NEOPOLIS
INCORPORATION
DESIGN | DEVELOP | BUILD

2020

Our Story...

Neopolis Inc. is established in 2019, although of young age, but it has been created to combine the expertise and vision of its founders and associates along with the enthusiasm and creativity of its team along with the methodical approaches of the modern business and the new movements of sustainability in designs and construction.

Our founders and associates have been in the engineering business for more than 15 years, with wide range of experience from design to construction within different disciplines and markets. Working for and with some of the most esteemed firms in Egypt and the Middle East, they have been involved in numerous projects with various scales and types, following world standards and regulations, such as Project Management Professional - PMP, Leadership in Environment and Energy Design - LEED, and Royal Institute of British Architects – RIBA. During that time, they have been able to increase their capacities and expertise and decided to combine their powers and create Neopolis Inc.

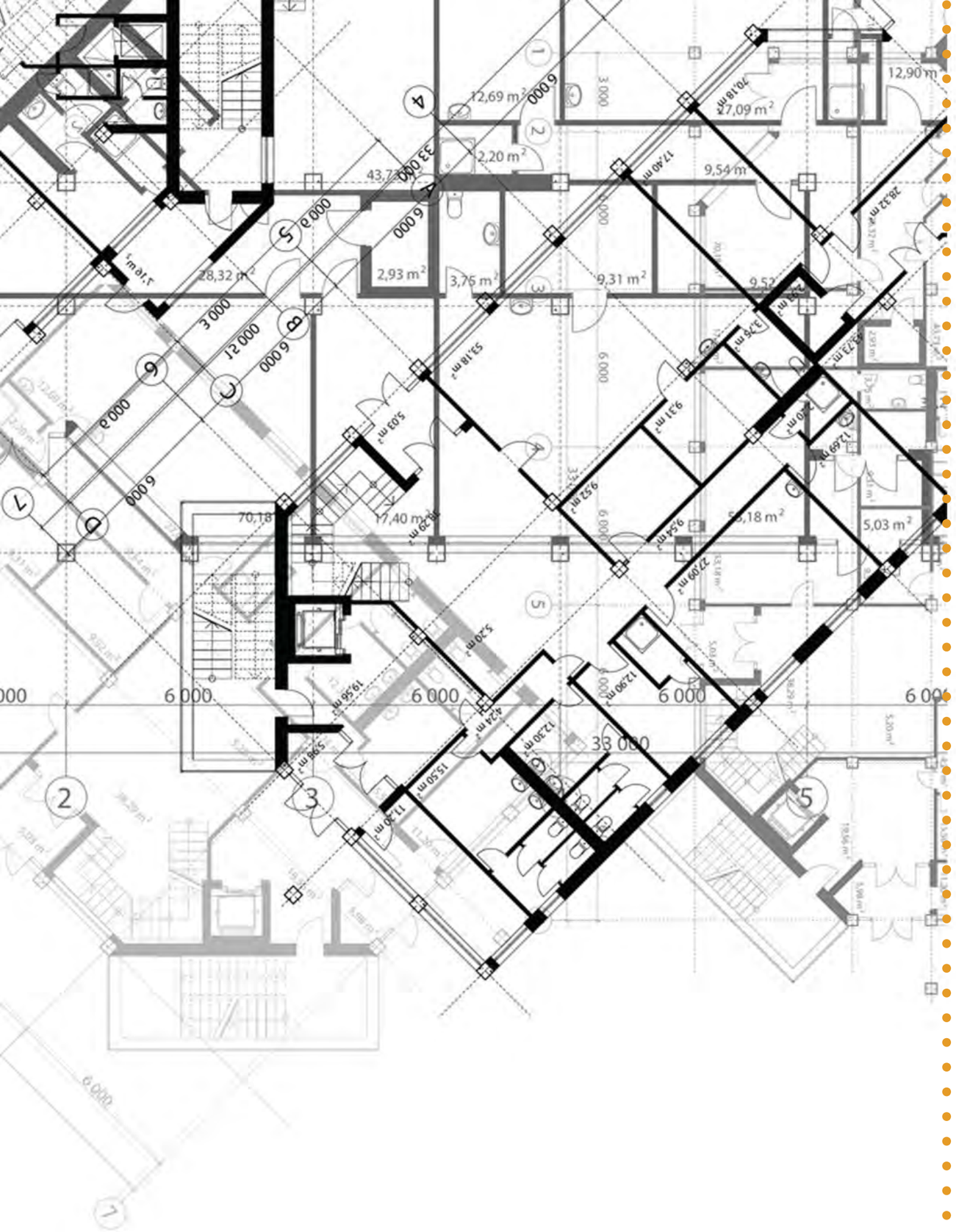
Neopolis Inc has a rebellious spirit and a lofty objective to provide quality services with revolutionary methods while leading the way for a socially-conscious business. We believe in design as a process for remarkable outcomes that can revolutionize the way we form our lives and shape our future. Therefore, we have carefully and comprehensively designed our services and trained our team to meet our clients' objectives and requirements.

We Design...

Neopolis Inc does not focus on design as from and function only, we emphasize on integrating our designs with its surrounding environment, comprehending the design goes beyond aesthetic elements and decorative functions; it is more about human space.
We believe every design has its own philosophy and individuality. Our profession is to visualize it and our expertise is to abide it with the required objectives and boundaries.

Our Services includes:

- Architecture and Landscape Design.
- Master Planning and Urban Design.
- Interior and Product Design.
- Preliminary Studies and Programming.
- Reaserch and Development R&D.
- 3D Modeling and Animation.



We Develop...

Neopolis Inc provides a full engineering and consultation services required to succesfully transform the initial design to a comprehansive set of drawings and construction documents through series of multi engineering disciplines designs, coordination.and reviews
Our expertise ensures remarkable outcomes driven from our belief that our process ensures the effective conversion of the concept into a tangible reality that complies with the design objectives, quality and constrains.

Our Services includes:

- Engineering Consultation.
- Property Consultation.
- Design Reviews and Development.
- Enviromental Engineering.
- Structure and Civil Engineering.
- MEP and Infrastructure.
- Construction Documentation.

We Build...

Neopolis Inc. provides the construction management technical and administrative services required to manage, coordinate, and integrate multiple, simultaneous assignments that comprise a large program from foundation through completion.
Our broad-scale capabilities enable successful project delivery that adheres to project schedules while reducing costs, minimizing risks, and maintaining the highest standards of quality and safety.

Our Services includes:

- Project Managment Services.
- Technical Office Services.
- Site Supervision Services.
- Property Management Services.

