of building to the other.
- Potential glasshouse overshadowing from building.
- May not be considered an elegant addition NRP by LPA

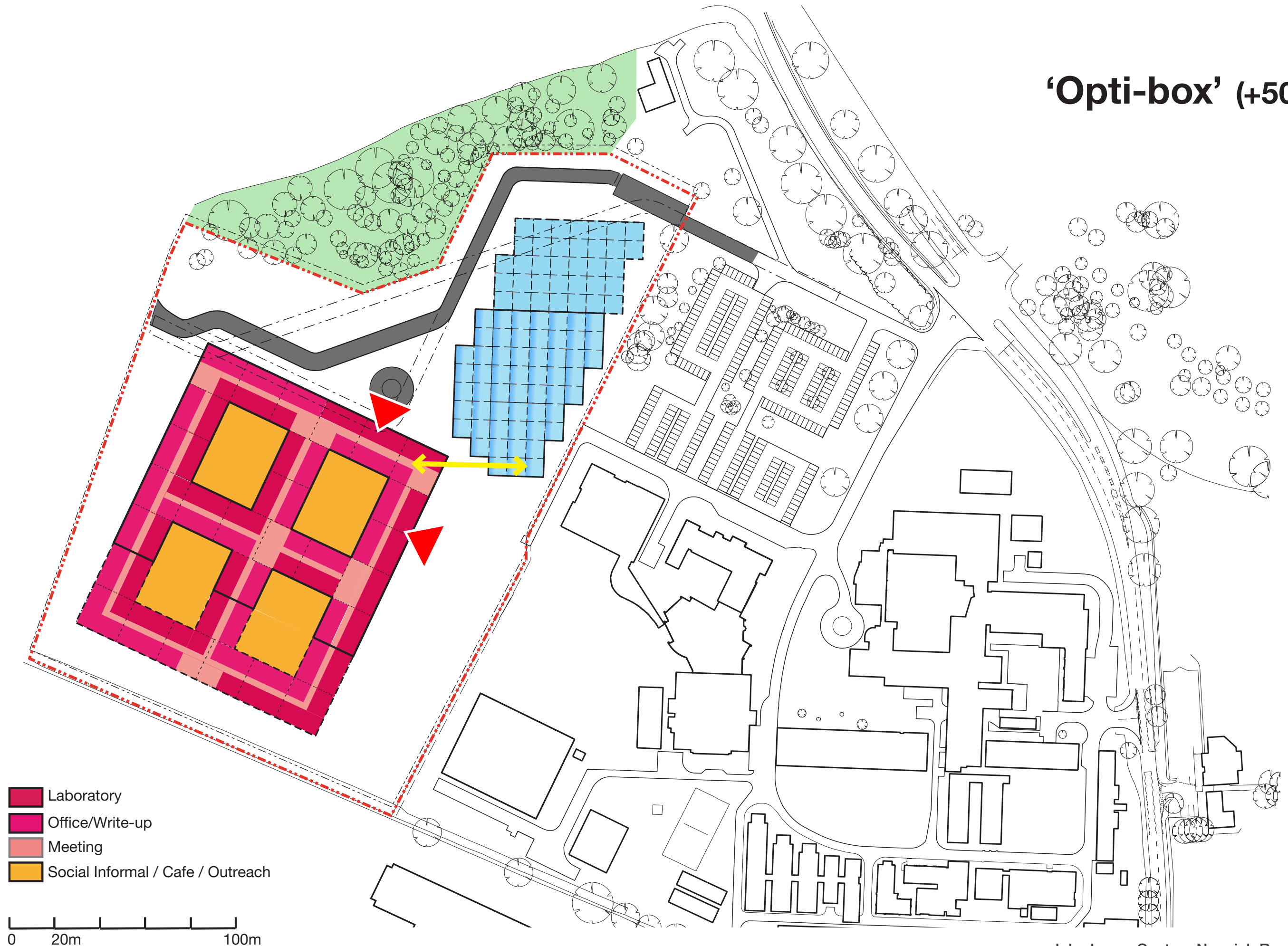
'Opti-box'



- Laboratory
- Office/Write-up
- Meeting
- Social Informal / Cafe / Outreach

0 20m 100m

‘Opti-box’ (+50%)



‘Opti-box’

