

JESK RESORT

ENBU795-895-896

JESK LTD



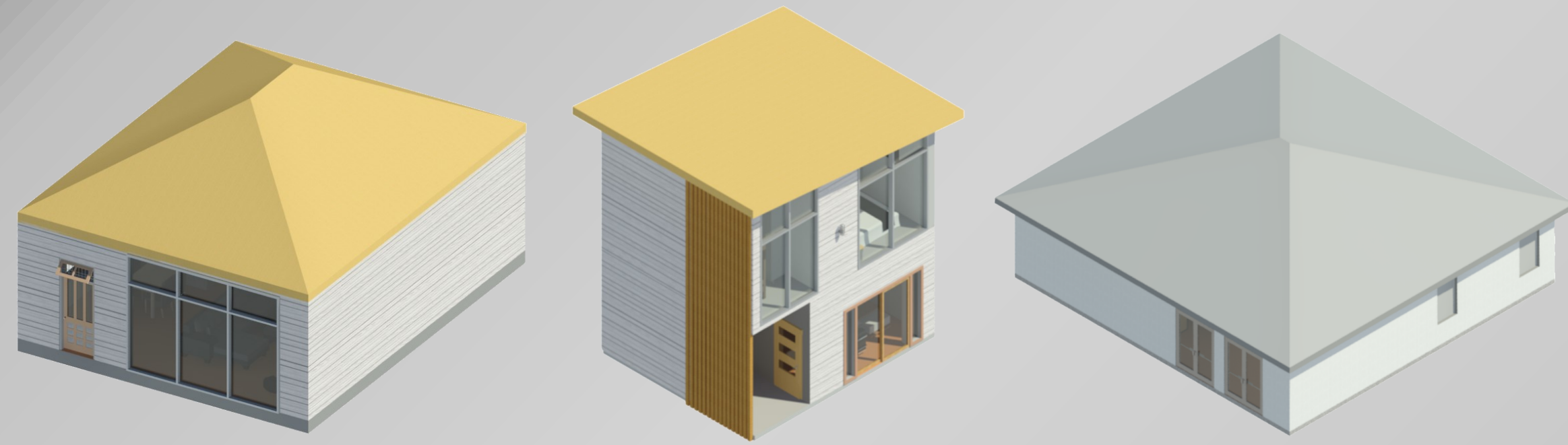
AUT

UNIVERSITY
AUCKLAND, NEW ZEALAND

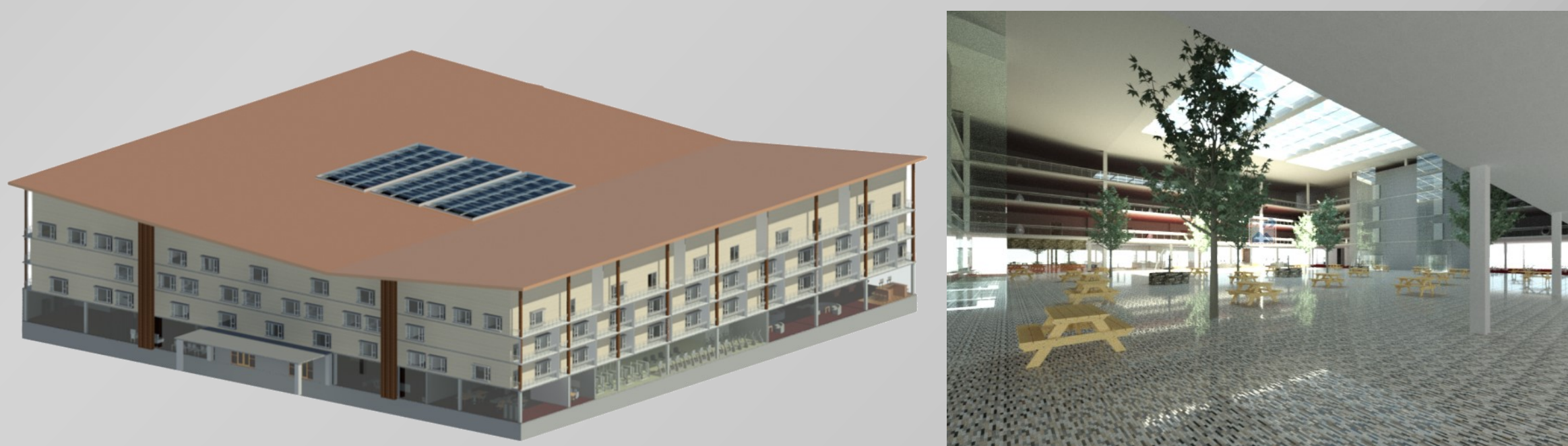
BUILT ENVIRONMENT
ENGINEERING

Kyle Wegner	16954719	Building Engineer
Salim Al-Harhi	16925115	Construction Engineer
Jervin Nabo	16946353	Construction Engineer
Ezekiel Flores	16946488	Construction Engineer