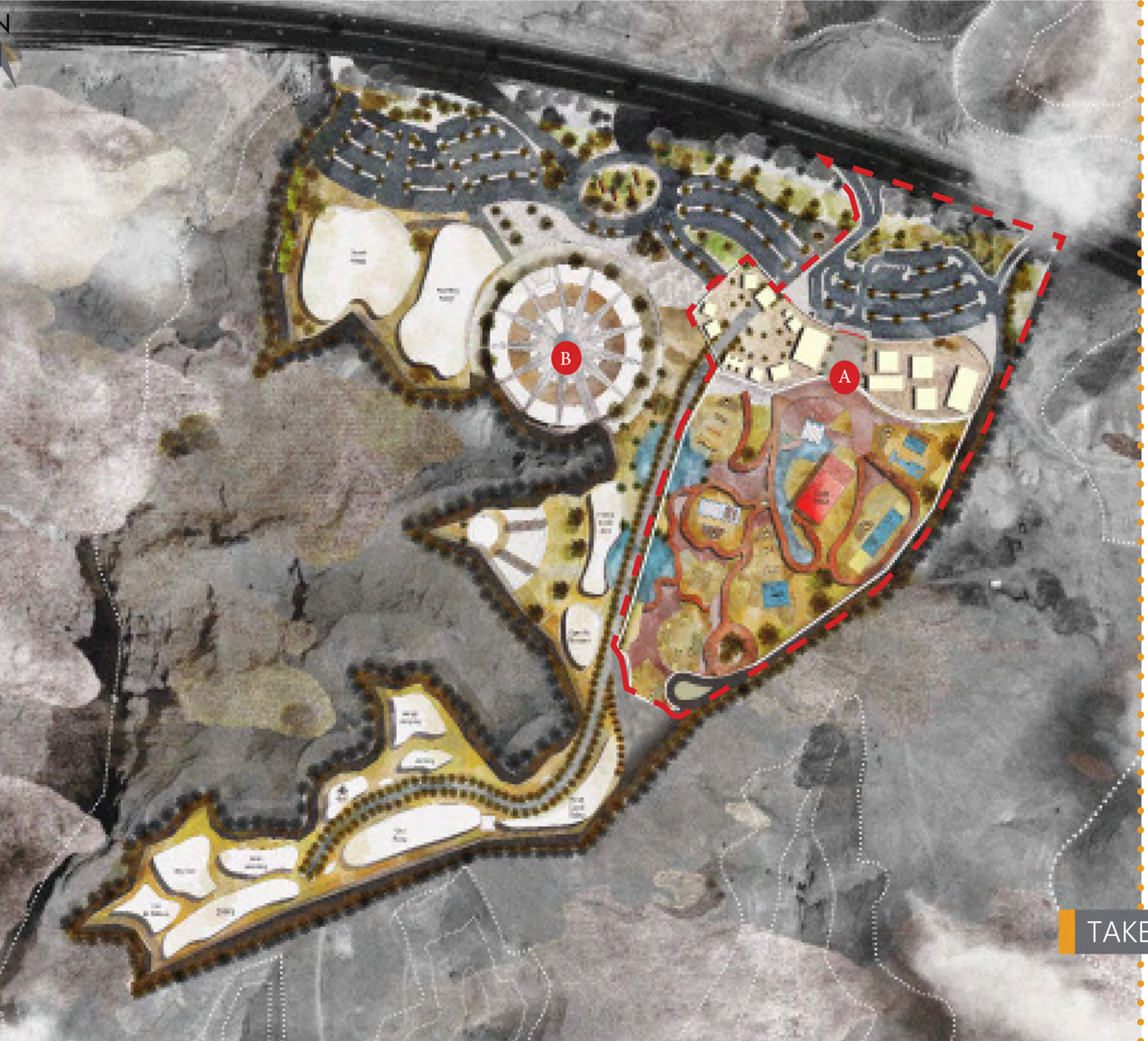
Master Planning and Urban Design
Commercial and Residential
Hospitality and Leisure
Private Residences and Interiors
Enviromental Studies and Research

Master Planning and Urban Design

Takeshi Castle ‘El Heson’
Riyadh, KSA
Client: Banader Gulf Media
Master Planning, Landscape, Engineering Consultation, Structure and Civil, MEP and Infrastructure, Construction Documentation, Technical Office.

New Sabha City
Sabha, Libya
Client: Eco-Arch
Urban Design, Programming.

Al Qubbah City
Al Qubbah, Libya
Client: Eco-Arch
Urban Design, Programming.



TAKESHI CASTLE | **74 Acres**

Master Planning and Urban Design

NEW SABHA CITY | **60 Acres**

AL QUBBAH CITY | **55 Acres**

Master Planning and Urban Design
Commercial and Residential
Hospitality and Leisure
Private Residences and Interiors
Enviromental Studies and Research

Commercial and Residential

Hayah Residence
New Cairo, Egypt
Client: Hayah Construction
Architecture, Programming, Property Consultation, Engineering Consultation.

Desert Rose Restaurant
Metropolitan Mall, New Cairo, Egypt
Client: DM Foods.
Interior Design, Programming.

Beaute Reve | Cosmetics Store
Mirage Mall, New Cairo, Egypt
Client: T&A Imports.
Interior Design.

Pavo Village | Azha Compound
Ain Sokna, Egypt
Client: Madar Developments.
Engineering Consultation, Structure, MEP, Construction Documentation.

Tucana Village | Azha Compound
Ain Sokna, Egypt
Client: Madar Developments.
Engineering Consultation, Structure, MEP, Construction Documentation.

Commercial and
Residential

HAYAH RESIDENCE | **1.200 sm**

DESERT ROSE I **200 sm**

AZHA PAVO | **36.250 sm**

AZHA PAVO | **36.250 sm**

AZHA PAVO | **36.250 sm**

BEAUTE REVE | **50 sm**

AZHA TUCANA | **32.500 sm**

AZHA TUCANA | **32.500 sm**

AZHA TUCANA | **32.500 sm**

Master Planning and Urban Design
Commercial and Residential
Hospitality and Leisure
Private Residences and Interiors
Enviromental Studies and Research

Hospitality and Leisure

Katara National Park
Doha, Qatar
Client: Undisclosed
Landscape Design.
(in collaboration with Eng. Fouad Emam)

Al Massa Club Park
New Capital, Egypt
Client: Undisclosed
Landscape Design.
(in collaboration with Eng. Fouad Emam)

ADNOC Student Hostel Park
Abu Dhabi, UAE
Client: Undisclosed
Landscape Design.
(in collaboration with Eng. Fouad Emam)

Madinaty District B9 Park
Cairo, Egypt
Client: Undisclosed
Landscape Design.
(in collaboration with Eng. Fouad Emam)

Madinaty District B13 Park
Cairo, Egypt
Client: Undisclosed
Landscape Design.
(in collaboration with Eng. Fouad Emam)

