

CONFIDENTIAL

URBAN RENEWAL AUTHORITY

**INVITATION TO TENDER
FOR
PROVISION OF SERVICES
FOR
PROOF OF CONCEPT ON GENERATIVE DESIGN**



(February 2023)

**Urban Renewal Authority
26/F, COSCO Tower,
183 Queen's Road Central,
Hong Kong**

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Name of the Service Provider : _____

Date : _____

**INVITATION TO TENDER FOR PROVISION OF SERVICES FOR
DEVELOPING THE PROOF OF CONCEPT (POC) ON GENERATIVE DESIGN**

I. NOTES FOR TENDERERS

- 1.1 This “Invitation to Tender” document (“the Document”) is an invitation to offer and is made by the Urban Renewal Authority (“the Authority”) to invite the tenderers to submit offers for the **provision of services for POC on Generative Design** (“the Services”) described in paragraph 2.3 of **Section II** below for the Period (as defined in paragraph 2.2.3 of **Section II** below) in accordance with the terms of this Document.
- 1.2 This Document sets out the terms of the tender. The Authority makes no representation or warranty, whether express or implied, as to the accuracy or completeness of the information contained in this Document. It is the responsibility of the prospective tenderer who submits a tender (“the Service Provider”) to ascertain the feasibility of the Services and to establish the accuracy or completeness of any information relating to this Document and the Services. The Service Provider should ensure that fees quoted are full and accurate before submitting the offer and the Authority will not accept any request by the Service Provider for adjustment of fee quotes contained in the offer submitted by the Service Provider.
- 1.3 Unless expressly incorporated into this Document by the Authority by way of supplemental document or otherwise, all discussions, clarifications, correspondence and communications between the Authority and the Service Provider regarding this Document shall have no legal and binding effect.
- 1.4 The Authority is not bound to accept a tender with the lowest fee quote or any tender at all and is not bound to award the tender to any Service Providers and the Authority shall not be required to give any reason or justification for its decision.
- 1.5 Any communication between the Service Provider and the Authority shall be in writing and addressed to the Authority, 26/F, COSCO Tower, 183 Queen’s Road Central, Hong Kong for the attention of Director, Planning and Design Division.
- 1.6 All written information and correspondence between the Authority and the Service Provider in relation to the Services shall be marked “Confidential” and the Service Provider shall cause its officers, employees, sub-contractors, and any other representatives to treat the same as strictly confidential. Any disclosure or publicity in this regard is strictly prohibited except with the prior written approval of the Authority.
- 1.7 After appointment, the Authority may, at its sole discretion, instruct the Service Provider which has been awarded the contract of the Services (the “Successful Service Provider”), to provide all or part of the Services listed in the Document at the fees quoted in **Section VIII** for the respective services. No claim by the Successful Service Provider in connection with the situation, which the Authority instructs the Successful Service Provider to proceed with only part of the Services, will be entertained by the Authority.

The Successful Service Provider also has no entitlement to claim for loss of profit due to the omission of services, irrespective of whether such omitted services will be carried out by others in future. The Service Provider shall also be deemed to have allowed for all extra expenses, which may arise from such omission.

II. BACKGROUND AND SERVICES

2.1 Background

- 2.1.1 With regard to the increasing manpower required for design options study and analysis during different stages of design and planning, the Authority has been exploring the possibility of optimizing decision making process for design development by developing a generative design tool based on available software in the market.
- 2.1.2 A customized tool for project planning & notional design purpose that could generate options for comparison of various attributes (including GFA, plot ratio, site coverage, building height, no. of units, view analysis, and etc.) with due compliance to some key statutory control (Sustainable Building Design (SBD) Guidelines, prescribed window requirement, First Schedule of BPR) is targeted to be developed. With the tools being developed, it was expected to enhance the efficiency on feasibility design study with a more comprehensive and objective rating. The preliminary design scheme/solution automatically generated by the tool will also be very useful for design coordination meeting, government submission and public engagement, to showcase a data driven decision on analysis in form of pre-set indicatives for shortlisting the optimal feasible design options.
- 2.1.3 Given the generative design concept is new to the market, the Authority considers that it is necessary to have a POC stage to ensure the concept is feasible before investing the resources on development. The Authority is appointing a Service Provider under the Services for provision of services for developing the POC. The basic rules to be focused of the POC stage is the mainly statutory requirement for Prescribed Windows and SBD Guidelines. Findings from the POC with our feedback can determine the cost and benefits for full development of the generative design tool that is conducive to the Authority's work.

2.2 Scope of Services

The Successful Service Provider shall provide the Services, including the following and as details in Appendix A:

- 2.2.1 The Services shall generally be the provision of Proof of Concept for generative design to facilitate the design process for preparation of feasible design scheme(s) at conceptual design stage.
- 2.2.2 The Successful Service Provider shall adopt the Agile methodology i.e., conducting sprint meeting on weekly/bi-weekly basis for the POC development;

2.2.3 The period of Services is 5 months upon commencement of work, which is divided into three stages, their duration and scope of works are described as below:

a) Stage I (tentatively by One Month):

The Successful Service Provider shall start to develop the first draft of this smart system via the computation tools/artificial intelligence technology/etc. for the Authority's approval.

On the user interface, through input of one given site boundary, a set of typical floor plans, and the permitted development parameters (including but not limited to site boundary, site classification, maximum site coverage & plot ratio, standard typical floor plans (provided by the Authority), floor to floor height, numbers of storeys, maximum building height, minimum tower separation, and etc.), the result/output which comprises a part of options would be generated automatically and be displayed in order.

On this user interface, the order ranking of options would be displayed and the order of each option would depend on how close its key parameter, GFA, achieving the maximum permissible value. In Stage I, GFA is the selected single category and would be regarded as the first/dominating criteria for the ranking and the rest to be subsequent.

The selected option would be displayed clearly for user's information include key parameters (including GFA, plot ratio, site coverage, building height, tower numbers, no. of units, and etc.) as well as the view of 3D massing in its specific simulated environment. These options should be with different dispositioning and height of domestic towers, of which all pre-set constraints and the Rule-based Principle 1 listed below shall be complied with through the auto-checking mechanism in the system developed:

Rule-based Principle 1

- Statutory requirement of Prescribed Windows as described under Building Planning Regulation. Demonstration of compliance will be by the means of rectangular horizontal planes. Visual daylight factor calculation is not required.

Deliverable:

- Demonstration of the generation process of options for the given site on a draft user interface.
- Each round of input operation shall generate its pool of options, while the number of options vary according to update of site size and the input constrains. The options, their parameters and the ranking would be updated automatically as well when adjusting the ranking criteria; and
- Quantity of options generated should be more than 200 (or any numbers. as agreed by the Authority) before filtering/ranking.

b) Stage II (tentative by Two Months):

Subsequent to the system and user interface developed in Stage 1, the Successful Service Provider shall input map data (such as street, lanes) into the map environment of the platform. The result/output should be generated automatically and be displayed in order. The input of site boundary could be drawn interactively on the map platform or be uploaded in common formats (i.e. CAD/GIS/3dm) with real-world coordinates.

The Rule-based Principle 2 and Principle 3 listed below shall be complied with through the auto-checking mechanism in the system developed:

Rule-based Principle 2

- Automatic checking and compliance of statutory requirement of Building Separation and Building Setback from the centerline of street as stated in the SBD Guidelines under Practice Notes for Authorized Persons. Demonstration of compliance will be by the means of distance control between groups of building clusters and the lot boundary; and

Rule-based Principle 3

- Automatic site classification and calculation of development parameters according to the First Schedule of the Building (Planning) Regulations of a particular site selected by the user.

Deliverable:

- Demonstration of the generation process of options on the optimized interface;
- Each round of input operation shall generate its pool of options, while the number of options vary according to update of site size and the input constrains. The options, their parameters and the ranking would be updated automatically as well when adjusting the shortlisting criteria;
- The key development parameters (including GFA, plot ratio, site coverage, building height, numbers of domestic flat units and flat mix) attained in the filtered options shall be displayed clearly for users' selection by choosing priority in the shortlisting criteria;
- Quantity of options generated should be more than 200 when site area is less than 1000sqm, more than 1000 when site area is bigger than 1000sqm (or subject to agreement with the Authority);
- Provide at least 6 accounts to be tested internally in the Authority; and
- Provide training to use this user interface.

c) Stage III (tentative by Two Months):

Among the design options generated, the Successful Service Provider shall develop and optimize a method for quantitative ranking assessment in order to optimize the filter system to assist prioritization among options, thus to achieve the best options from the options pool:

- Development potential utilization rate: achieving maximum of permitted GFA, minimum site overage, and etc.;

- Development Quality (within site/within the region), i.e., less overlooking units/towers, more units has better orientation, and etc.; and
- Tower Floor Plan Mix: mix of different floor plan types (library to be given by the Authority) for the generation

Deliverable:

- Demonstration of the generation process of options on the optimized interface;
- Provide trainings to use this user interface; and
- Submit a Recommendation Report including:
 1. the findings of POC;
 2. definition of the scopes and roadmap for full implementation including the integration with the URIS (the overview of URIS can be found in Appendix B) as well as the existing inhouse environmental assessment tools (including NGIS Oden, AKL FlowDesigner, Ladybug scripts in Rhino, etc as stated in Appendix A); and
 3. the estimated cost and benefit/potential application for full implementation.

2.2.3 Only when the Successful Service Provider gets the Authority's approval for the successful completion of the previous's tasks, they could then proceed to undertake the next Stage's tasks.

2.2.4 The Successful Service Provider shall provide all specialist services required for the satisfactory completion of the Services. No additional fees or expenses for the provision of such services rendered locally or overseas or in mainland China shall be payable by the Authority except as otherwise provided for in the Schedule of Fees.

2.3 Key Deliverables

- 2.3.1 Set up the design principles and design workflows for the POC tool to generate urban design options that can comply with the requirements as stated in paragraph 2.2;
- 2.3.2 Develop the POC tool with deliverables required in Stage I, II, and III as stated in paragraph 2.2;
- 2.3.3 Attend sprint meeting, regular coordination meetings/ presentation with the Authority as necessary for the POC development and presentation needs;
- 2.3.4 Submit a recommendation report as required in Stage III of the POC in paragraph 2.2;
- 2.3.5 Provide a free license for 6 URA designated staff to access the POC for three months after upon user acceptance of the Stage III;
- 2.3.6 The key deliverables by the Successful Service Provider and tentative milestone dates (indicative ONLY, not exhaustive) are listed below. The tentative milestone dates are subject to review by the Authority as necessary. No claim by the Successful Service Provider in connection with the difference between

the tentative milestone dates and the actual programme will be entertained. Notwithstanding the provision in this paragraph, the Successful Service Provider shall comply with the provisions in other parts of this Document in respect of the timing for performing the Services and rendering all necessary reports on time.

Key Deliverables	No. of weeks after contract award
i. Project kick-off meeting	Within 1 week
ii. Demonstration of Stage 1 deliverables	Within 4 weeks
iii. Demonstration of Stage 2 deliverables	Within 12 weeks
iv. Demonstration of Stage 3 deliverables and submission of the recommendation report	Within 20 weeks
v. Three months trials on POC	After upon the Stage III deliverables met with the Authority's satisfaction

- 2.3.7 The Successful Service Provider shall provide the demonstration and relevant reports of the tool fulfilling requirements listed in the Scope of Services. Evaluation shall be done after the completion of Stage I of the service prior to carry onward to Stage II. The Authority shall reserve rights to terminate the Services in the event of non-performance upon the mentioned stage evaluation.

III. TENDER INVITATION

3.1 Tender

3.1.1 The Service Provider is required to submit a Technical Proposal which shall include the following documents:

- (a) **Appendix C** – Form of Declaration of Interest and Undertaking to Destroy Documents;
- (b) **Appendix D** – Non-collusion Tendering Certificate;
- (c) Details of company profile with the Service Provider's background which should include a copy of business registration certificate and certificate of incorporation or equivalent document proof in the mainland China or overseas; and
- (d) **Appendix E** –Tenderer's Schedule which shall cover the following information for the Authority's assessment.

(1) The Service Provider's Experience:

- (i) *The Service Provider shall have at least 1 current/completed generative design or relevant project in the past 2 years before tender closing date; and*

(2) Work Approach & Innovation of the Proposed Solution:

- (i) *The Service Provider shall propose a practicable work approach and anticipated deliverables (the shorter time period to finish the scope of work will be an advantage); and*
- (ii) *The Service Provider shall illustrate how the designed platform, AI engine and/or similar software could auto-generate different design options which can comply with the required rule-based principles under the Services, and auto assign scores for comparison of options based on proposed weighting for design parameters. Besides, the tenderer shall propose any other functionalities that can be beneficial to the Authority in the building design; and*
- (iii) *A maximum 3 min video introduction to the proposed generative design solution shall be submitted for evaluation. The content of the video could also cover (d)(3) explanation of Roadmap of full Implementation.*

(3) Roadmap for Full Implementation of the Proposed Solution:

- (i) *The Service Provider shall illustrate the total cost of ownership of deploying the proposed solution for production use; and*

- (ii) *The Service Provider shall illustrate how to define the roadmap of integrating the proposed solution with the Authority's URIS and existing inhouse environmental assessment tools (including NGIS Oden, AKL Flow Designer, Ladbybug scripts in Rhino, etc)*

(4) Staffing:

- (i) *The Service Provider shall propose a competent project team which can meet the required qualification and experience as stated in paragraph 4.9.*

(e) **Appendix F** – Declaration of No Conflict of Interest and Confidentiality Undertaking

- 3.1.2 The Service Provider shall ensure that its technical proposal submission shall be duly completed, self-explanatory and in strict compliance with the above requirements together with any other information considered necessary by the Service Provider. Should there be any omissions or ambiguities in the Service Provider's submission, the Authority may only ask for further clarifications/substantiations from the Service Provider at the sole discretion of the Authority.
- 3.1.3 The fees quoted in **Section VIII** in respect of the Services shall cover fees for professional fees rendered and all disbursements including all out-of-pocket expenses incurred by the Successful Service Provider in carrying out the Services including, but not limited to the following:
- a) Travelling and courier service expenses within Hong Kong;
 - b) Prints and photocopies of drawings including tender drawings and contract drawings, etc., correspondences, documents, reports and photographs, and compact disks issued to the Authority, relevant government departments/utilities companies and contractors;
 - c) Presentation drawings and materials;
 - d) All submission drawings including general building plans, calculation schedules, etc.;
 - e) Photocopying or printing costs of all materials;
 - f) Fees and charges payable to obtain relevant information in Hong Kong; and
 - g) Fees for any sub-consultancy services commissioned by the Successful Service Provider.

Notwithstanding the above, the fees quoted in **Section VIII** shall include all statutory submission fees for the Services incurred by the Successful Service Provider.

- 3.1.4 The quoted fee will be a fixed lump sum payable by the Authority in respect of the Services. Apart from the quoted fee, no other disbursements associated with the Services will be payable by the Authority unless prior written consent has been obtained from the Authority.
- 3.1.5 All tenders must be submitted in Hong Kong Dollars (HK\$).

3.1.6 The Service Provider must submit the quoted fee in the spaces in **Section VIII** below. No unauthorized alteration or erasure to the text of the Document will be permitted. Any tender containing such alteration or erasure may not be considered.

3.1.7 The **Total Fee** submitted by the Service Provider in **Section VIII** will not be amended for error found in the examination of tenders. The following errors, should they occur in the priced **Section VIII – Tender Offer**, will be rectified and altered in red ink:

- (a) errors in casting of the cash column; and
- (b) where there is no amount or an illegible amount has been inserted against any item in **Section VIII**, it shall be deemed that the fee of the item has been allowed for the fees entered elsewhere in **Section VIII** and the fee shall therefore be marked as zero.

The total error will be calculated as a plus or minus percentage of the corrected tendered sum minus the contingency and this percentage will be applied to the tendered amount for the purposes of pricing the Services instructed. If the percentage error is less than 0.5%, no adjustment will be made. The percentage shall not be applied to the provisional sum for contingency.

3.1.8 The primary written language of the interface as well as the technical proposal is English, supplemented by Chinese if necessary.

3.2 Validity of Fee Quoted

All fees quoted shall, upon acceptance by the Authority, be valid from and including the date of appointment until the end of the Period as described in this Document.

3.3 Acceptance of Tender

The Service Provider shall submit an irrevocable offer in **Section VIII** together with the required particulars and information (which shall form part of the offer). All tenders submitted by the Service Provider shall be valid for acceptance for a period of ninety (90) calendar days from and including the tender closing date and it shall remain binding upon the Service Provider and may be accepted by the Authority at any time before the expiration of this period.