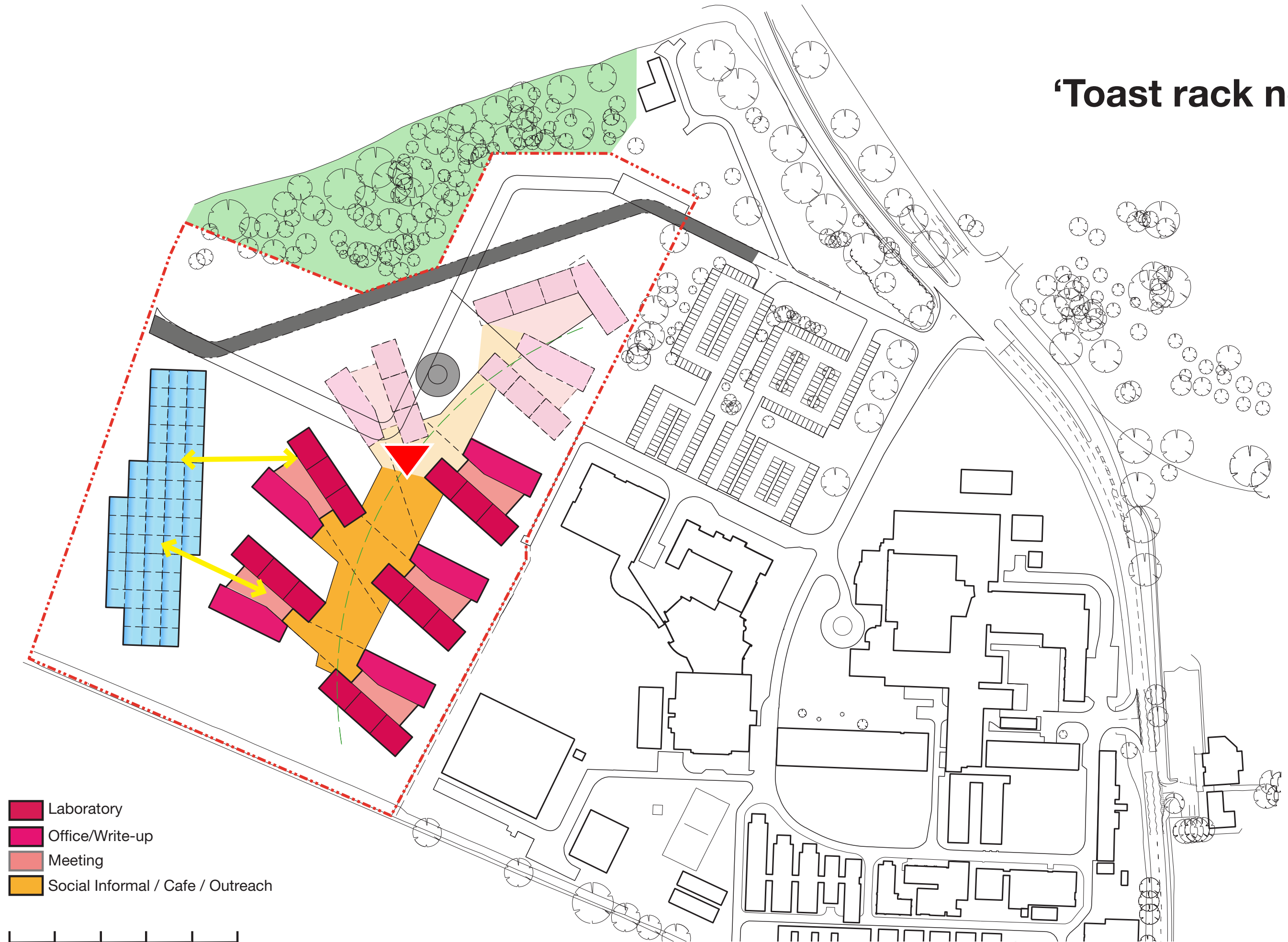
Pro's

- Can be built and expanded in small increments.
- Increases site density.
- Potential entrance from drop off and Centrum side.
- Provides space on site for glasshouses in one of the preferred locations.
- Potential to link glasshouse and science spaces internally
- Potentially speedy build / phased occupation.
- Hub Spaces which can grow with building.
- May allow some of the site to be used for field trials.
- Provides good framework for expansion and can be easily adapted in future

Con's

- Quadrangle approach provides opportunity for Silo mentality
- Lacks cohesive design approach potentially resulting in a 150m walk to nearest joint workspace.
- No obvious public ‘face’ or entrance point
- Road will need to be partially re-routed
- 50% of workspaces rely on borrowed light due to internalised elevations
- 50% of workspaces have no outward views.
- Hub position may impact on adjacent workspaces at ground-floor
- No Garden or dedicated outside spaces associated with work or social spaces
- Does not encourage the ‘one organism’ mentality
- Hub spaces does not Link to Chatt Building, Conference Centre or Recreation Centre
- Very urban approach to natural setting
- Little variation in type of workspaces
- Some Lab spaces may be difficult to service especially on the East

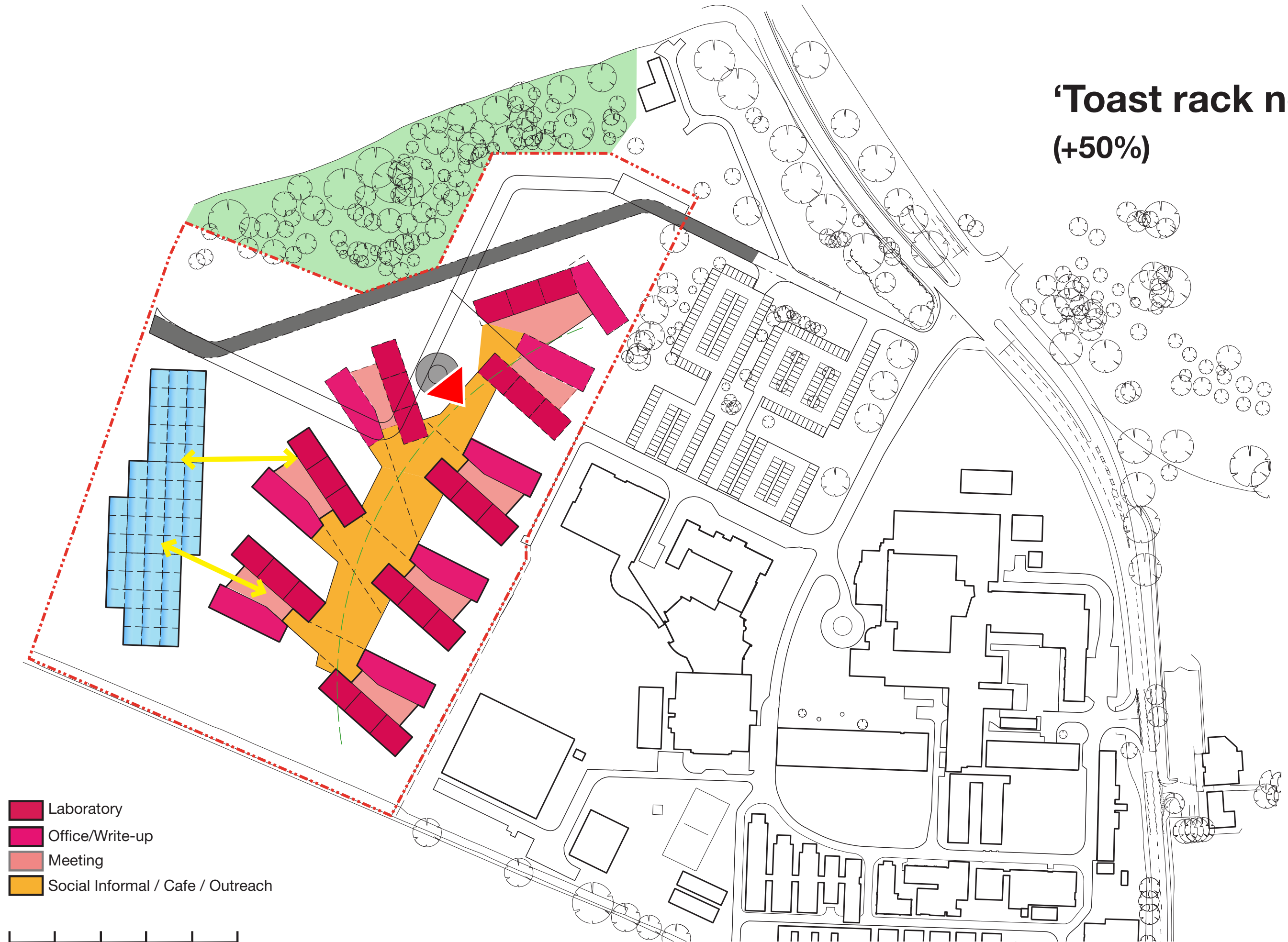
'Toast rack neo'