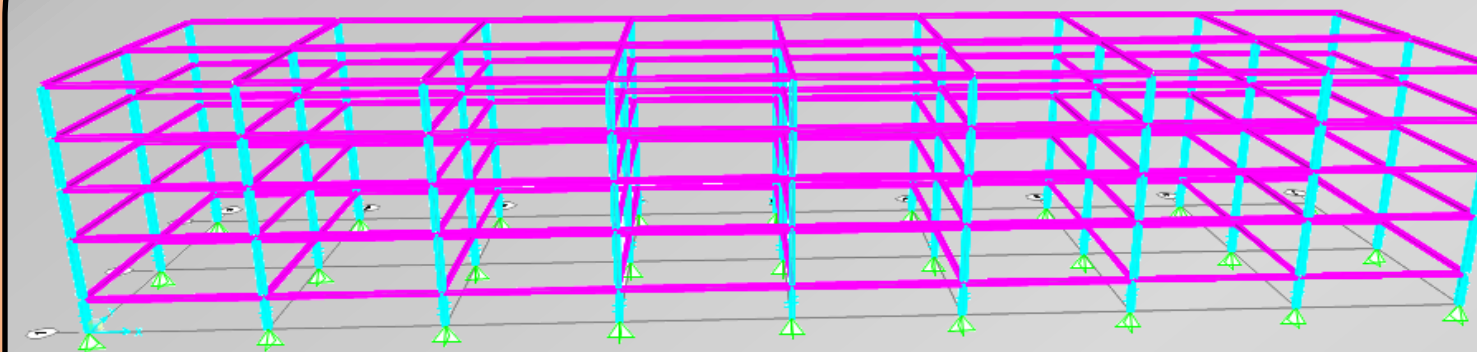
Architectural Design



Revit was used to model the images seen above, we created both the architectural and structural design through Revit. Using Revit we could render the hotel in high resolution and we could design the hotel, Single bedroom chalet, Double bedroom chalet and the amenities building. We also designed a site plan as seen on the poster which illustrates what our site would look like, this includes trees being moved on site, new roads being built, swimming pools, basketball courts and tennis courts.