3.4 Payment of Fees

- 3.4.1 No invoice will be processed and cleared for payment until the specific stage to which it relates has been fully and properly completed to the satisfaction of the Authority.
- 3.4.2 The payment schedule for the Services is listed as follows: -

Table 2

Services Stages	Stage Payment according to the quoted total fee in Section VIII
(a) Completion of all deliverables in Stage I as stipulated in Section 2.3 with the satisfaction of the Authority	Fee quoted in item a) of Para. 8.1 x 30%
(b) Completion of all deliverables in Stage II as stipulated in Section 2.3 with the satisfaction of the Authority	Fee quoted in item a) of Para. 8.1 x 40%
(c) Completion of all deliverables in Stage III as stipulated in Section 2.3 with the satisfaction of the Authority and completion of the 3 months free trial period	Fee quoted in item a) of Para. 8.1 x 30%

- 3.4.3 The Authority will pay to the Successful Service Provider within 30 calendar days of the receipt of the Successful Service Provider's invoice for the aforesaid services which has been fully and properly completed to the satisfaction of the Authority.

3.5 Variation

The Authority may issue variation instructions to add, remove or vary the scope of services, which addition, removal or variation shall be binding and conclusive on the Successful Service Provider. The value of the authorized variations resulting from such instructions shall be determined by the Authority based on the Successful Service Provider's estimate of the variations and with reference to the fees quoted in **Section VIII** as appropriate. No addition, removal or variation required by the Authority shall vitiate the Tender Offer in **Section VIII**.

IV. OTHER REQUIREMENTS

4.1 Undertaking

The Successful Service Provider undertakes to perform and complete the Services in accordance with the terms of this Document.

4.2 Warranty

4.2.1 The Successful Service Provider represents and warrants that all necessary and reasonable skill, care and diligence shall be used in the discharge of the Services and the Services shall be provided in a timely, careful and professional manner.

4.2.2 The Service Provider represents and warrants that all information provided by the Service Provider to the Authority has been verified to be true and correct and contains no material omission, which is relevant to the tender or the Services.

4.3 Declaration of Interest

4.3.1 The Service Provider shall declare to the Authority any interest where there may be real or apparent conflict, direct or indirect, with any of the duties to be performed by the Service Provider during the tendering process or after the award of the tender for the Services. The Service Provider is required to sign a form of Declaration of Interest in the form attached hereto as **Appendix C** for the Services when submitting the tender. Notwithstanding anything herein contained, the Authority reserves the right not to award the contract to any Service Provider who has any conflict of interest with the Services.

4.3.2 On appointment, the Successful Service Provider should require its employees involved in the Services to declare in writing to it any conflict of interest in connection with any of the Services provided under this assignment. If a conflict of interest situation occurs, the Successful Service Provider should take immediate measures to mitigate or remove the conflict so disclosed. It should also be required to record the conflict of interest declared and such records should be subject to inspection by the Authority.

4.4 Conduct of the Successful Service Provider

4.4.1 The Successful Service Provider shall comply with all reasonable instructions of the Authority as far as they relate to the Services.

4.4.2 The Successful Service Provider shall keep the Authority informed of all matters relating to the Services within or coming within the knowledge of the Successful Service Provider and shall promptly and properly answer all enquiries received from the Authority and render regular progress reports, whenever necessary or deemed appropriate by the Authority.

4.4.3 The Successful Service Provider shall duly and promptly attend all meetings convened by the Authority and shall advise and offer all assistance to the Authority on all matters relating to the Services.

4.4.4 The Successful Service Provider is advised that its performance in the Services will be monitored and may be taken into account by the Authority when its future tenders or quotations are evaluated by the Authority.

4.5 No Sub-contracting of the Services

Unless with the prior written approval of the Authority, the Successful Service Provider shall not assign, transfer or sub-contract the Services or any part thereof to any third party and the Services shall be carried out personally by the Successful Service Provider. Without limiting the foregoing, no sub-advisory services are to be commissioned by the Successful Service Provider, even at its own cost, unless with the prior written approval of the Authority. For the avoidance of doubt, all sub-consultants/ contractors to the Successful Service Provider shall comply with the requirements stated in this Document, particularly in respect of paragraphs 4.3, 4.6 and 4.10.

4.6 Confidentiality and Publicity

- 4.6.1 The Service Provider shall not during the tendering period or at any time thereafter for any reason whatsoever disclose to any person or otherwise make use of any information relating to the Authority or this tendering exercise or the Services which the Service Provider has or may in the course of preparing the tender or in the course of performing the Services come into possession or knowledge of or become accessible by any means whatsoever; nor shall any provision or otherwise contained in the Document be disclosed without prior written approval of the Authority.
- 4.6.2 All information, documents and materials supplied to the Service Provider in connection with this tender or the Services shall be kept in complete confidentiality, whether or not the Service Provider has submitted any tender or the tender submitted by the Service Provider is successful.
- 4.6.3 Any attempted publicity of any information in connection with this tender or the Services by the Service Provider shall not be made, unless prior written consent is obtained from the Authority.
- 4.6.4 For the avoidance of doubt, information subject to the confidentiality provisions in paragraphs 4.6.1 and 4.6.2 above shall include but not limited to all dedicated hardware intellectual properties, configuration, perimeter defending parameters, software, licence, trade secrets, processes, data, know-how, program/ source codes, flowcharts, algorithms, proposals, forecasts, prices, costs, vendor lists and all other documents/ materials in connection with and arising out of the Services. By the collection of this Document, the Service Provider acknowledges and undertakes the requirements relating to confidentiality and publicity mentioned in paragraphs 4.6.1 to 4.6.3 above.
- 4.6.5 On appointment, the Successful Service Provider will be required to sign undertakings on independence (i.e. no conflict of interest) and confidentiality in the form attached hereto as **Appendix E**.

4.7 Consent to Disclosure

- 4.7.1 The Authority shall have the right to disclose whenever it considers appropriate or upon request by any third party (written or otherwise) any information on this Document, any of the Service Provider's tender, the Services or any other related information without any reference or notification to the Service Provider.

- 4.7.2 Without prejudice to paragraph 4.7.1, the Authority shall have the right to report and provide documents and information regarding any anti-competition conduct to the Competition Commission (and other authorities as relevant).

4.8 Ownership, Copyright of Materials and Intellectual Property Rights

- 4.8.1 All information and materials in whatever form or media prepared/ produced in connection with this tender and/or in the performance of the Services shall, save as in respect of information that is publicly available, remain the property of the Authority. The copyright of such information and materials shall be vested in the Authority who shall have the exclusive right to use such information and materials at any times and places and in any forms.
- 4.8.2 The Successful Service Provider shall only use such information or materials in the performance of the Services and for no other purpose unless prior written consent has been obtained from the Authority.
- 4.8.3 Upon termination or completion of the Services, all hard copies and soft copies, if any, of the data and information supplied by the Authority including but not limited to drawings, records, reports, files, program/ source codes and other documents/ materials (and all copies or reproduction of such documents or materials) shall, at the Authority's discretion, be returned to the Authority immediately or destroyed by the Successful Service Provider directly. Besides that, the Successful Service Provider shall require to rectify/harden all of the security risks identified by the Certified Information System Security Professional appointed by the Authority.
- 4.8.4 The ownership and all intellectual property rights (including without limitation any patent, copyrights, registered design or trademark) in the services, project deliverables, reports, plans, customized software, designs, algorithms, program/ source codes or other materials prepared by the Successful Service Provider or received by the Successful Service Provider in the course of providing the Services described in this Document shall be vested in and belong to the Authority and the Successful Service Provider shall not use any such documents, customized software, designs, algorithms, program/ source codes and materials or disclose the contents thereof to any third person, in any manner outside the course of the Services, without prior express approval in writing from the Authority.
- 4.8.5 The Successful Service Provider warrants that all hardware, software, design, images and materials supplied by the Successful Service Provider for the Services do not and will not infringe any letters patent, copyrights, registered designs or other industrial or intellectual property rights of any third party whatsoever.
- 4.8.6 The Successful Service Provider shall fully indemnify the Authority against all liabilities, costs, charges, claims, demands and expense of whatsoever nature arising out of or in connection with any claims that in respect of the Services described in this Document, the use or possession of any material, including without limitation any software or any part thereof, infringe the intellectual property rights of any third party.

4.9 Professional Team

4.9.1 Without prejudice to paragraph 4.9.2 below, all the reports, meetings and communications in relation to the Services shall be directly carried out under the close supervision of the designated Project Manager or equivalent level identified by the Successful Service Provider and supervising the provision of Services.

4.9.2 The Service Provider shall provide in the tender submission details of the relevant experience of the staff fulfilling the qualification and experience requirements as stated as below. The Authority shall be informed of all relevant staff changes throughout the Agreement Period and the Extension Period (if any) and up to the completion of the Services, and the Authority has the right to request change of any staff designated to undertake the Services. Replacement of any professional staff should also satisfy the above requirements and subject to the Authority's approval.

- i) *The Project Manager of the team should have acquired a Bachelor's degree or above in related discipline such as Architecture/Urban Design/Urban Environment/Land Surveying/Geomatics as well as possessed at least 5 years experiences, of which 2 years related to generative design/computational scripting/spatial cognition/GIS; and*
- ii) *The Programmer should have acquired a Bachelor's degree or above in related discipline such as computer science/automation/information technology and possessed at least 5 years Information Technology experiences, of which 2 years related to computational scripting/spatial cognition/GIS.*

4.10 Indemnity

The Successful Drag undertakes to indemnify the Authority and keep the Authority fully and effectively indemnified against any and all losses, claims, damages, costs, charges, expenses, liabilities, demands, proceedings, and actions which the Authority may sustain or incur or which may be brought or established against it by any person arising out of or in relation to or by reason of the Successful Service Provider's negligence, recklessness, default or wilful misconduct or the negligence, recklessness, default or wilful misconduct of its employees, agents, or sub-contractors or sub-consultants in the provision of the Services or relating to the Services.

4.11 Offering, Soliciting or Acceptance of Advantages

4.11.1 The Authority is a public body under the Prevention of Bribery Ordinance (Cap.201) ("POBO"). The Authority does not permit any of its employees, tenderers and agents to accept any advantage in connection with the award of this tender. The offer of an advantage to any employee, tenderer and agent of the Authority with a view to influencing the award of the tender may constitute an offence under the POBO. Any such offence committed by the Service Provider or its employee(s), sub-consultant(s) or contractor(s) or agent(s) will render the tender null and void. The Authority may also terminate the Services

granted to the Successful Service Provider and hold the Successful Service Provider liable for any loss or damages, which the Authority may thereby sustain or incur. The Successful Service Provider shall also caution its employees, sub-consultants and contractors against soliciting or accepting any excessive hospitality, entertainment or inducements, which could impair their impartiality in the performance of the Services.

- 4.11.2 The Successful Service Provider should prohibit its employees, sub-consultants, contractors or agents from offering, soliciting or accepting any advantage as defined in the POBO from any person in relation to the Services. If the Successful Service Provider or its employee(s) commit any offence under the POBO in relation to the Services, the Authority shall be entitled to terminate the Services and hold the Successful Service Provider liable for any loss or damages the Authority may sustain.

4.12 Termination

- 4.12.1 The Authority has the full and absolute discretion to terminate the Services at any time and at any stage during the Period by giving not less than one week's written notice to the Successful Service Provider, without giving any reasons for the termination.
- 4.12.2 Without prejudice to paragraph 4.11.1, the Authority has the right to terminate the Successful Service Provider's engagement under the contract of the provisional of the Services forthwith and to recover damages where the Authority shall discover that the tender process of the Services was subject to collusion.
- 4.12.3 The Authority is entitled to terminate the Services at any time during the Period without notice if there is any breach or non-performance or non-observance of any of the terms of the Services, including non-performance as per the evaluations stated in paragraph 2.3.2.3 and 2.4.2.
- 4.12.4 Upon the termination of the Services, the Successful Service Provider shall immediately deliver to the Authority all documents, media and information held or received by the Successful Service Provider relating to the Services together with the electronic copies thereof in compact disks or any other form of storage as the Authority may specify and, except in case of termination due to any breach or non-performance or non-observance of any of the terms and conditions contained in the Document, the Authority shall value and pay any fees payable to the Successful Service Provider with reference to the fees quoted in **Section VIII**.
- 4.12.5 Upon termination of the Services, the Successful Service Provider shall refund, on demand from the Authority, any advance payments made by the Authority.
- 4.12.6 The Successful Service Provider shall not be entitled to claim any compensation for loss, damages or otherwise for the termination of the Services by the Authority.

4.13 Laws

- 4.13.1 This Document shall be governed by and construed in accordance with the laws of the Hong Kong Special Administrative Region. The Authority and the

Successful Service Provider agree to submit all disputes in connection herewith to the non-exclusive jurisdiction of the Hong Kong Courts.

- 4.13.2 Nothing in this Document confers or purports to confer on any third party any benefit or any right pursuant to the Contracts (Rights of Third Parties) Ordinance (Cap.623) to enforce any terms of this Document.

4.14 Anti-collusion

- 4.14.1 The Service Provider must ensure that the tender is prepared without any agreement, arrangement, communication, understanding, promise or undertaking with any other person (except as provided in paragraph 3 of the Non-Collusive Tendering Certificate in the form set out at **Appendix D** (“the Certificate”)), including regarding price, tender submission procedure or any terms of this Document. In the event of any breach of this clause by any Service Provider, the Authority reserves the right to:

- (a) invalidate the tender submitted by the Service Provider;
- (b) terminate the contract after the award of the tender to the Successful Service Provider;
- (c) seek damages from the Service Provider;
- (d) suspend the Service Provider from tendering either indefinitely or for a period of time; and
- (e) report the case to the relevant enforcement authorities for investigation.

- 4.14.2 Bid-rigging is inherently anti-competitive and is considered serious anti-competitive conduct under the Competition Ordinance. Service Providers who engage in bid-rigging conduct may be liable for the imposition of pecuniary penalties and other sanctions under the Competition Ordinance.

- 4.14.3 Upon tender submission, the Service Provider shall submit the Certificate duly signed by an authorized person on the Service Provider’s behalf.

- 4.14.4 Any formal agreement or award of contract made pursuant to this Document will be made in reliance of the statements made by the Successful Service Provider in the Certificate and conditional upon the effectiveness and veracity of the Certificate.

4.15 Code of Conduct and Whistleblowing Policy

The Service Provider shall observe the code of conduct and whistleblowing policy and procedures of the Authority from the website of the Authority.

V. SUBMISSION OF TENDER

- 5.1 The Service Provider’s tender should be prepared according to paragraph 3.1 above and must be submitted in the following manner:

- 5.1.1 The Technical Proposal in quadruplicate (i.e. the original and three photocopies) and Fee Proposal in triplicate (i.e. the original and two photocopies) under separate covers, each in a sealed envelope marked “CONFIDENTIAL” and affixed respectively with the attached colour address labels provided:

- a) “Technical Proposal for the Provision of Services for Proof of Concept on

Generative Design”

- b) “**Fee Proposal** for the Provision of Services for Proof of Concept on Generative Design”

The said technical and fee proposal shall be **deposited by hand not earlier than the earliest return date and on or before the tender closing date and time** (or any extended closing date) both stipulated in the letter of invitation (“**the Closing Date**”) into **the designated tender box** identified with the same tender box number and the same colour tag as the address label provided and also labeled for the subject tender situated in **the Urban Renewal Authority’s office on 26/F, COSCO Tower, 183 Queen’s Road, Central, Hong Kong.**

- 5.1.2 In view of the unclear condition of when normal traveller clearance between Hong Kong and the Mainland as well as other countries and regions can be fully resumed due to COVID-19, besides submitting the tender by hand as mentioned in 5.1.1, it is also considered a valid submission of sending the full set of tender documents digital copy to the Authority via email, for those Service Providers are not based in Hong Kong.
- 5.1.3 In the event of a black rainstorm warning or a typhoon signal No. 8 or above being in force at any time between the hours of 9:00 a.m. and 12:00 noon on the day on which tenders are intended to close, the specified closing time of the tender will be extended to 12:00 noon on the next working day which is not a Saturday and on which no black rainstorm warning or typhoon signal No. 8 or above is in force.
- 5.2 All tenders shall be submitted on or before the Closing Date. Late submission of tenders or tenders not deposited in the designated tender box or tenders not submitted in the above manner will not be accepted.

VI. ASSESSMENT CRITERIA

- 6.1 The Service Provider shall comply with the **mandatory requirement** set out below before its entire technical proposal is considered. Otherwise, the Service Provider’s submission should be **disqualified.**
- iii) The Service Provider must have at least 1 completed generative design project with contract sum higher than HK\$0.5M in the past 2 years before tender closing date;
- iv) The Service Provider shall provide a project team of at least 2 designated team members (Project Manager and Programmer) with relevant experience and qualification as stated in paragraph 4.9.2 to carry out the Services.
- 6.2 The Technical Proposal will be evaluated with the assessment elements and percentage of weighting as follows:

Assessment Criteria	Weighting
(a) Service Provider's Experience (Marks will be given if the Service Provider can provide additional and relevant job references.)	10%
(b) Work Approach and Innovation of the Proposed Solution - Propose a Work Approach and Innovation of the Proposed Solution - A 3 min Video introduction to the Proposed Generative Design Solution	50%
(c) Roadmap of Full Implementation of the Proposed Solution - Total cost of ownership of deploying the proposed solution for production use - Define the roadmap of integrating the proposed solution with the Authority's URIS and existing inhouse environmental assessment tools	20%
(d) Staffing (Marks will be given if the Service Provider can propose additional team members; or the proposed team members possess higher qualifications and more experience than the requirements as stipulated in paragraph 4.9.2.)	20%

- 6.3 Subject to full compliance of the tender with the terms and requirements stated in this Document, the Service Provider who obtains the highest combined score of technical and fees (technical assessment will attribute to 30% of the score and the fee will attribute to 70%) with minimum passing technical score of 70 marks may be considered for appointment to provide the Services provided that the Authority reserves its right to select any Service Provider other than the one who obtains the highest combined score.
- 6.4 The tender may not be considered due to the substandard performance with the Authority, real or apparent conflict of interest (irrespective of direct or indirect) with the Authority and suspension from the lists of the Government, the Hong Kong Housing Authority and/ or the Hong Kong Housing Society of the Service Provider concerned.

