

AURUM LODGE

Near Banff and Jasper National Parks, Alberta, Canada

HOSPITALITY RATING: 3-4 Star

ROOMS: 6

ARCHITECT: Alan Ernst, president of Aurum Lodge

LATITUDE: 52° N

While some businesses use the eco-tourism label very liberally as a means of increasing market share, this operation has taken a new approach: sustainability and environmental acceptability are given priority over financial and other business management principles.

- 2001 Sustainable Tourism Alto Award

CONTEXT

Aurum Lodge is situated near Banff and Jasper National Parks, in the eastern front ranges of the Rocky Mountains in the Province of Alberta at an elevation of 1,350 m (4,500 ft). The site overlooks a lake and is surrounded by pristine forests and mountain peaks. It is the only accommodation in the area open 12 months of the year.

DESCRIPTION

An aesthetic exterior and functional interior belie the fact that it is one of the most energy efficient buildings in Alberta. The use of fossil fuels has been reduced by over 85% compared to a standard development of similar size and purpose.

Picture windows, bright rooms, the generous use of local woods combined with European style furnishing and artifacts from six continents account for the one of a kind ambiance in the lodge. Rooms are designed for double occupancy and each one is different yet cozy and inviting, as are the many common areas throughout the lodge. Some self-contained cottage units and an apartment are equally well appointed, catering to guests who prefer to prepare their own meals.

In keeping with the small size of the establishment, service is personal. Healthy, home-style evening meals prepared by the hosts are available on request. A multitude of low-impact, outdoor activities await the visitor and natural, historic and cultural attractions abound in this little known valley of the Rocky Mountains.

INDUSTRY RECOGNITION

Aurum Lodge has earned a FIVE Green Leaf eco-rating by the Hotel Association of Canada (1 of only 2 hotels in Canada). The lodge is also Green Globe 21 certified (1 of 2 in Canada). Other awards include: ALTO Award for Sustainable Tourism from Travel Alberta (2001), finalist in the small business category for the Emerald Awards (2001) and is a partner member of the Green Hotels Association.

SITING

- Site selection avoiding sensitive areas.
- Minimum clear-cutting.
- Erosion control.

DESIGN

- Building oriented due South.
- Passive solar design.
- Roof overhang prevents overheating.
- 60% of windows facing South and roof overhang designed to provide shade in summer and heat through the windows in winter.
- Roof designed to accept extra solar collectors or PV panels. On a sunny winter day averaging -5 to 0 degrees C, the sun alone will warm the house between 2-3 degr. C - no heating required!
- On a sunny winter day (-10 C), passive solar design, solar collectors and infloor heating are all that is required to maintain a constant temperature in the building.
- Contraflow masonry storage heater provides all the heating for the common areas of the lodge with one or two firings a day in winter.

- Tile floors are part of the heat storage concept, which includes basement walls and a hollow slab for heat recovery from exhaust air.
- On a cloudy winter day, a 24 kW high efficiency combination wood range / central heating can produce all the hot water and heating with a few cu ft of wood (in addition to preparation of meals).
- A double wall design with offset studs avoids all thermal bridging in the walls and is filled with 12 inches of recycled cellulose insulation.
- KRONA reflective foil and spacers increase insulation to R 50+ in all walls.
- Insulation is so good that on a winter day when all heating sources are turned off, the heat loss in the building is a mere 2 - 3 C in 24 hours (with an average temperature differential of 35 C between the inside and outside).
- Recessed low-E windows.
- Interior windows channel natural light into the core of the house and bathrooms, reducing the need for artificial lighting.
- Utility areas located on north side of building.
- One wheelchair accessible guestroom on ground floor.

MATERIALS

- Material choices: use of natural materials, local content, recyclable or reusable materials, avoidance of chemicals such as formaldehydes and tar, quality materials to reduce maintenance and replacement.

WATER

- Various water saving measures.
- 23 square metres of solar collectors provide 100% of domestic hot water requirements on a sunny summer day.
- A composting toilet collects and processes greater than 50% of human waste in the lodge as well as food waste from the kitchen.
- Composting toilet reduces water use by more than 150 litres a day.
- Three stage biological septic treatment including intermittent sandfilter, among the first sand filter systems to be installed in Alberta.
- Septic system at Aurum Lodge results in an effluent better than that of most municipal sewage treatment plants.
- Grey water treatment and heat recovery systems are also planned.

ENERGY

- 48 PV panels with a capacity in excess of 3.5 kW, and a small wind generator, produce 70% of power consumed over the course of the year. On sunny summer days the development is energy self sufficient.
- Due to PV and battery storage, generator running time is limited to 2 hours a day on average - a 90% reduction in noise, air pollution and use of fossil fuels.
- A 2,200 L heat storage tank collects heat from four different heat sources, of which three use renewable energy (sun or wood).
- All lights use high efficiency compact fluorescent or halogen bulbs.
- Heat recovery ventilator.
- High efficiency appliances.

OPERATION

- Solid waste is collected and recycled or re-used.
- Energy / resource use and waste streams are reviewed constantly, allowing ongoing improvements in all areas.
- Non-smoking throughout.

ENVIRONMENTAL MANAGEMENT

- Clients are encouraged to assist in conservation efforts at the Lodge.

CONTACT INFO

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REFERENCES

Aurum Lodge
<http://www.aurumlodge.com>

Energy Match - Low Impact Tourism
<http://www.energymatch.com/features/article.asp?articleid=44>