

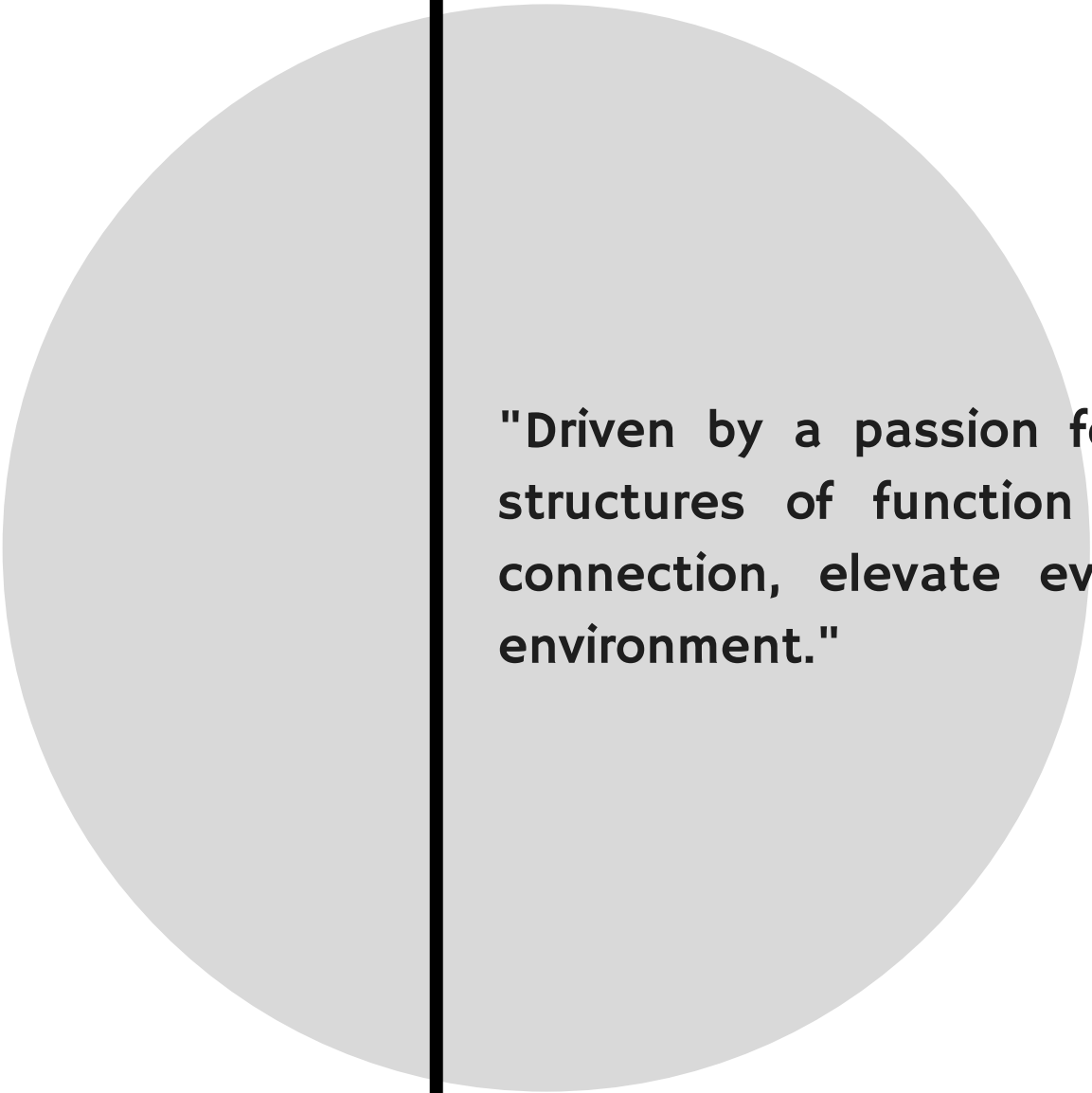
Arch & Bim

PORTFOLIO

By Jaykumar Khokhariya



www.jaykhokhariya-portfolio.techsquare.tech



"Driven by a passion for thoughtful design, I envision architecture not merely as structures of function and form, but as living experiences that shape human connection, elevate everyday life, and harmonize with the cultural and natural environment."

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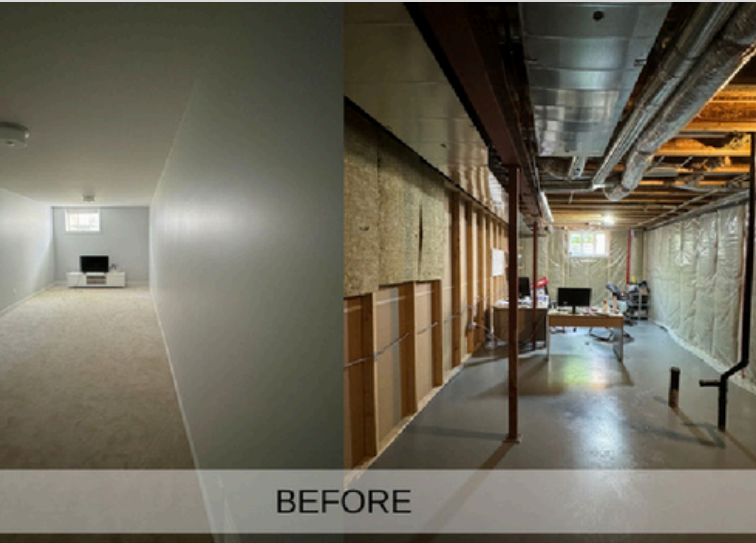


- FREELANCE PROJECT IN CANADA- KIRTI CHAKRANI
- CASA DE COURTYARD
- DREAM CITY- SURAT
- MR JIMMY'S HOUSE
- BIM-BASED WORKFLOW FOR GLOBAL PROJECT COORDINATION
- COLLABORATIVE HOTEL RENOVATION USING BIM 360
- ALGONQUIN COLLEGE ACCE BUILDING REMODELING
- LASER SCANNING WITH REALITY CAPTURE
- PHOTOGRAMMETRY WORK
- CONSTRUCTION DELIVERY APPROACHES

KIRTI CHAKRANI'S PROJECT (FREELANCE)

Client's vision : The owner plans to transform the basement into a functional and stylish space, featuring a state-of-the-art home theater, a dedicated gym area with ergonomic flooring and proper lighting, and a modern bathroom seamlessly integrated with the existing plumbing. The design will complement the rest of the home with neutral tones and elegant finishes, while incorporating smart technology for enhanced convenience and flexibility-- ensuring the space meets both current and future needs.

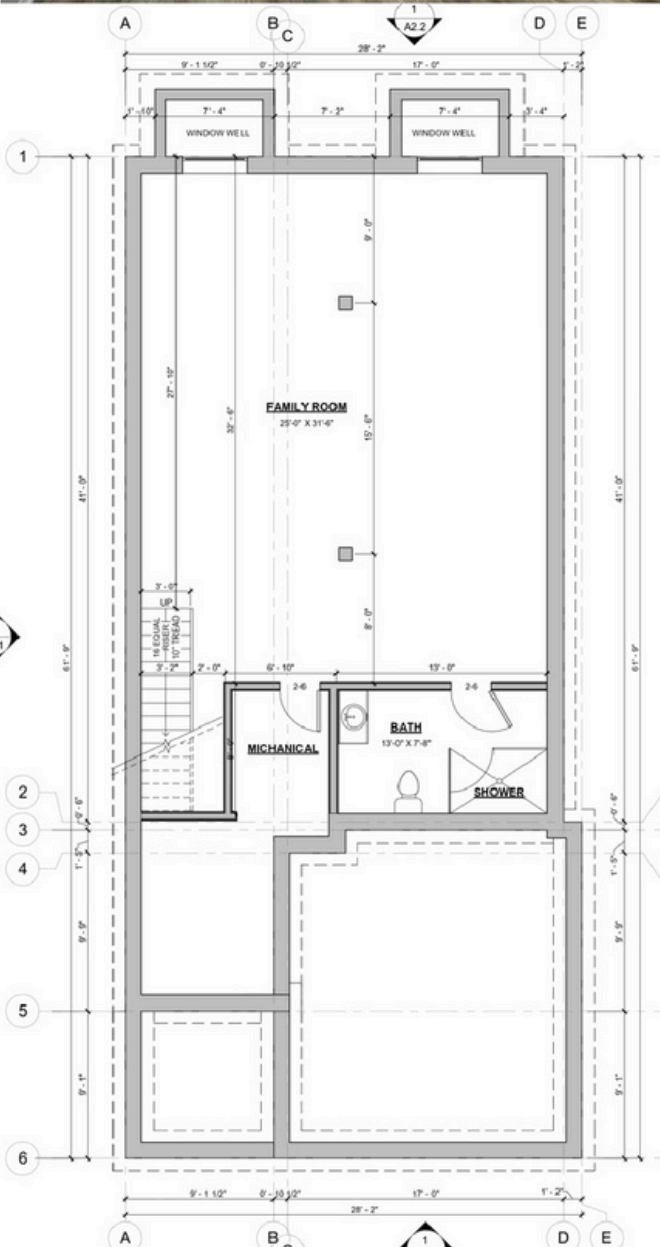
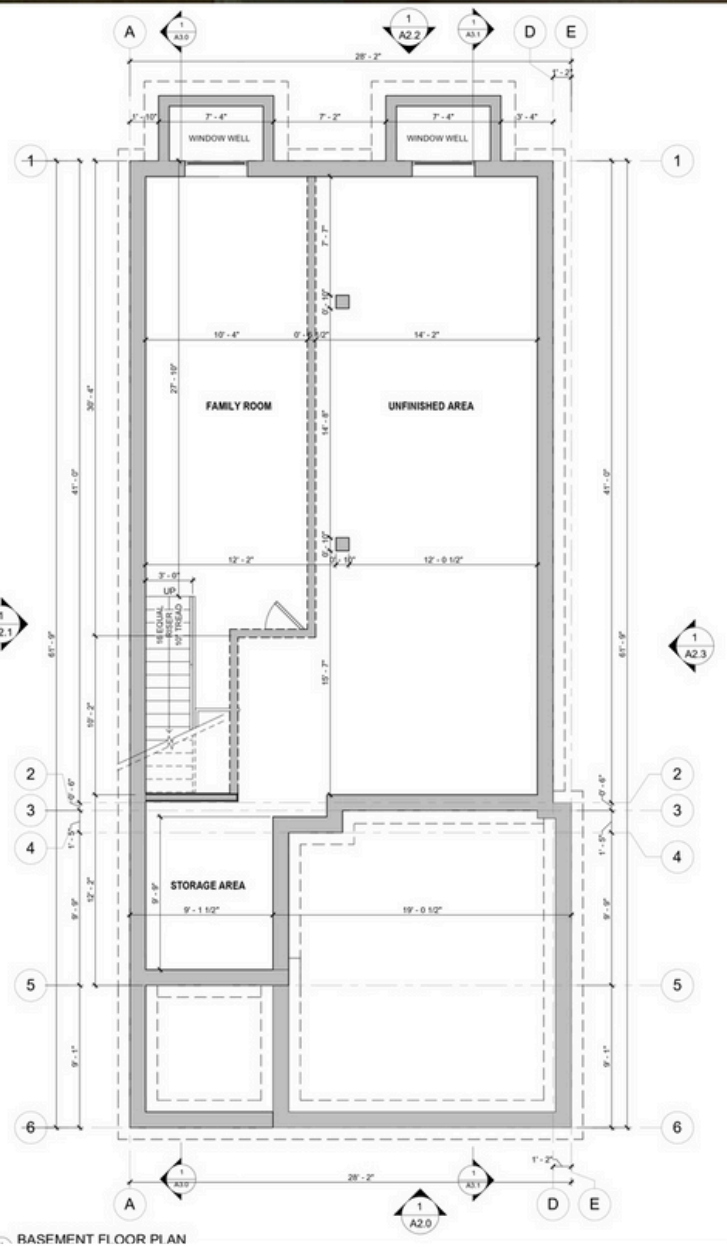
BASEMENT DOCUMENTATION AND PLANNING