VII. CANCELLATION OF INVITATION TO TENDER

- 7.1 The Authority has the right to cancel the invitation to tender and the tender exercise at any time without giving any reasons, which decision shall be binding and conclusive on all Service Providers or potential Service Providers.

VIII. TENDER OFFER

- 8.1 The Service Provider submits an offer to render the Services in accordance with the terms and conditions contained in the Document for the total fixed lump sum fee as stipulated in the following table:

Items	Amount (HK\$)
a) Total Fees	_____
b) Contingency Sum	\$60,000
Total :	_____

Note 1 – Contingency sum of HK\$60,000 in item (b) above, which shall be wholly deducted from the above total fee if not required or adjusted to reflect the actual services as instructed by the Authority.

Name of the Service Provider: _____

For and on behalf of the Service Provider:

(Authorized Signature with Company Chop)

Full Name of Signatory: _____ Date: _____

Auto-Generative Design

Introduction for Proof-of-Concept Study

Estimated Services Period :

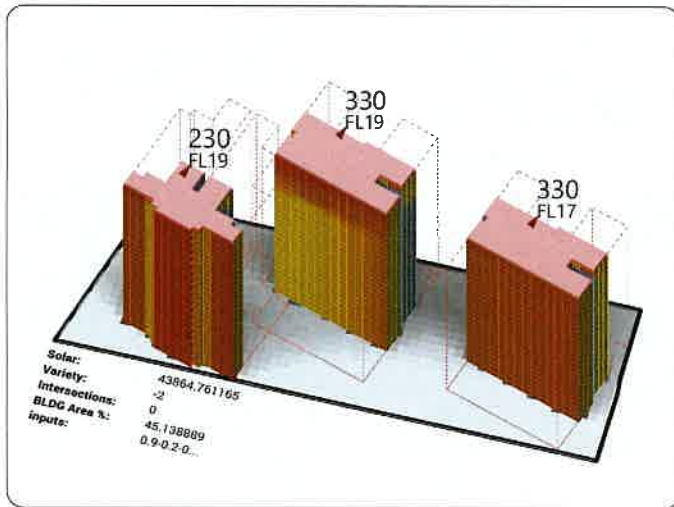
Stage 1 : 1 months

Stage 2 : 2 months

Stage 3: 2months

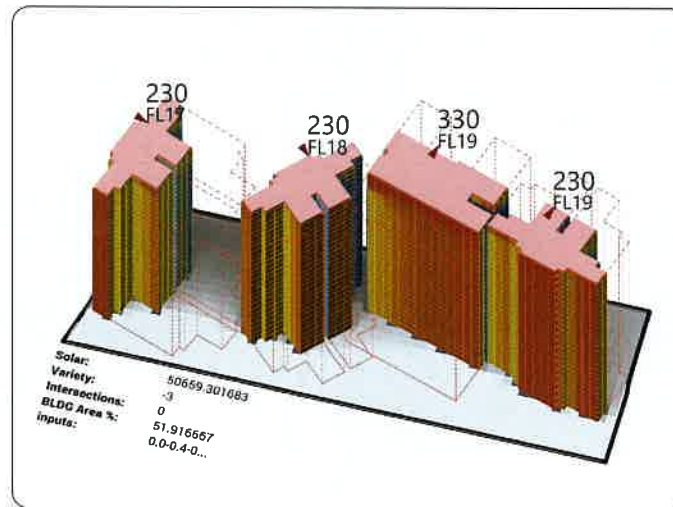
Update on 2 Feb 2023

ID: 2538



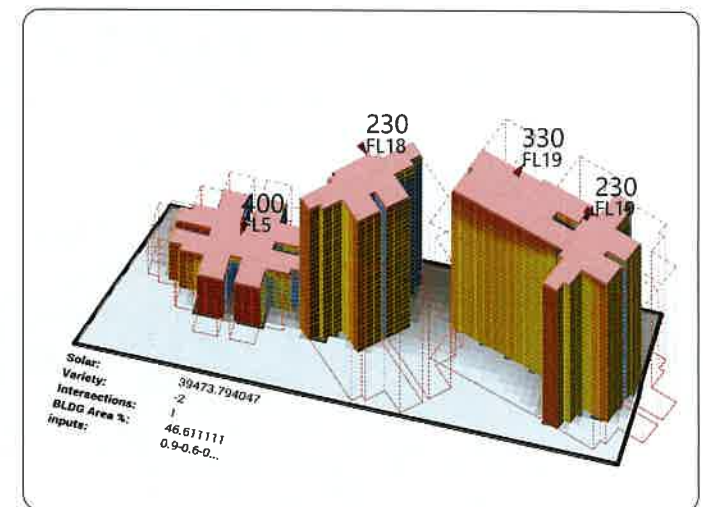
"Parallel" strategy
Low density

ID: 2776



"Hybrid parallel" strategy
High density

ID: 2580



"Packing" strategy
High density

CONFIDENTIAL – DO NOT DISTRIBUTE

Inputs

Stage 1

- Site boundary
(Site Area auto-calculated, GIS based)
- Site Classification *
- Permitted Site Coverage and Plot Ratio under Building Planning Regulations (B(P)R) *
- Library of typical Plans (imported from CAD)
- Floor to floor height for non-domestic & domestic portion
- No of storey for Non-dom. portion
- Max Building height
- Min. Tower separation

Stage 2

- MAP data
(i.e. for street identification under definition of B.O.)

** If there are any inconsistencies with the tender document, the content in the tender document shall prevail.*

Rule-Based Principle

Stage 1

1. Prescribed Window Requirements under B(P)R

→ Auto-generating nos. of storeys for each dom. towers, nos. of dom. towers, type of typical floor layout adopted

→ Auto-positioning of the dom. Towers

→ Criteria-based shortlisting on options

Stage 2

1. Sustainable Building Design Guidelines

a. Auto-create Building Separation

- Same group of typical* cannot exceed 60m , &
 - Separation increased to 15m between each groups of typical*, &
 - Separation from site boundary increased to 7.5m
- * group of typical to be defined in app

b. Auto-create Setback 7.5m from centerline of street

→ Auto-identification & Calculation of Site particulars
(i.e. Site classification, street under B.O.)

Stage 3

→ Quantitative ranking assessment on options

(Basic: development potential utilized, eg. 99% of allowable GFA),
(Specific: impact to surrounding built environment - proposed by consultant or to be clarified by URA)

Output

Stage 1

1. Recommended design layout options fulfilling rule-based principle

2. Displaying data

- GFA & Plot Ratio
- Site coverage
- Building height
- Others to be suggested by consultant

Stage 2

1. Recommended design layout options fulfilling rule-based principle

2. Displaying data

- Nos. of domestic units
- Flat mix

Stage 3






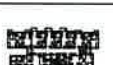

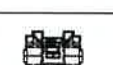
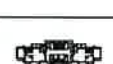
Optimized Interface presentation
Roadmap of full implementation:

- Integration with URIS
- Integration with inhouse
- environmental assessment tools
- Cost & benefit

Inputs

Inputs

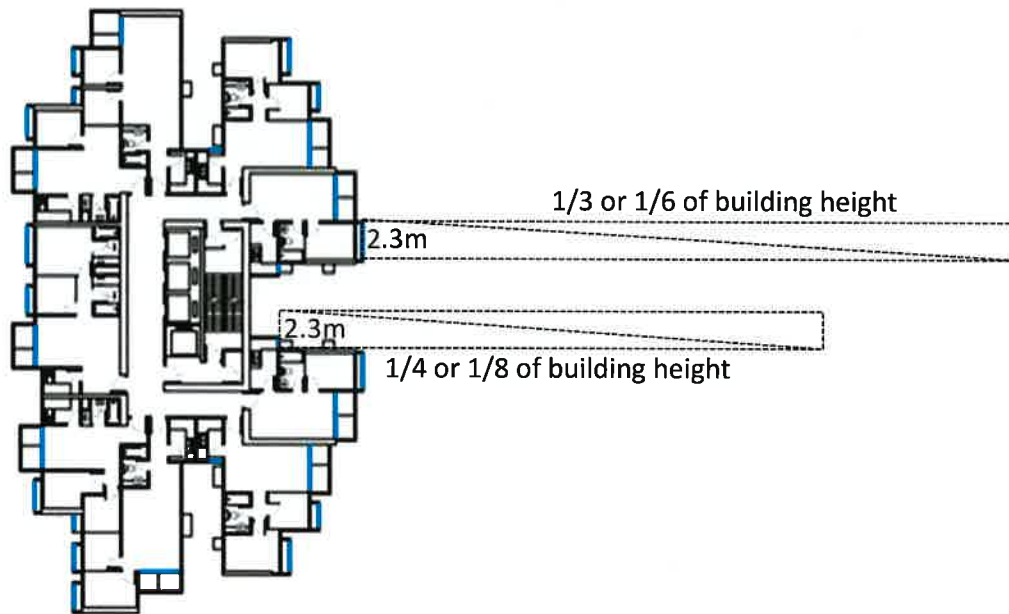
INPUTS: TYPICAL PLAN (including but not be limited to the following plans)

TYPES	10		
	9		
	8		
	8		
	7		
	6		
	5		
	4		

Rule Base Principle

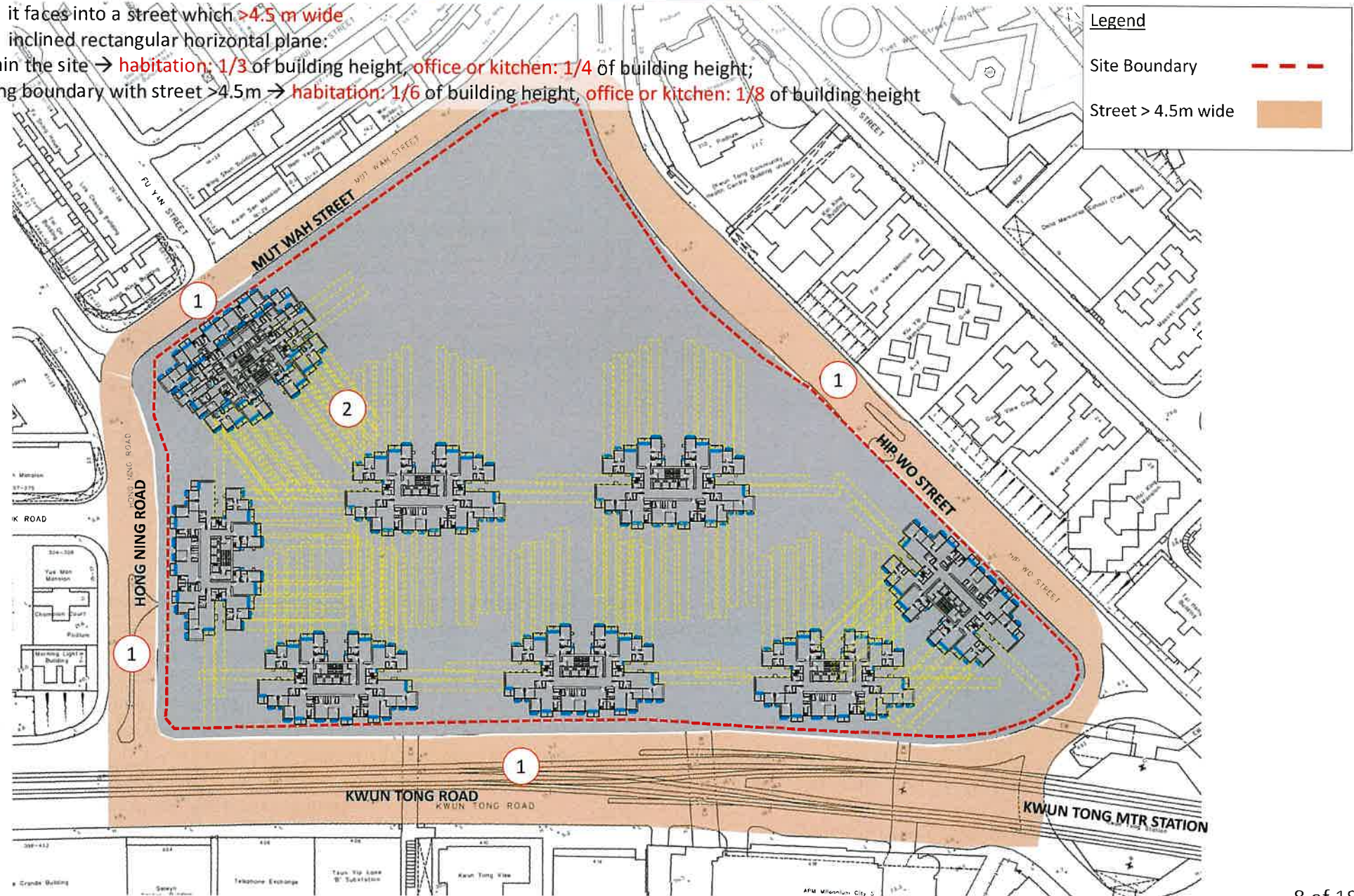
Rule Base Principle

- A. Every storey of every building used or intended to be used for the purpose of an **office** or for **habitation** or as a **kitchen** shall be provided with effectual means of lighting and ventilation.
- B. The aggregate superficial area of glass in the window or windows is not less than $1/10$ of the area of the floor of the room;
- C. the windows can, to an extent at least equal in the aggregate to $1/16$ of the area of the floor of the room;
- D. faces directly into the **external air**:
 - 1. it faces into a street which **>4.5 m wide**
 - 2. delineated by the **rectangular horizontal plane (21m^2 , min length of base >2.3m, min length of the sides >4.5m)**
 - 3. inclined rectangular horizontal plane:
 - within the site → **habitation: $1/3$ of building height, office or kitchen: $1/4$ of building height;**
 - facing boundary with street >4.5m → **habitation: $1/6$ of building height, office or kitchen: $1/8$ of building height**



Rule Base Principle

1. it faces into a street which **>4.5 m wide**
 2. inclined rectangular horizontal plane.
- within the site → **habitation: 1/3 of building height, office or kitchen: 1/4 of building height;**
 facing boundary with street >4.5m → **habitation: 1/6 of building height, office or kitchen: 1/8 of building height**

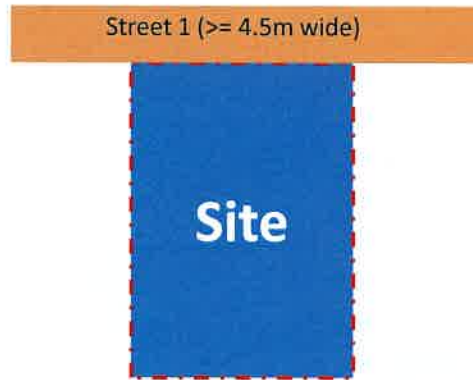


Rule Base Principle

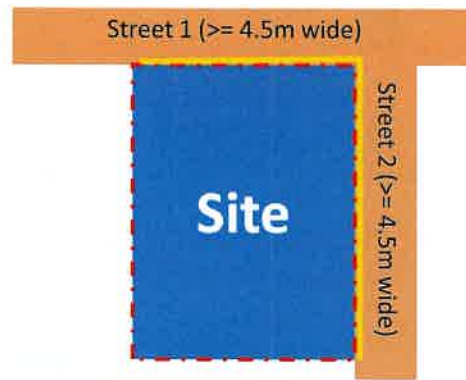


Rule Base Principle

Class A site



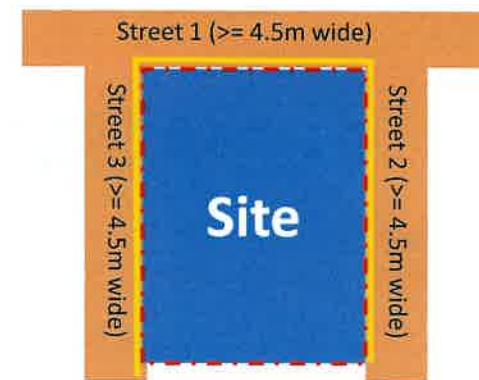
Class B site



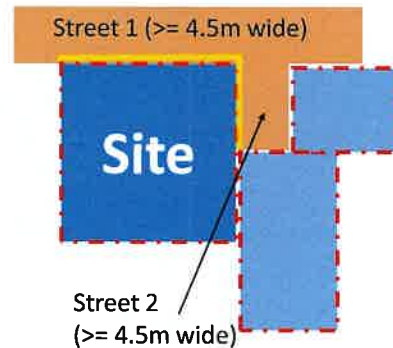
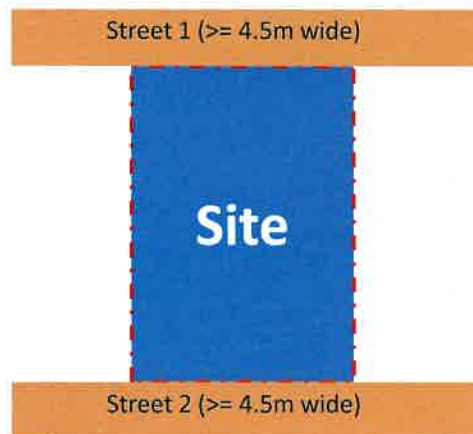
Portion of site boundary
abut streets $\geq 40\%$