- Laboratory
- Office/Write-up
- Meeting
- Social Informal / Cafe / Outreach

0 20m 100m

‘Toast rack neo’ (+50%)



- Laboratory
- Office/Write-up
- Meeting
- Social Informal / Cafe / Outreach



‘Toast Rack Neo’

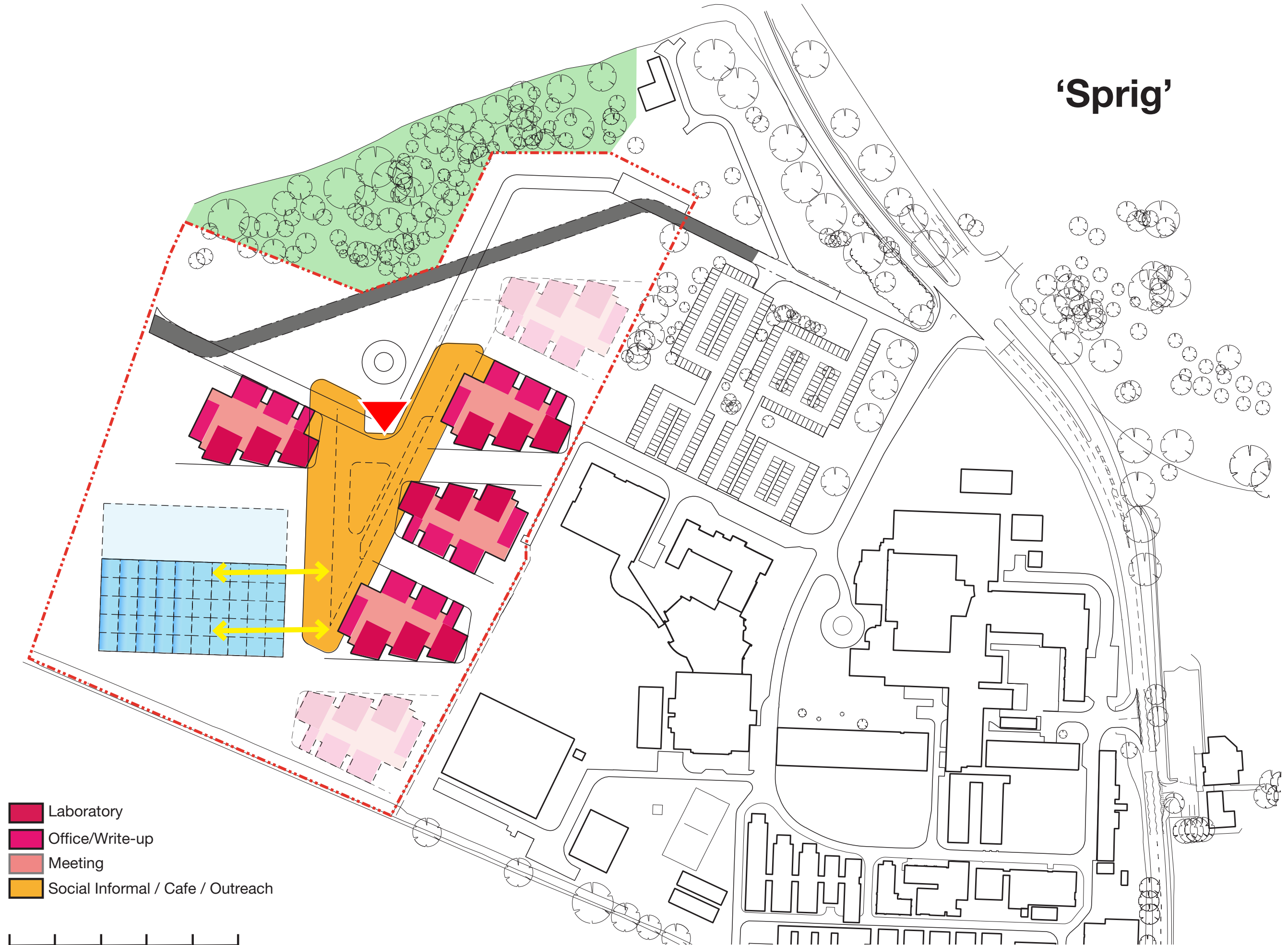
Pro's

- More collaborative and informal meeting space within ‘Kernel’ Lab blocks.
- Hub can become more of a ‘collaboration street’ serving many functions.
- Arc arrangement of ‘Kernel’ Blocks improves links between ‘Kernel’ Lab blocks across ‘collaboration street’.
- Circulation links formal and informal work spaces.
- ‘Kernel’ Lab blocks have internal flexibility.
- Voids allow light into the centre of each of the Lab blocks
- Potential to have a public and private end of the Hub/street
- Improved garden spaces between ‘Kernels’
- Clear potential entrance located near to existing carpark
- Improved relationship to garden spaces and views into parkland and rest of NRP.
- Slimmer profiles of buildings from North-east might allow for addition of an extra floor with sloped green roofs.
- Glasshouses have good proximity and can link with internal secure route.

Con's

- Creates a large spread out building especially after expansion.
- Circulation design is an element that is crucial in preventing this scheme from becoming separate ‘science silos’, and will be crucial in the ‘single organism’ work mentality.
- Street Hub is stretched out and may reduce likelihood of ‘crossing-paths’.
- Servicing to Eastern labs may be challenging.
- Outreach gallery could be compromised by future growth.
- Potential overshadowing of glasshouses.
- Future expansion potentially adds significantly to circulation / hub space.
- Additional western entrance to Conference centre may be required to create effective link to Chatt, Conference and recreation centres.
- Stretched out layout may be considered a compromised layout for a ‘clean’ site.
- Does not engage well with NRP masterplan, Centrum and landscaped green spaces.
- Road realignment difficult topographically
- Expansion compromises entrance from existing car park.