BEFORE



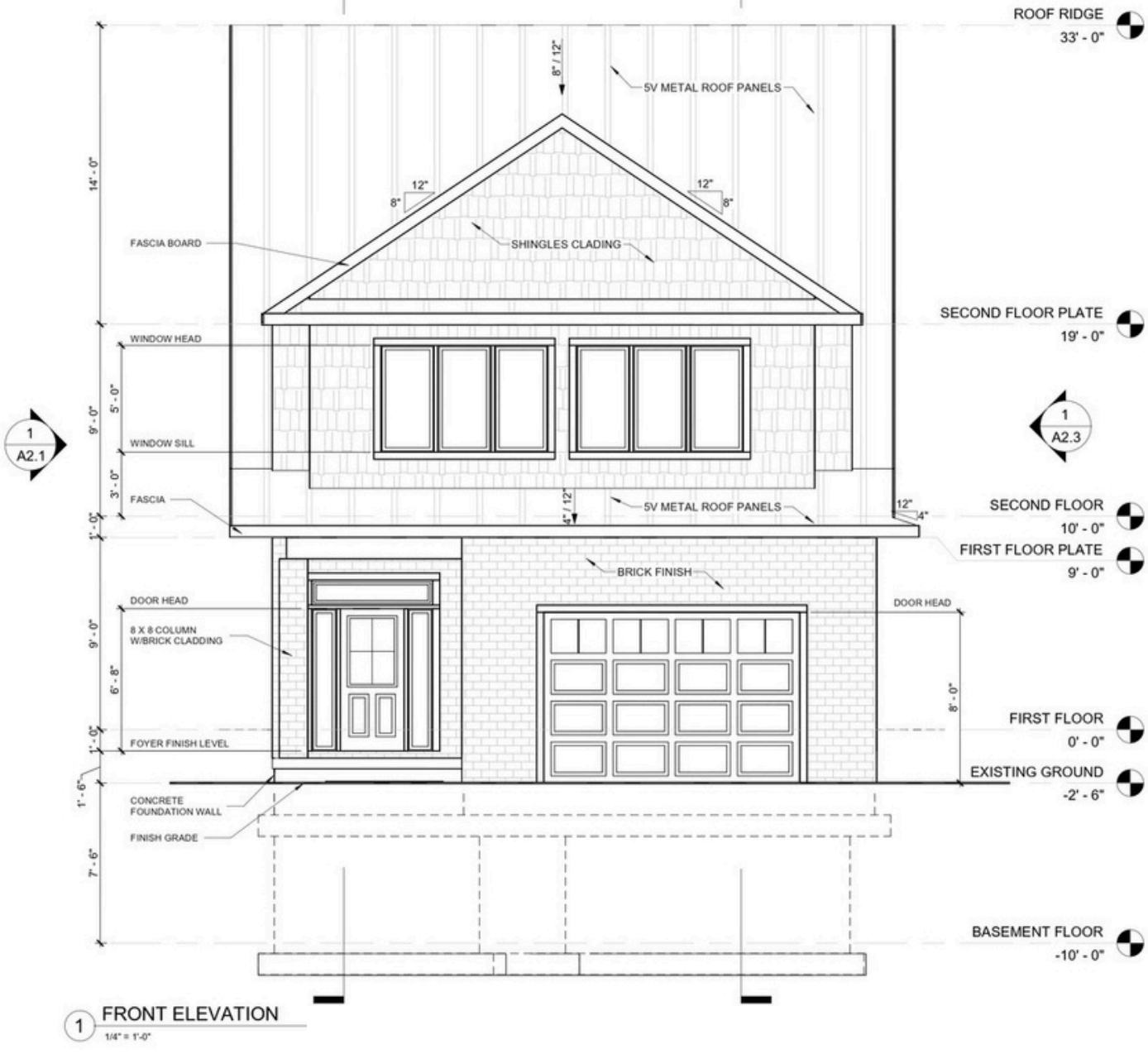
AFTER



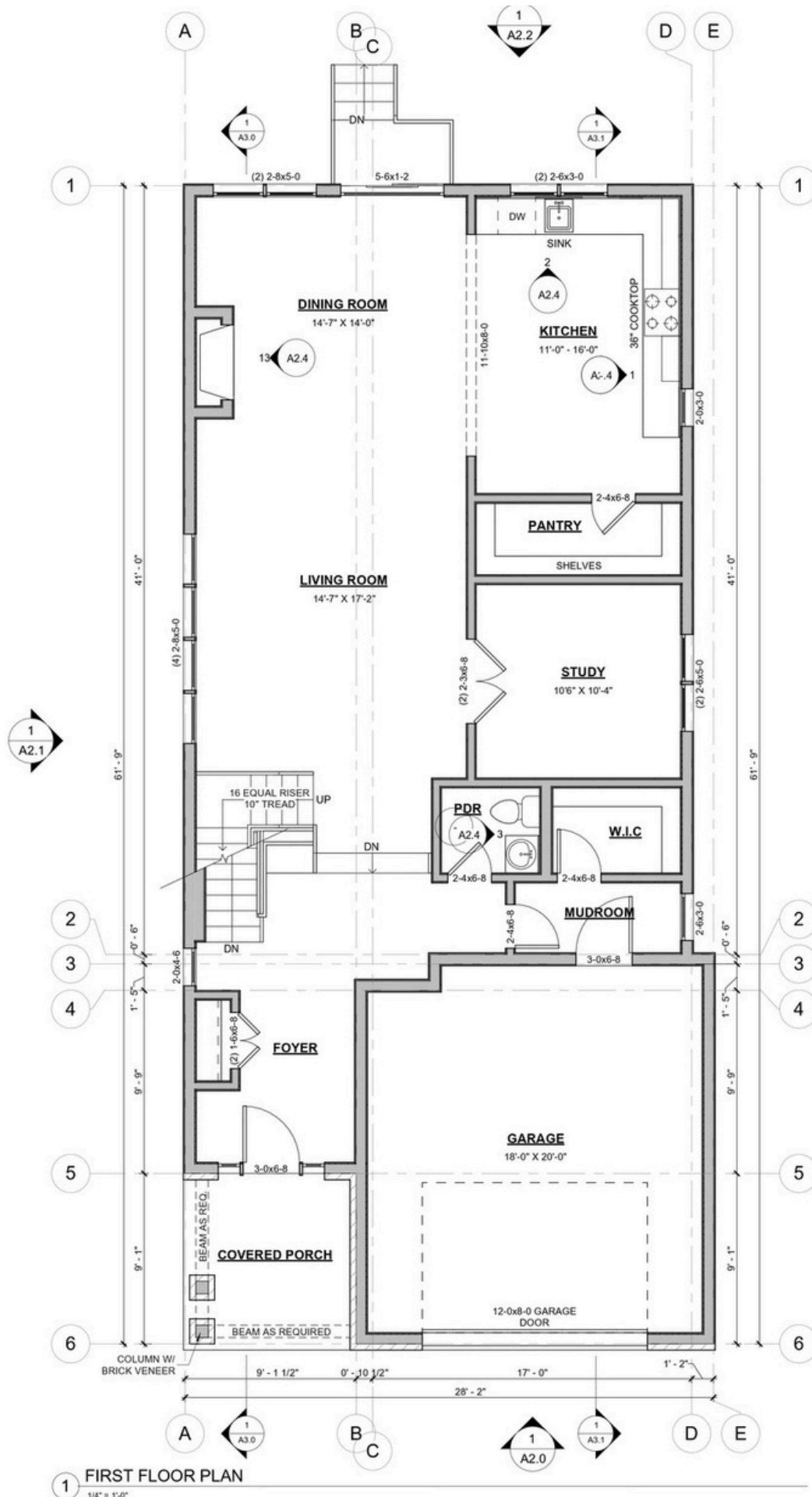
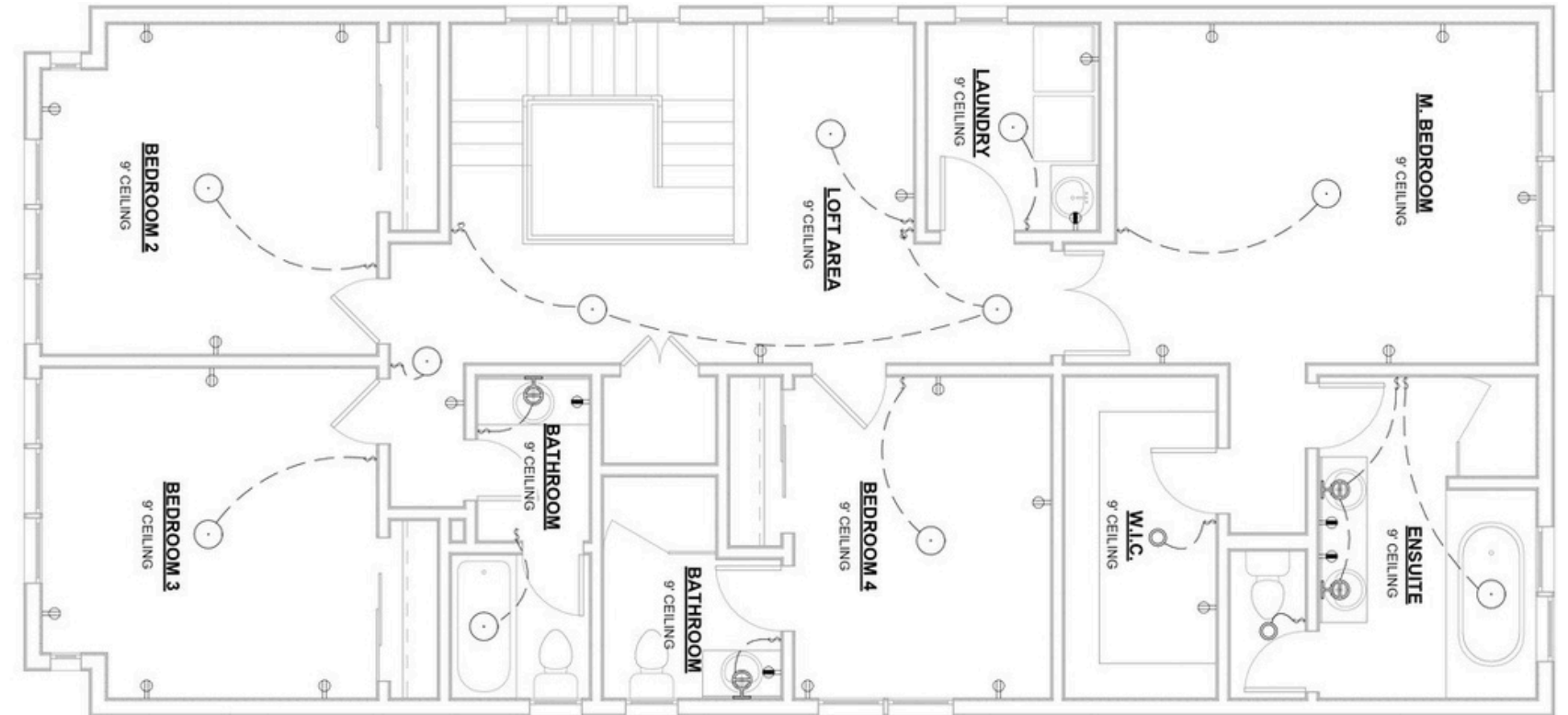
DOCUMENTATION (PHOTOGRAPHY)

[All photos](#)

HOME TECHNICAL DOCUMENTATION



2 SECOND FLOOR RCP/ELECTRICAL
1/4" = 1'-0"



SECOND FLOOR PLATE
19' - 0"

SECOND FLOOR
10' - 0"

FIRST FLOOR PLATE
9' - 0"

FIRST FLOOR
0' - 0"

EXISTING GROUND
-2' - 6"

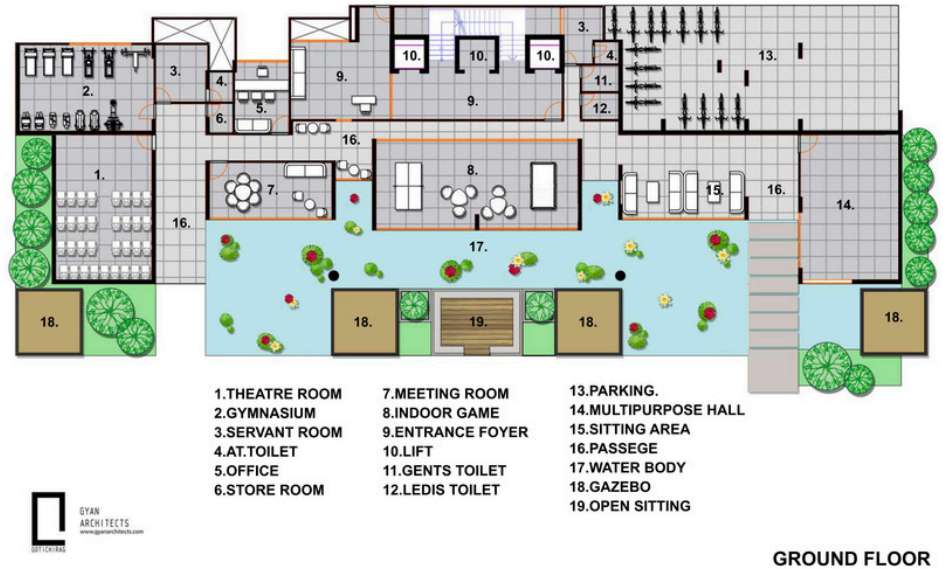
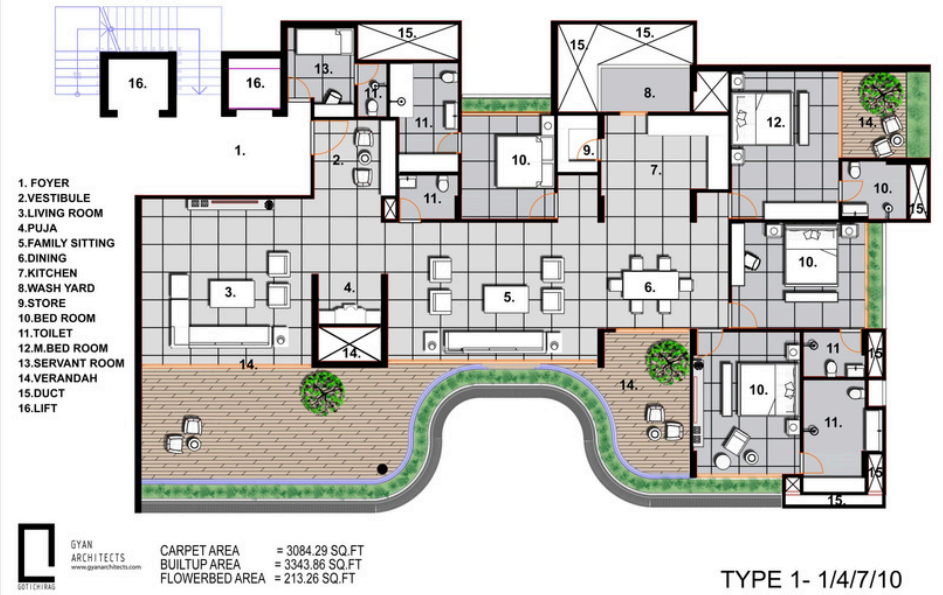
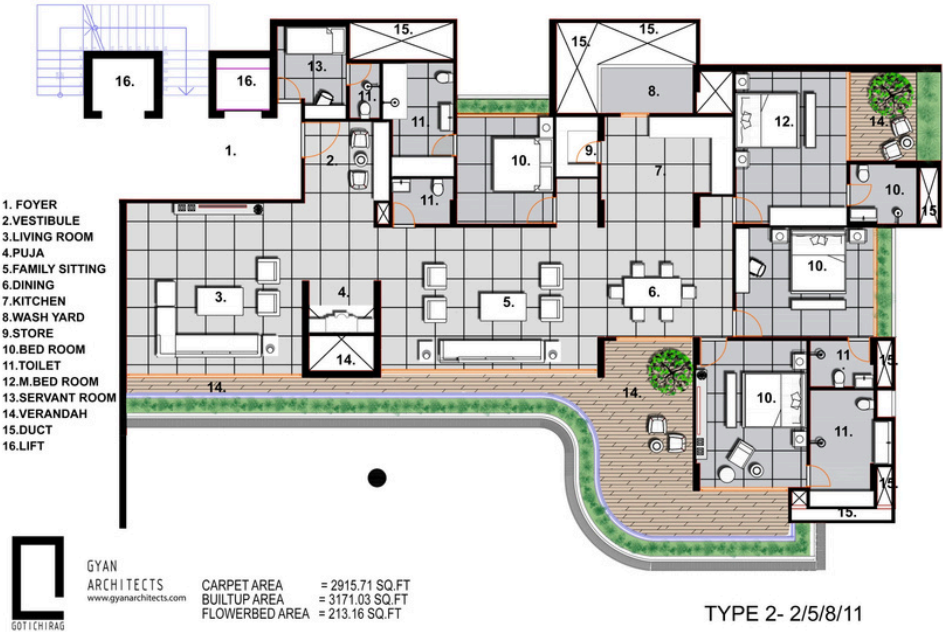
BASEMENT FLOOR
-10' - 0"