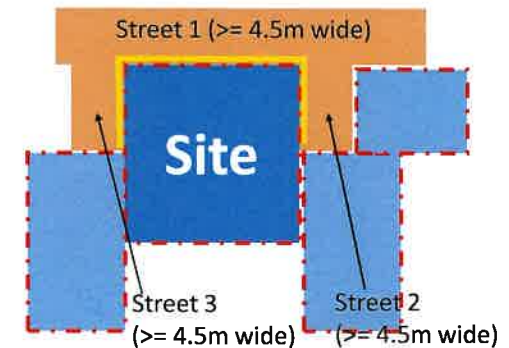
Class C site



Portion of site boundary
abut streets $\geq 60\%$



Portion of site boundary
abut streets $< 40\%$



Portion of site boundary
abut streets $< 60\%$



Rule Base Principle

FIRST SCHEDULE

[regs. 18A, 20 & 21]

(L.N. 110 of 2005)

PERCENTAGE SITE COVERAGES AND PLOT RATIOS

Height of building in metres	Domestic buildings						Non-domestic buildings					
	Percentage site coverage			Plot ratio			Percentage site coverage			Plot ratio		
	Class A site	Class B site	Class C site	Class A site	Class B site	Class C site	Class A site	Class B site	Class C site	Class A site	Class B site	Class C site
	site	site	site	site	site	site	site	site	site	site	site	site
Not exceeding 15 m	66.6	75	80	3.3	3.75	4.0	100	100	100	5	5	5
Over 15 m but not exceeding 18 m	60	67	72	3.6	4.0	4.3	97.5	97.5	97.5	5.8	5.8	5.8
Over 18 m but not exceeding 21 m	56	62	67	3.9	4.3	4.7	95	95	95	6.7	6.7	6.7
Over 21 m but not exceeding 24 m	52	58	63	4.2	4.6	5.0	92	92	92	7.4	7.4	7.4
Over 24 m but not exceeding 27 m	49	55	59	4.4	4.9	5.3	89	90	90	8.0	8.1	8.1
Over 27 m but not exceeding 30 m	46	52	55	4.6	5.2	5.5	85	87	88	8.5	8.7	8.8
Over 30 m but not exceeding 36 m	42	47.5	50	5.0	5.7	6.0	80	82.5	85	9.5	9.9	10.2
Over 36 m but not exceeding 43 m	39	44	47	5.4	6.1	6.5	75	77.5	80	10.5	10.8	11.2
Over 43 m but not exceeding 49 m	37	41	44	5.9	6.5	7.0	69	72.5	75	11.0	11.6	12.0
Over 49 m but not exceeding 55 m	35	39	42	6.3	7.0	7.5	64	67.5	70	11.5	12.1	12.6
Over 55 m but not exceeding 61 m	34	38	41	6.8	7.6	8.0	60	62.5	65	12.2	12.5	13.0
Over 61 m	33.33	37.5	40	8.0	9.0	10.0	60	62.5	65	15	15	15

(L.N. 294 of 1976)

Mixed Domestic & Non-Domestic development

Class A site

(Assumed Development Over 61m, Dom P.R. 7.5)

PR Calculation				Total P.R.	
Non-Dom		Dom			
0.9	+	7.5	=	1	8.4
15		8			

Class B site

(Assumed Development Over 61m, Dom P.R. 7.5)

PR Calculation				Total P.R.	
Non-Dom		Dom			
2.55	+	7.5	=	1	10.05
15		9			

Class C site

(Assumed Development Over 61m, Dom P.R. 7.5)

PR Calculation				Total P.R.	
Non-Dom		Dom			
3.75	+	7.5	=	1	11.25
15		10			

Rule Base Principle

FIRST SCHEDULE

[regs. 18A, 20 & 21]

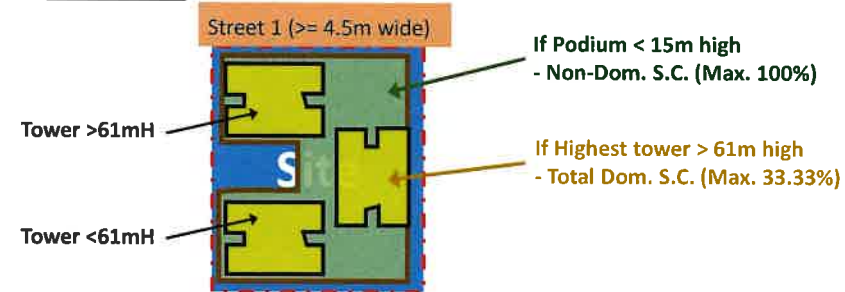
(L.N. 110 of 2005)

PERCENTAGE SITE COVERAGES AND PLOT RATIOS

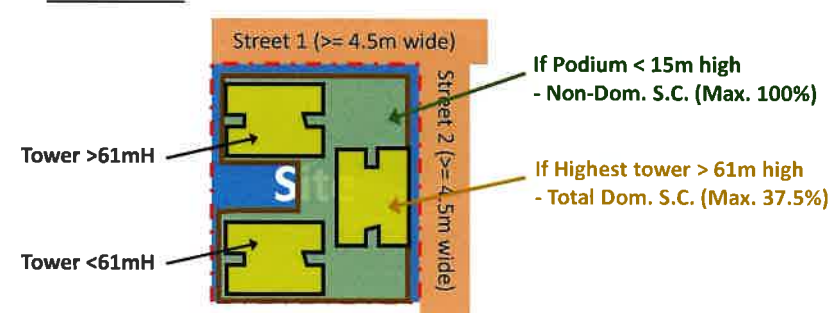
Height of building in metres	Domestic buildings						Non-domestic buildings					
	Percentage site coverage			Plot ratio			Percentage site coverage			Plot ratio		
	Class A	Class B	Class C	Class A	Class B	Class C	Class A	Class B	Class C	Class A	Class B	Class C
	site	site	site	site	site	site	site	site	site	site	site	site
Not exceeding 15 m	66.6	75	80	3.3	3.75	4.0	100	100	100	5	5	5
Over 15 m but not exceeding 18 m	60	67	72	3.6	4.0	4.3	97.5	97.5	97.5	5.8	5.8	5.8
Over 18 m but not exceeding 21 m	56	62	67	3.9	4.3	4.7	95	95	95	6.7	6.7	6.7
Over 21 m but not exceeding 24 m	52	58	63	4.2	4.6	5.0	92	92	92	7.4	7.4	7.4
Over 24 m but not exceeding 27 m	49	55	59	4.4	4.9	5.3	89	90	90	8.0	8.1	8.1
Over 27 m but not exceeding 30 m	46	52	55	4.6	5.2	5.5	85	87	88	8.5	8.7	8.8
Over 30 m but not exceeding 36 m	42	47.5	50	5.0	5.7	6.0	80	82.5	85	9.5	9.9	10.2
Over 36 m but not exceeding 43 m	39	44	47	5.4	6.1	6.5	75	77.5	80	10.5	10.8	11.2
Over 43 m but not exceeding 49 m	37	41	44	5.9	6.5	7.0	69	72.5	75	11.0	11.6	12.0
Over 49 m but not exceeding 55 m	35	39	42	6.3	7.0	7.5	64	67.5	70	11.5	12.1	12.6
Over 55 m but not exceeding 61 m	34	38	41	6.8	7.6	8.0	60	62.5	65	12.2	12.5	13.0
Over 61 m	33.33	37.5	40	8.0	9.0	10.0	60	62.5	65	15	15	15

(L.N. 294 of 1976)

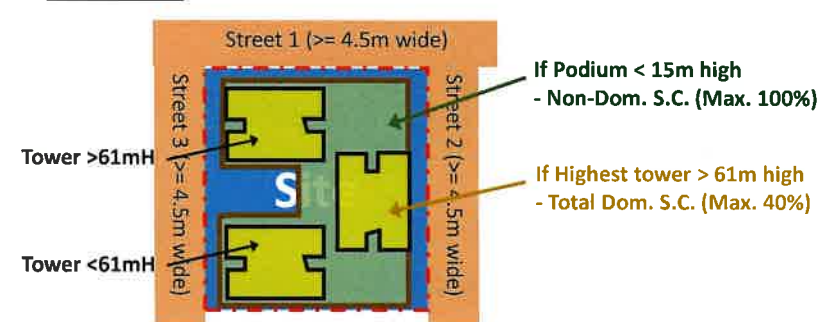
Class A site



Class B site



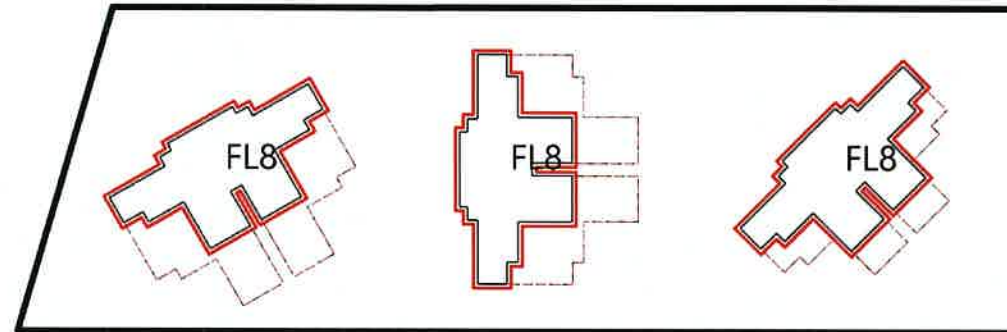
Class C site



Outputs

Output

Recommended design layout option(s) fulfilling rule-based principles



10		Typical layout adopted
9		
8		
8		
7		
6		
5		
4		

GFA	XX sqm
Plot Ratio	Dom. XX + Non-Dom. XX
Site coverage	Dom. XX % + Non-Dom. XX %
Building height	XX m
Nos. of domestic units	XX nos.
Flat mix	<div>Studio XX nos.</div> <div>1-Bedroom XX nos.</div> <div>2-Bedroom XX nos.</div> <div>3-Bedroom XX nos.</div>

Inhouse environmental tools

CFD Simulation for Architectural Design

Simulation for AEC Application

Autodesk Revit® ARCHICAD® Rhinoceros® SketchUp® etc...

AKL FlowDesigner is a computational fluid dynamics (CFD) simulation software that enables wind analysis by easily importing 3D models of buildings or urban blocks developed by modeling tools such as Autodesk Revit, GRAPHISOFT ARCHICAD, Rhinoceros and SketchUp. **AKL FlowDesigner** is BIM capable in IFC format. Architects, designers, engineers and consultants can use **AKL FlowDesigner** early in the design process to understand and visualize air flow around their projects. Early analysis reduces design time and gives a powerful impression to clients. CFD simulation of **AKL FlowDesigner** gives you the maximum benefit in the application of AEC (architecture, engineering and construction) industry. Airflow simulation used to be a complex and time-consuming task requiring deep technical knowledge. No more! **AKL FlowDesigner** allows any user to create simulations and analyze air flow in minutes. No engineering degree or complex calculations are required!

Works with Many BIM Software Tools

◦ Revit® ◦ ARCHICAD® ◦ Rhinoceros® ◦ SketchUp® ◦ Vectorworks®

Inhouse Environmental Assessment Tool | Traffic Noise

ODEN_NGIS

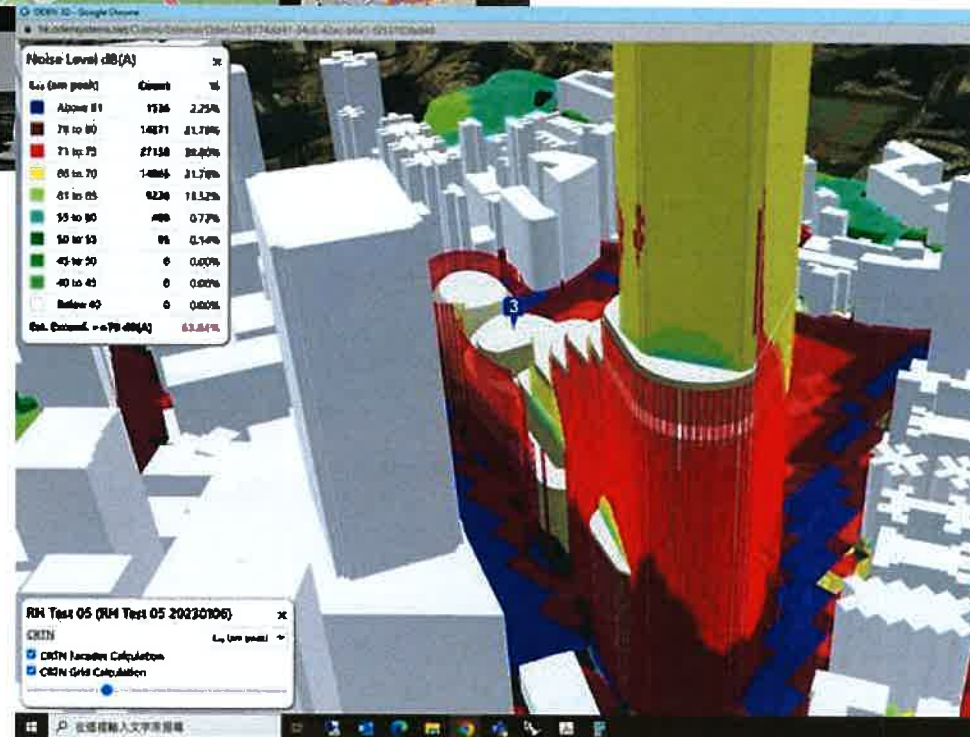
<https://odensystems.net/>



ODEN On-line Environmental Assessment

ODEN supports environmental assessment by providing on-line modelling of noise and air pollution from industrial, road, rail, air transport and other air sources. ODEN caters for numerous international regulations for noise and air pollution modelling.