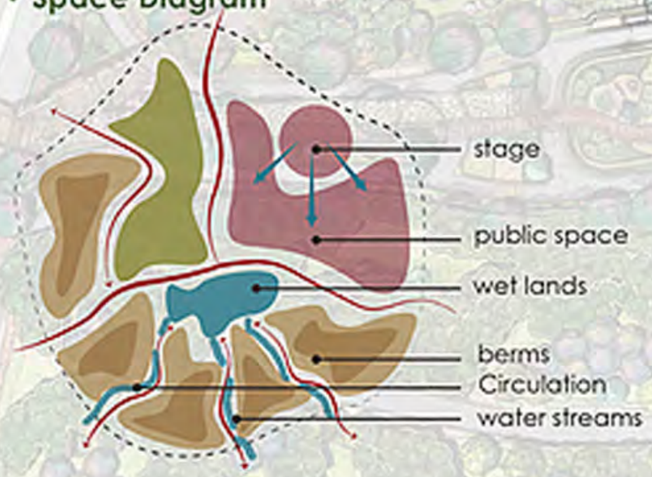
4.1 Gathering Cerimonial Zone (S1)

"It's the largest Outdoor gathering space In Katara Park, where people can engage in multiple activities in a natural forest & wetlands, interacting with the landscape green berms and Caves. All with the set of an open stage with Lawn seating areas where people can attend events."

- **Trees Density**

20% Harwood Forest
5% Palm Forest
5% Colourful Forest
70% Medow

- **Space Diagram**



KATARA PARK | **31.600 sm**

3.4 North Precinct Masterp

Entrances

1 main veihcle & pedestrian entrance
2 pedestrian entrance

Recreational Zones

3 chillout & camping spots
4 green resthouse platforms
5 water front tropical resort