1 BUILDING SECTION 1
1/4" = 1'-0"



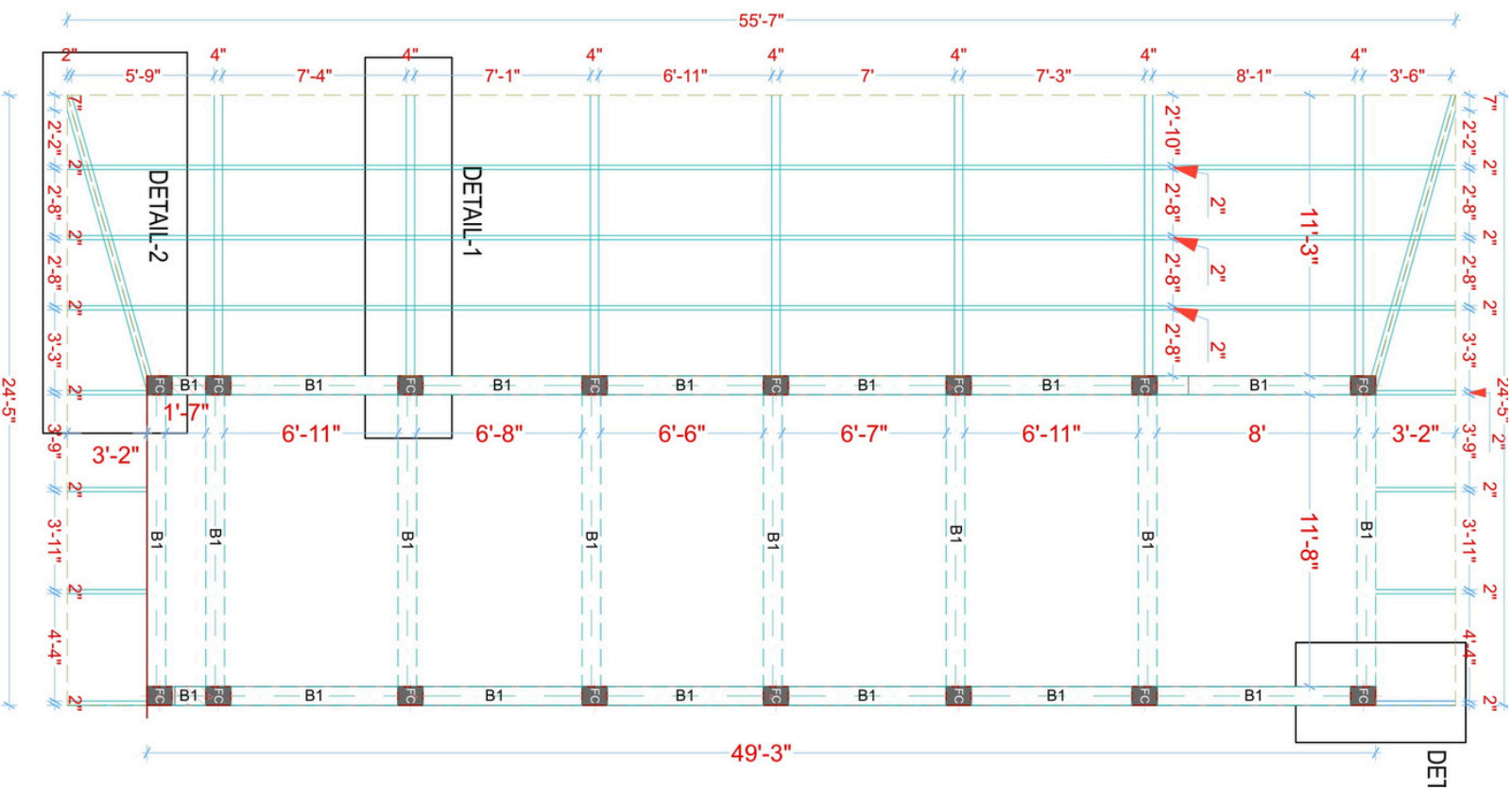
CASA DE COURTYARD- MORBI

I worked on this residential project with the vision of giving every unit an open-to-sky balcony, blending indoor comfort with outdoor living. The fluid façade and deep terraces create privacy, shade, and visual rhythm, while the surrounding landscape and water features enhance the sense of calm and connection to nature.



DREAM CITY- SURAT

I designed the entrance for Dream City, creating a bold and welcoming gateway that reflects the township’s modern vision. With clean architectural lines, integrated landscaping, and strategic lighting, the design balances aesthetics, functionality, and security—setting the tone for the community beyond.



GYAN ARCHITECTS

www.gyanarchitects.com

A3.Gopinath soc., sarthana jakatnaka opp. D-mart,
kanrej varachha road
gyanarchitects@gmail.com
CONTACT: 6351242613

ARCHITECT

AR. CHIRAG GOTTI

STRUCTURE

ER. HIMANSHU ITALIA

PROPOSED PROJECT FOR

JAYSHUKH BHAI

#Client Full Address

Notes:

1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
2. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE SPECIFIED.
3. ALL DIMENSIONS ARE TO BE CHECKED FOR SITE.
4. ALL DIMENSIONS ARE TO BE CHECKED FOR SITE.
5. ALL DIMENSIONS ARE TO BE CHECKED FOR SITE.

Revision History

| RevID | CHD | Change Name | Date |
|-------|-----|-------------|----------|
| 01 | 001 | Change | 04/12/18 |

Drawing Name

GB & PB LAYOUT

Drawn by

KJB

Date

04/12/18

Checked by

KDR

Sign

PROJECT CODE

GA18-162

Drawing Scale

NOT TO SCALE

Layout ID

BM

Sheet no.

A2-03

3"X3" DUCT FOR CONCEAL LIGHT

1/2" SLEEVE FOR ELECTRIC (H:19')

CSTOP(4")/CSBOT.(4.5")

3"X2' CEILING DOOR FOR SERVICE

12

CSTOP(4")/CSBOT.(4.5")

1/2" SLEEVE FOR ELECTRIC (H:19')

CSTOP(4")/CSBOT.(4.5")

9" Thk. R.C.C. Pardi

13

13

BEAM LAYOUT

Revision History

| RevID | CHD | Change Name | Date |
|-------|-----|-------------|----------|
| 01 | 001 | Change | 04/12/18 |

Drawing Name

SECOND LEVEL BEAM

Drawn by

KJB

Date

27/10/18

Checked by

GCL

Sign

PROJECT CODE

GA18-162

Drawing scale

NOT TO SCALE

Layout ID

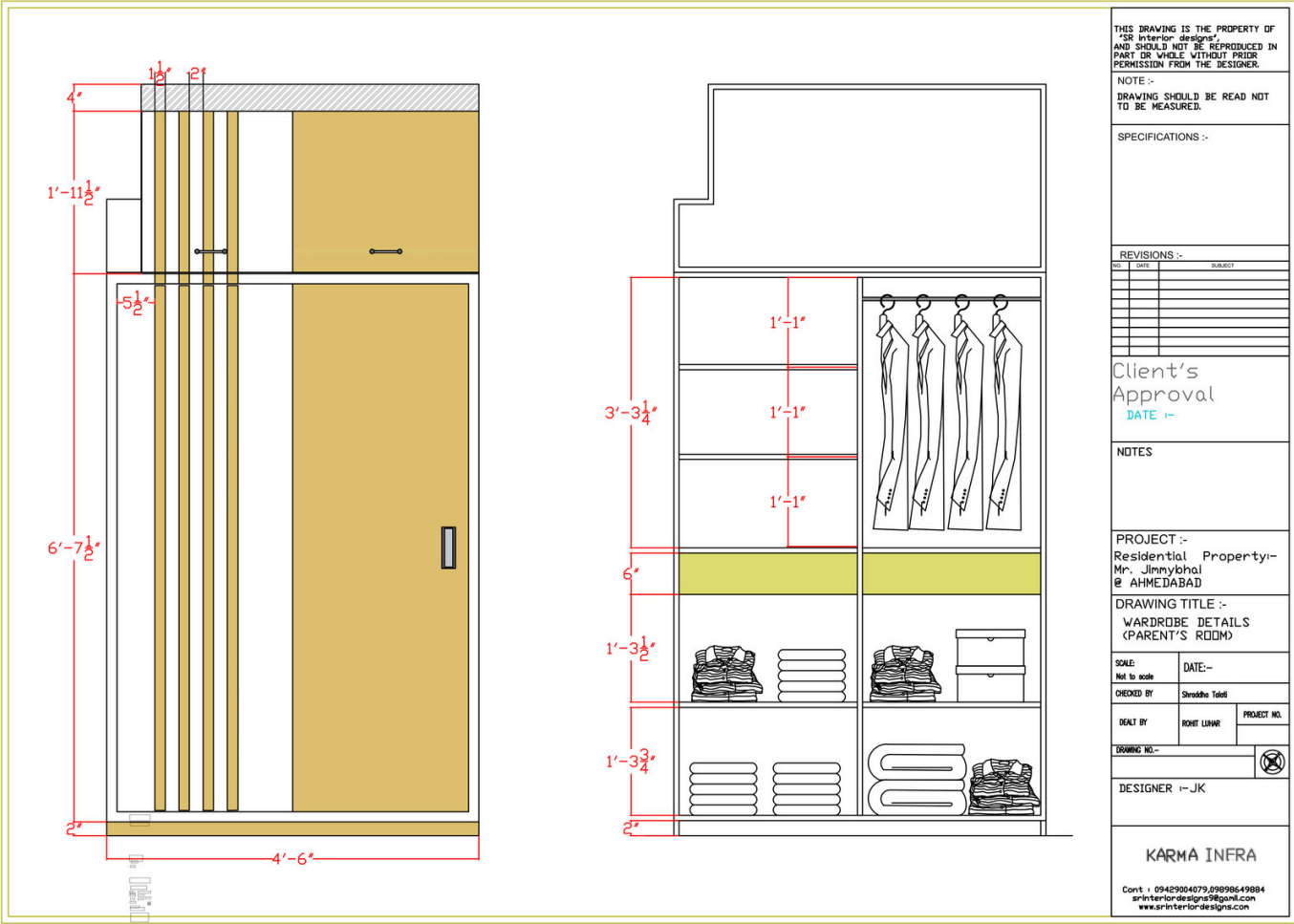
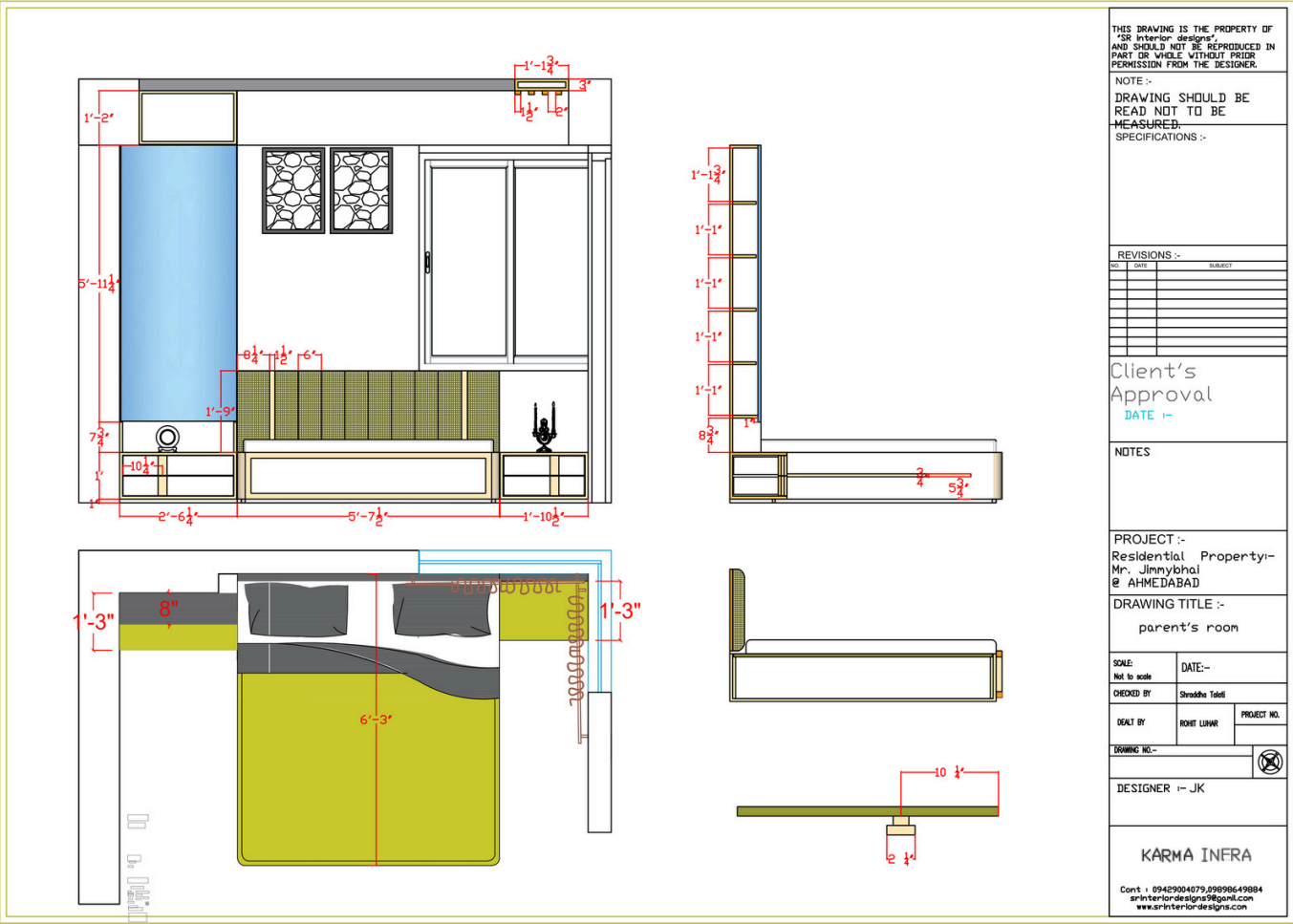
BM

Sheet no.