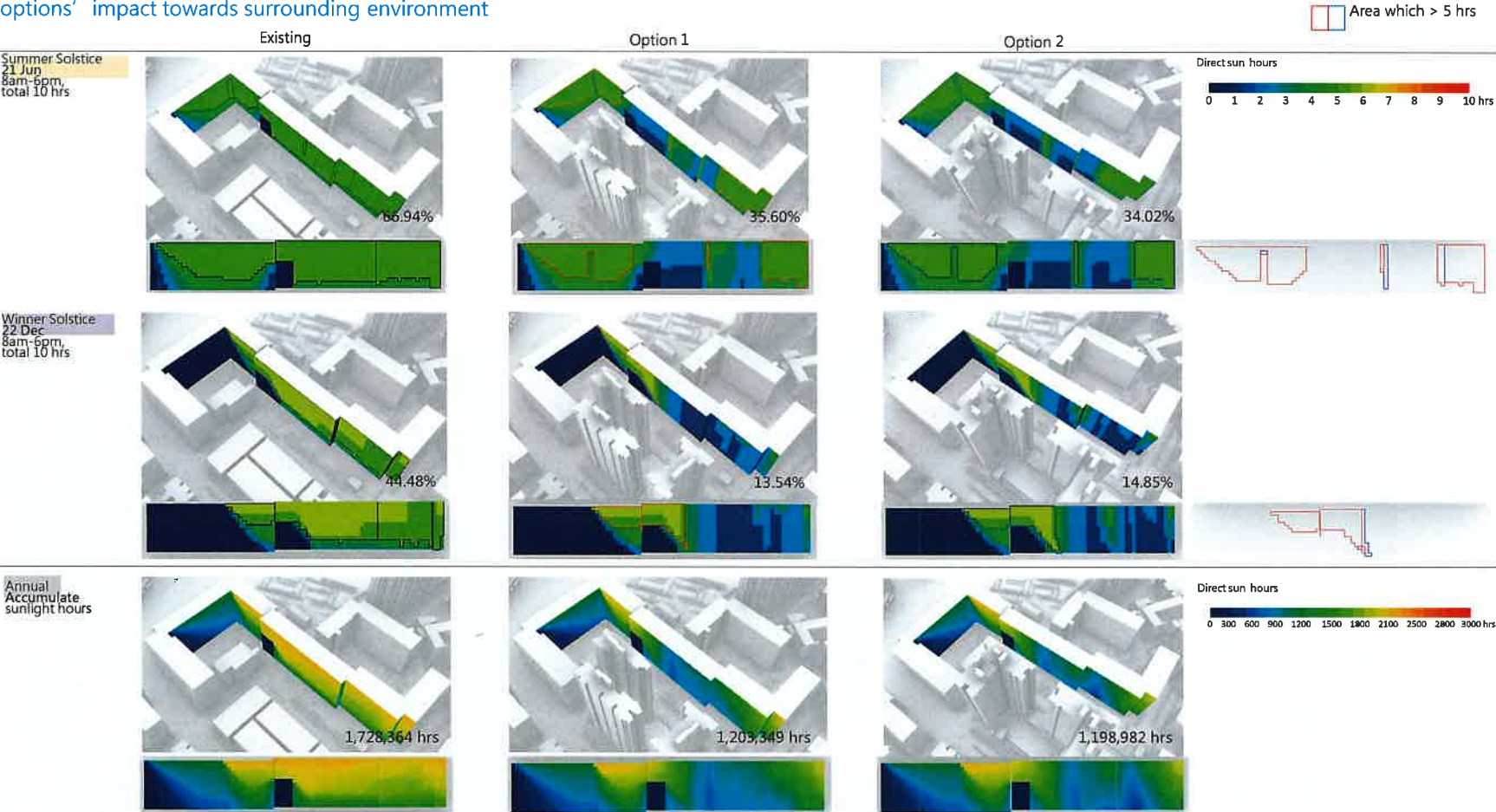
Know More



Inhouse Environmental Assessment Tool | Shadow & Sunlight analysis










Ladybug in Grasshopper

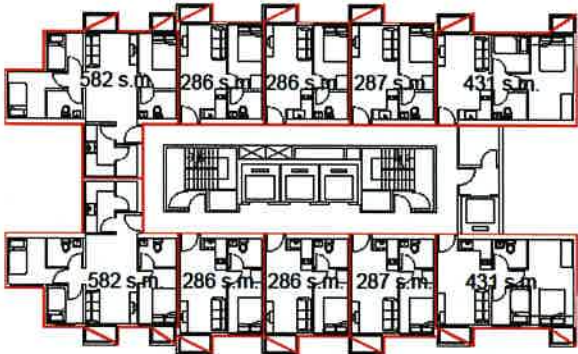
Quantify of sunlight hours on specific façade/building objects for comparison of massing options' impact towards surrounding environment



OUTPUTS:

Flat mix










10		
9		
8		
8		
7		
6		
5		
4		

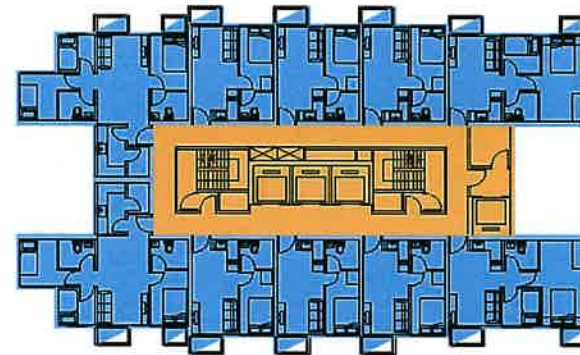


Flat mix	Total no.	size
Studio		x sqm - x sqm
1-Bedroom unit		
2-Bedroom unit		
3-Bedroom unit		

OUTPUTS:

Efficiency

10		
9		
8		
8		
7		
6		
5		
4		



Total area of flat units (blue area) /
Total Domestic GFA x 100%

=Efficiency

Urban Renewal Information System (URIS) Background


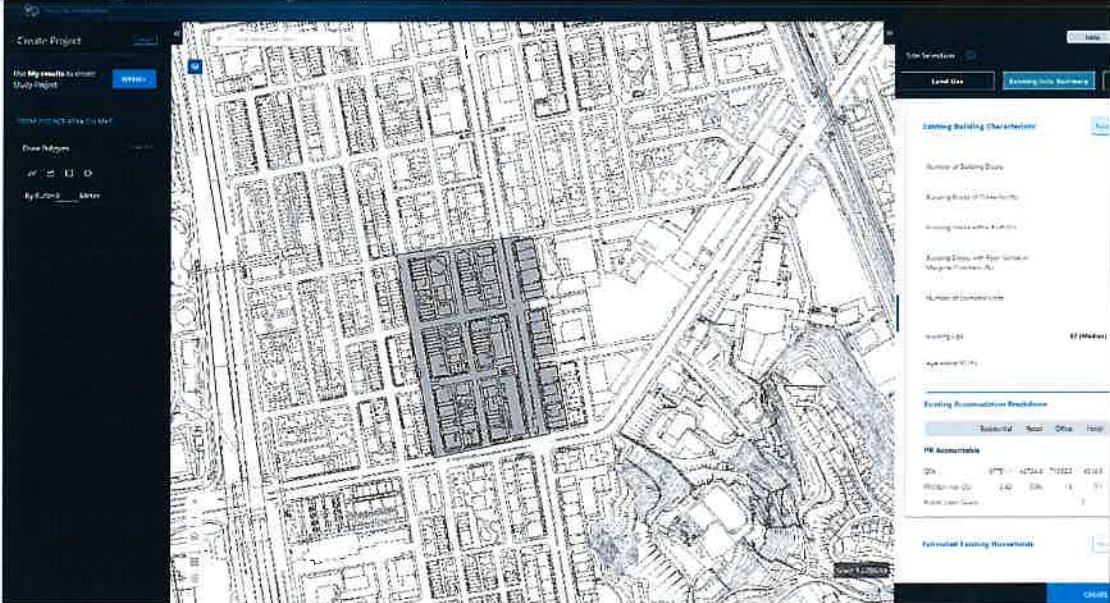
1. URIS Development

URIS is designed to serve as a portal with a pool of applications (“Apps”) and a common platform for spatial information sharing within the Authority. The URIS integrates geographic information and data on land uses, planning requirements, development density, infrastructure, building conditions, population distribution, etc., and visualises such information on a map, enabling the Authority to review and, with the support of various Apps, analyse precisely the feasibility of different urban renewal options to rejuvenate older urban districts through its 5R business strategy of redevelopment, rehabilitation, preservation, revitalisation, and retrofitting.

The Design, Development and Implementation of Phase1 URIS was conducted from August 2019 to October 2021 for a period of 2 years with the following major activities:

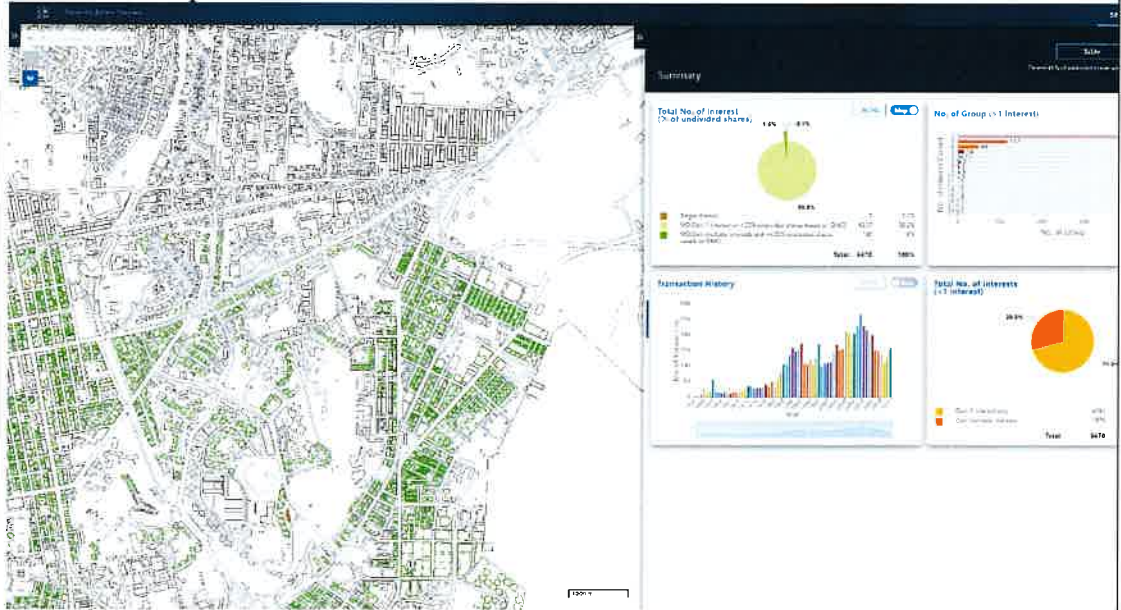
- Conduct System Analysis and Design (“SA&D”) of Phase 1 URIS;
- Formulate the Core Data Model (“CDM”);
- Set up and configure the URIS hosting environments including i) development environment; ii) User Acceptance Test (“UAT”) environment and iii) production environment.
- Develop 16 URIS Apps which are summarized in Table 1.1 below;
- Integrate / interface existing systems into URIS with single sign on;
- Adopt Map API from government in URIS;
- Provide the data conversion tools to convert internal & external systems data into the CDM as well as develop a MetaData/ Map Service Catalog for search of map layers in CDM; and
- Provide system documentation for Phase 1 URIS.

Table 1.1 - The List of URIS Apps

I. DATA MINING TOOL	
1. Urban Renewal Data Mining (“URDM”)	
	
This App facilitates easy search of clusters of building sites and building blocks with replanning and restructuring opportunities by selection of multiple criteria and identify the spatial pattern for further analysis.	
II. REDEVELOPMENT PROJECT SELECTION TOOLS	
2. Project Reserve Explorer (“PRE”)	
	
This App facilitates the identification of potential sites for urban renewal projects based on the findings from the URDM App. It will show the information of the selected area including the land use, details of existing buildings and the preliminary development parameter of potential project. It also allows auto amalgamation of small sites to form a decent project based on pre-set criteria.	

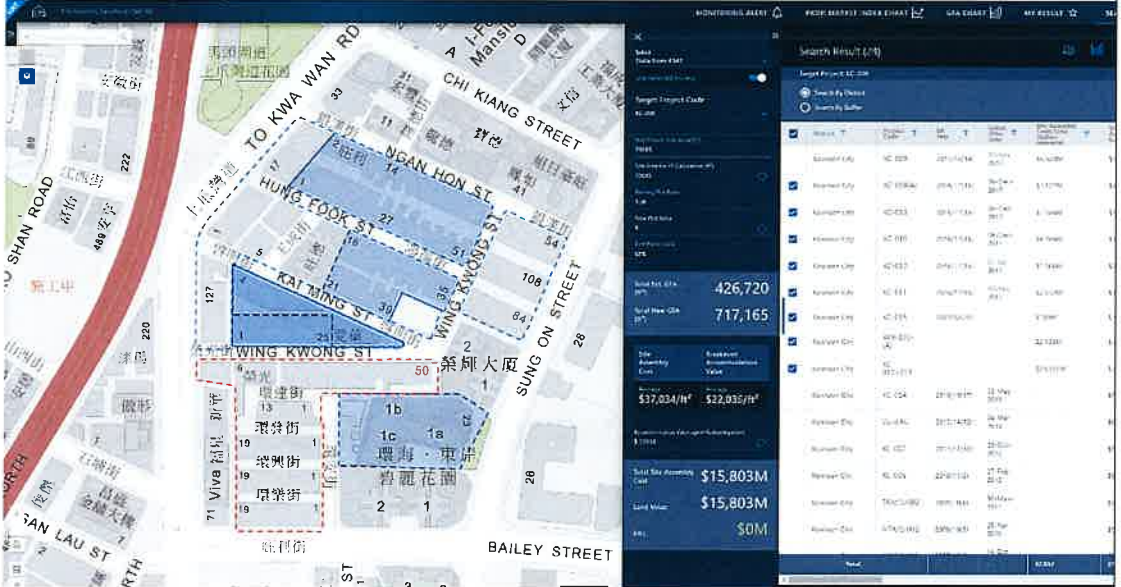
II. REDEVELOPMENT PROJECT SELECTION TOOLS

3. Ownership Pattern Overview



This App facilitates the checking of ownership status and identification of major stakeholders in target area for ownership pattern analysis. The result will be shown on the map and the dashboard.

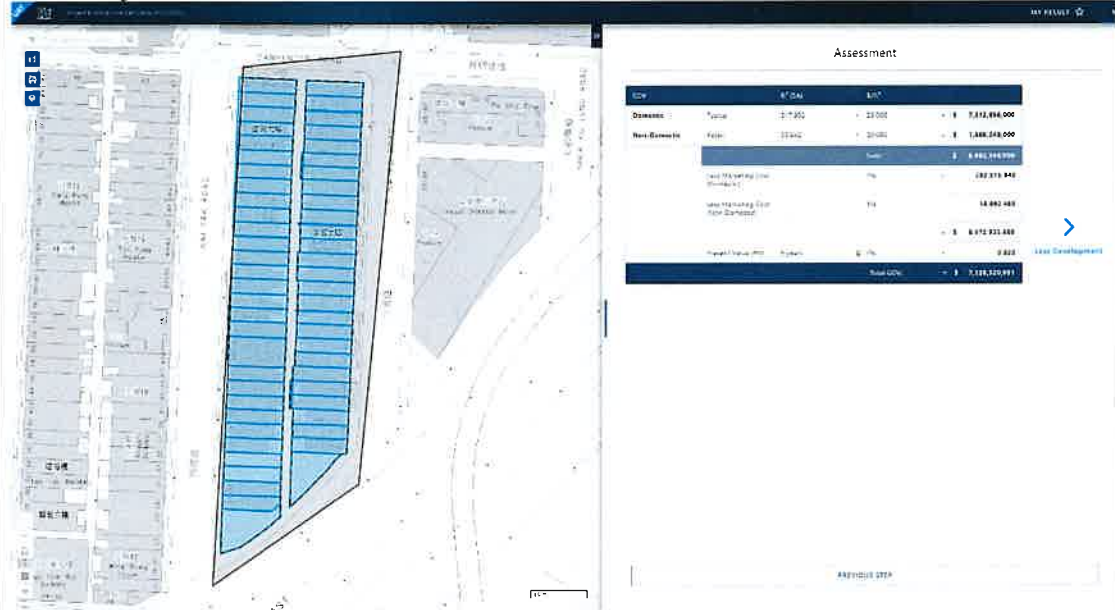
4. Site Assembly Calculator



This App is able to automatically estimate a ballpark site assembly cost, breakeven accommodation value of a selected site based on pre-set criteria and assumptions.

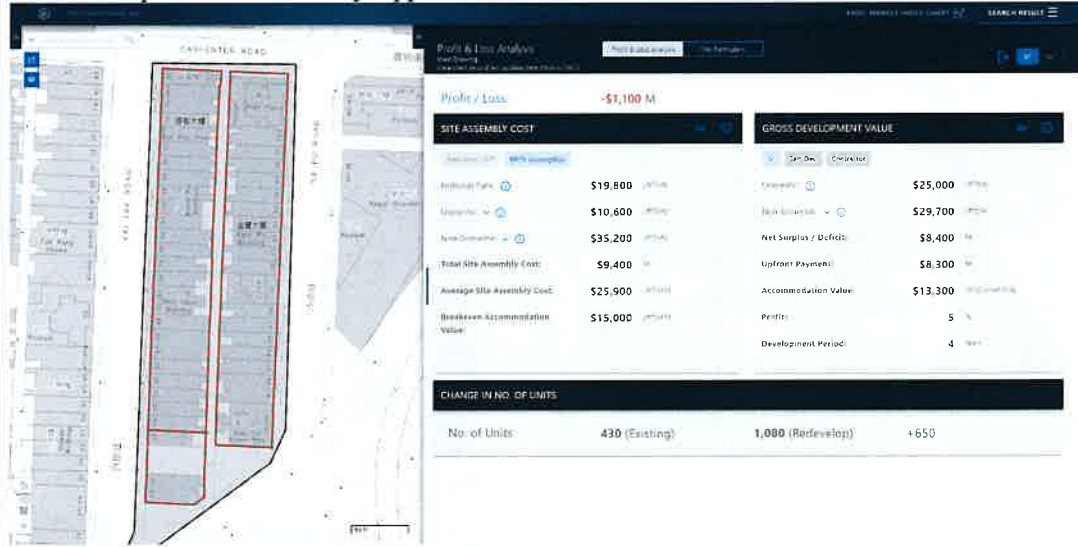
II. REDEVELOPMENT PROJECT SELECTION TOOLS

5. Project Profit & Loss Calculator



This App is able to estimate the ballpark land value and profitability of selected site just by few clicks. It also allows comparison of the profitability of project under different implementation modes and different options of development parameter.