Outdoor Activities

6 Sky Link Bridge
7 outdoor stage
8 pedestrian walkway
9 Tennis court
10 children's playground

Natural Elements

11 water features
12 wooden natural forests
13 green amphitheater

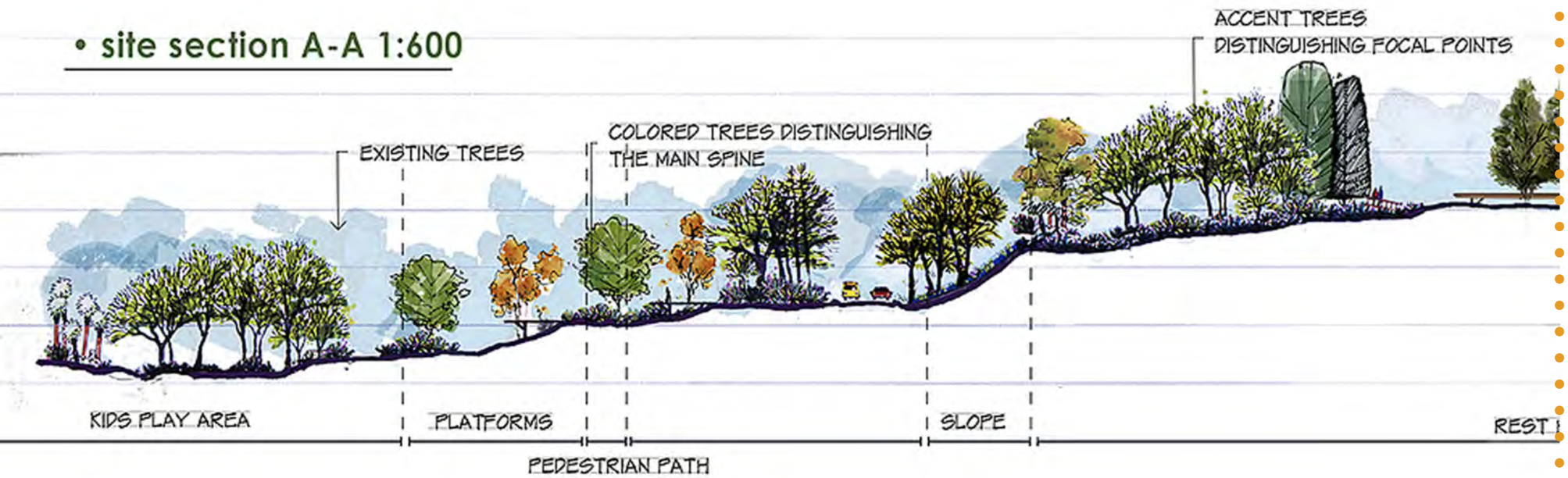
Services

14 existing underground substation
15 car parking

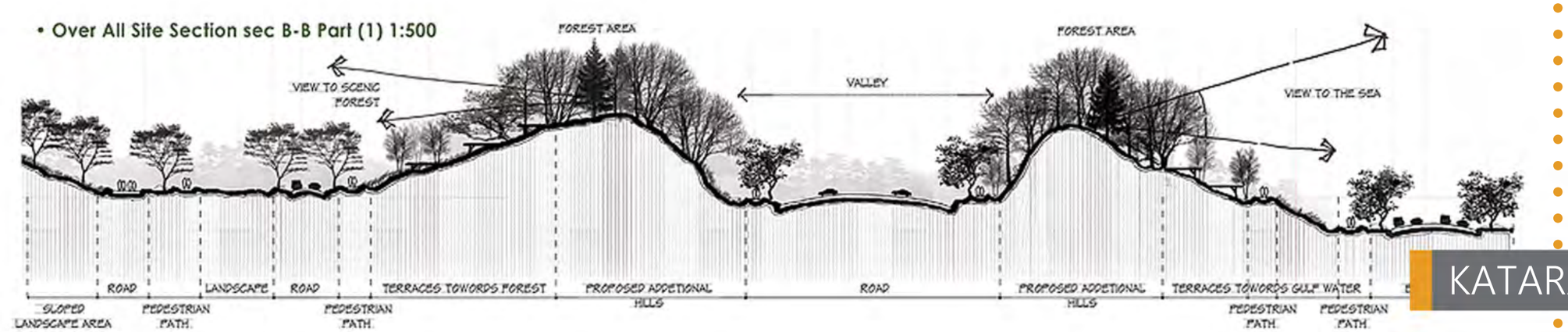
NORTH ZONE MASTERPLAN 20 80 200M

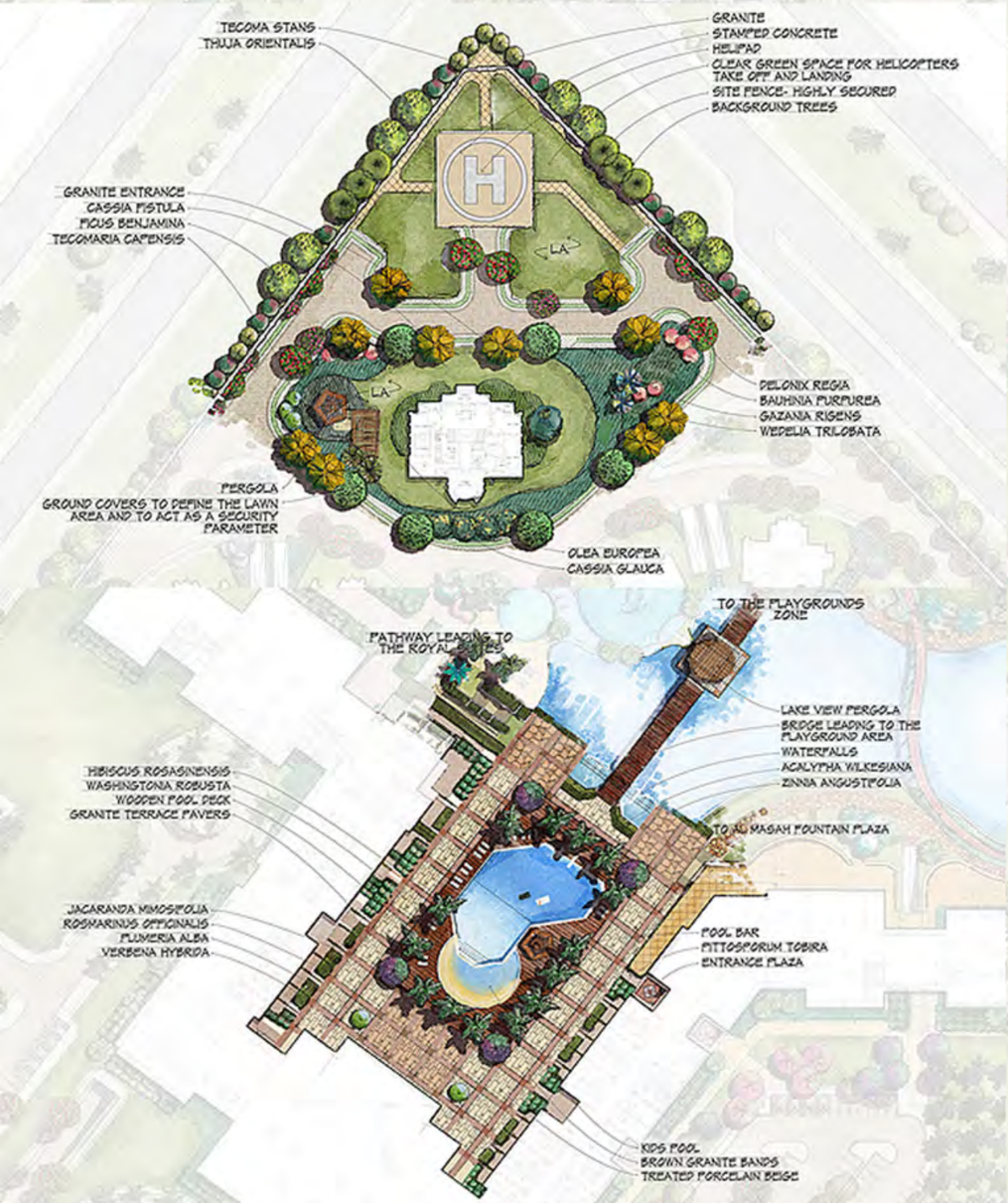
KATARA PARK | **31.600 sm**

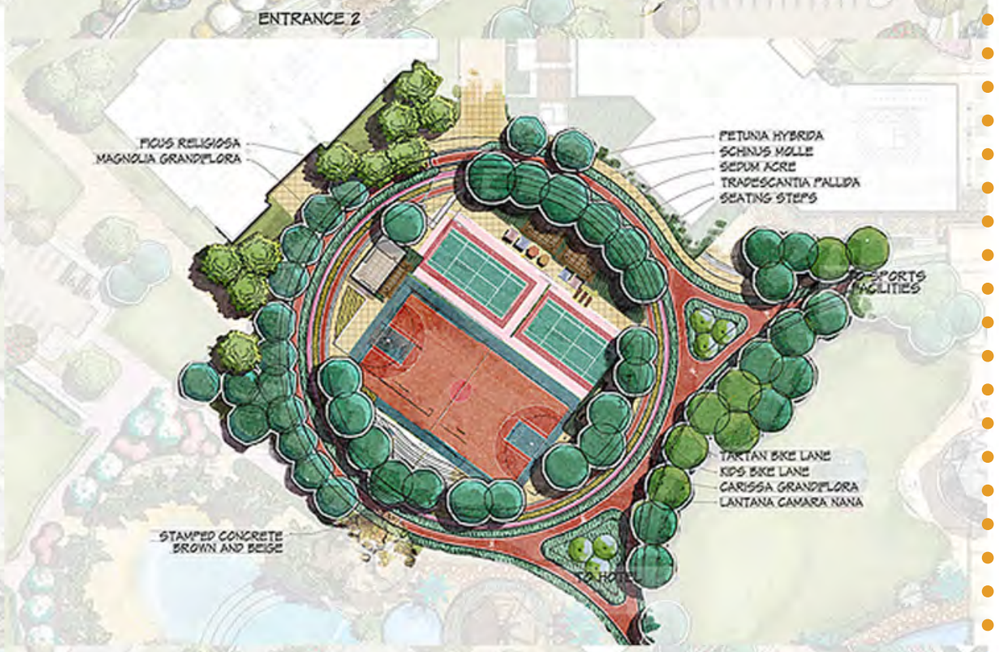
• site section A-A 1:600

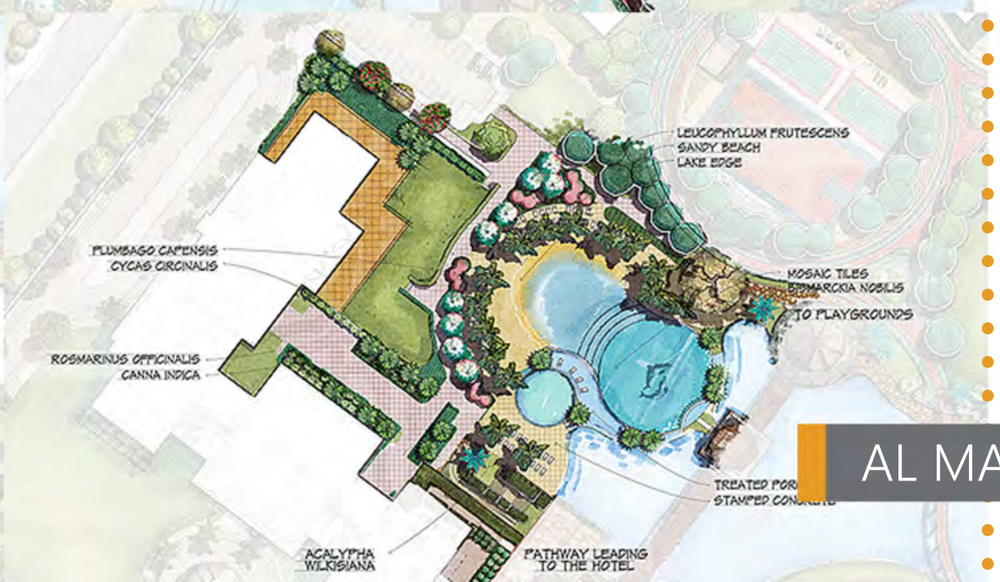


• Over All Site Section sec B-B Part (1) 1:500

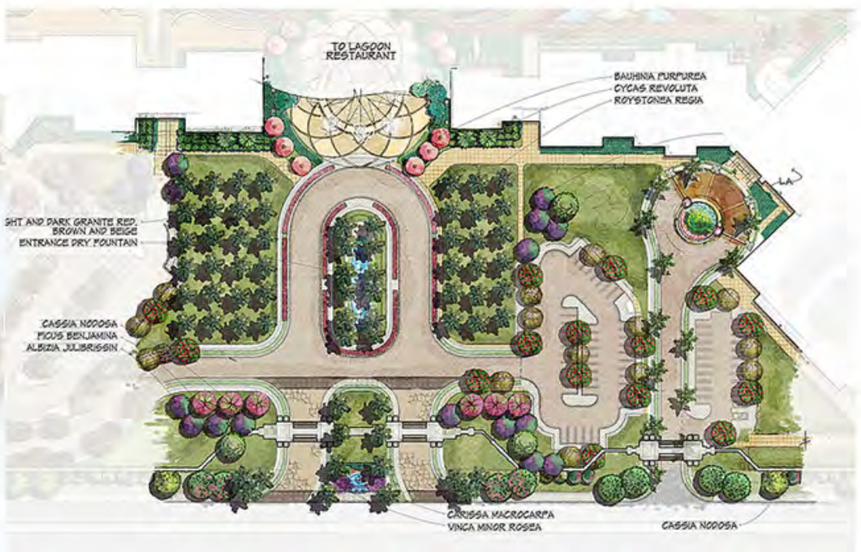




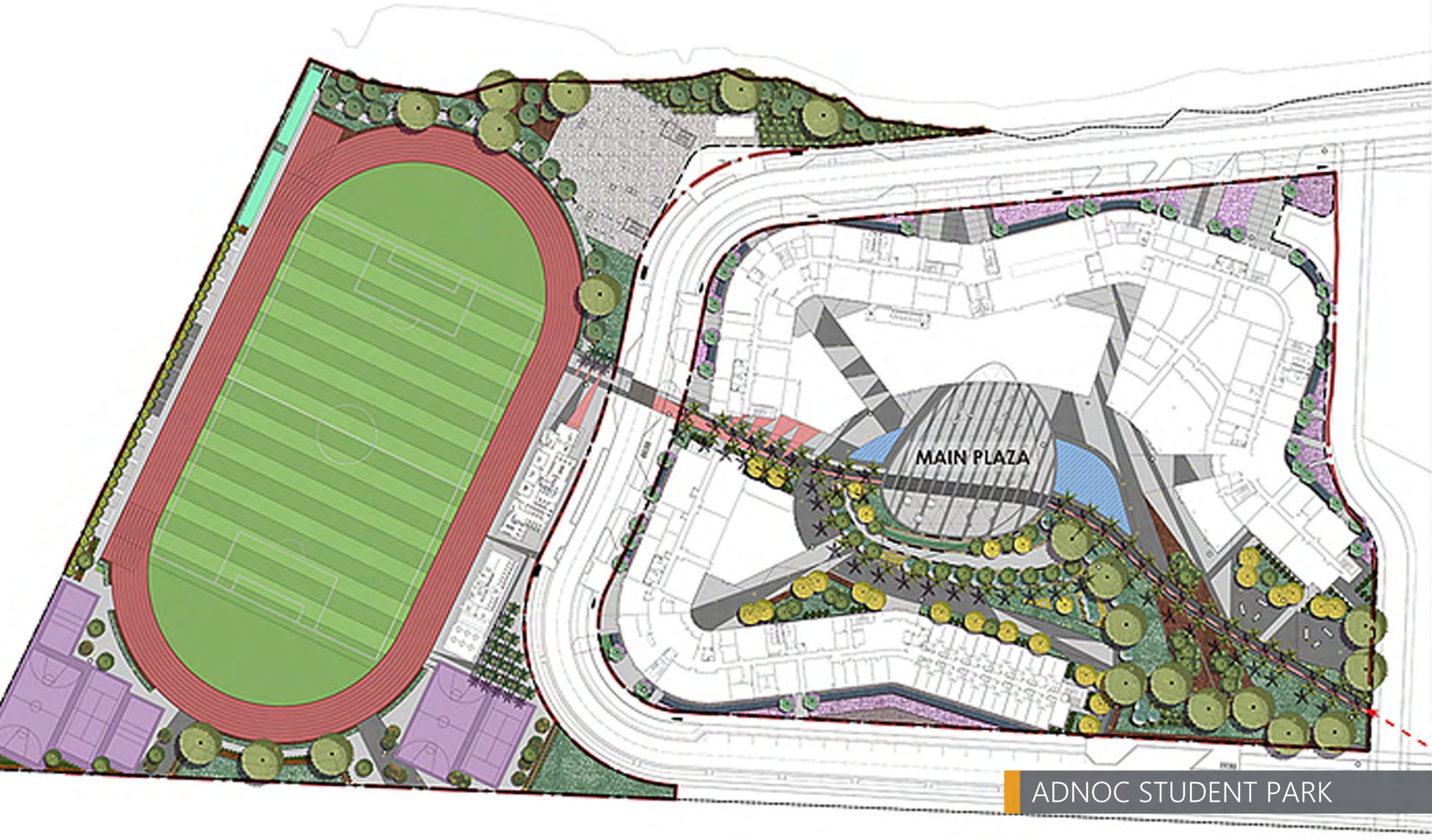




AL MASSA CLUB PARK



AL MASSA CLUB PARK



ADNOC STUDENT PARK

igure 13. students center entrance

MADINATY B9 PARK

MADINATY B14 PARK

Master Planning and Urban Design
Commercial and Residential
Hospitality and Leisure
Private Residences and Interiors
Enviromental Studies and Research

Private Residences and Interiors

MO Twin Villas
Orabi, Ismailiya Road
Client: Mr. Mahdy Obada
Architecture, Interior, Landscape, Engineering Consultation.

NG Villa
Sheikh Zayed, 6th October
Client: Mr. Nagui Gamal
Architecture, Interior, Engineering Consultation.

SM Twin House
Sheikh Zayed, 6th October
Client: Mr. Sameh Mahmoud
Architecture, Interior, Engineering Consultation.

AA Villas Complex
South Academy, New Cairo
Client: Mr. Assem AbdelAal
Architecture, Landscape, Engineering Consultation, Site Supervison.