A2-06

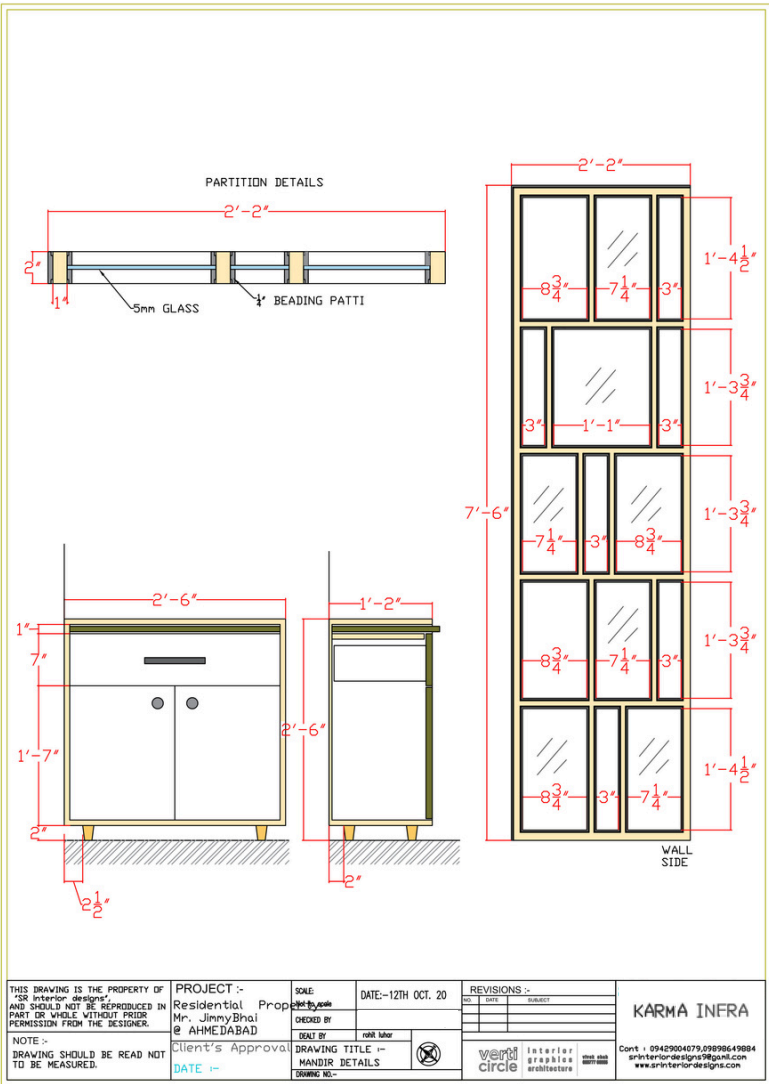
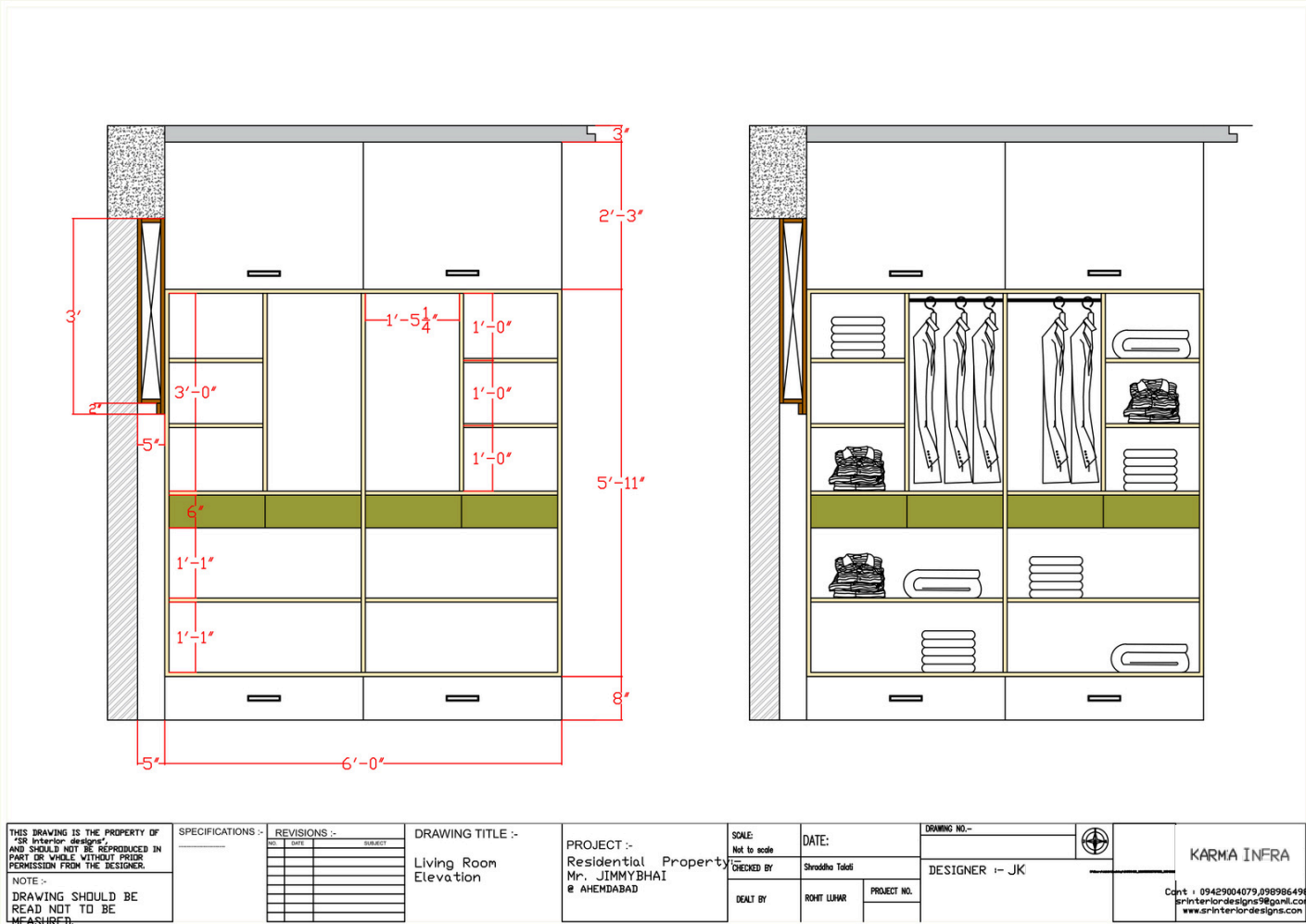
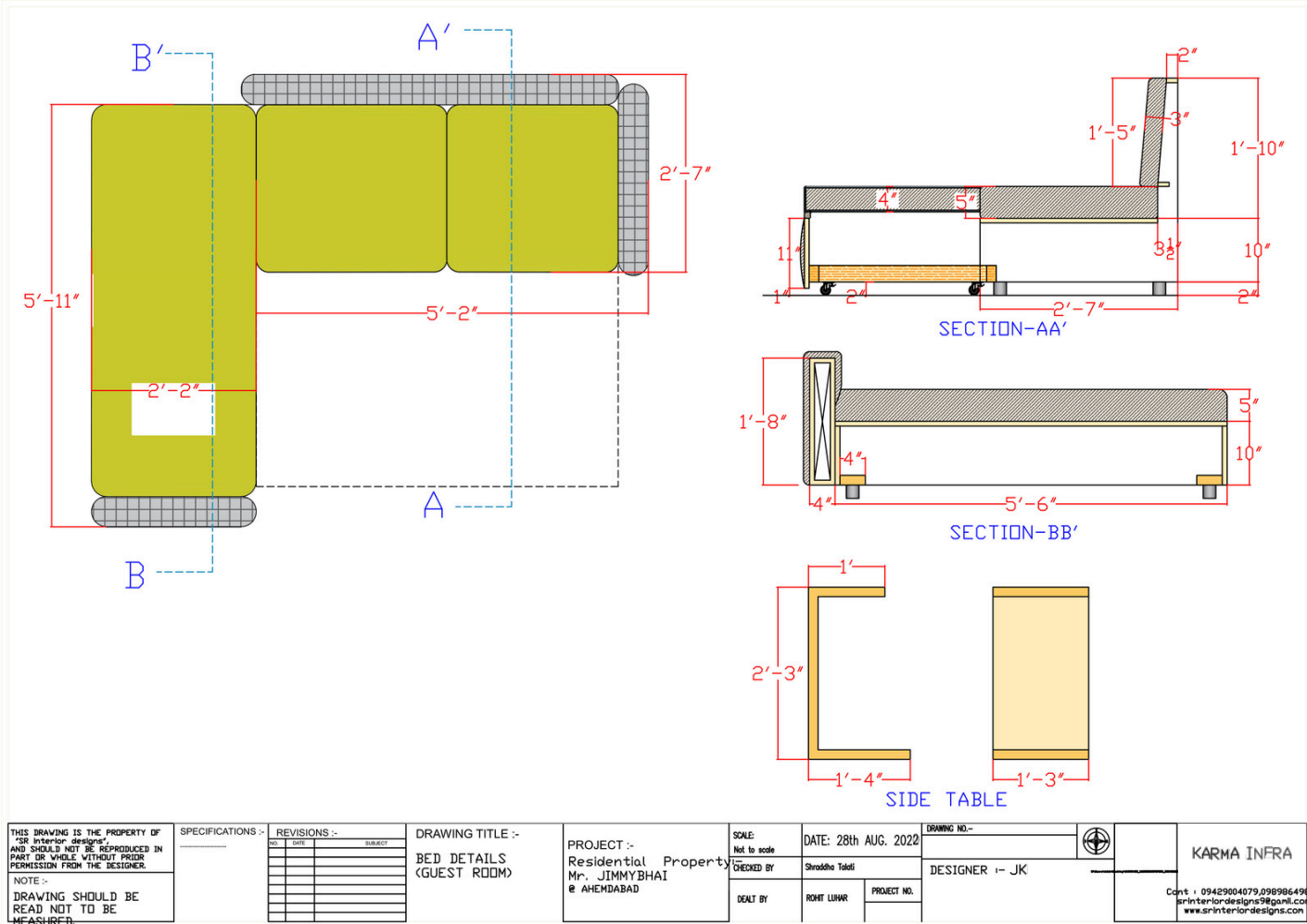
MR JIMMY'S HOUSE

I worked on this interior design project, focusing on detailed space planning and execution for a residential unit. The design integrates customized furniture, efficient storage solutions, and modern aesthetics tailored for both guest and parent bedrooms. Each layout was supported by precise working drawings and 3D renders to ensure accuracy in execution and client satisfaction.



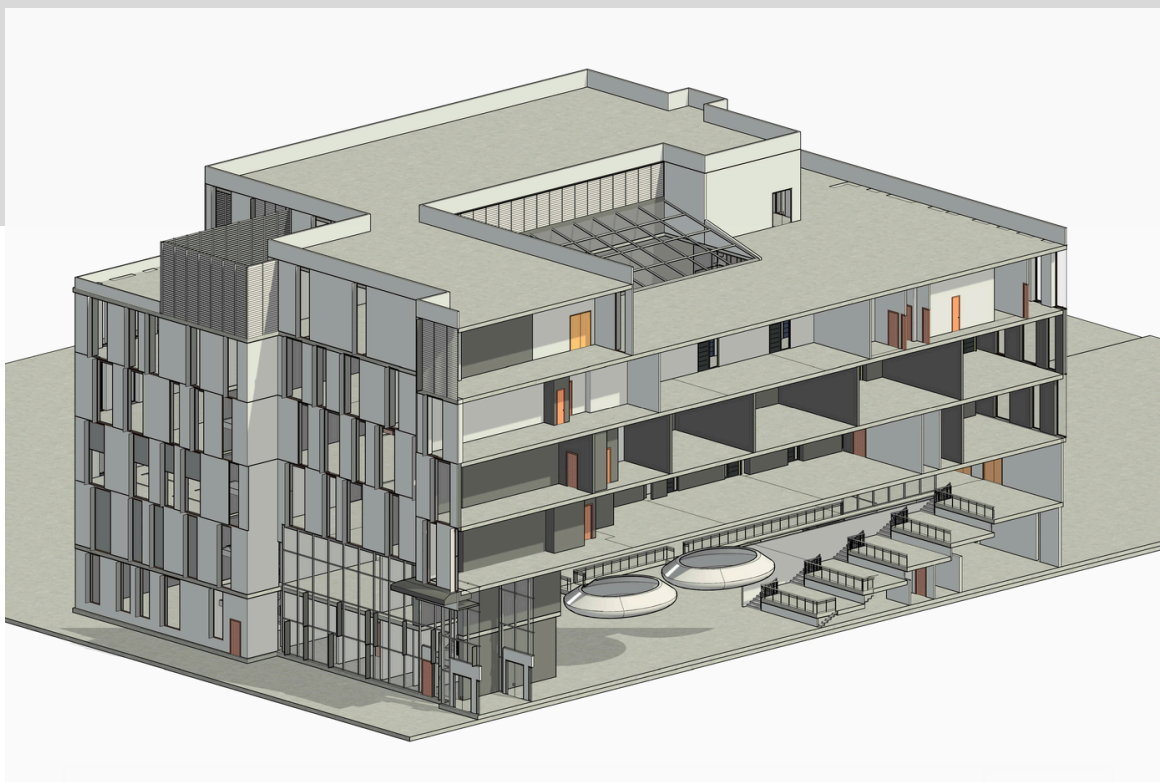
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GUEST ROOM

ALGONQUIN COLLEGE ACCE BUILDING REMODELING WITH BIM INTEGRATION



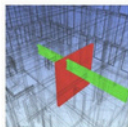
CLASH DETECTION NAVISWORKS

Clash Report

Report Batch

Arch Walls VS Str Framing Clash

| | |
|-----------|--------|
| Tolerance | 0.001m |
| Total | 1116 |
| New | 1116 |
| Active | 0 |
| Reviewed | 0 |
| Approved | 0 |
| Resolved | 0 |
| Type | Hard |
| Status | OK |



| | |
|--------------|---------------------------|
| Name | Clash1 |
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| Description | Hard |
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| Clash Point | 76.150m, -65.182m, 8.136m |
| Date Created | 2025/4/10 04:14 |

Item 1

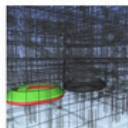
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|------------|---------------------------|
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| Item Name | Aluminium |
| Item Type | Solid |

Clash Report

Report Batch

PODS Arch VS Str Clash

| | |
|-----------|--------|
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| Active | 0 |
| Reviewed | 0 |
| Approved | 0 |
| Resolved | 0 |
| Type | Hard |
| Status | OK |



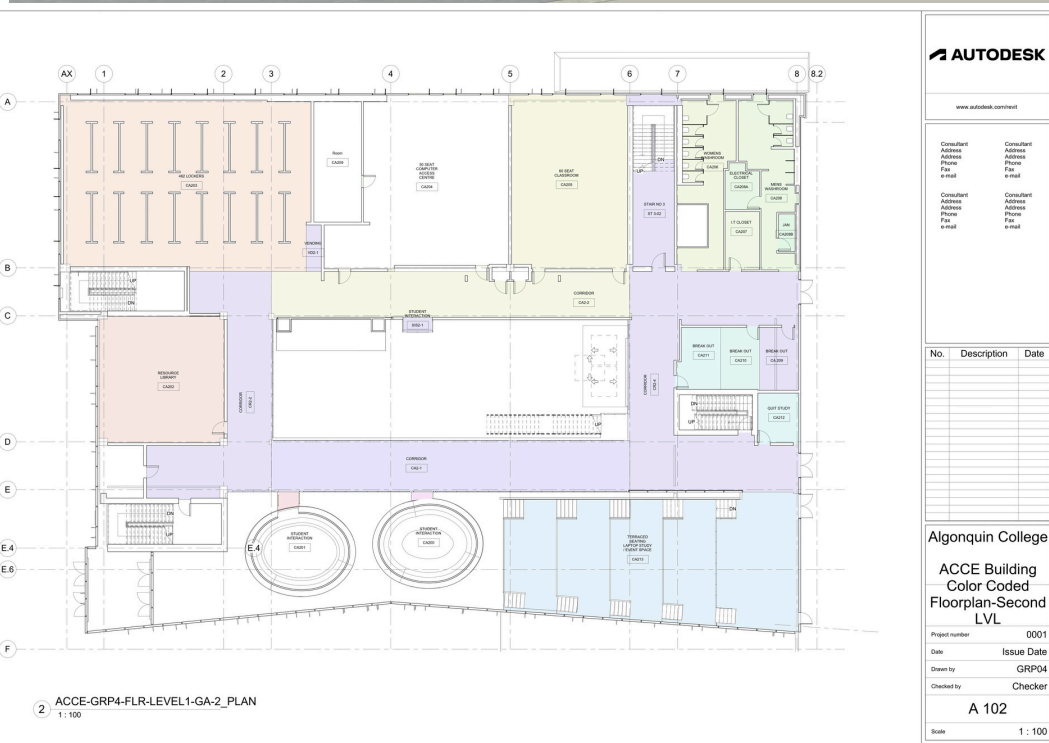
| | |
|--------------|---------------------------|
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| Assigned To | Jay Kh |

