



Valley Bluffs

Valley Bluffs



Participant information
Enercept, Inc.
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Category
Multifamily

High Performance: No

Project information
Valley Bluffs
1053 E Main Street
Valley City, ND 58072

Date Completed: August 2018

Total cost of project (exclusive of land): \$6.2 Million

Dimensions of building (all floors of multi-story building): There are four floors, overall dimensions are 64' x 216'

Asking price/purchase price (Affordable Housing only): n/a

Total sq. ft. of conditioned space: 55,000 sq. ft. (13,750 sq. ft. per floor)

Built By (if different than applicant)
Six D Construction
Paul Diegel
570 13th St NE
Valley City, ND 58072

Panels Manufactured By
Company Name (members only): Enercept, Inc.



Valley Bluffs



Designed By
NK (Nationally recognized passive architect)
Premier Building Systems
1420 Washington Avenue
West Seattle, WA 98375

Total sq. ft. of conditioned space: Not provided at deadline

Describe the end use of the building: Apartment Building designed to use up to 90 percent less heating and cooling energy than standard buildings. The project is believed to be the first passive house apartment building in Washington State and demonstrates how high performance, sustainable living can scale, enabling us all to reduce our role in climate change and become part of a climate solution.

How did SIP construction help you get this job? Heating, cooling and powering buildings is a leading cause of greenhouse gas emissions. Passive house buildings use very little energy and are common in Germany and Scandinavia. Pax Futura (Pax means peace in Latin, and Futura is the name of a font created to express modernity) was designed & built to use up to 90 percent less heating and cooling energy than standard buildings. A tight and efficient envelope was critical to this deliverable,

SIP wall thickness and core material: 6" GPS Core Walls
SIP roof thickness and core material: n/a

Describe the benefits of using SIPs on this project. Did SIPs help save time, labor, construction costs, or energy? Extra insulated walls, without thermal bridging, enabled the structure to better control the flow of air (hot and cold) to meet Passive standards. The goal was 90% savings on energy and SIPs were a critical component to this. SIPs also provided superlative comfort in a draft-free, temperate interior environment (along with the carefully designed HRV system).

Describe any innovative design elements or structural engineering involved: The envelope design included a thoroughly engineered envelope system including extra-thick walls and energy recovery ventilation, to best exchanges air inside a building and uses it to precondition incoming outdoor ventilation air - cooling it in warmer seasons and warming it when it's colder. Cascade predicts the cost to build passive is about 5% higher than a similar non-passive project.

One goal of the project by the Cascade Built (who has also developed & built a passive townhouse project and is starting a passive condo project near Pikes Place market in Seattle) is show people that passive house design is viable.

Please list any certifications the project received, such as ENERGY STAR, LEED, National Green Building Standard, WELL, Passive House, Green Globes or local green building programs. Only list certifications that are completed: The project is also Built Smart emphasizing resource conservation, Passive standard achieved (certificate not received by deadline) Net Zero Energy building

Valley Bluffs



Designed By (if different than applicant - SIPA will only recognize members)

Cole Group Architects

Norm Cole

216 Park Ave S, Ste 102

St. Cloud, MN 56301

Total sq. ft. of conditioned space: 55,000 sq. ft. (13,750 sq. ft. per floor)

Describe the end use of the building: Valley Bluffs is a 43-unit apartment complex. Twenty of the units are designated for Essential Service Workers (ESW); 4-units are designated for low-income housing; 4-units are designated for people with moderate income levels; the other units are available to the general public.

How did SIP construction help you get this job? The investor-owners wanted to build an energy efficient apartment complex to make living there more affordable and wanted to offer quieter apartment units to make living there more comfortable.

SIP wall thickness and core material: 6" walls with EPS solid insulating core

SIP roof thickness and core material: The apartment building has a truss roof

Describe the benefits of using SIPs on this project. Did SIPs help save time, labor, construction costs, or energy? The project went together quickly. They were able to set the first floor walls in about a week. All four floors were set in under 3 months.

Describe any innovative design elements or structural engineering involved: Enercept worked closely with the structural engineer to assure the building's safety. Valley Bluffs is designed to meet or exceed the 2015 IBC.

Elevators were designed to accommodate emergency equipment and gurneys.

Please list any certifications the project received, such as ENERGY STAR, LEED, National Green Building Standard, WELL, Passive House, Green Globes or local green building programs. Only list certifications that are completed: n/a

HERS Index (required only for High Performance Category and recommended for residential projects): n/a

Blower door test results (ACH50) (required only for High Performance Category and recommended for residential projects): n/a

Energy use intensity in kBtu/ft² (required only for High Performance Category and recommended for commercial projects): n/a

Describe the HVAC system used on the project: All common areas are heated with Natural Gas, Forced air units. The apartments feature 15,000 BTU Amana in-the-wall heat pumps with electric baseboard heat back-up..



Describe any other energy-saving materials used in the building envelope other than SIPs. List U-values of windows used and the U or R-value of any insulation materials. (judged only for High Performance Category) The windows are Thermo Tech single-hung, vinyl with an R-4/U .25 rating.

Please list any energy-efficient products or design features, such as lighting, hot water heating, appliances, passive solar (judged only for High Performance Category): All apartments are equipped with energy efficient appliances and LED lighting.

Were any solar panels installed on the project? If so, indicate the size of the system (judged only for High Performance Category): No

Please list any sustainable materials or design features not listed above, such as recycled materials, low-VOC finishes, landscaping, etc. (judged only for High Performance Category): n/a

Any additional comments on the project: The building owner shared that in December 2018, the electric bill for all common areas - elevator, lighting, etc., was \$700; the total electric bill for the building was \$4,300.

Thirty-four apartments were occupied and fully heated at a net cost of \$3,600 - each apartment averaging just over \$100 per month for total energy consumption. Total energy consumption for the 55,000 sq. ft. building was just over 14-cents per sq. ft.

The investor-owners were able to take advantage of a 30% grant from the state of ND due to the Housing Incentive Fund program (HIF) through the ND Housing Finance Agency. This grant makes it possible to offer lower rents.

Exterior front view

Valley Bluffs







Exterior view rear

Valley Bluffs