KA Villa
Al Tala'a, Ismailiya Road
Client: Mr. Khaled Azouz
Architecture.

IB Mansion
Cairo Festival City, New Cairo
Client: Mr. Ibrahim El Belbesy
Interior, Landscape, Engineering Consultation, Site Supervision.

MN Mansion
Cairo Festival City, New Cairo
Client: Mr. Mostafa El Nagar
Interior, Landscape.

MN Senior Chalet
Hacienda Bay, Al Alamein.
Client: Mr. Mostafa El Nagar
Interior, Landscape.

HS Twin Villa
Katameya Gardens, New Cairo
Client: Mr. Hesham Saeed
Interior, Landscape, Site Supervision.

SS Residence
West Arabella, New Cairo
Client: Mr. Sherif Shama
Interior, Landscape, Engineering Consultation, Site Supervision.

AI Residence
Sheraton, Cairo
Client: Mr. Ahmed Ismail
Interior, Landscape, Site Supervision.

HZ Twin House
Bellagio, New Cairo
Client: Mr. Hesham Zaki
Interior, Landscape, Engineering Consultation, Site Supervision.

TW Twin Chalet
Wahet El Hegaz, Ain Sokhna
Client: Mr. Tarek Weheba
Interior, Landscape, Engineering Conslтation, Site Supervision.

AR Penthouse
Maadi, Cairo
Client: Mr. Ahmed Rizkallah
Interior, Engineering Consultation, Site Supervision.

OA Penthouse
Eastown, New Cairo
Client: Mr. Omar Atteya
Interior, Engineering Consultation, Site Supervision.

YA Residence
La Mirada, New Cairo
Client: Mr. Yasser AbdelNaby
Interior, Engineering Consultation, Site Supervision.

MB Duplex
Eastown, New Cairo
Client: Mr. Mohamed Borai
Interior, Engineering Consultation, Site Supervision.

MB TWIN VILLA | **820 sm**

MB TWIN VILLA | **820 sm**

KA VILLA | 1.200 sm

KA VILLA | **1.200 sm**

AA COMPLEX | **3.600 sm**

AA COMPLEX | **3.600 sm**

SM TWIN HOUSE | **400 sm**

NG VILLA | **450 sm**

RANDOM WORK

RANDOM WORK

Private Residences and Interiors

RANDOM WORK

RANDOM WORK

Private Residences and Interiors

RANDOM WORK

RANDOM WORK

Private Residences and Interiors

RANDOM WORK

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Enviromental Studies and Research

Enviromental Studies and Research

Sankey Diagrams to support simulation-aided building design: Workflow and user test
Ontario, Canada
Client: HBI Lab
Research and Development.
(in collaboration with Aly Abdelalim, William O'Brien, Abdelrahman Abdelalim)

Data visualization and analysis of energy flow on a multi-zone building scale
Ontario, Canada
Client: HBI Lab
Research and Development.
(in collaboration with Aly Abdelalim, William O'Brien, Zixiao Shi)

Visualization of energy and water consumption and GHG emissions: A case study of a Canadian University Campus
Ontario, Canada
Client: HBI Lab
Research and Development.
(in collaboration with Aly Abdelalim, William O'Brien, Zixiao Shi)

Digital Campus Innovation Project: Integration of BIM with Building Performance Simulation and Building Diagnostics
Ontario, Canada
Client: HBI Lab
Research and Development.
(in collaboration with Zixiao Shi, Aly Abdelalim, William O'Brien, Ramtin Attar, Peter Akiki, Katie Graham, Barbara Van Waarden, Steve Fai, Alex Tessier, and Azam Khan)

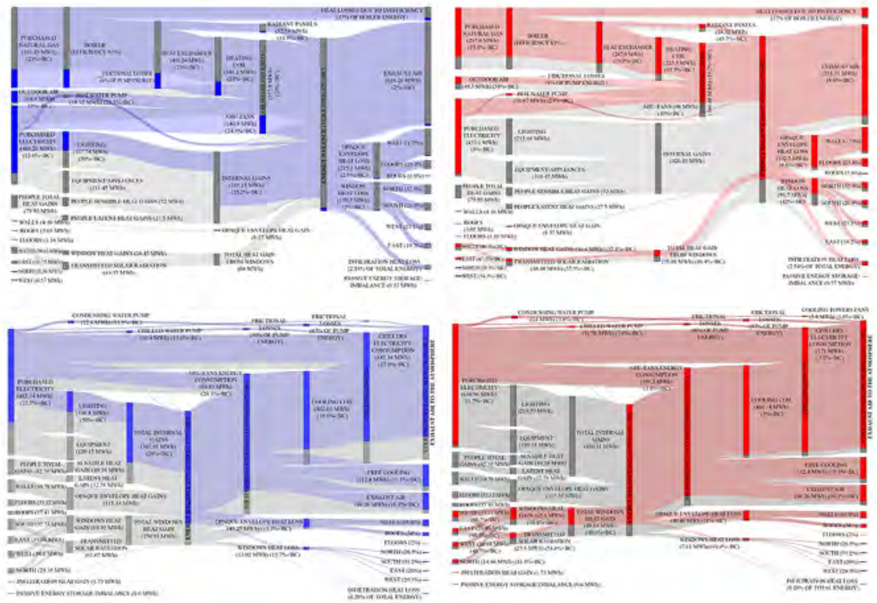
Sankey Diagrams to support simulation-aided building design: Workflow and user test

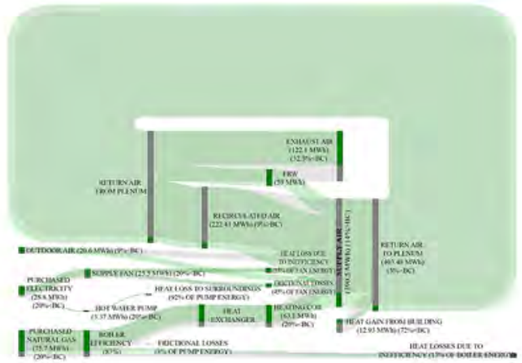
Won Honorable Mention and People's Choice Award in IBPSA's Project STASIO Link:
https://www.projectstasio.com/repository/2017/10/31/solar-roses-57ejy-5jsw2-enm8z-h87ej

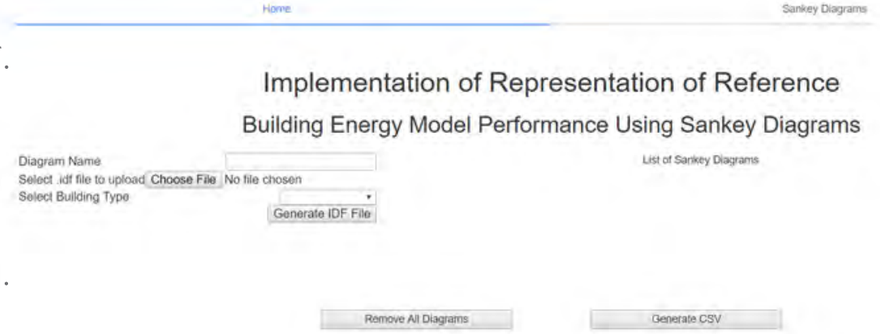
Project STASIO (Standard SImulation Outputs)

What exactly is "Early Energy Modeling," what does it entail, and what types of questions can it answer? The new ASHRAE standard 209 provides a framework on how to integrate early energy modeling into the design process, and Project STASIO aims to provide supporting content on inputs, outputs, and case studies around the first three 'modeling cycles' defined by the standard. The goal is to expand and populate the diagram below with crowd-sourced content from national and international simulation communities.