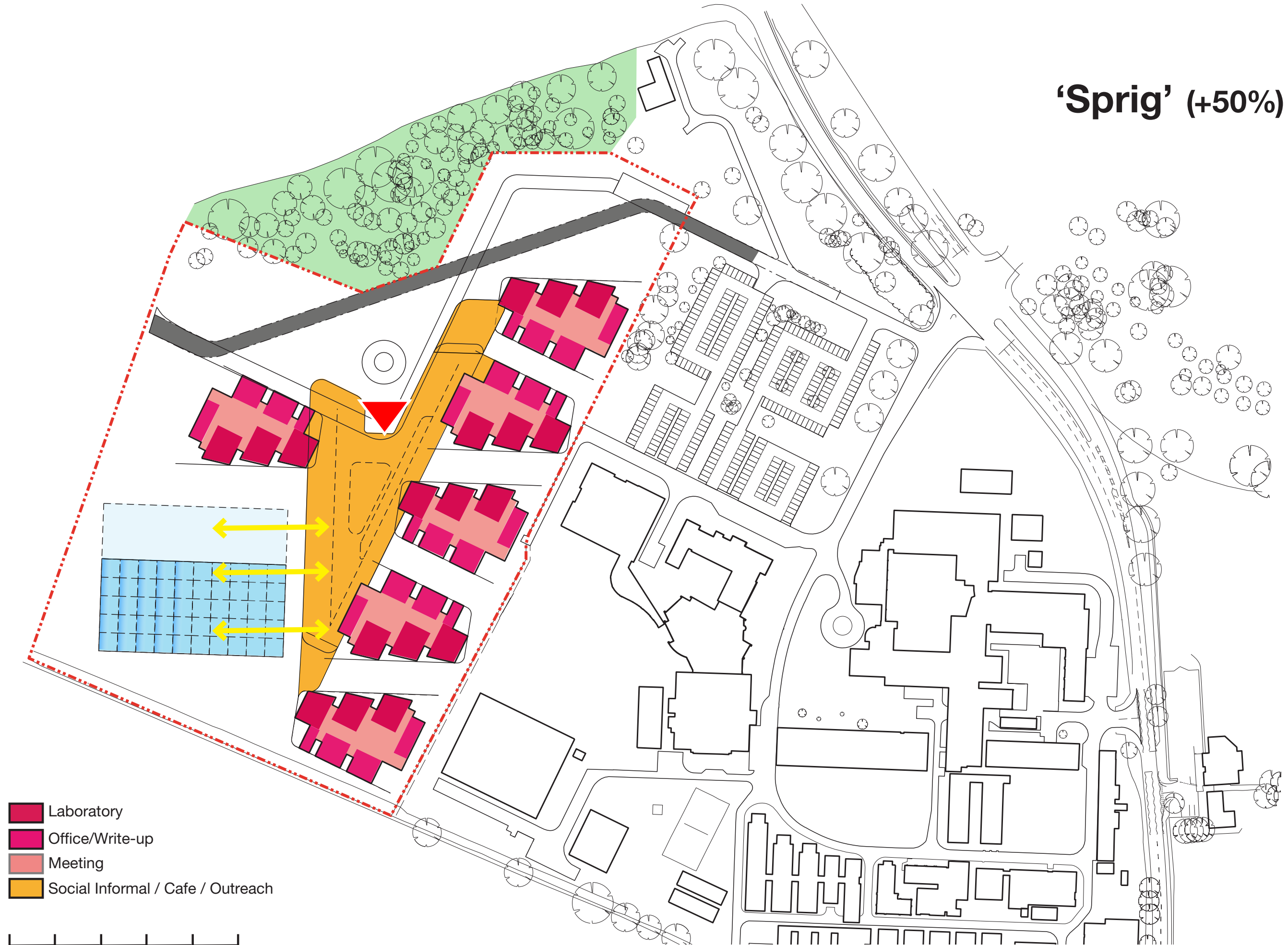
'Sprig'



- Laboratory
- Office/Write-up
- Meeting
- Social Informal / Cafe / Outreach

0 20m 100m

'Sprig' (+50%)



- Laboratory
- Office/Write-up
- Meeting
- Social Informal / Cafe / Outreach

0 20m 100m

‘Sprig’