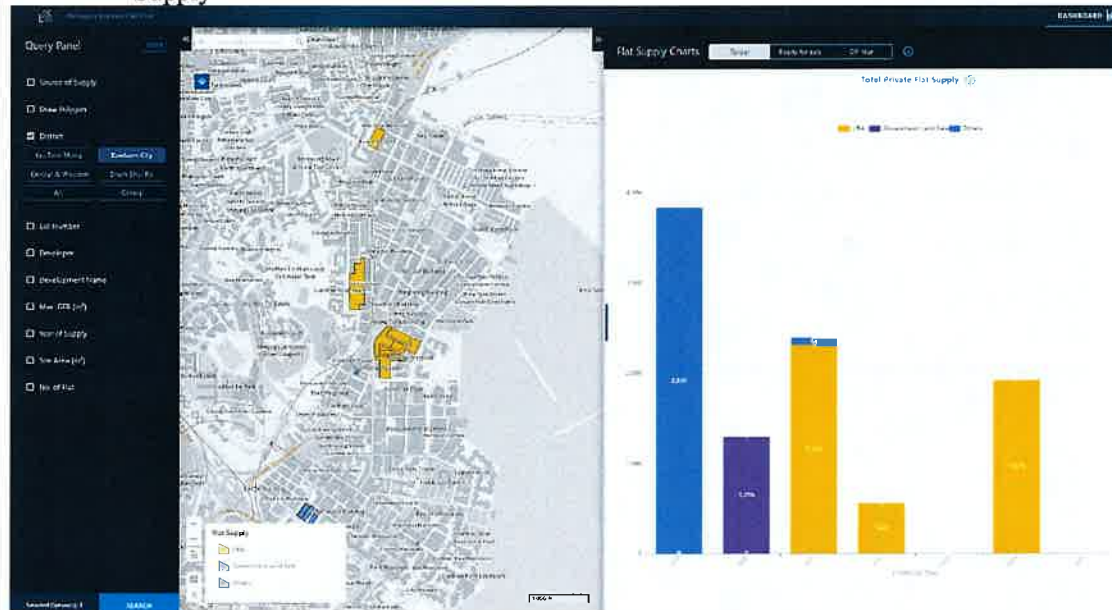
6. 1 Stop Financial Viability App



This App is to assess the financial viability of potential urban redevelopment projects. It can directly import the project boundary created from PRE and automatically identify the current land use of the project, formulate the preliminary development parameters, analyze the transactions in the proximity to estimate the ballpark acquisition costs and land value as well as profitability of the potential project just by one click.

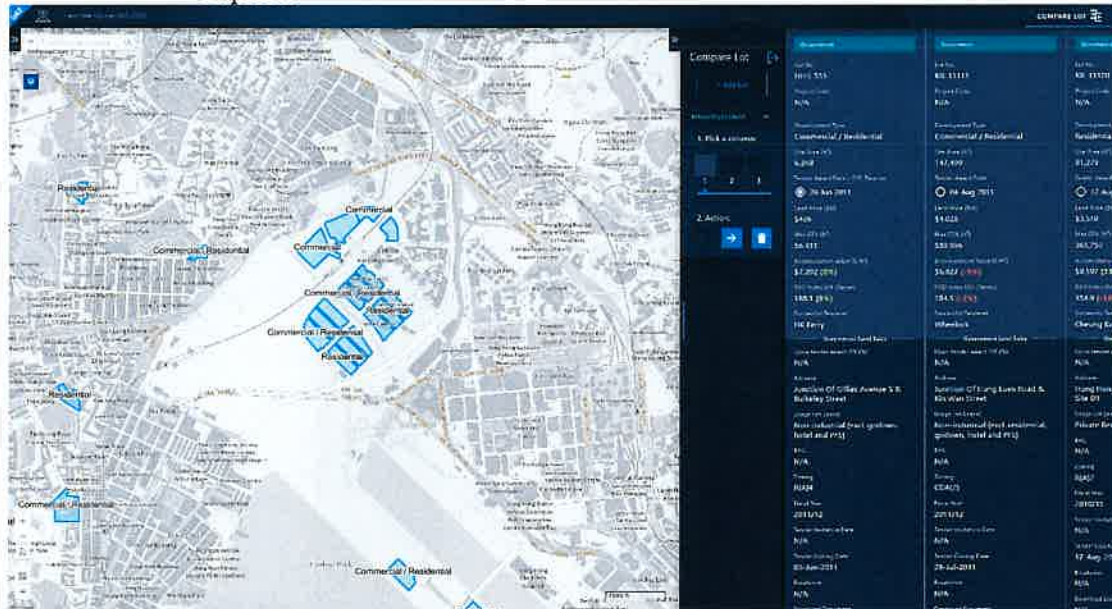
III. VALUATION/PROPERTY MARKET ANALYSIS TOOLS

7. Flat Supply Overview



This App provides an estimation of future flat supplies and their location, together with price list analysis, which will facilitate the project valuation.

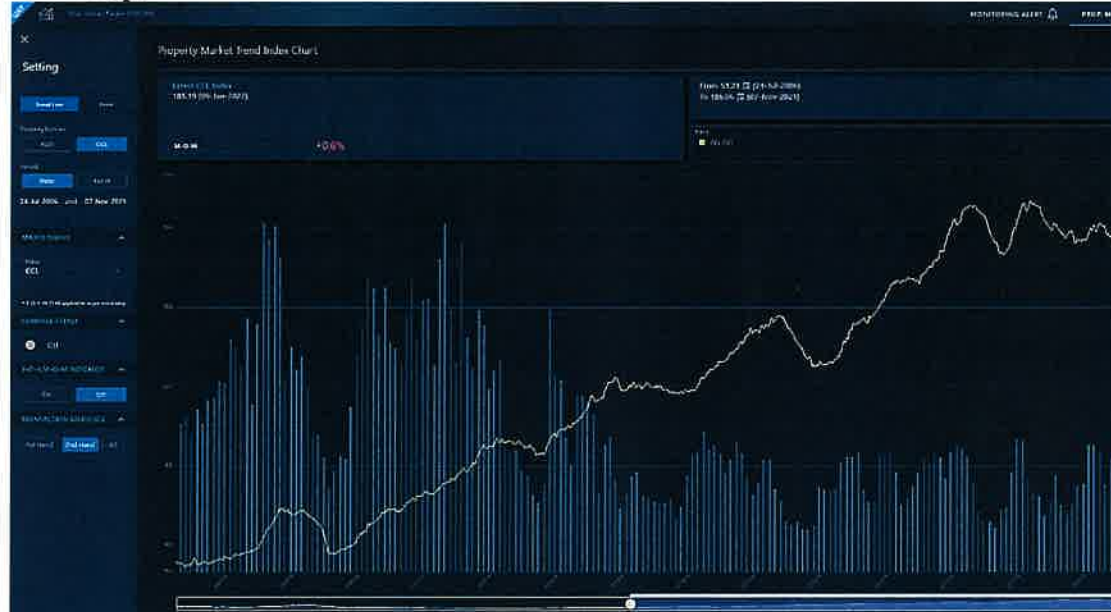
8. Land Sale Explorer



This App allows URA to check and analyze the Government land sale transactions and URA's tender records to facilitate the project valuation.

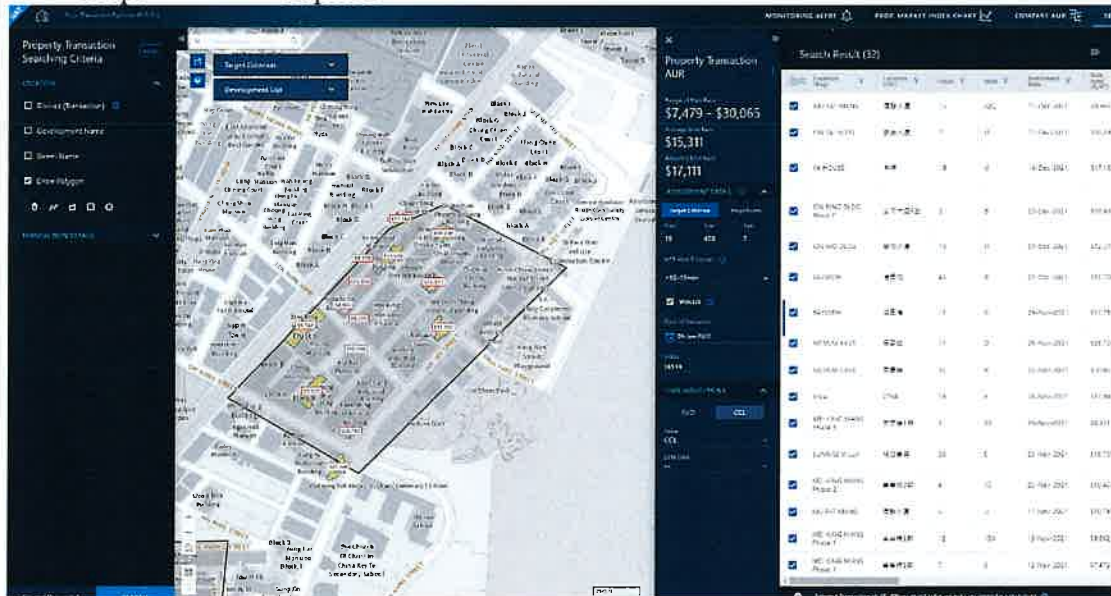
III. VALUATION/PROPERTY MARKET ANALYSIS TOOLS

9. Prop. Indices Tracker



This App facilitates the monitoring of various property market indices and automatically alert user of any significant change of market trend via e-mail.

10. Prop. Transaction Explorer



This App is able to automatically analyze the transactions in a selected area and assess the unit rate reference flat for the selected area according to the pre-set criteria and assumptions. It also can automatically alert user of any new transactions recorded in the selected area via e-mail for the purpose of monitoring.

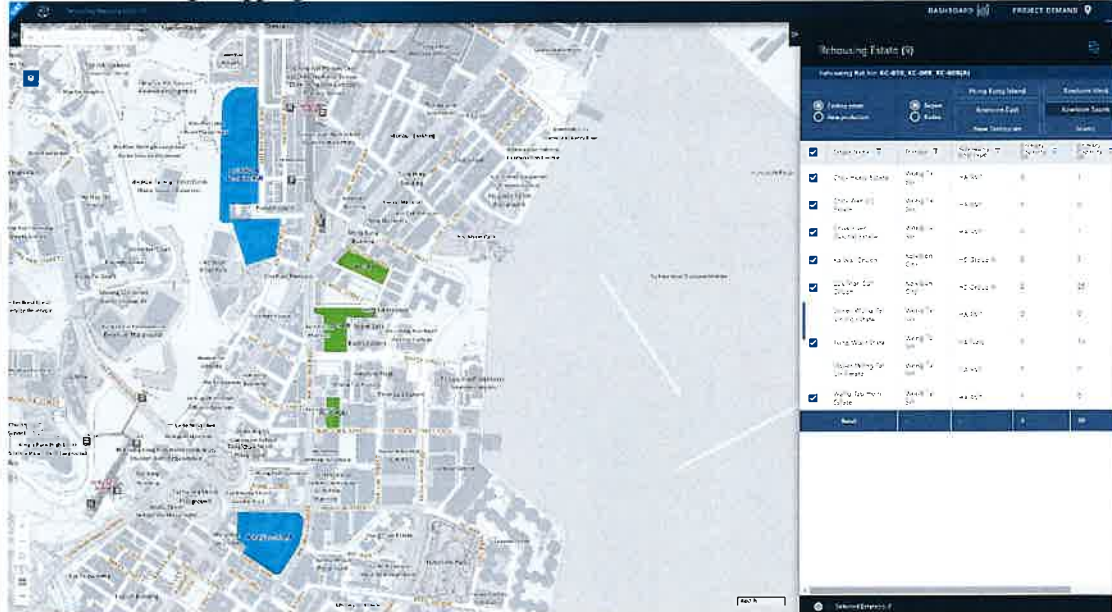
IV. ACQUISITION & CLEARANCE SUPPORTING TOOLS

11. Acquisition & Clearance Progress Overview (A&C Progress Overview)



This App is able to display acquisition and clearance progress of project in form of table and chart. The status of the project can be visualized on the map as well. The App also allows the cross-project comparison.

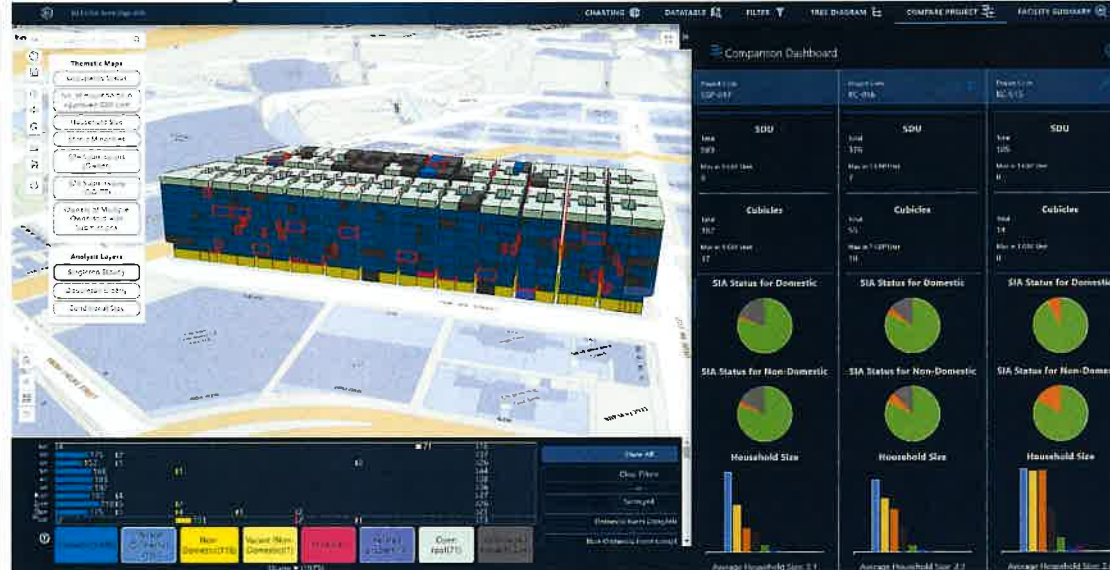
12. Rehousing Mapping



This App is able to estimate the rehousing demand of a redevelopment project and indicate the available public rental units nearby with details to meet the demand. It can facilitate URA to conduct an early planning for rehousing to facilitate the site clearance.

IV. ACQUISITION & CLEARANCE SUPPORTING TOOLS

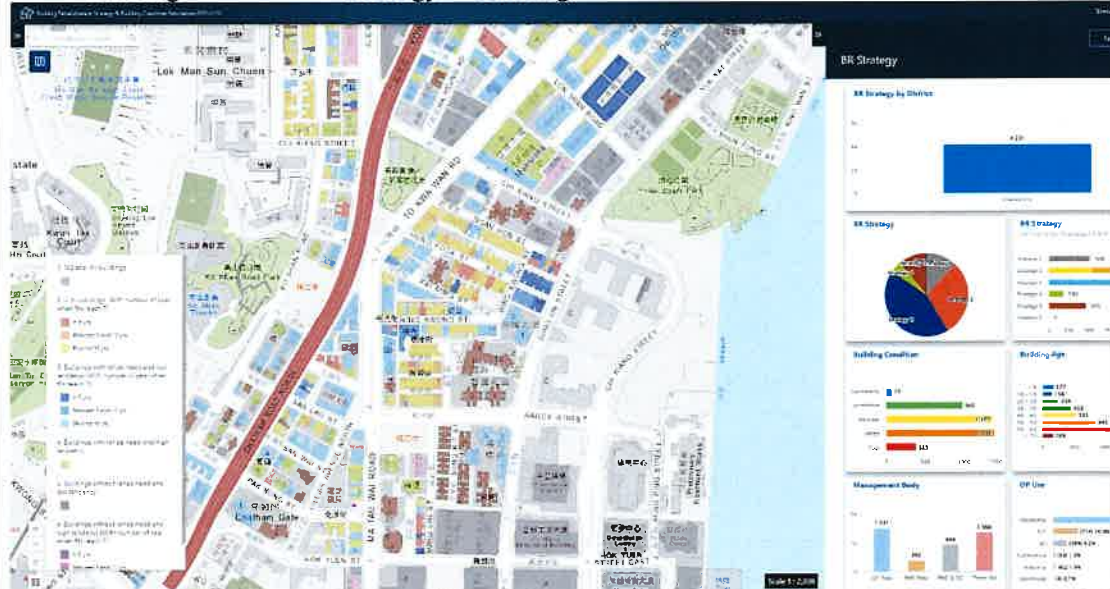
13. 3D Social Impact Assessment Tool



This App can integrate the 3D intelligent Map with the eFreezing Survey App so as to provide a real time update on the freezing survey progress facilitating URA to realize characteristics and aspiration of affected households/operators as well as identify the needy households such as singleton elderlyies, ethnic minority for provision of assistance.

V. BUILDING REHABILITATION SUPPORTING TOOLS

14. Building Rehabilitation Strategy & Building Condition Simulation



This App is able to simulate the change of building condition if no rehabilitation works are taken to prioritize building rehabilitation targets and formulate the corresponding rehabilitation strategies.