Item 1

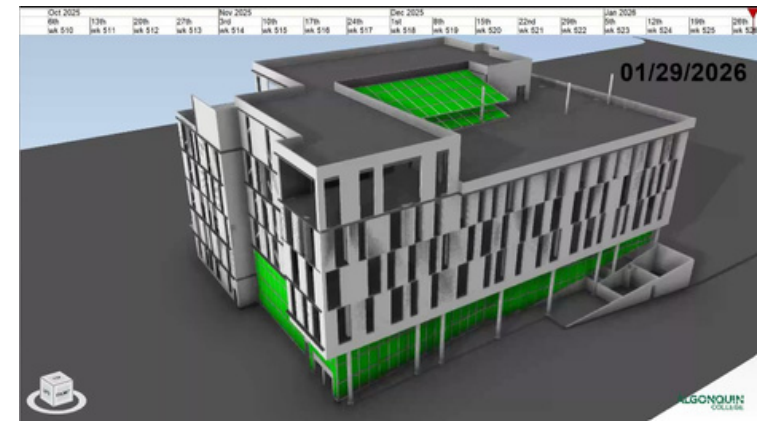
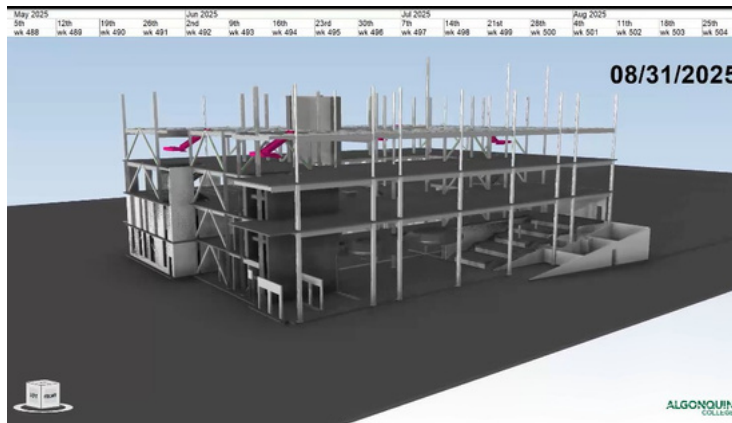
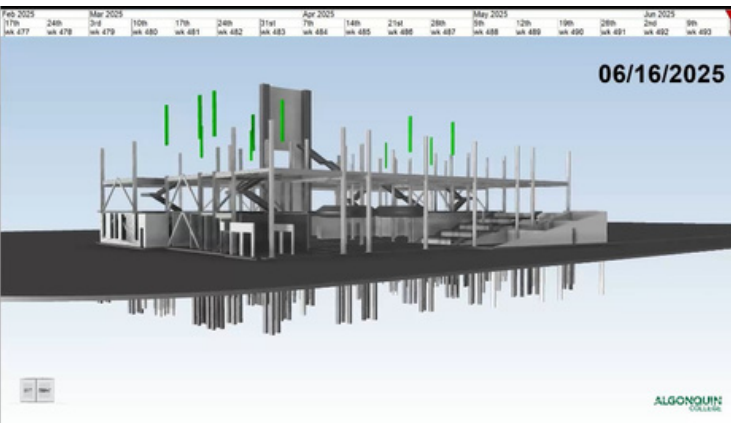
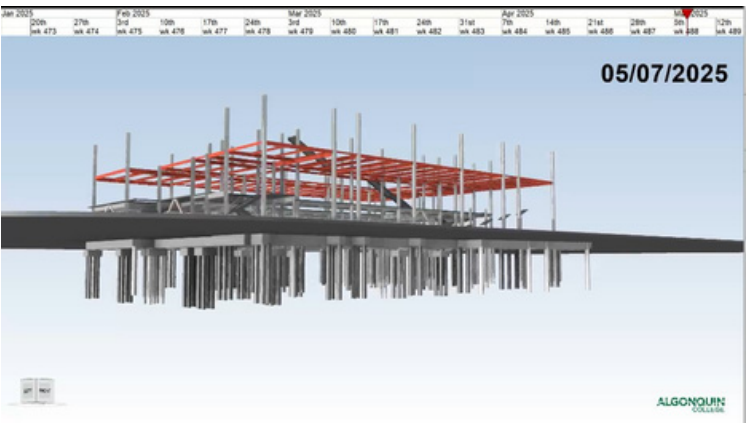
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| Item Type | Solid |

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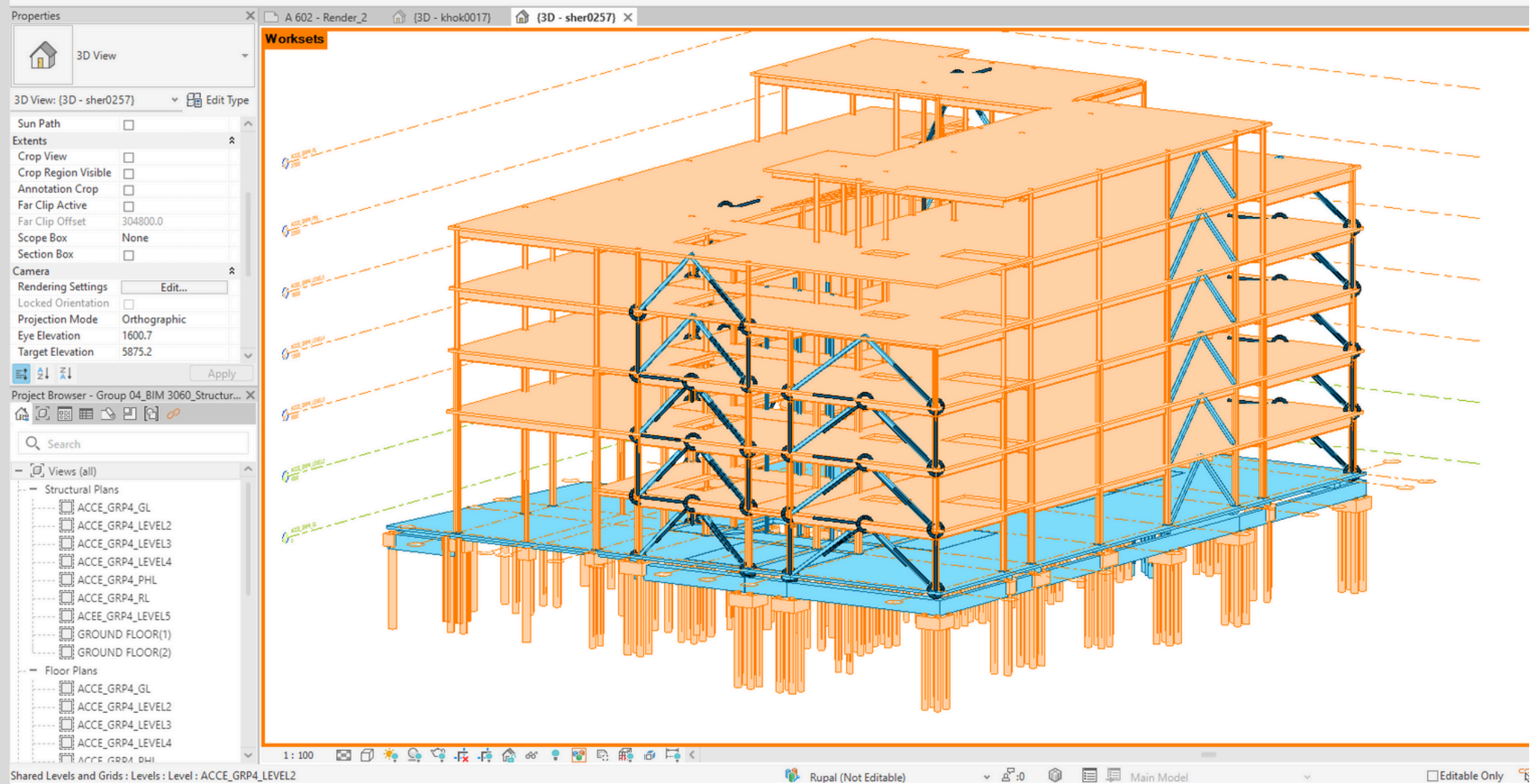
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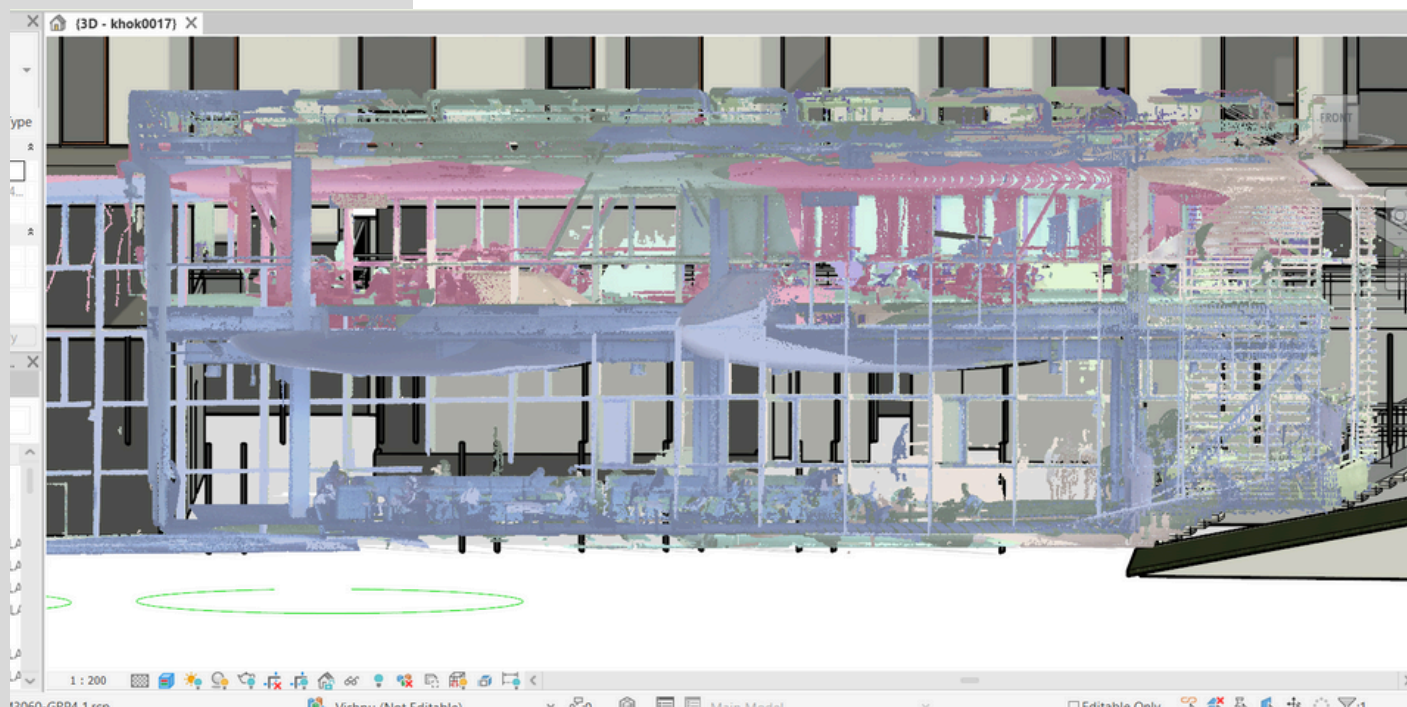
SYNCHRO 4D PROCESS