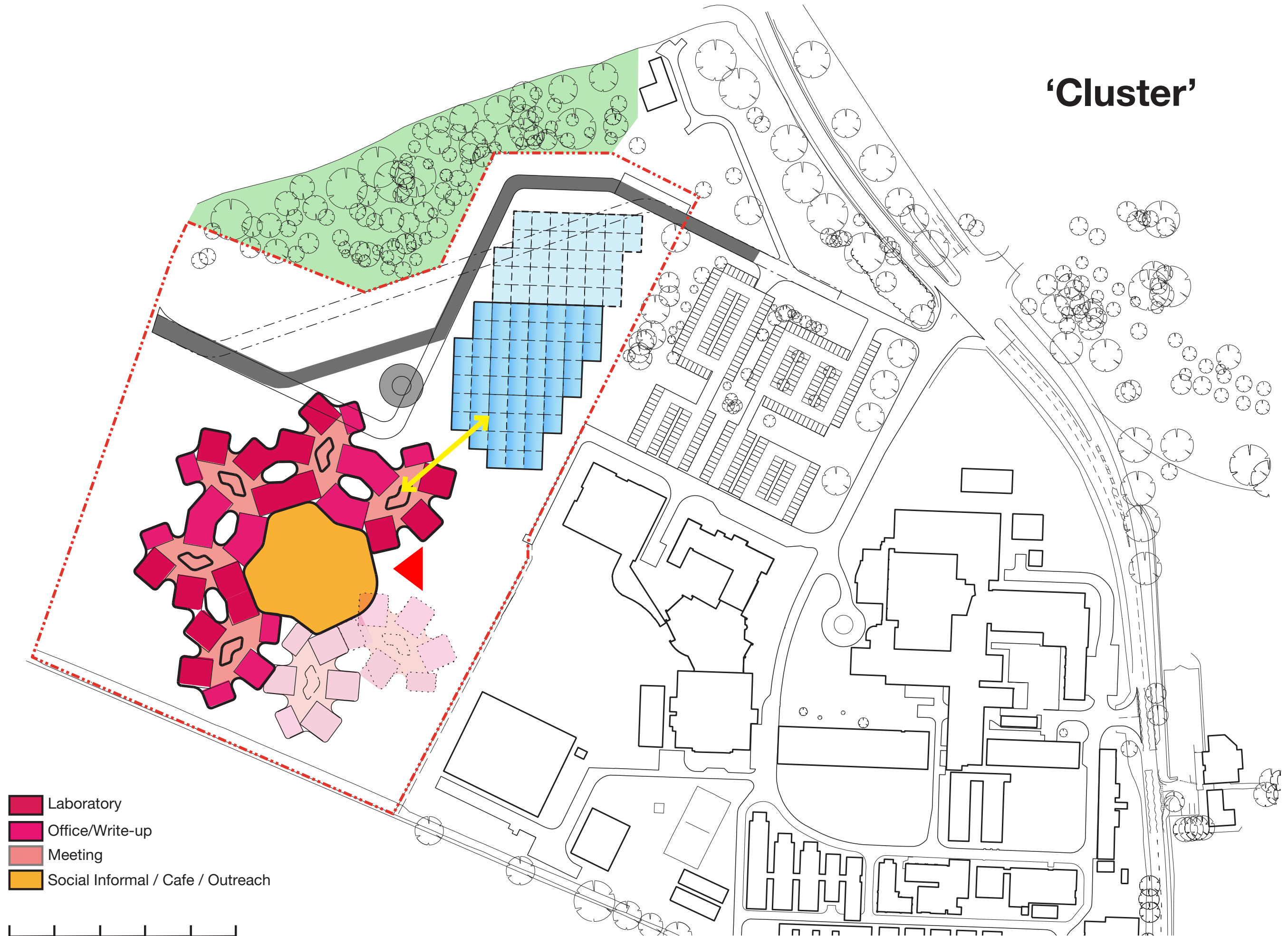
Pro's

- Human scale lab block ‘petals’ as previous proposal.
- Collaborative workspaces provided in each ‘leaf’ and within Hub spaces.
- Potentially more usable hub space than ‘toast rack neo’ option
- Inward facing quality that should encourage ‘single organism’ work approach.
- Good spacing between ‘leaves’ and serrated edges to blocks, combined with central voids and lightwells results in good provision of daylight into all workspaces.
- Glasshouses and Horticultural team brought closer to Scientists and both may be joined to same collaborative workspace.
- Better relationship between Horticultural team and core facilities in the Hub.
- Direct link from glasshouse to building possible
- Tapered ‘leaf’ block plan improves views into parkland, countryside and rest of NRP
- More compact form (pre-expansion)
- Obvious entrance point adjacent to carpark
- Further work may allow existing road to remain in position (creating space for field trial location north of road)

Con's

- Linear growth proposed may end up with a vary ‘long’ building with quite isolated workspaces at the ends. Future growth may not benefit from central facilities or working practices.
- Does not meet requirement to support JIC acting as ‘one organism’.
- Servicing to Eastern labs may be challenging.
- Potential overshadowing risk to greenhouses from post-expansion plan.
- Limited green space between ‘petals’.
- No strong link between hub space and rest of NRP to east.
- Additional western entrance to Conference centre may be required to create effective link to Chatt, Conference and recreation centres.
- Sloping nature of site may create a challenge (or opportunity) in developing the linear scheme
- The scheme fails to push / test the existing planning parameters to achieve a better contribution to the NRP Masterplan and the future JIC

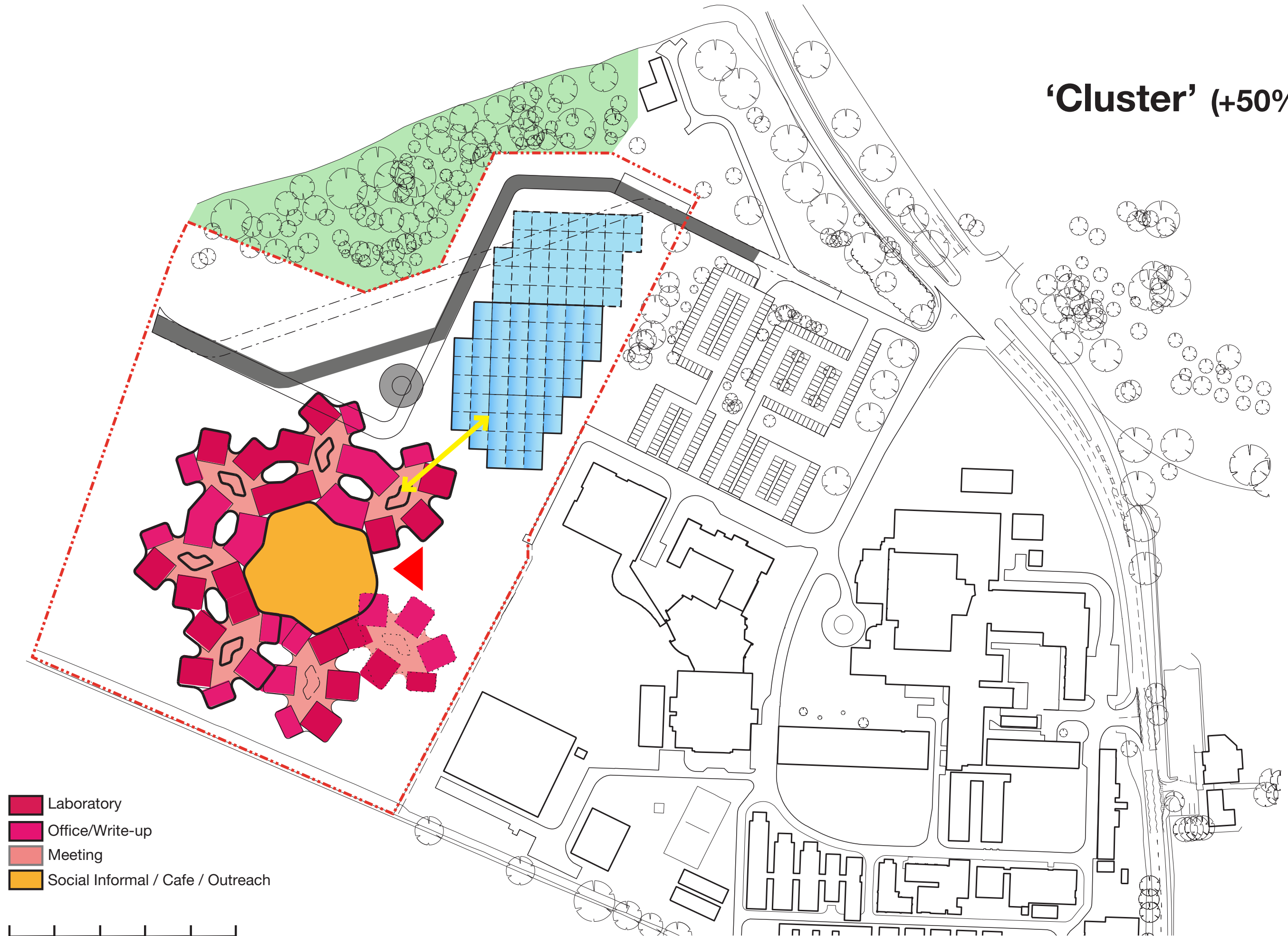
'Cluster'