There are various visualization techniques used for parametric design of buildings with the goal to help building performance simulation (BPS) tool users evaluate design alternatives to improve building energy performance. However, these methods tend to focus on meta-analysis of tens or thousands of simulation results rather than focusing on just several results in adequate depth to properly reveal the underlying system interactions and energy flows. The aim of this research is to investigate the effectiveness of utilizing Sankey diagrams for visualizing building performance obtained from BPS tool outputs. To facilitate automated Sankey diagram development, an online workflow was developed to convert simu simulation data to users in a novel and insightful manner. The findings from the survey indicated that Sankey diagrams helped in: visualizing building-level and HVAC energy flows, understanding the upstream and downstream impact of design decisions, demonstrating energy-savingstrategies, and facilitating decision-making.







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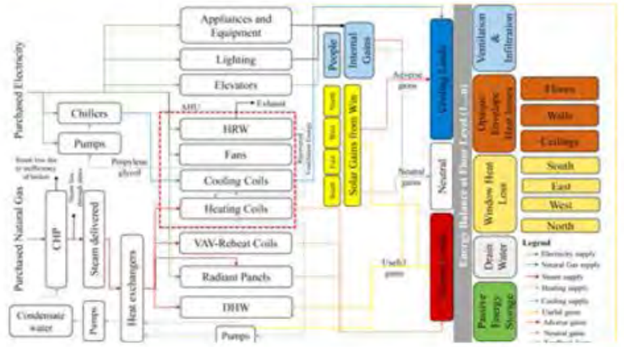
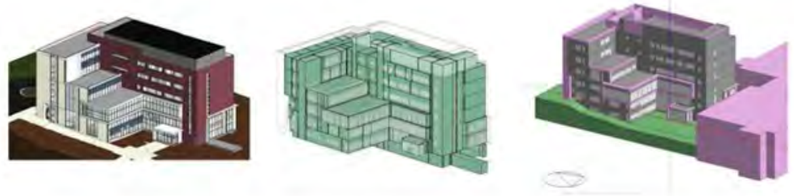
Data visualization and analysis of energy flow on a multi-zone building scale

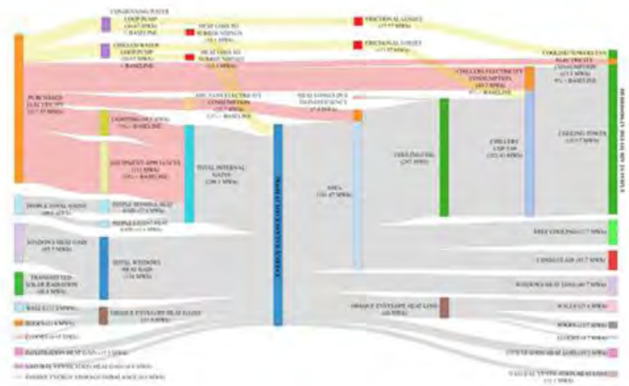
Enviromental Studies and Research

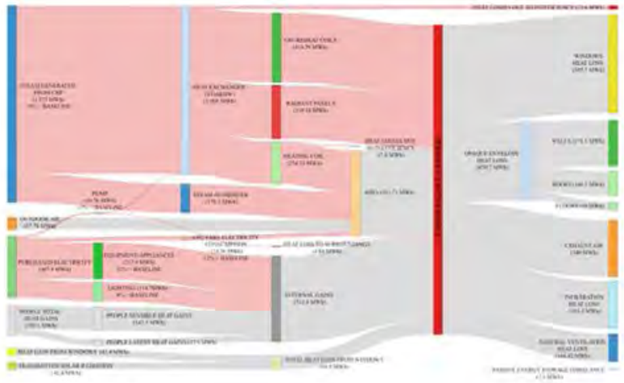
Modern commercial buildings' resource consumption is metered at various levels of spatial and temporal resolution to track and reduce energy use and green-house gas emissions. However, not all data that could be used to detect faults or identify efficiency improve-ments are available due to the cost inacce of meters and inaccessibility of the data they produce. In the field of building operation, building performance simulation (BPS) can help in quantifying unmeasured energy flows, for instance solar gains, heat loss from infiltration, etc.

Furthermore, integrating building information modeling (BIM) in building operation and maintenance can dec-rease operation risk and costs, as well as maintain facility management quality. However, in practice there is a lack of efficient utilization of this application by building ope operators. The aim of this research is to provide an in-tegrated framework to estimate and visualize energy flows and the associated cost. The framework consists of 1) developing a BIM model, 2) converting the BIM model to a BPS model, 3) calibrating the model, and 4) visualizing energy and cost flows using Sankey diagrams. The study demonstrates this framework on a real-world case study, and hence provides a comprehensive energy use assessment on the building level to facilitate the decision-making by building opeoperators.









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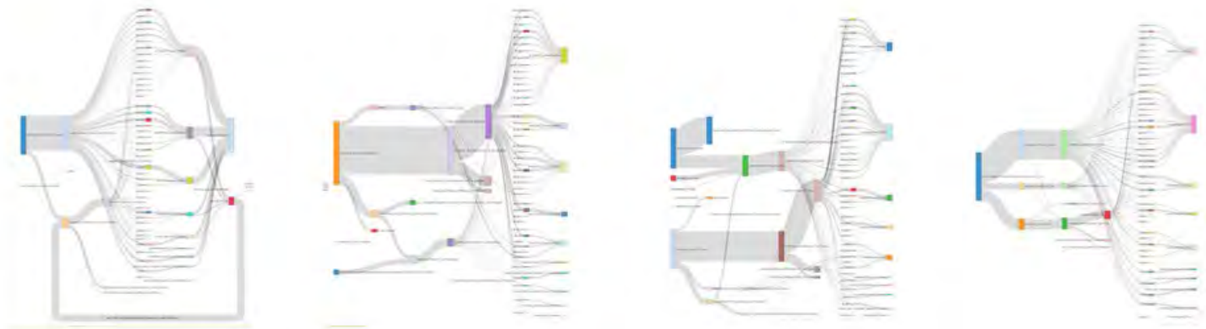
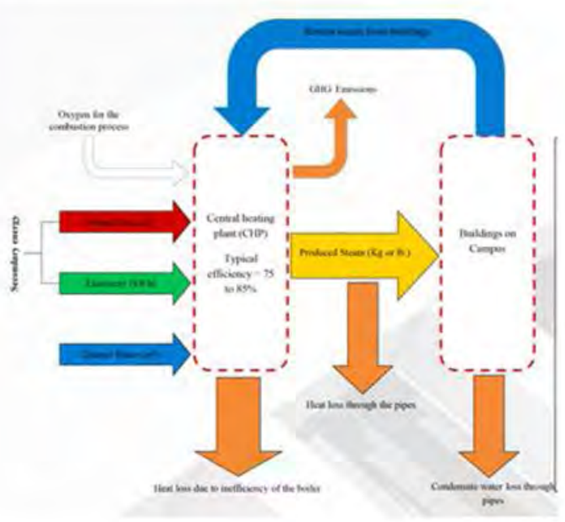
Visualization of energy and water consumption and GHG emissions: A case study of a Canadian University Campus