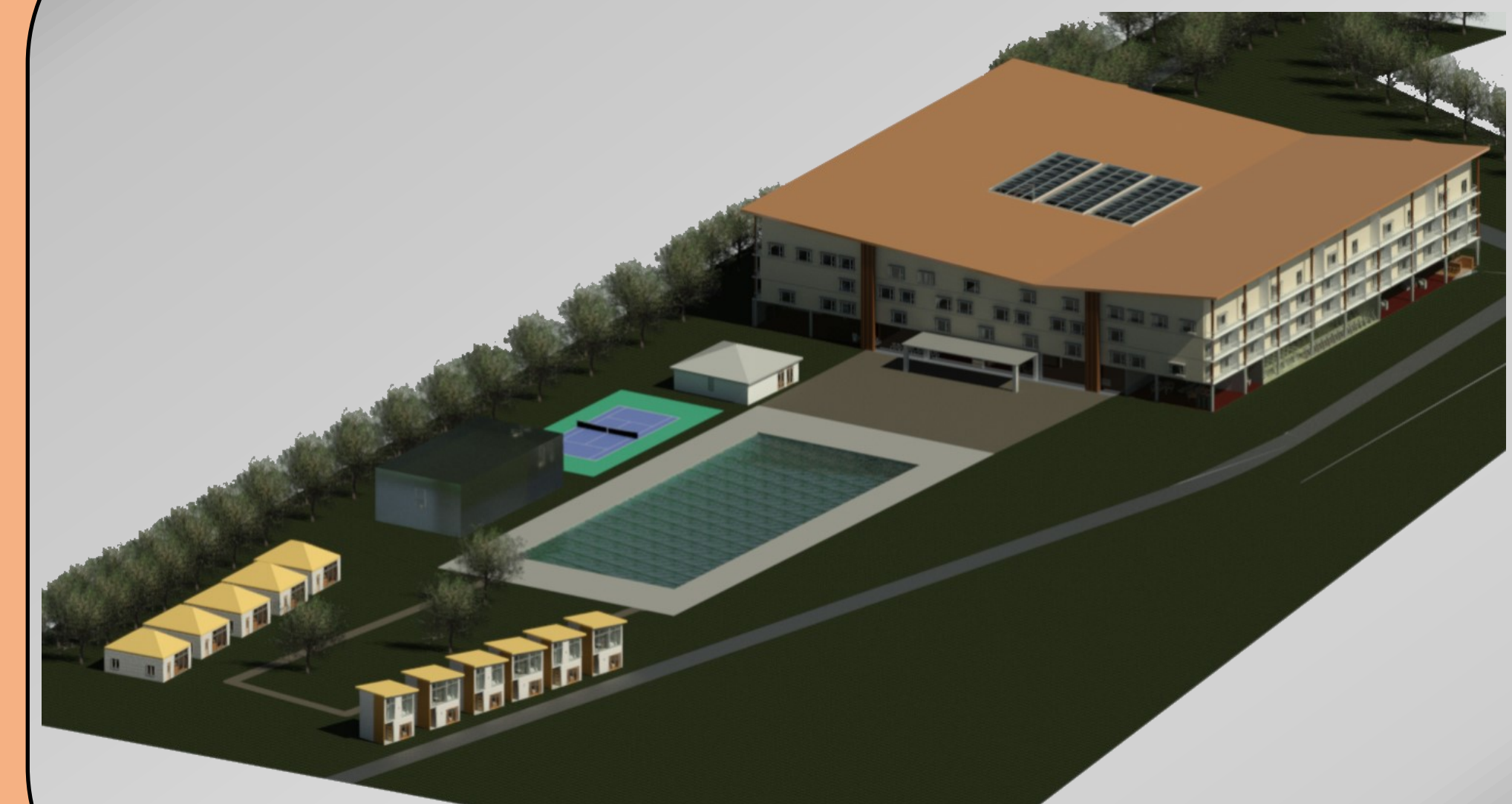


Structural Analysis



SAP 2000 model representation of the Hotel's moment resisting frame structure. The JESK structural engineers have undertaken the structural analysis to identify critical beams and columns subjected in lateral and gravitational loads.

Site Plan



Building Cost

Building Type	Cost/m2 (NZD)	GFA	Total Cost (NZD)	%
4-storey Hotel	4,930.95	6,400	32,517,930	48.60%
Basement carpark	1,682.04	6,400	11,724,906	6.20%
Bar	1,483.35	225	367,353.75	2%
Fitness Gym	886.32	525	543,918	1.50%
Office	150.6	225	67,485	1.20%
Kid's Day care	1319.14	61	89,467.54	0.95%
Single Chalet	6x1769.07	80	6x141375.6	4.40%
Double Chalet	6x2742.77	30	6x82133.1	6.25%
Amenity tower	4147.28	120	497,523.60	7.50%
Landscaping	4.1	6400	26,240	1%
Tennis court	413.028	544	225,100	0.40%
Basketball court	470.636	420	197,722	0.30%
			47,598,698.09	80.30%
Professional Fee	%	9%	4,283,882.83	3%
GST	%	15%	7,139,804.71	7%
Preliminaries	%	9%	4,283,882.83	4%
Margin	%	3%	1,427,960.94	1.40%
Contingency	%	1.50%	713,980.47	1%
Total prelim, contingency, etc.			17849511.78	16.40%
			65,448,209.87	
Inflation	2020	1.60%	1047171.36	1.20%
	2021	0.90%	66,495,381.23	
			598458.43	1%
			67,093,839.66	
	2022	1.20%	805126.08	1.10%
Total building cost			67,898,965.74	100%

Master Schedule

WBS	Task Name	Duration	Start	Finish	Predecessors	Cost
1	JESK Resort	712.13 days	Mon 17/08/20	Wed 10/05/23		\$162,837,067.26
1.1	Pre-design	23.75 days	Mon 17/08/20	Thu 17/09/20		\$23,456.00
1.2	Concept design	21.25 days	Thu 17/09/20	Sat 17/10/20	2	\$13,944.00
1.3	Developed Design	22.38 days	Sat 17/10/20	Wed 18/11/20	6SS+20 days	\$12,784.00
1.4	Detailed design	131.38 days	Wed 18/11/20	Thu 20/05/21	13SS+20 days	\$22,020.00
1.5	Preconstruction	84.25 days	Thu 20/05/21	Wed 15/09/21	18SS+20 days	\$319,921.65
1.6	Construction of substructure	69.13 days	Thu 16/09/21	Wed 22/12/21	31	\$40,558,829.16
1.7	Construction of superstructure	352.13 days	Wed 22/12/21	Fri 28/04/23	57	\$121,881,882.44
1.8	Handover and QA	7.88 days	Fri 28/04/23	Wed 10/05/23	77	\$4,230.00

Master schedule representing the total duration for the JESK Resort project including baseline cost and completion date for each milestones.

Total building cost table priced by JESK's structural engineers using QV cost builder. It includes all buildings, external works, preliminaries and contingencies, etc.

REFERENCE

Auckland University of Technology (2020). [AUT logo]. Retrieved from <http://aut.ac.nz>

JESK (2020). JESK Resort.