- Laboratory
- Office/Write-up
- Meeting
- Social Informal / Cafe / Outreach

0 20m 100m

'Cluster' (+50%)



‘Cluster’

Pro's

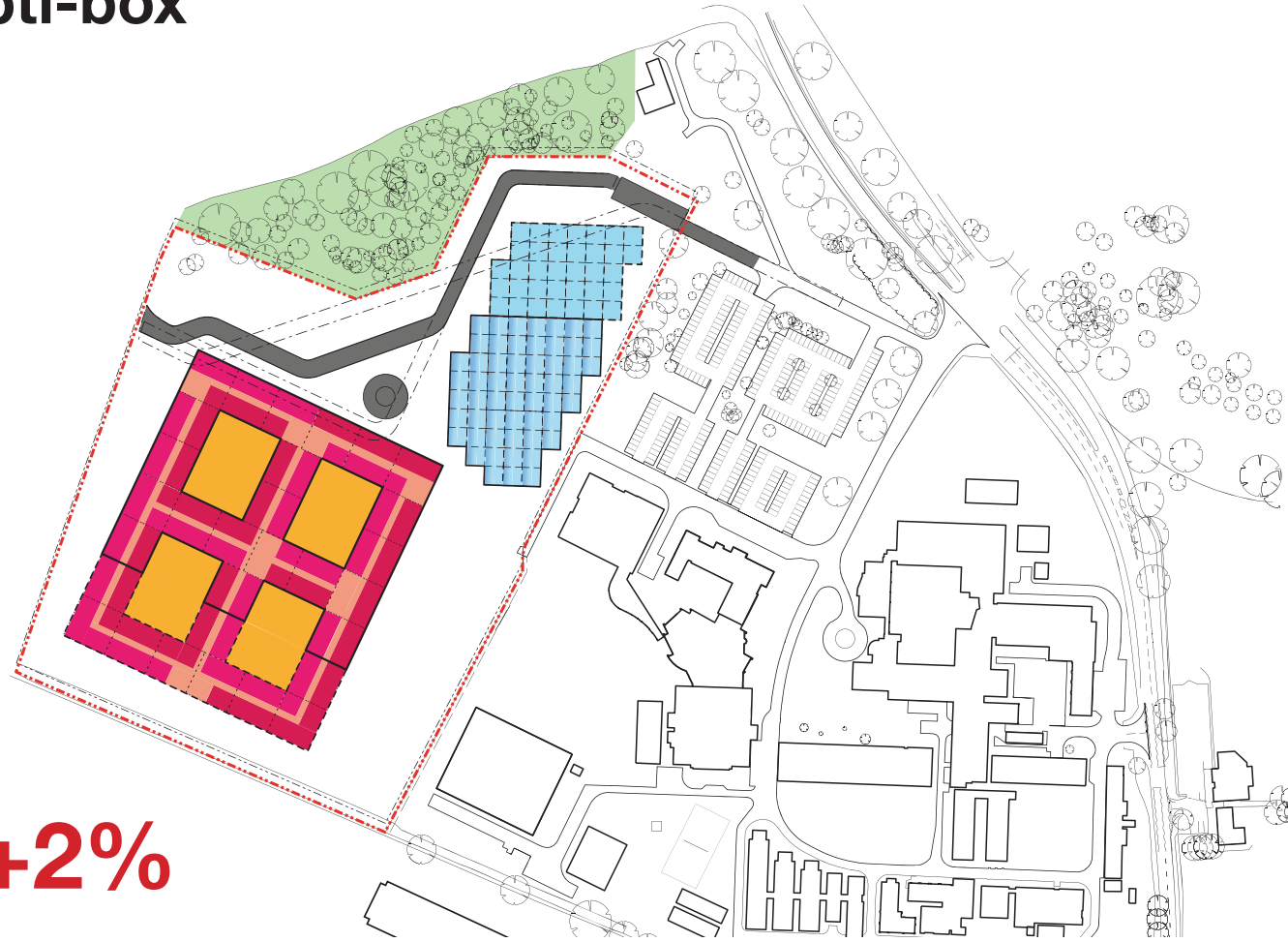
- Very dense use of site which delivers human scale segments that can be used flexibly.
- Each cluster includes voids for ventilation and daylight around which are gathered formal and informal work and meeting spaces.
- Close connection between central hub and centres of each of the clusters and between clusters
- Voids and serrated facades provide excellent daylight for users.
- Condensed foot print for a more efficient building and less travel distance between zones.
- Raised greenhouses on north of site and proposed terracing gives space for extensive CER hall and/or carparking.
- Potential internal secure link from glasshouses to building
- Potential for labs to be surrounded by garden space.
- Circular service route can link to the ends of each cluster.
- Hub faces greenspace creating better integration with NRP.
- Radial arrangement allows an outlook into rest of NRP and countryside.
- Can be expanded half a cluster at a time
- Potential to mediate site slope with staggered ground levels creating identifiable zones within the main hub space.