V. BUILDING REHABILITATION SUPPORTING TOOLS

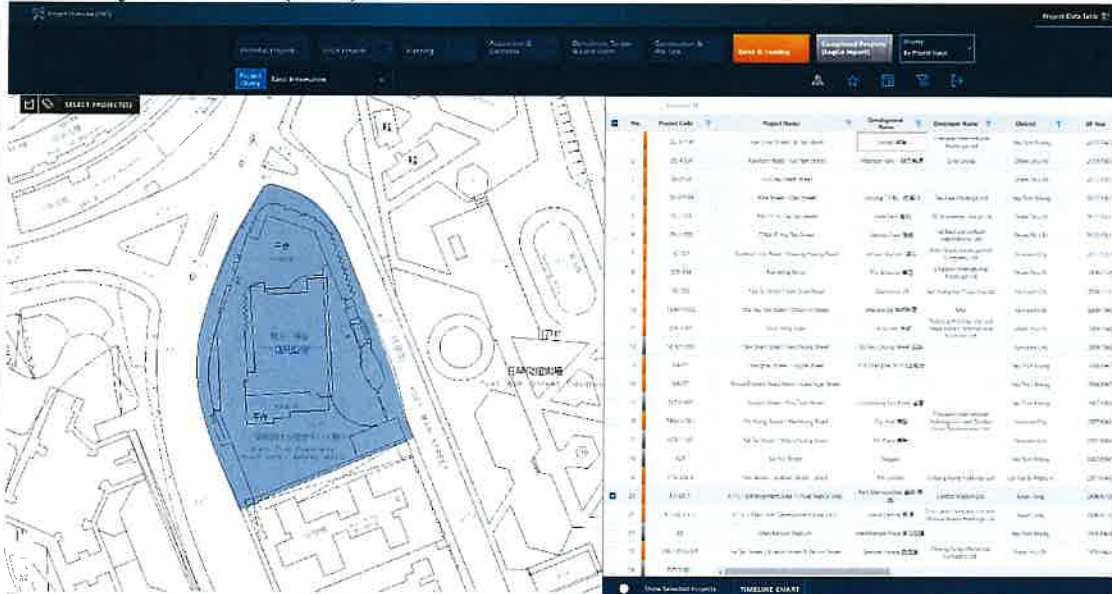
15. Rehab Cost Estimation



This App facilitates the estimation of rehabilitation costs based on predefined governing parameters.

VI. Smart Governance Tool

16. Project Overview (CMT)



This App is a single platform to provide a comprehensive view of URA redevelopment project data throughout the project life cycle and share project information among divisions for necessary analysis.

2. URIS System Architecture

The technical system architecture of URIS is catered for high scalability and availability to support the operations of the Authority. Below diagrams show the existing system architecture of URIS in Production environment, UAT environment and Development environment:

Production Environment

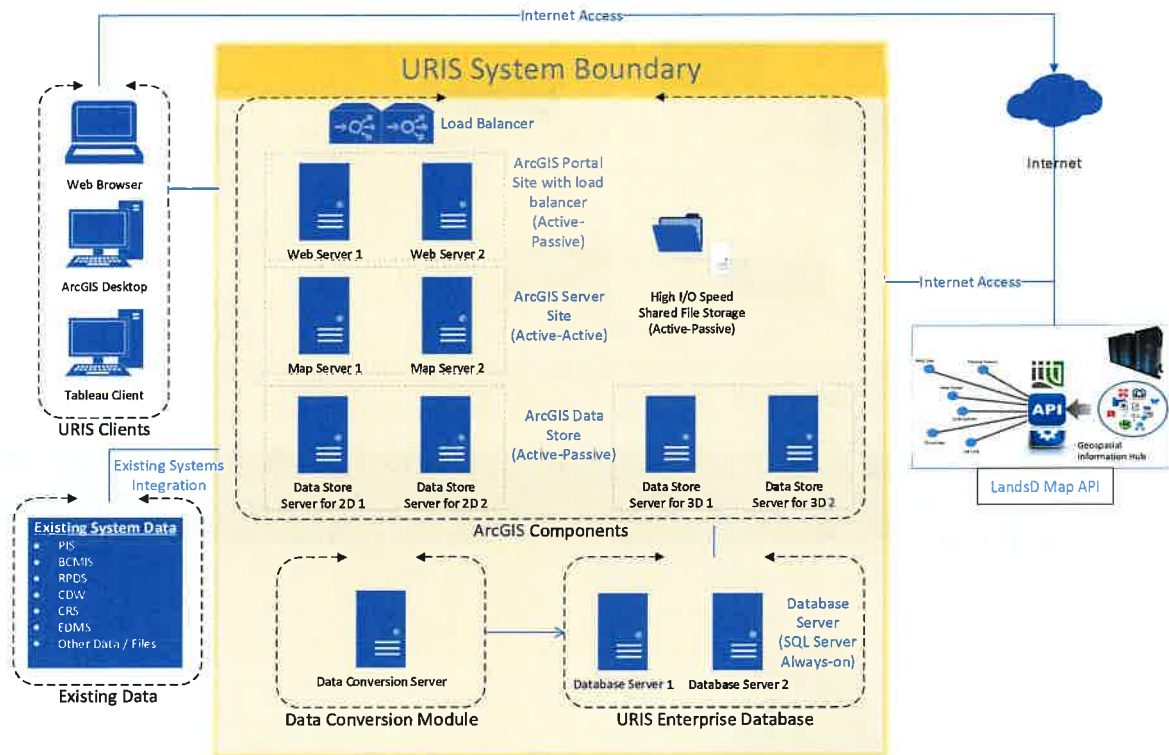


Figure 2.1 - Logical System Diagram (Production)

UAT Environment/ Development Environment

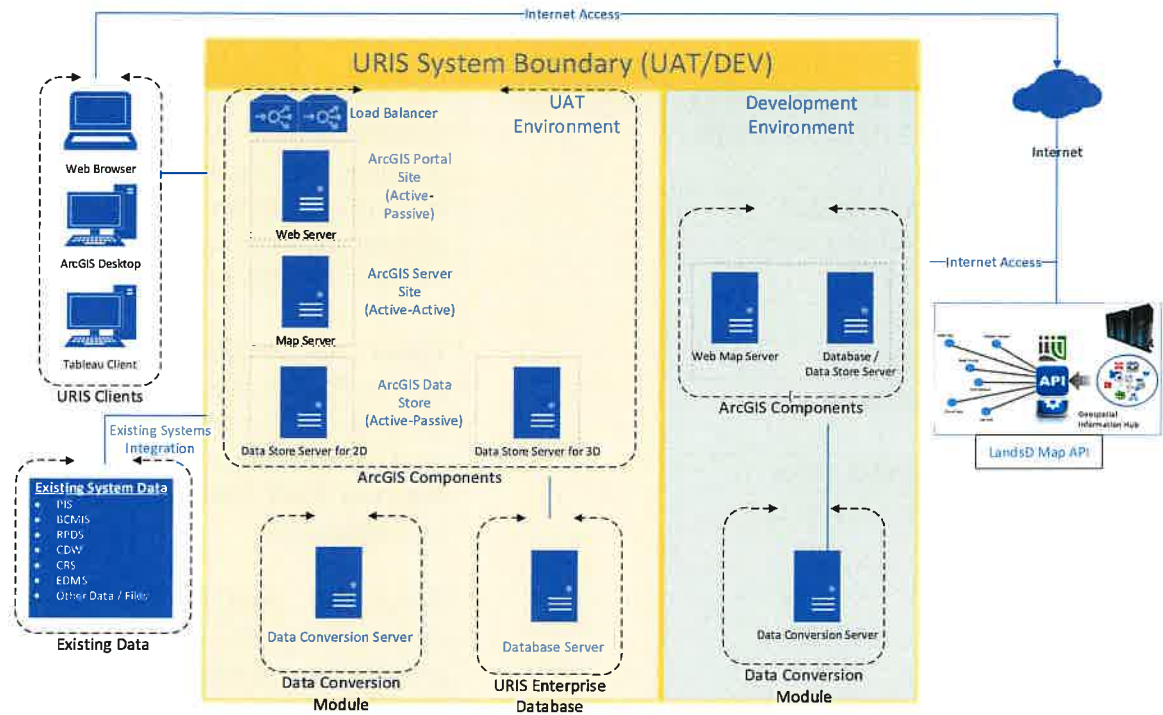


Figure 2.2 - Logical System Diagram (UAT/Development)

Table 2.1 below is the description for the roles of each component in the URIS architecture:

Table 2.1

URIS Component	Environment	Description
Web Server 1 (uris-prd-web1) Web Server 2 (uris-prd-web2) <div> CPU: Intel Xeon Gold 5122 series (3600MHz) 4 cores MEMORY: 64 GB C DRIVE: 200 GB D DRIVE: 500 GB Windows Server 2019 Standard Portal for ArcGIS 10.8.1 ArcGIS Web Adaptor 10.8.1 IIS10 </div>	Production	<p>The Web Server hosts the Portal for ArcGIS which control the user privilege for organization access, and the web server which serve the general exploration and navigation of the URIS application and data.</p> <p>Portal for ArcGIS will run in Active-Passive mode under the load balancer. If single Portal for ArcGIS machine fails, the load balancer shall distribute the traffic to another one.</p> <p>Portal for ArcGIS has built-in feature to synchronize the content among two machines running in High Availability (HA).</p>
Map Server 1 (uris-prd-map1) Map Server 2 (uris-prd-map2) <div> CPU: Intel Xeon Gold 5122 series (3600MHz) 4 cores RAM: 96 GB C DRIVE: 200 GB D DRIVE: 500 GB Windows Server 2019 Standard ArcGIS Server 10.8.1 ArcGIS Web Adaptor 10.8.1 IIS10 </div>	Production	<p>Map Server is one of the hearts of URIS to serve all the GIS services to URIS. It provides the web map and spatial layers for the CDM and URIS application.</p> <p>The two ArcGIS Servers form an ArcGIS Server Cluster such that it will handle the incoming requests in Active-Active mode by built in software feature.</p>

URIS Component	Environment	Description
<div>Data Conversion Server 1 (uris-prd-sil)</div> <div><div>CPU: Intel Xeon Gold 5122 series (3600MHz) 4 cores</div><div>RAM: 96 GB</div><div>C DRIVE: 200 GB</div><div>D DRIVE: 500 GB</div><div>Windows Server 2019 Standard</div><div>ArcGIS Desktop 10.8.1</div><div>ArcGIS Pro 2.5</div></div>	Production	<p>Textual/spatial data from internal and external data source shared from database connection and web services via Intranet/Internet. The Data Conversion Server in the URIS will connect database for internal data; retrieve API for external data; and update the data in CDM/URIS.</p> <p>Since down of Data Conversion Server will not affect the operation of URIS immediately, single machine will handle the daily conversion/interfaces jobs. In case the Data Conversion Server fails, it will be recovered from the virtual machine backup.</p>
<div>Database Server 1 (uris-prd-db1) Database Server 2 (uris-prd-db2)</div> <div><div>CPU: Intel Xeon Gold 5122 series (3600MHz) 4 cores</div><div>RAM: 96 GB</div><div>C DRIVE: 200 GB</div><div>D DRIVE: 1.5TB</div><div>Windows Server 2019 Standard</div><div>Microsoft SQL Server 2016 Standard (SP2-GDR) (KB4505220)</div></div>	Production	<p>A Database Management System (DBMS) store all the textual/spatial data which stored in URIS system and the converted internal/external system data from Data Conversion Server.</p> <p>Two servers were configured with SQL Server Always-on feature.</p>

URIS Component	Environment	Description
<div><div>Data Store Server 1 for 2D (uris-prd-2ds1) Data Store Server 2 for 2D (uris-prd-2ds2)</div><div><div>CPU: Intel Xeon Gold 5122 series (3600MHz) 4 cores</div><div>RAM: 96 GB</div><div>C DRIVE: 200 GB</div><div>D DRIVE: 1TB</div><div>Windows Server 2019 Standard</div><div>ArcGIS Data Store 10.8.1</div></div></div>	Production	<div><div>The 2D Data Store Server installed with ArcGIS relational datastore to store the hosted feature layers created from Portal for ArcGIS.</div><div>The two Relational Server join the ArcGIS Server site such that it will handle the incoming requests in Active-Passive mode by built in software feature.</div></div>
<div><div>Data Store Server 1 for 3D (uris-prd-3ds1) Data Store Server 2 for 3D (uris-prd-3ds2)</div><div><div>CPU: Intel Xeon Gold 5122 series (3600MHz) 4 cores</div><div>RAM: 96 GB</div><div>C DRIVE: 200 GB</div><div>D DRIVE: 1TB</div><div>Windows Server 2019 Standard</div><div>ArcGIS Data Store 10.8.1</div></div></div>	Production	<div><div>The 3D Data Store Server installed with ArcGIS tile cache datastore to store the 3D scene layers.</div><div>The two Tile Cache Server join the ArcGIS Server site such that it will handle the incoming requests in Active-Passive mode by built in software feature.</div></div>
<div><div>Shared File Storage (uris-prd-fs1)</div><div>500GB SSD</div></div>	Production	<div><div>A Share File Share Storage will store the System Files/Folder serving the Portal for ArcGIS and ArcGIS Server HA purpose.</div></div>
<div><div>Load Balancer</div></div>	Production	<div><div>The Web Server Availability Set and Integration Server Availability Set are equipped with the Network Load Balancer (NLB) to have the high availability settings.</div></div>

URIS Component	Environment	Description
<div>UAT Web Server (uris-uat-web1)</div> <div><div>CPU: Intel Xeon Gold 5122 series (3600MHz) 4 cores</div><div>MEMORY: 64 GB</div><div>C DRIVE: 265 GB</div><div>D DRIVE: 757 GB</div><div>Windows Server 2019 Standard</div><div>Portal for ArcGIS 10.8.1</div><div>ArcGIS Web Adaptor 10.8.1</div><div>IIS10</div></div>	UAT	The Portal for ArcGIS Server in UAT environment which is separated from production environment.
<div>UAT Map Server (uris-uat-map1)</div> <div><div>CPU: Intel Xeon Gold 5122 series (3600MHz) 4 cores</div><div>RAM: 96 GB</div><div>C DRIVE: 265 GB</div><div>D DRIVE: 757 GB</div><div>Windows Server 2019 Standard</div><div>ArcGIS Server 10.8.1</div></div>	UAT	The ArcGIS Server in UAT environment which is separated from production environment.
<div>UAT Data Conversion Server (uris-uat-si1)</div> <div><div>CPU: Intel Xeon Gold 5122 series (3600MHz) 4 cores</div><div>RAM: 64 GB</div><div>C DRIVE: 265 GB</div><div>D DRIVE: 757 GB</div><div>Windows Server 2019 Standard</div><div>ArcGIS Desktop 10.8.1</div><div>ArcGIS Pro 2.5</div></div>	UAT	The Data Conversion Server in UAT environment which is separated from production environment.

URIS Component	Environment	Description
<div>UAT Database Server (uris- uat-db1)</div> <div><div>CPU: Intel Xeon Gold 5122 series (3600MHz) 4 cores</div><div>RAM: 96 GB</div><div>C DRIVE: 265 GB</div><div>D DRIVE: 757 GB</div><div>Windows Server 2019 Standard</div><div>Microsoft SQL Server 2016 Standard (SP2-GDR) (KB4505220)</div></div>	UAT	The Database Server in UAT environment which is separated from production environment.
<div>UAT Data Store Server for 2D (uris- uat-ds1)</div> <div><div>CPU: Intel Xeon Gold 5122 series (3600MHz) 4 cores</div><div>RAM: 64 GB</div><div>C DRIVE: 265 GB</div><div>D DRIVE: 757 GB</div><div>Windows Server 2019 Standard</div><div>ArcGIS Data Store 10.8.1</div></div>	UAT	The Relational Data Store Server in UAT environment which is separated from production environment.
<div>UAT Data Store Server for 3D (uris- uat-ds2)</div> <div><div>CPU: Intel Xeon Gold 5122 series (3600MHz) 4 cores</div><div>RAM: 64 GB</div><div>C DRIVE: 265 GB</div><div>D DRIVE: 757 GB</div><div>Windows Server 2019 Standard</div><div>ArcGIS Data Store 10.8.1</div></div>	UAT	The Tile Cache Data Store Server in UAT environment which is separated from production environment.