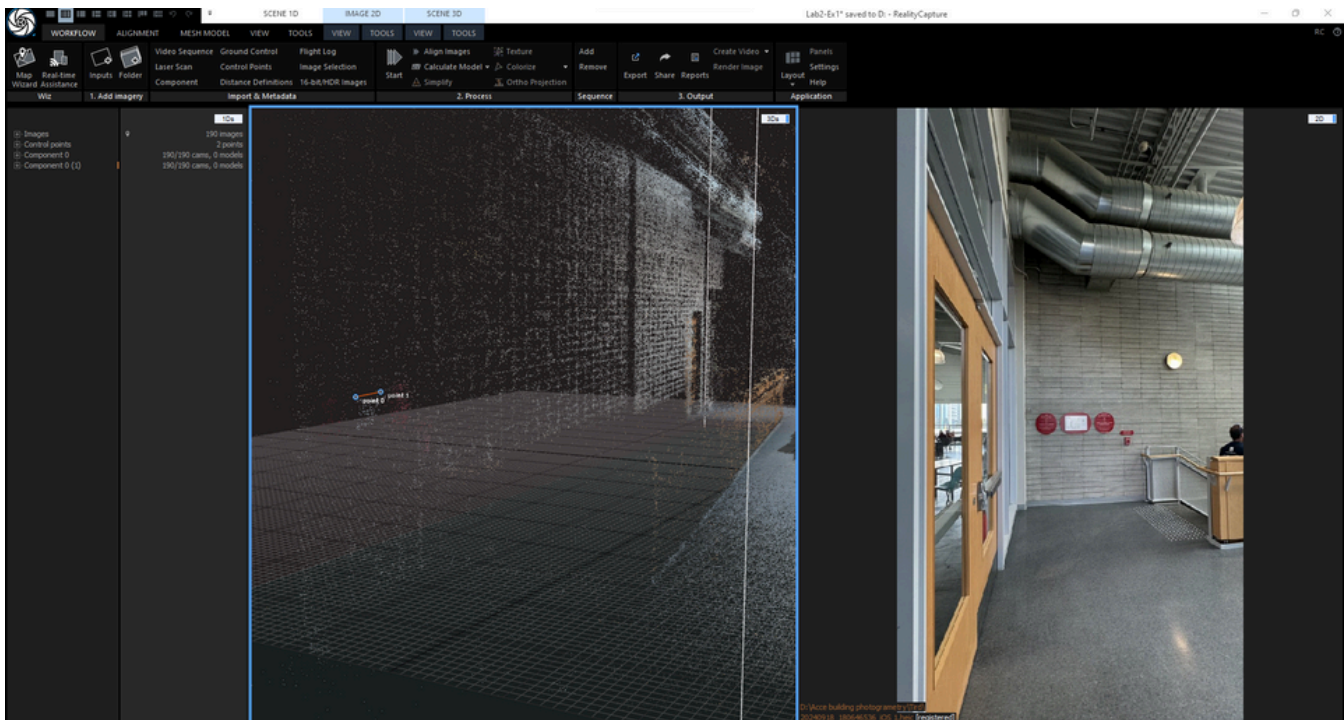
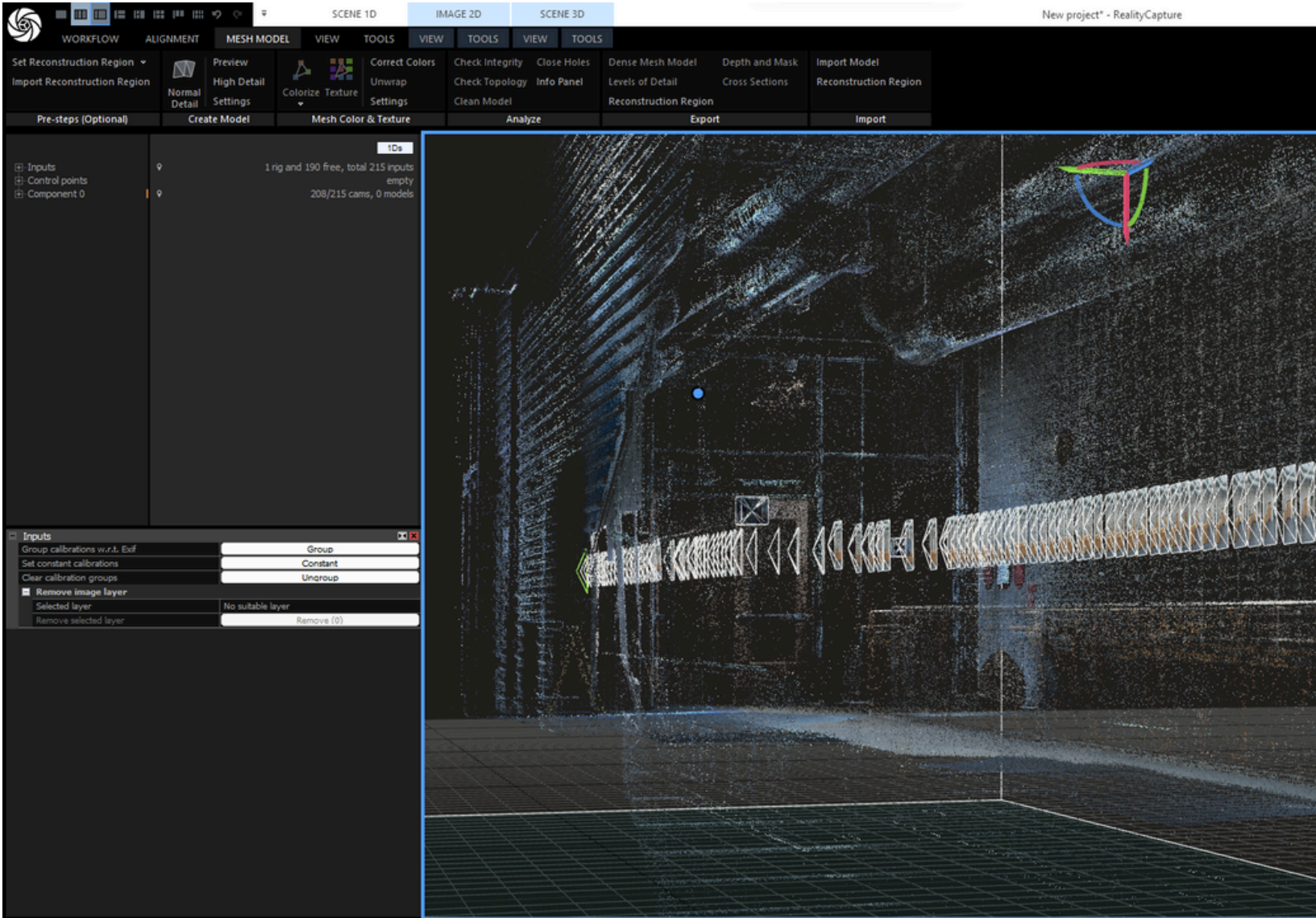
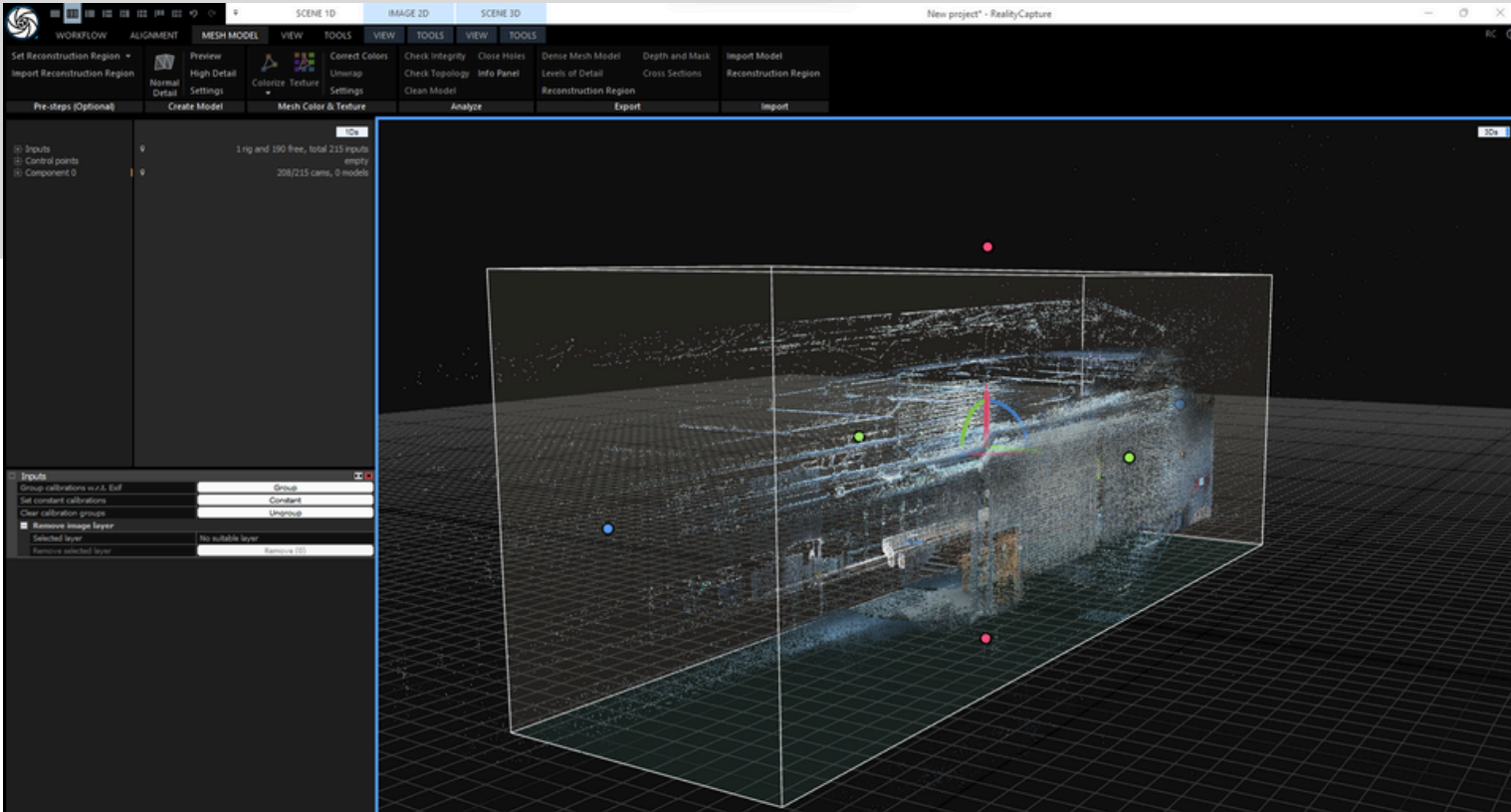
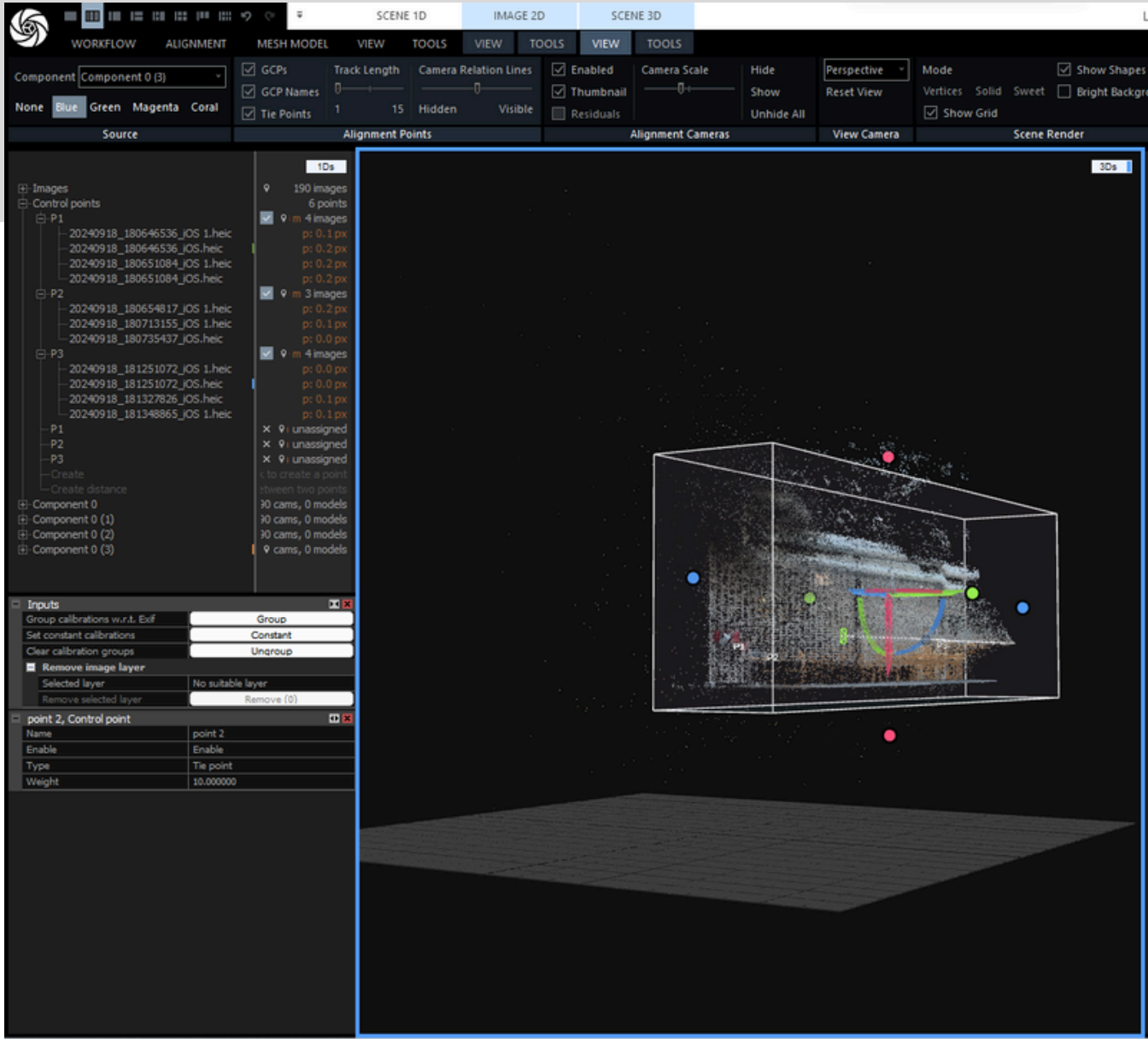
STRUCTURE MODELING AS-BUILT



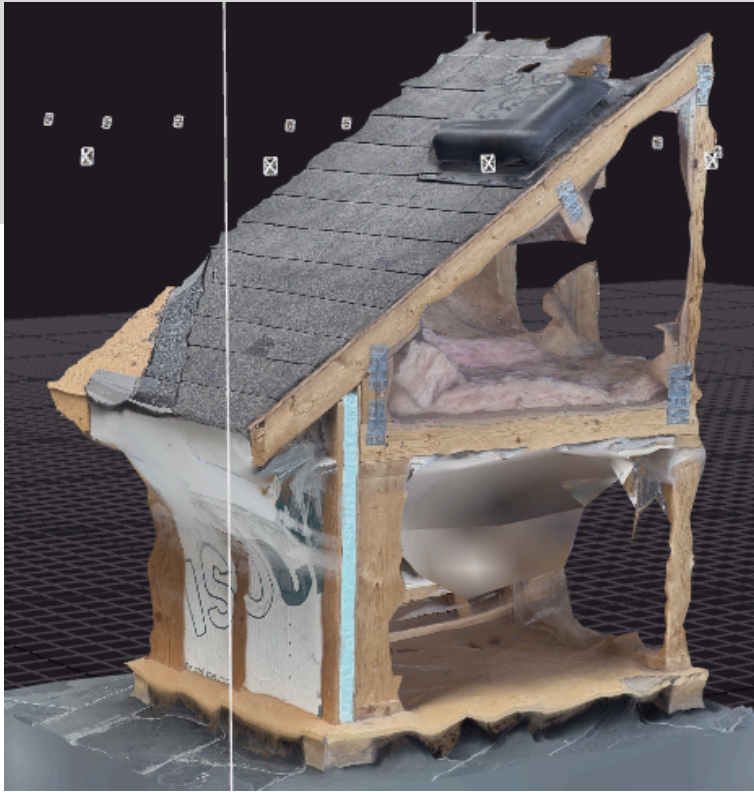
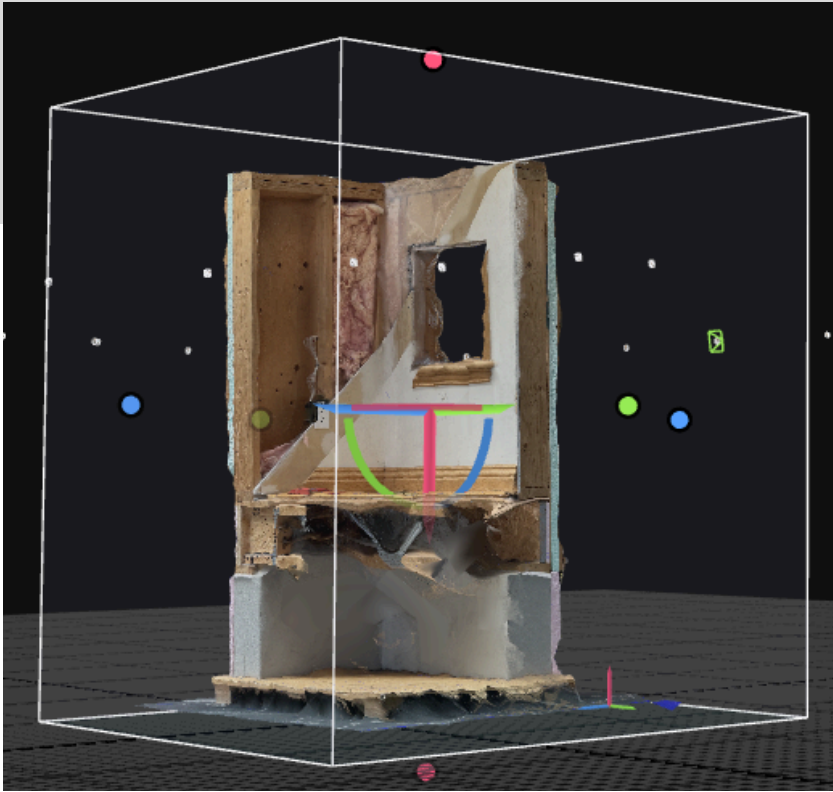
AS-BUILT MODEL DEVELOPMENT WITH LASER SCANNING