Con's

- Entrance will face on to NRP greenspace making access from drop off less clear.
- Hub design will need to define public space from private, secure space
- Designs assume that the planning envelope may be increased by a few metres to allow two of the central cluster elements to be four storey (plus plant)
- Spaces around void spaces receive less daylight than if they were outward facing
- Construction of expansion will be close to existing workspaces
- Requires part of the New road to be re-routed, but less than some options.
- Pedestrian route alongside CER hall will require careful design to avoid ‘blank wall’

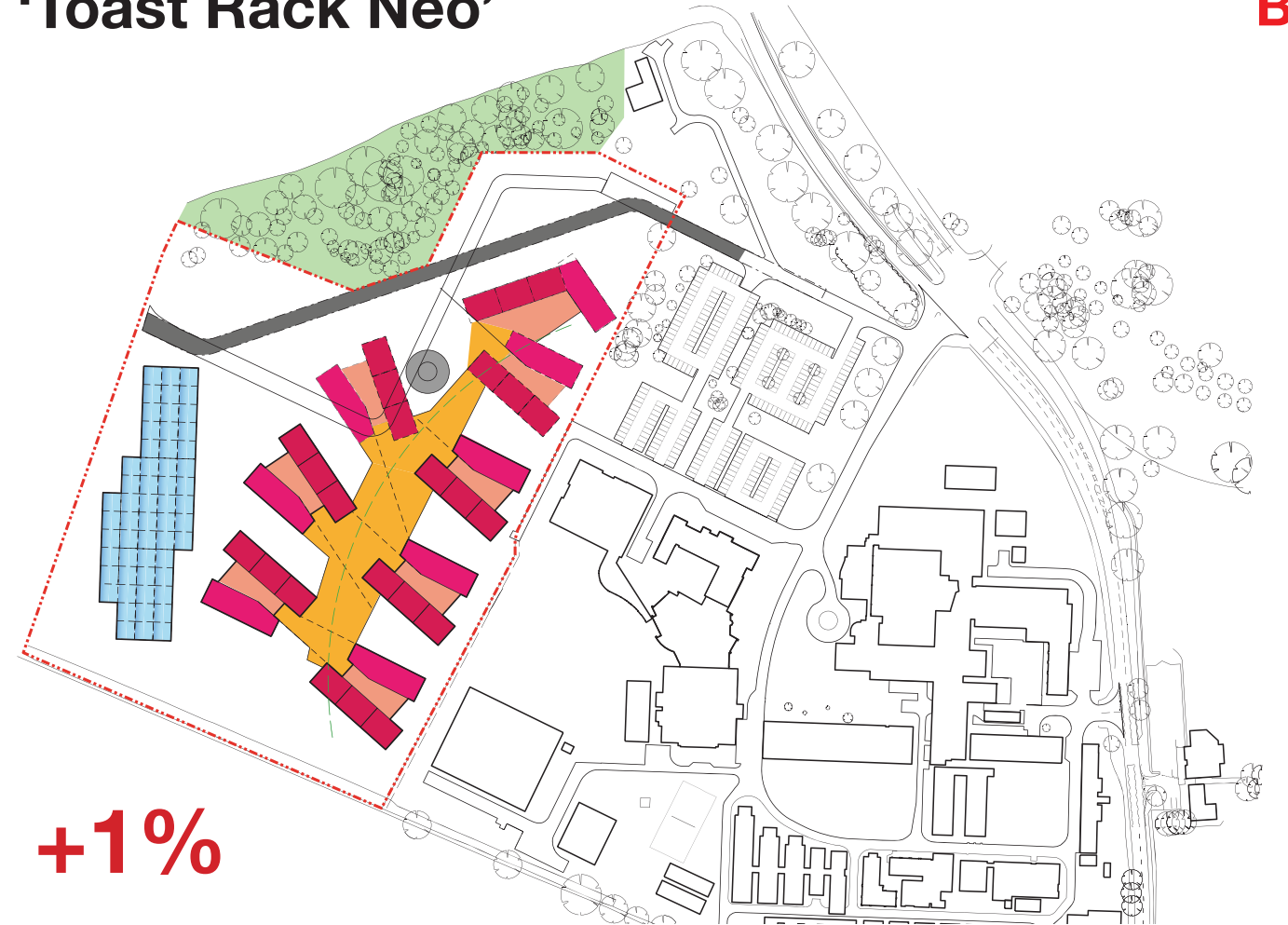
‘Opti-box’

+2%



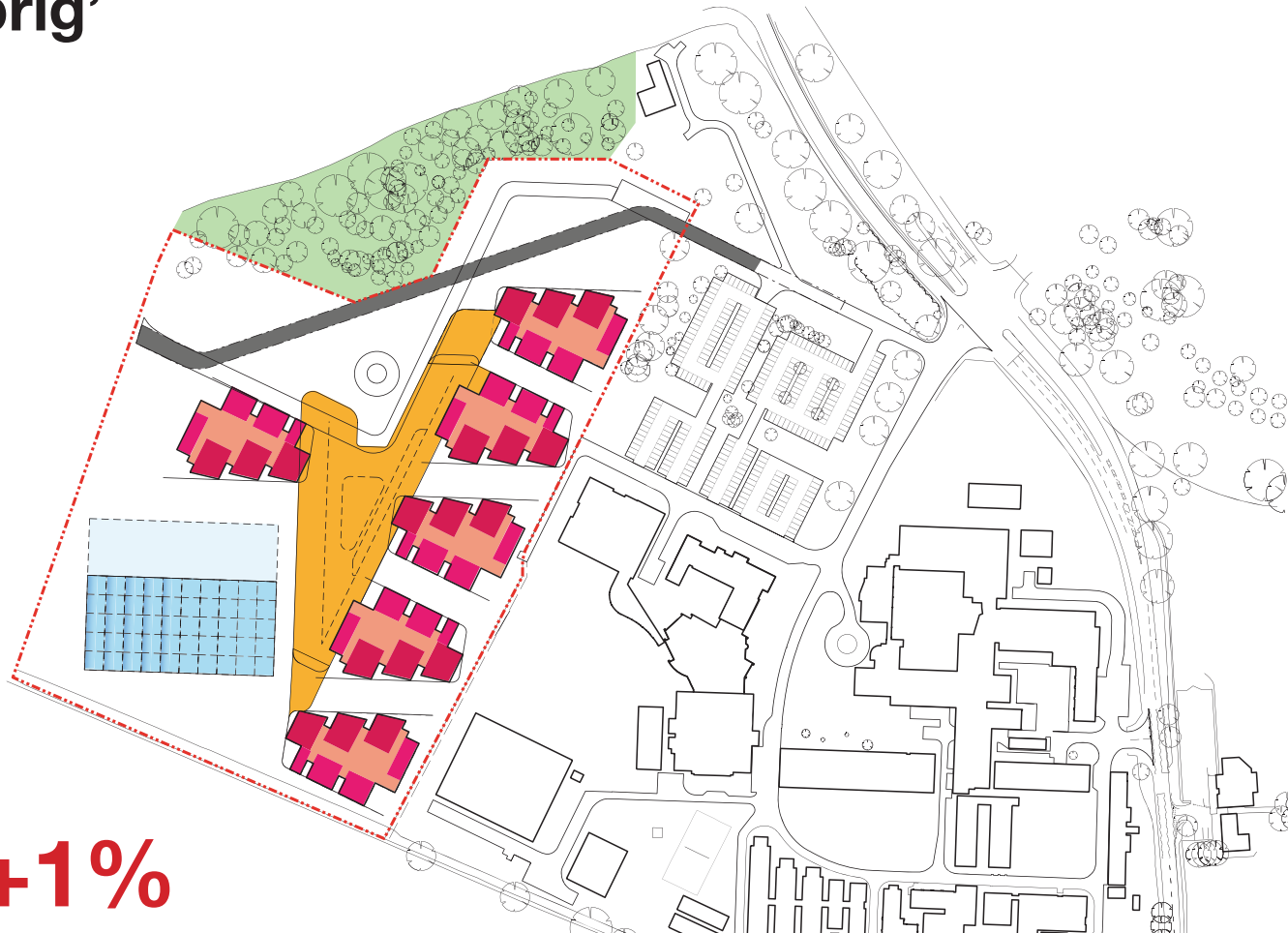
‘Toast Rack Neo’