Campuses, communities, and other building clusters are major users of energy and water and thus can have a significant environmental impact. Frequently, their buildings' resource consumption is metered to various levels of resolution to attempt to track and reduce it. However, the metering and data logging systems are often inconvenient and difficult to access due to use of multiple systems and technologies of varying vintages.

This research proposes several methods to analyze and visualize building-level water, natural gas, and electricity consumption and the upstream environmental impacts: Sankey diagrams and bar charts that normalize metered values by floor area and occupancy. The objective is to improve accessibility of these data to all stakeholders, including building operators, planners, occupants, and utilities. The methods are then applied to a 45-building Canadian university campus and an array of graphical representations of the data is provided.

The resulting analysis and visualization reveals significant variation in consumption between buildings regardless of building vintage and function. Furthermore, it is concluded that identifying resource consumption reducing strategies, once inefficient buildings have been identified, would require higher data resolution both spatial and temporal.





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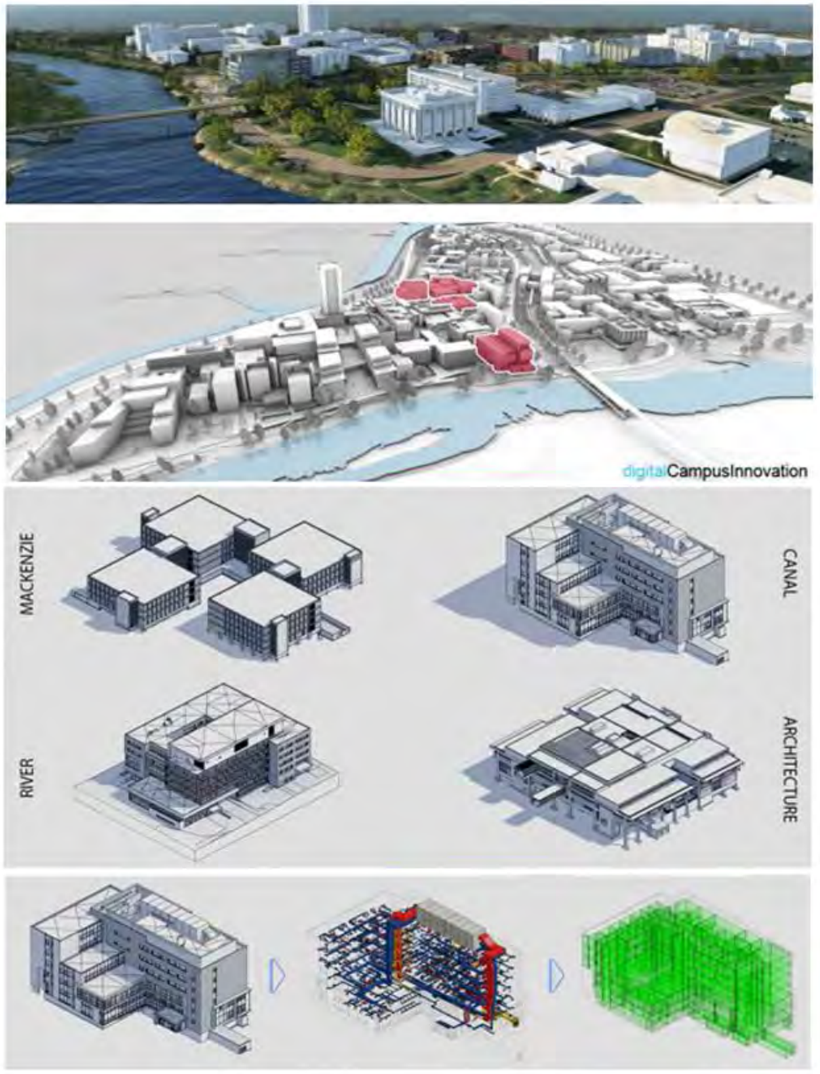
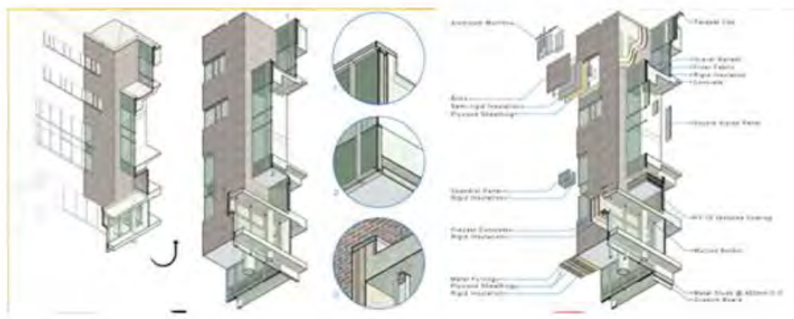
Digital Campus Innovation Project: Integration of BIM with Building Performance Simulation and Building Diagnostics

Building Information Modelling (BIM) has emerged as a powerful technology that creates a central hub for managing building energy and resources at all phases of the building life cycle. Without it, many tools that lack interoperability are used, thus massively under-exploiting the efforts of other building design and management parties; this largely describes the status quo. However, despite the power of BIM, it has not been readily adopted by industry, and especially not at the community and campus scale.

Digital Campus Innovation (DCI) is a large multi-year and multidisciplinary project involving development of a methodology for use of BIM for operation and maintenance of a portion of Carleton University's 45 interconnected buildings. Major elements include:
(1) development of highly-detailed BIM models for site and buildings;
(2) conversion from BIM models to building performance simulation (BPS) models;
(3) model validation using measured data;
(4) building Fault Detection and Diagnostics (FDD) using advanced algorithms and calibrated modelling;
and
(5) advanced building performance data visualization on top of 3D BIM model.





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