LASER SCANNING WITH REALITY CAPTURE



PHOTOGRAMMETRY WORK (REALITY CAPTURE)

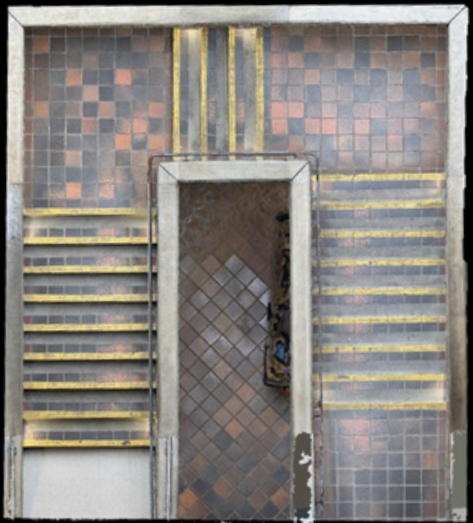


BIM2001_010 Remote Sensing Technologies for BIM
Professor_James Hayes
Date _16 Oct 2024

PHOTOGRAMMETRY OF STAIRCASE
PART 01



CONTROL POINTS FOR DISTANCE (1.5M)



TOP VIEW OF THE STAIRCASE



3D VIEW OF THE STAIRCASE



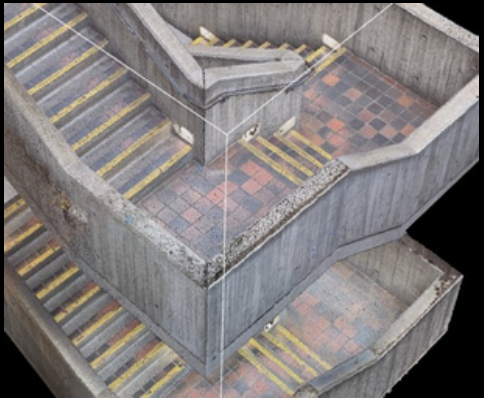
RIGHTSIDE VIEW



FRONT VIEW



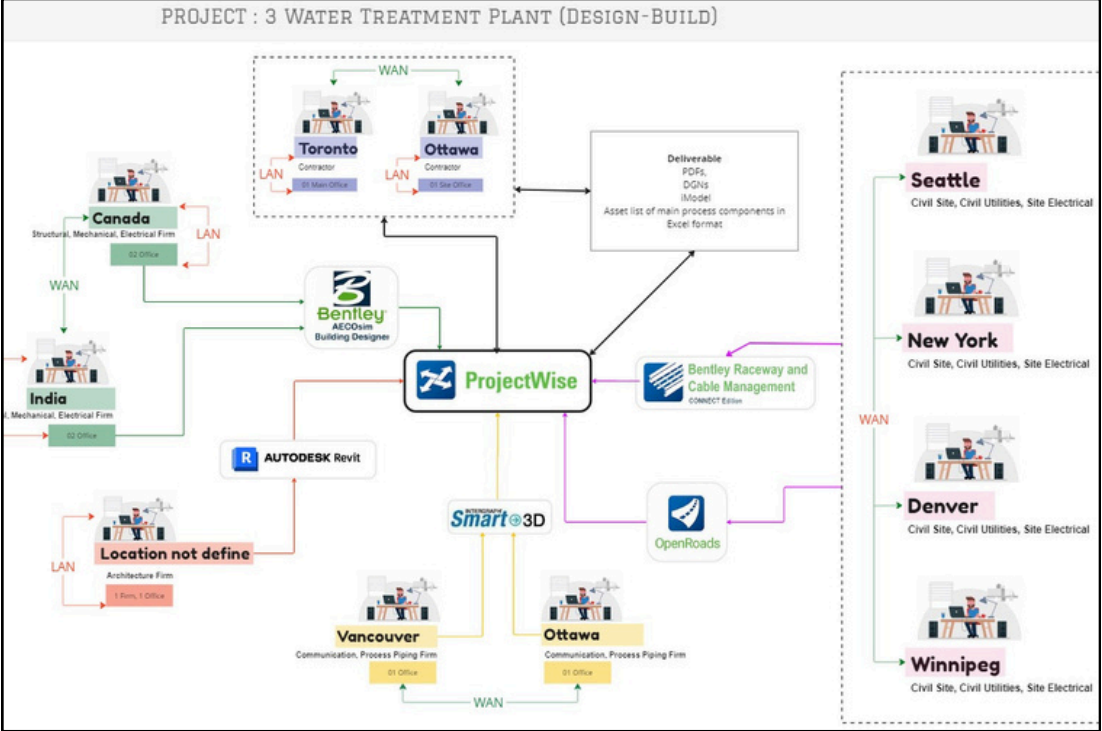
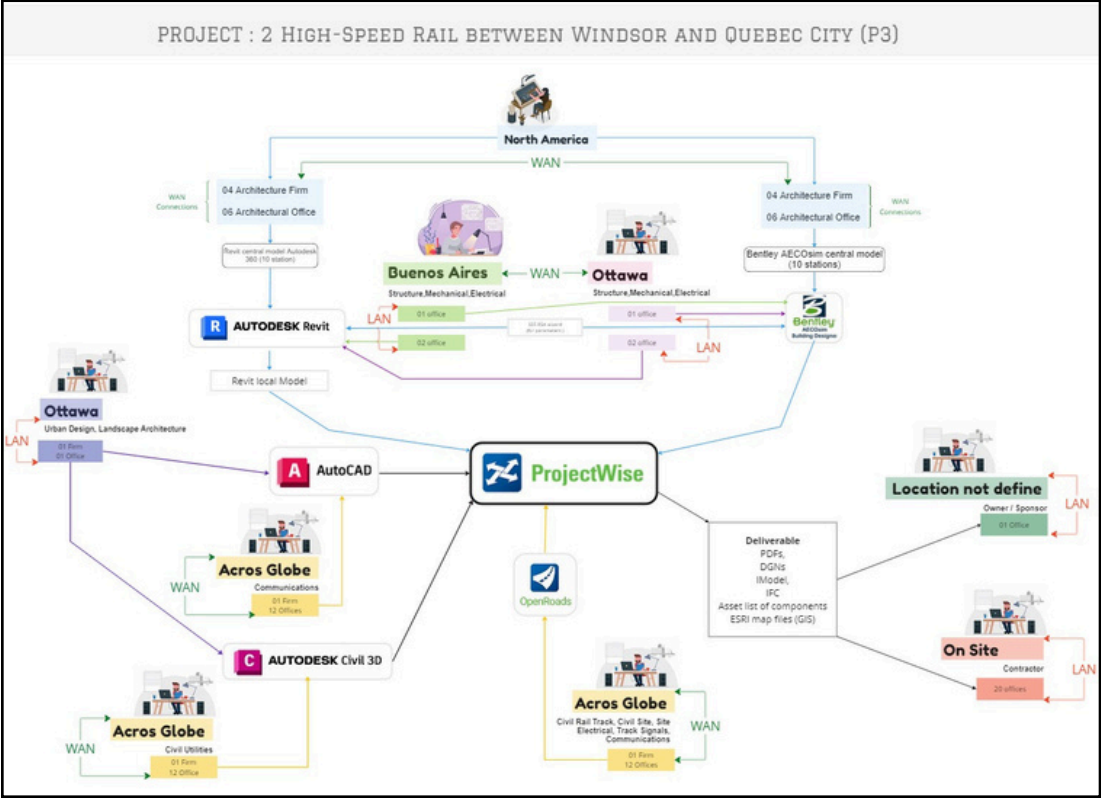
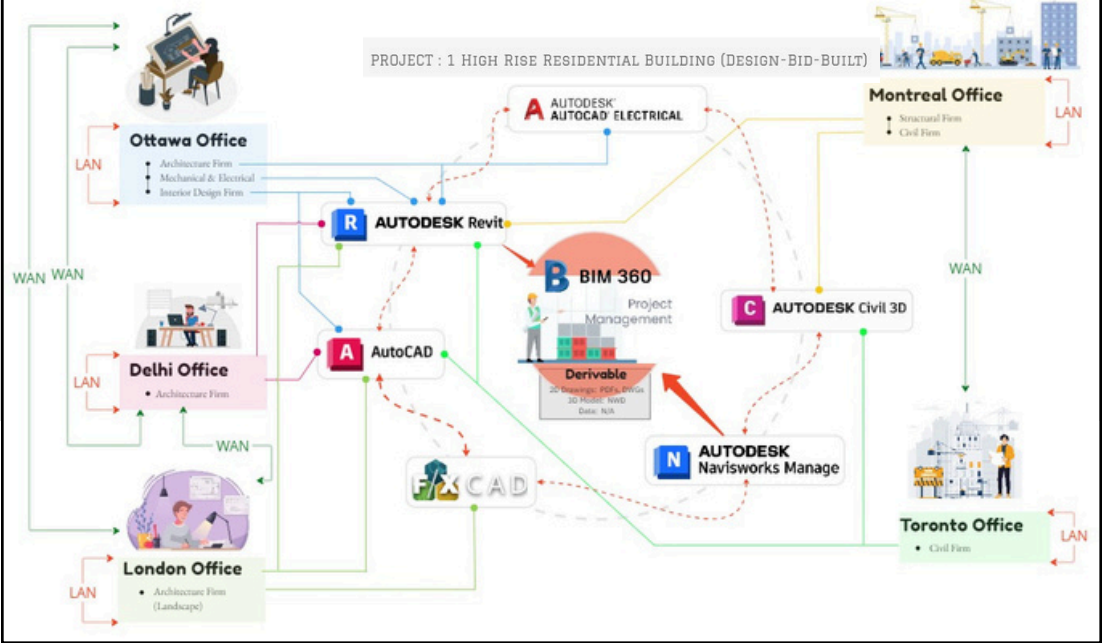
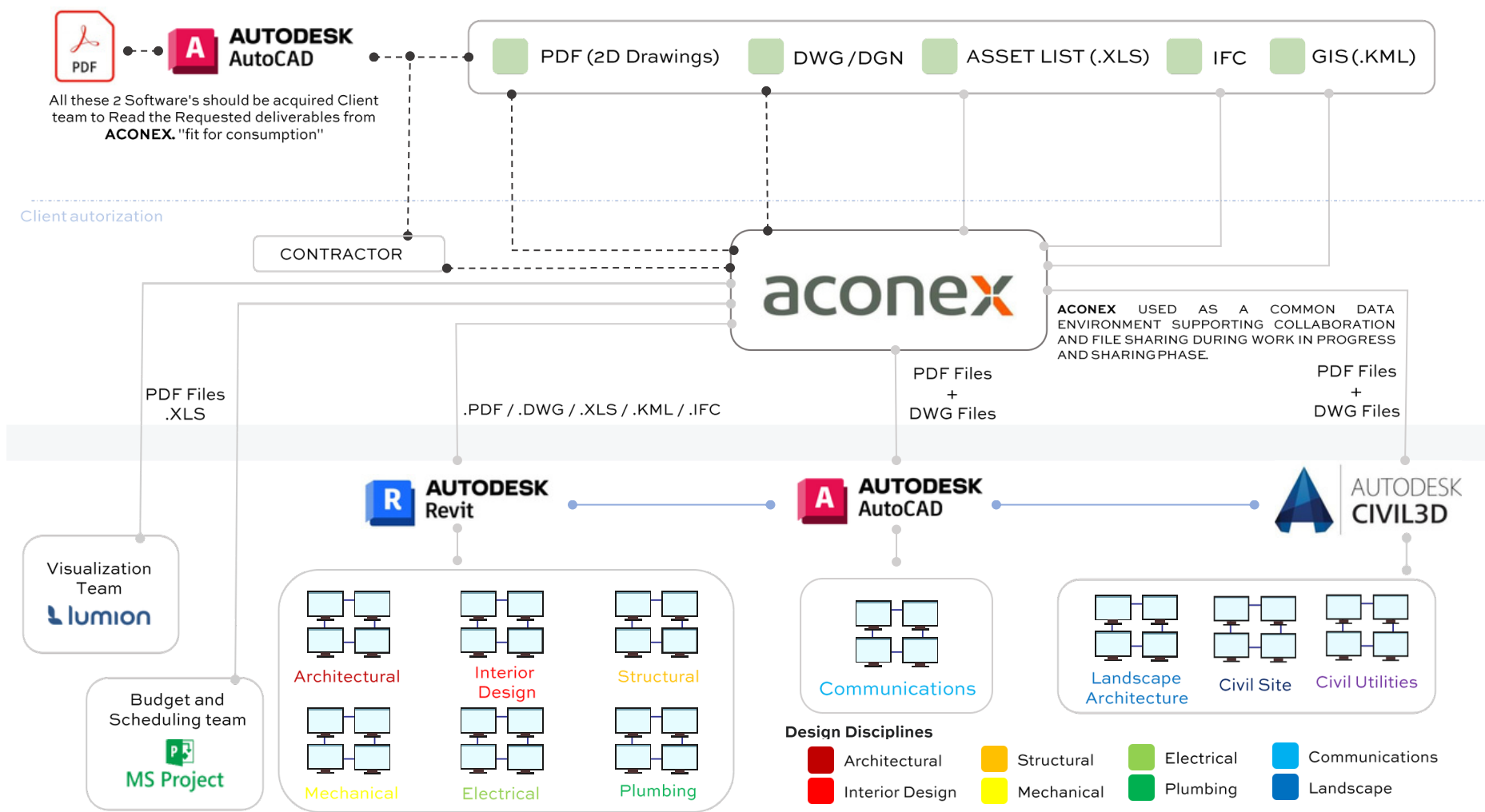
VIEW FROM LEVEL 02



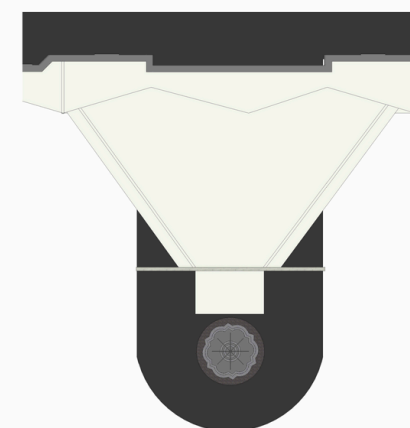
VIEW OF THE STAIRCASE LANDING

BIM-BASED WORKFLOW FOR GLOBAL PROJECT COORDINATION

This project demonstrates a collaborative planning and design process involving multiple disciplines and global teams. Using platforms like Aconex, ProjectWise, Revit, and AutoCAD, all stakeholders share data and coordinate efficiently across architecture, engineering, and construction phases to ensure seamless project delivery.



This hotel renovation project was developed using BIM 360, enabling real-time collaboration on a shared Revit model. Our team redesigned the façade, added a new entrance, and coordinated architectural and structural elements efficiently. The final model included detailed 3D views and site layout, demonstrating the benefits of cloud-based BIM in renovation projects.