+1%



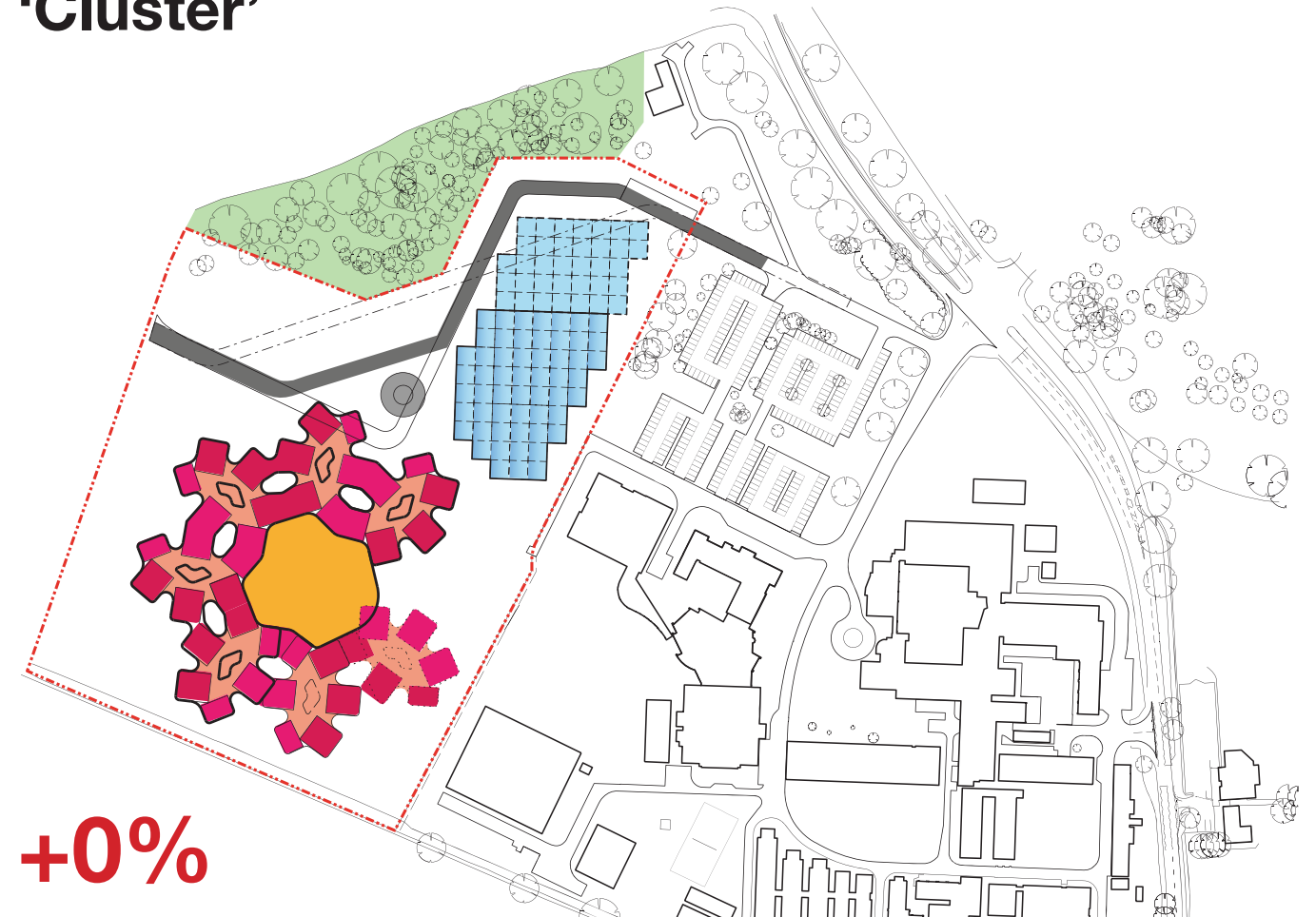
‘Sprig’

+1%



‘Cluster’

+0%



John Innes Centre – Site 3 Construction Cost Plan Summary

Element	Nett Cost (£k)	£/m2	Comments
Enabling/Site Prep	3,500	102	
Shell & Core	66,391	1,921	
Fit-Out	46,144	1,335	
External Works	10,131	293	
Preliminaries @ 13%	16,402	475	Based on benchmarks
Contractors OH&P @ 5%	7,128	206	Based on benchmarks
Nett Construction Cost	149,696	4,331	
Glasshouses/Horticulture	9,020	1,747	GIA 5,162m2
Specialist Equipment	5,700		Advice from JIC
Specialist Facilities	2,800		Advice from JIC
Sub-total	167,216		

Exclusions:

- Client direct costs such as staff costs associated with capital build
- Catering Equipment – assumed fitted out by others
- Loose and high spec. equipment (eg. Imaging) – assumed either relocated or procured and funded via JIC operating budget
- JIC direct IT costs

Assumptions:

- Inflation has been allowed to the mid point of construction assumed at 3Q2019 – Construction start assumed 2Q2018, 3 year build period
- Specialist equipment and facilities allowance based on previous JIC high level estimate
- Costs assume that laboratories are designed as adaptable spaces capable of being converted to offices and visa versa
- An allowance has been included for power upgrade