URIS Component	Environment	Description									
<div>Development Web Map Server (uris-dev-web)</div> <table><tr><td>CPU: Intel Xeon Gold 5122 series (3600MHz) 4 cores</td></tr><tr><td>MEMORY: 24 GB</td></tr><tr><td>C DRIVE: 265 GB</td></tr><tr><td>D DRIVE: 757 GB</td></tr><tr><td>Windows Server 2019 Standard</td></tr><tr><td>Portal for ArcGIS 10.8.1</td></tr><tr><td>ArcGIS Server 10.8.1</td></tr><tr><td>ArcGIS Web Adaptor 10.8.1</td></tr><tr><td>IIS10</td></tr></table>	CPU: Intel Xeon Gold 5122 series (3600MHz) 4 cores	MEMORY: 24 GB	C DRIVE: 265 GB	D DRIVE: 757 GB	Windows Server 2019 Standard	Portal for ArcGIS 10.8.1	ArcGIS Server 10.8.1	ArcGIS Web Adaptor 10.8.1	IIS10	Development	The Portal for ArcGIS/ArcGIS Server in development environment which is separated from production environment.
CPU: Intel Xeon Gold 5122 series (3600MHz) 4 cores											
MEMORY: 24 GB											
C DRIVE: 265 GB											
D DRIVE: 757 GB											
Windows Server 2019 Standard											
Portal for ArcGIS 10.8.1											
ArcGIS Server 10.8.1											
ArcGIS Web Adaptor 10.8.1											
IIS10											
<div>Development Database / Data Store Server (uris-dev-db)</div> <table><tr><td>CPU: Intel Xeon Gold 5122 series (3600MHz) 4 cores</td></tr><tr><td>RAM: 24 GB</td></tr><tr><td>C DRIVE: 265 GB</td></tr><tr><td>D DRIVE: 757 GB</td></tr><tr><td>Windows Server 2019 Standard</td></tr><tr><td>Microsoft SQL Server 2016 Standard (SP2-GDR) (KB4505220)</td></tr><tr><td>ArcGIS Data Store 10.8.1</td></tr></table>	CPU: Intel Xeon Gold 5122 series (3600MHz) 4 cores	RAM: 24 GB	C DRIVE: 265 GB	D DRIVE: 757 GB	Windows Server 2019 Standard	Microsoft SQL Server 2016 Standard (SP2-GDR) (KB4505220)	ArcGIS Data Store 10.8.1	Development	The Database/Relational Data Store /Tile Cache Data Store Server in development environment which is separated from production environment.		
CPU: Intel Xeon Gold 5122 series (3600MHz) 4 cores											
RAM: 24 GB											
C DRIVE: 265 GB											
D DRIVE: 757 GB											
Windows Server 2019 Standard											
Microsoft SQL Server 2016 Standard (SP2-GDR) (KB4505220)											
ArcGIS Data Store 10.8.1											
<div>Development Data Conversion Server (uris-dev-si)</div> <table><tr><td>CPU: Intel Xeon Gold 5122 series (3600MHz) 4 cores</td></tr><tr><td>RAM: 16 GB</td></tr><tr><td>C DRIVE: 265 GB</td></tr><tr><td>D DRIVE: 757 GB</td></tr><tr><td>Windows Server 2019 Standard</td></tr><tr><td>ArcGIS Desktop 10.8.1</td></tr><tr><td>ArcGIS Pro 2.5</td></tr></table>	CPU: Intel Xeon Gold 5122 series (3600MHz) 4 cores	RAM: 16 GB	C DRIVE: 265 GB	D DRIVE: 757 GB	Windows Server 2019 Standard	ArcGIS Desktop 10.8.1	ArcGIS Pro 2.5	Development	The Data Conversion Server in development environment which is separated from production environment.		
CPU: Intel Xeon Gold 5122 series (3600MHz) 4 cores											
RAM: 16 GB											
C DRIVE: 265 GB											
D DRIVE: 757 GB											
Windows Server 2019 Standard											
ArcGIS Desktop 10.8.1											
ArcGIS Pro 2.5											

PROVISION OF SERVICES FOR
PROOF OF CONCEPT ON GENERATIVE DESIGN

FORM OF DECLARATION OF INTEREST AND
UNDERTAKING TO DESTROY DOCUMENTS

- A. The Service Provider hereby declares to the Authority any interest where there may be real or apparent conflict, direct or indirect, with any of the duties to be performed by the Service Provider during the tendering process or after the award of a contract.

The Service Provider is required to provide a **“Nil” declaration if there is no such conflict of interest.**

The Service Provider’s Declaration of Interest: _____ (Please state “Yes” or “Nil”)

If the above declaration is “Yes”, the Service Provider has to provide details.

- B. The Service Provider hereby declares to the Authority in the space below any current suspension and restriction (including voluntary suspension and restriction) from tendering under any of the approved lists of the Government, the Hong Kong Housing Authority and the Hong Kong Housing Society and provide the details of and the reasons for the suspension and/ or restriction (if any).

The Service Provider is required to provide a **“Nil” declaration if there is no current suspension and/or restriction.**

The Service Provider’s Declaration of Current Suspension and/or Restriction: _____ (Please state “Yes” or “Nil”)

If the above declaration is “Yes”, the Service Provider has to provide details.

- C. The Service Provider undertakes that in case the Service Provider is notified in writing by the Authority that its submitted tender for the above services is unsuccessful, the Service Provider shall destroy all of the following documents **within 5 calendar days of receipt of such written notification from the Authority:**

- 1) the copy of the “Invitation to Tender” document (including all appendices, annexes and attachments) and all addenda thereto and other information relating to the above services that the Service Provider has received, collected and/ or obtained from the Authority; and
- 2) all additional hardcopies and all soft copies of item 1) above, including all copies made by the Service Provider, its sub-consultants or parties associated with the Service Provider.

Name of the Service Provider: _____

Signed by: _____ Date : _____
(Authorized Signature with Company Chop)

Name of Signatory: _____

NON-COLLUSIVE TENDERING CERTIFICATE

To : Urban Renewal Authority
26th Floor, COSCO Tower
183 Queen's Road Central
Hong Kong

1. WE, _____, a firm carrying on its business at

_____, refer to the tender
for the **Provision of Services for Proof of Concept of Generative Design** ("the
Tender") and our tender in relation to the Tender.

Non-collusion

2. We represent and warrant that in relation to the Tender:
- (a) Our Tender was developed genuinely, independently and made with the intention to accept the contract for the services under the Tender ("the Contract") if awarded;
 - (b) Our Tender was not prepared with any agreement, arrangement, communication, understanding, promise or undertaking with any person (including any other tenderer or competitor) regarding:
 - (i) prices;
 - (ii) methods, factors or formulas used to calculate prices;
 - (iii) an intention or decision to submit, or not submit, a Tender;
 - (iv) an intention or decision to withdraw a Tender;
 - (v) the submission of a Tender that does not conform with the requirements of the Tender;
 - (vi) the quality, quantity, specifications or delivery particulars of the products or services to which the Tender relates; and
 - (vii) the terms of the Tender,

and we undertake that we will not, prior to the award of the Contract, enter into or engage in any of the foregoing.

3. Paragraph 2(b) of this certificate shall not apply to agreements, arrangements, communications, understandings, promises or undertakings with:
- (a) the Authority;
 - (b) a joint venture partner, where joint venture arrangements relevant to our Tender exist and which are notified to the Authority;
 - (c) Service Providers or sub-contractors, provided that the communications are held in strict confidence and limited to the information required to facilitate that particular consultancy arrangement or sub-contract;
 - (d) professional advisers, provided that the communications are held in strict confidence and limited to the information required for the adviser to render their professional advice in relation to the Tender;
 - (e) insurers or brokers for the purpose of obtaining an insurance quote, provided that the communications are held in strict confidence and limited to the information required to facilitate that particular insurance arrangement; and
 - (f) banks for the purpose of obtaining financing for the Contract, provided that the communications are held in strict confidence and limited to the information required to facilitate that financing.

Disclosure of subcontracting

4. Without prejudice to any provisions in the Tender and the terms of the Contract concerning subcontracting, we understand that we are required to disclose all intended sub-contracting arrangements relating to the Tender to the Authority, including those which are entered into after the Contract is awarded. We warrant that we have duly disclosed and will continue to disclose such arrangements to the Authority.

Consequences of breach or non-compliance

5. We understand that in the event of any breach or non-compliance with any warranties or undertakings in this certificate, the Authority may, at its discretion, invalidate our Tender, exclude us in future Tenders, pursue damages or other forms of redress from us (including but not limited to damages for delay, costs and expenses of re-tendering and other costs incurred), and/or (in the event that we are awarded the Contract) terminate the Contract.
6. Under the Competition Ordinance, tender-rigging is serious anti-competitive conduct. We understand that the Authority may, at its discretion, report all suspected instances of tender-rigging to the Competition Commission (the “Commission”) and provide the Commission with any relevant information, including but not limited to information on our tender and our personal information.

Signed by

For and on behalf of *

Date

* Name of the Service Provider to be inserted.

Tender Schedules

Table of Content

Schedule 1 - Service Provider's Experience	2
Schedule 2 – Response to Tender Brief.....	4
Schedule 3 – Staffing	10

Please duly complete the following items in details and, if necessary, attach relevant information in support of your technical proposal.

Schedule 1 - Service Provider's Experience

- 1.1 The Service Provider shall submit in detail of their company profiles in Table 1.1 below and the copy of Business Registration Certificate and certificate of incorporation or equivalent document proof in the mainland China or overseas.

Table 1.1 - Company Profiles

Service Provider's Profile

1.2 The Service Provider shall submit a list of current/completed generative design or relevant project in the past 2 years before tender closing date in Table 2 below. *Extra credit will be given for more relevant projects*

Table 1.2 - List of Completed Projects (please use separate sheet or to enclose as an appendix if necessary)

Customer Name	Name of Project in developing generative design	Project Description	Contact Information (i.e. Contact Person, Telephone and Email Address)	One-off Contract Value (HK\$)	Project Completion Date (dd-mm-yyyy)

Schedule 2 – Response to Tender Brief

- 2.1. The Service Provider shall propose a practicable work approach and anticipated deliverables to undertake the Services in Table 2.1.

Table 2.1 - Proposed Work Approach and Anticipated Deliverables (Limited 1 Page)

Proposed Work Approach and Anticipated Deliverables

Table 2.2 – Innovation (limited 2 Pages)This image shows a completely blank white rectangular area. It is surrounded by a thick, solid black border that frames the entire composition. There are no markings, text, or illustrations within the white space.

Table 2.2 – Innovation (to be continued)

This image shows a completely blank white rectangular area. It is surrounded by a thick, solid black border that frames the entire composition. There are no markings, text, or illustrations on the white surface.

2.3 The Service Provider shall illustrate the total cost of ownership e.g. software fees, subscription fees, technical support fees, etc., of deploying the proposed solution for production use in Table 2.3.

Table 2.3 – Total Cost of Ownership (1 Page)

- 2.4 The Service Provider shall illustrate how to define the roadmap of integrating the proposed solution with the Authority's URIS and existing inhouse environmental assessment tools (including NGIS Oden, AKL Flow Designer, Ladbybug scripts in Rhino, etc) in Table 2.4.

Table 2.4 – Roadmap of integrating the proposed solution (2 Pages)

Table 2.4 – Roadmap of integrating the proposed solution (to be continued)

Schedule 3 – Staffing

- 4.1. The Service Provider shall propose a competent project team (“Project Team”) including at least i) One (1) Project Manager and ii) Programmer during the Agreement Period of the Services. *Extra mark will be given if the Service Provider can propose additional team members.*
- 4.2. The Service Provider shall ensure the Project Team is well-qualified, competent and knowledgeable to the duties assigned. The proposed team members shall meet the staff requirement as stated in **Section 4.9** of the Document.
- 4.3. The Service Provider shall propose the composition chart of the Project Team in Table 4.1 and complete the qualifications and experience for each role of the Project Team in Table 4.2. *Extra credit will be given if the Service Provider can provide team members with qualification and experience exceeding the requirements stated in Section 4.9 of the Document.*
- 4.4. The Service Provider shall submit curriculum vitae (“CV”) of its proposed Project Team members for the Services.
- 4.5. The submitted CV shall include:
 - a) personal particulars;
 - b) academic attainment;
 - c) education, professional qualifications;
 - d) full employment record to date listing in chronological order of the experience with details on project sums, duration and size of project team; and
 - e) copies of relevant certificates

Table 4.1 - Team Composition Chart

Composition Chart for the Proposed Project Team	

Table 4.2 - Proposed Project Team's Experience and Qualification

Position	Name	Qualification & relevant certificates	No. of years experience in Architecture and Urban Design/Planning	No. of years experience in generative design/computational scripting/spatial cognition/GIS	List out Relevant Project Experience				
Project Manager		Degree (please specify the discipline & award year): Certificate (please specify the award year):	____ Years in Architecture /Urban Design/Urban Environment /Land Surveying/ Geomatics, etc.,	____ Years in generative design/ computational scripting/spatial cognition/GIS	<i>a) Relevant project experience</i>				
					Project Role	Project Name & Description	Start Date	End Date	Duration

Position	Name	Qualification & relevant certificates	No. of years experience in Information Technology	No. of years experience in computational scripting/spatial cognition/GIS	List out Relevant Project Experience				
Programmer		Degree (please specify the discipline & award year): Certificate (please specify the award year):	____ Years in Information Technology	____ Years in computational scripting/spatial cognition/GIS	b) Relevant project experience				
					Project Role	Project Name & Description	Start Date	End Date	Duration

Please submit a 3 Minutes Video introduction to the proposed generative design solution (in USB/CD-ROM format)

**DECLARATION OF NO CONFLICT OF INTEREST
AND
CONFIDENTIALITY UNDERTAKING**

To : Urban Renewal Authority
26th Floor, COSCO Tower,
183 Queen's Road Central
Hong Kong

WE, _____, a firm
carrying on its business at

_____,
declare that we are not aware of any conflict of interest or other reason which would prevent us from acting as the Service Provider on behalf of the **Urban Renewal Authority** ("the Authority") in respect of **the provision of services for Proof of Concept of Generative Design (the "Assignment")** and in consideration of the Authority having appointed us as its Service Provider in the Assignment and providing us now and from time to time in future with information ("Information") in respect of the Assignment, hereby agree and undertake with the Authority as follows:

1. To maintain confidential all the Information and all reports, results, designs, drawings, hardware, software, algorithms, program/ source codes and other documents/ materials generated by us in providing our consultancy services to the Authority ("Materials"). We agree that the Information and Materials and all intellectual property rights subsisting therein are the property of the Authority and we shall respect the proprietary rights therein of the Authority. We shall use the Information and Materials only for the purpose of providing our consultancy services to the Authority in respect of the implementation of the Assignment and shall disclose the Information and Materials only to those of our staff members which are assigned to carry out the said consultancy services and to whom such disclosure is necessary for that purpose, to partners of our firm on a need to know basis, to other persons to the extent necessary in providing our consultancy services as described in the letter of appointment, or as directed by you. In addition, we further agree and undertake that under no circumstances will we use or disclose the Information and Materials, whether or not for monetary rewards or for personal gain, to any person or party and for any purpose other than to those persons or parties and for such purposes as provided above.

2. We shall procure that all of our staff member, those partners of our firm and other persons as described in paragraph 1 above having access to the Information and Materials are made aware of our obligations described herein and we shall also instruct each such person to act accordingly.
3. Upon your request in writing at any time, we shall forthwith return to the Authority the Information and Materials and all copies and preliminary drafts thereof. We shall thereafter cease to have any right to use the Information and Materials and for the avoidance of doubt our obligations set out herein shall remain in place. Notwithstanding the foregoing, we may retain one copy of the Information and Materials solely for the purposes of recording the work carried out, or opinion rendered by us or in order to comply with our professional indemnity insurance policies and we shall not retain or use any such copy of the Information and Materials for any other purpose. We hereby acknowledge that our obligations set out herein will continue to apply in respect of any retained copy of the Information and Materials.
4. The foregoing obligations cease to or do not apply to the Information and Materials:
 - (i) if the Information and Materials is legitimately in our possession and at our free disposal prior to our receipt thereof from the Authority, or is legitimately published or is otherwise in the public domain; or
 - (ii) if the Information and Materials is disclosed to us by a third party having no obligations to you in respect of the Information and Materials of which we have reasonable cause to be aware at the time of the disclosure to us; or
 - (iii) which is requested or required to be disclosed by law, regulation, supervisory authority, judicial or governmental order or our professional body; or
 - (iv) with the prior consent of the Authority the disclosure of which is considered necessary by us to defend or respond to any claim or other action against us.
5. To secure the confidentiality attaching to the Information and Materials, we shall:
 - (i) keep separate all physical Information and Materials from all documents and other records of our firm;
 - (ii) keep all documents and any other material bearing or incorporating any of the Information and Materials at our usual place of business in Hong Kong, namely _____
_____ or at our permanent storage facility at _____

- (iii) not use, reproduce, transform, or store any of the Information or Materials in an external computer or electronic information retrieval system outside the computer network of our firm or transmit the same in any form or by any means whatsoever outside the computer network of our firm; and
 - (iv) make copies of the Information and Materials only to the extent that the same is strictly required for the purposes of the consultancy services to be undertaken by us in respect of the Assignment.
6. This Undertaking shall be governed by and construed in accordance with the laws of Hong Kong and the Authority, and we agree to submit all disputes in connection herewith to the non-exclusive jurisdiction of the Hong Kong Courts.
7. Nothing in this Undertaking confers or purports to confer on any third party any benefit or any right to the Contracts (Rights of Third Parties) Ordinance (Cap.623) to enforce any terms of the Undertaking.

Signed by

For and on behalf of *

Date

* Name of the Successful Service Provider to be inserted.