CONSTRUCTION DELIVERY APPROACHES

I researched different project delivery methods by studying real-world buildings, focusing on Construction Management at-Risk and Design-Bid-Build. The study compared how each method impacts design, sustainability, and stakeholder roles, helping me understand how delivery approaches influence project outcomes.

CONSTRUCTION MANAGEMENT AT-RISK

Project Location : Virginia Beach, Virginia, United States
Building Type : Office/ Environmental Education Center
Project Completion Year : May 5, 2015
Budget : \$22 million

CONNECTION TO HISTORY



The Center's long single story form references regional Powhatan Longhouse.

Even though there were no existing buildings or structures at the site, the project's biophilic goals were centered on respecting the cultural heritage of the region and the historical significance of the location. The design seeks to strengthen its bond with the natural surroundings by celebrating its distinctive position and its links to the area's historical and cultural traditions. This site, which is the largest privately owned undeveloped land in Virginia Beach, is genuinely unparalleled

BROCK ENVIRONMENTAL CENTER

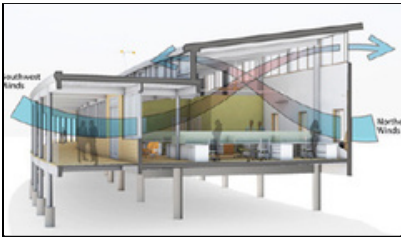


STAKE HOLDING PATTERN

100 %

**CHESAPEAKE BAY FOUNDATION
AMERICAN NON-PROFIT ORGANIZATION**

CLIMATIC ASPECT



AIR VENTILATION

The Brock Center wanted to show that being environmentally friendly and saving energy doesn't reduce productivity. The Chesapeake Bay Foundation aimed to create a better and more collaborative workspace for their 25 employees who previously worked in a traditional office. Both staff and tenants wanted to work together, so they asked a design team to make the interior space more efficient, healthy, and connected. They wanted everyone to have natural light, pleasant views, and operable windows. The design includes two divisions separated by glass windows to provide air ventilation and natural sunlight to both areas.

LIGHT CONTROL

DESIGN BID-BUILD



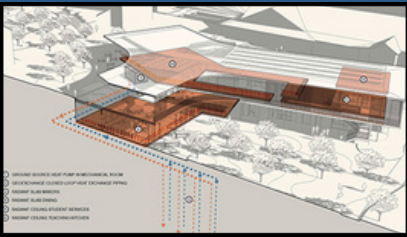
SONOMA ACADEMY'S JANET DURGIN GUILD & COMMONS

Project Location : Santa Rosa, California, US.
Building Type : Academic
Project Completion Year : February 2018.
Budget : \$17 million

PROJECT SUMMARY

Sonoma Academy in Northern California has built a new 19,500 square foot building called the Janet Durgin Guild and Commons. This building focuses on being environmentally friendly and fair to people. It looks like a "Y" and takes ideas from nature. Inside, there is a special garden area and a rooftop that uses rainwater in a clever way. They made it using materials from the nearby area and also things that were used before. They want this building to get three important certificates that show how green and healthy it is: LEED v3 Platinum, Living Building Challenge, and WELL Building Standard Education Pilot. This is pretty special in Sonoma County.

SUSTAINABLE ASPECT



HEATING AND COOLING SYSTEMS

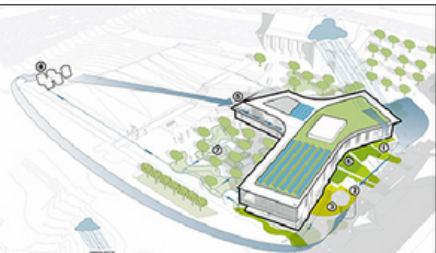
Taking advantage of the mild climate, we use natural ventilation and ceiling fans during the changing seasons to provide users with control over their environment, passive cooling, and a high degree of customization. During extreme weather conditions, we use geothermal exchange and radiant systems to lower energy and water usage. Furthermore, our mechanical system recycles waste heat from the commercial kitchen's ventilation and refrigeration systems for space heating and producing hot water.



STAKEHOLDING

SONOMA ACADEMY : 100 %

WATER SYSTEM



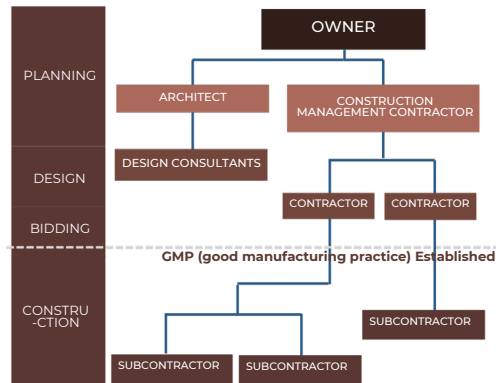
The majority of the building's non-drinkable water needs are satisfied through an 88% contribution from its wastewater system. This system gathers and processes runoff from both the paved surfaces and vegetated roof, enabling efficient recycling of this water

CLIMATE ASPECT



The building is designed to work well with the weather. It has automatic sunshades on the sunny side, movable wooden screens on the other sides, and rain chains for drainage. The design makes the place look beautiful, keeps students safe and healthy, and helps the local community

PROJECT DELIVERY METHOD DETAIL



In this way of doing things, contractors are usually picked based on their skills, but their fees might also be part of the decision. The contractor can be chosen before, at the same time as, or after the architect is picked. They work closely with the owner and architect to make the project as good as possible while staying within the budget. People who support this method think it helps owners get the best value for their money and lowers their risk. With the CM@Risk method, the general contractor manages subcontractor contracts and sticks to a maximum price that's set after the construction plans are finished.

OWNER RETAINS FLEXIBILITY FOR PRICING AND DESIGN AS THE PROJECT PROGRESSES.

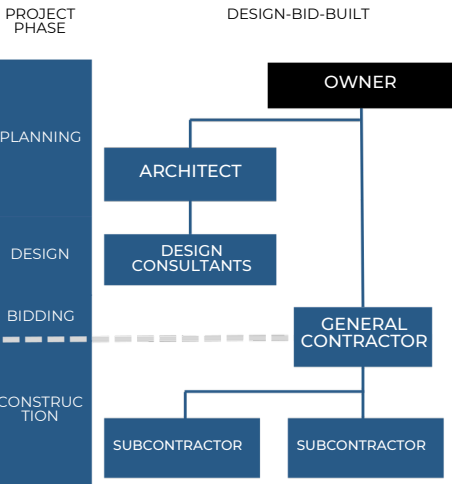
OWNER RETAINS DIRECT CONTROL OVER THE DESIGN.

CONTRACTOR AND KEY SUBCONTRACTORS ARE INVOLVED EARLY IN THE DESIGN PROCESS.



RISK FOR COMMUNICATION ERRORS

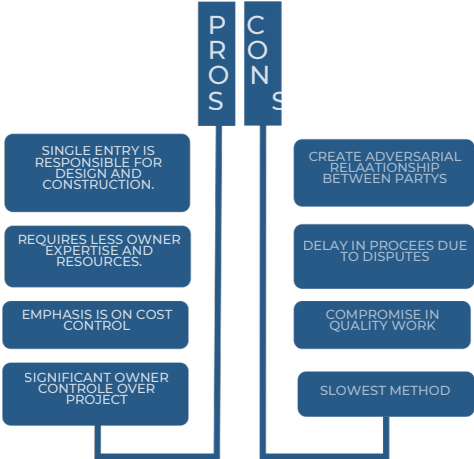
POTENTIAL FOR CONTRACT INCONSISTENCIES



Design-Bid-Build (DBB) is the usual way to build things, where first they plan, then they hire a builder, and only after planning is done, they start building, one step at a time

In **design** phase, the owner hires an architect to create construction plans based on their vision. These plans are used for contractor bids.

In **bid**, Contractors check the plans, consult with specialists, and estimate costs. The owner can then choose a contractor or make changes to the project.



DESIGN BUILD

Delta Electronics (Americas) HQ, a 178,000 sq ft marvel in Fremont, CA's tech hub, achieved LEED Platinum certification after its 2015 completion. Sustainability is key, with a 616kW PV system supplying 70% of energy needs and plans for net-zero energy by 2019. The facility houses offices, labs, a showroom, and more. Delta's mission of energy efficiency is evident throughout the building, featuring solar inverters, rainwater harvesting, and other energy-saving tech. The design blends with the surroundings, using natural elements like boulders from the American River. Inside, it encourages collaboration and productivity with low- walled cubicles and open-space atriums.

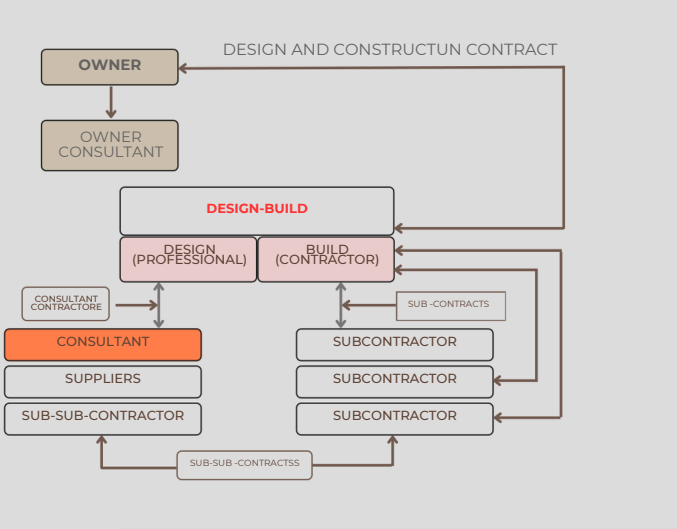
Project Location : California, United States
Building Type : Office
Project Completion : September 21, 2015
Budget : \$56 to 60 million



PROJECT DELIVERY METHOD DETAIL

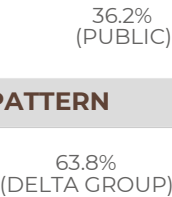
Design-build is a project approach where one team handles both design and construction under a single contract, streamlining the process from start to finish, and it's widely used for various projects with great success such as office buildings, schools, stadiums, transportation etc.

builders communicate effectively to meet the goal. This streamlines projects with a single contract between the owner and the team, saving time and money while promoting collaboration on goals like BIM and LEED certification



| PROS | CONS |
|---------------------------------|--------------------------------|
| FAST DELIVERY | LESS QUALITY CONTROL |
| COST SAVING | LOSS OF CONTROL |
| SINGULAR RESPONSIBILITY | LACK OF DESIGN CLARITY |
| DECREASED ADMINISTRATIVE BURDEN | INADEQUATE PRICING OF MATERIAL |

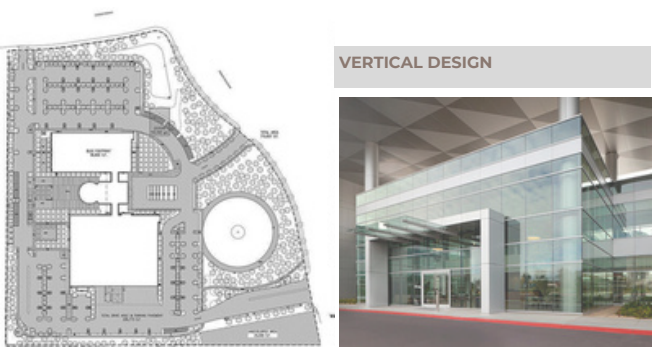
STAKE HOLDING PATTERN



CONNECTION WITH EXISTING SITE CONDITIONS AND CONTEXT



Due to the facility's specific location, the geothermal pumps needed to be reoriented from their traditional vertical setup to a horizontal configuration. This adjustment was necessitated by the proximity of the facility to warm springs, resulting in ground temperatures higher than usual. Consequently, the intended function of the geothermal pumps had to deviate from the conventional systems. Moreover, the presence of active aquifers in the ground compelled the team to shift their water treatment approach from the industry-standard nitrite solution to a phosphate-based one. Both nitrite and phosphate solutions serve the purpose of corrosion inhibition.



INTEGRATED PROJECT DELIVERY
KARUNA HOUSE

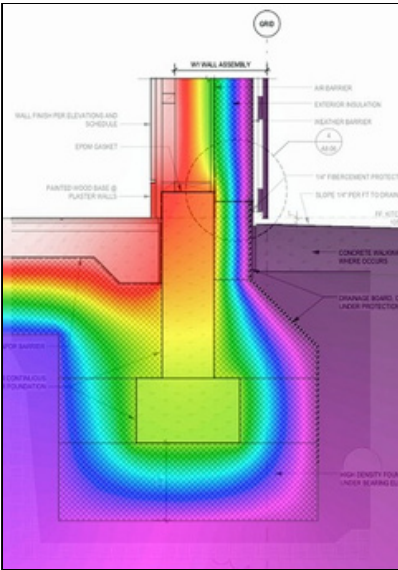
Project Location : Newberg, Oregon, United States
Building Type : Private house
Project Completion Year : June 1, 2013
Budget : \$ 5 to 7 million

PROJECT SUMMARY :

The owner of Karuna House, a strong advocate for climate-friendly policies, built the home as a model of energy efficiency. Karuna House is unique for earning three major green certifications, including Passive House and LEED. It combines smart design with top-notch construction. The house focuses on energy efficiency, sustainability, and human health. The architect, energy consultant, and builder worked together closely from the start, testing ideas and improving the design.

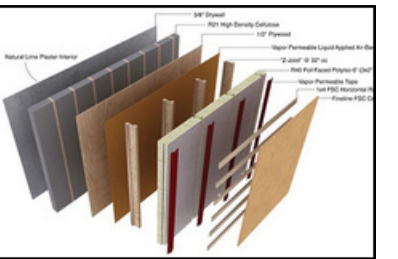
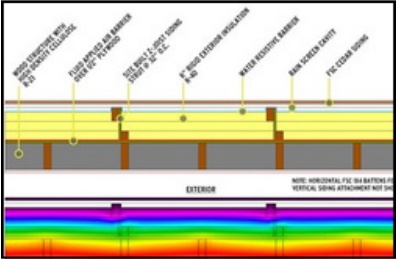


SUSTAINABLE ASPECT



Karuna sustainability House met standards, rigorous including LEED Platinum and Minergie-ECO certification, with a focus on non-toxic materials, installer health, quiet operation, and easy disassembly. comfort, indoor- outdoor connection with fresh air, natural light, and views. Multiple certifications confirm its excellence, including PHIUS+ Passive House for energy performance, LEED Platinum and Qualitatively,it offers sturdiness, and a strong for broder sustainability,Minergie-P-ECO for various criteria. Quantitatively, Karuna House's energy-saving strategies result in it being a net-positive energy building, generating more energy (11,623 kWh) than it consumes (10,782 kWh) annually from a 10 kW solar array.

THERMAL PERFORMANCE OF THE FOUNDATION AND WALL ASSEMBLY



| |
|-----------------------------|
| 100 % PRIVATE OWNERSHIP |
| GRETCHEN (LEU) VON SEGGERN. |
| STAKE HOLDING PATTERN |

PROJECT DELEVRY METHOD DETAIL

