VANCOUVER VALUATION ACCORD

Case Study 3

Vancouver Island Technology Park, Saanich, BC, Canada

Conversion of former hospital to technology park. Government owned, surplus property but unable to sell as development site. Proposal to reposition as technology park supporting university & college. Market business case, proposed, budgeted & funded as a traditional (non-green) development. Tech sector collapse; shift to being a green building. Achieved first LEED® Gold in Canada within pre-agreed traditional construction budget. Pioneered green technologies, value exceeded projections.

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OUTLINE

Vancouver Island Technology Park [VITP] is the first LEED® Gold building in Canada, awarded by the US Green Building Council prior to the formation of the Canada Green Building Council. It also gained a BOMA Earth Award and six other awards[1]. Built in the early 1970's to provide health care facilities for the government of British Columbia, by the late 1990's it required replacement as the existing facility became unsuitable for the provision of health care.

Figure 1: Vancouver Island Technology Park

British Columbia Buildings Corporation [BCBC], the property's owner and manager for provincial government, undertook a soft marketing campaign to find a buyer for the building but were unable to find one and decided to reposition the property. They initially considered uses that were not supported by the community, but following research decided to renovate the existing buildings and create a technology park aimed at the biotech and computer sectors. A development feasibility analysis was undertaken and a business case for funding approved by management after review by several arms of government. At this time, the proposed project and target market were

[1] See VITP's web site covering the awards.

considered by some to be risky and a private sector attempt positioned more to the standard office market, had been unable to gain traction.

Notably, the original business case contained no "green" components and funding approvals were based on a standard renovation concept with a budget of C$11.9m.

During the pre-development stages – but after government approvals – the technology sector collapsed and construction prices were rising. Pressured by increased need to distinguish the project and the need to save money, it was proposed to renovate using sustainable principles, which initially met some internal resistance due to perceived risk. The project was however revised to meet green principles with no proposed change in budget or timescale.

Figure 2: Site plan[2]

VITP was completed within the original cost. In other words, there was no extra cost for achieving LEED® Gold than the original budget for a traditional scheme. This provides clear evidence that it is possible to undertake sustainable development without cost premium and a full list of the innovations is available from VITP's web site[3], segmented by LEED® classification.. This study focuses on selected aspects of the project to expose the relevance to valuers:

- Use of deconstruction versus demolition;
- Avoidance of hard surface parking areas and use of permeable grasspave;
- Use of permeable roadside treatment instead of storm water drainage;
- Water conservation features;
- Combined energy efficiency initiatives;
- Impact on staff, staff productivity and economic benefit;
- Impact on community support.

All the original project leadership had dispersed and the property was sold to the University of Victoria in 2005. While the original business case was documented, we were unable to secure the post-

[2] For a larger view covering green aspects see http://www.vitp.ca/images/pdf/VITPMasterPlan05.pdf.

[3] See VITP's "Green Building and Site Design" document.

completion review, although it was confirmed that the original budget was not exceeded. It was also reported that this sale exceeded the original exit strategy for the project but detail supporting this was not made available. VITP has been well documented and the reader is referred to Green Value[4] and VITP's web site.[5]

INTERPRETATION

The following provides comment on sustainable aspects of the project and considers how they impact building and development valuation.

DECONSTRUCTION

The decision was taken to deconstruct the existing building, to recycle recovered materials. The project had originally been intended for demolition but a proposal was made to deconstruct that was less expensive and more suitable. Deconstructed materials are reused elsewhere, for example concrete may be used as a crushed material for roadbeds etc.

Since the deconstructed materials can be used elsewhere, they have a market value to the contractor. The deconstruction contract savings were represented as C$600,000 on an original budget of $760,000, with 99% of materials recovered and reused. This is a significant saving: deconstruction resulted in costs being approximately one fifth of the original budget.

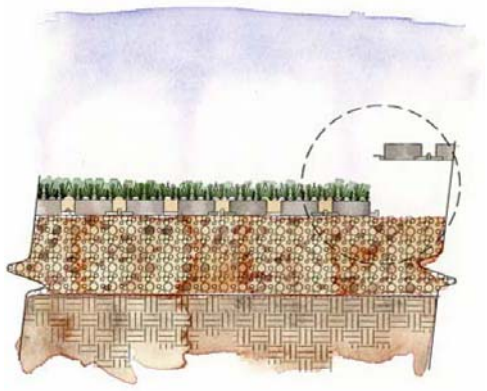

Figure 3: Parking section

PARKING SURFACES

Leadership of the project had become aware of a U.S.-based technology called "grasspave". This comprises a recycled synthetic material in a segmented structure, now being made several inches deep and approximately 1m square (see Figure 4). Placed on a stabilized substrate (see Figure 3), the product is designed to allow grass to grow while still providing the rigidity and support needed

Figure 4: Grasspave

[4] See the 2005 "Green Value" report analysing value generated by sustainable development.

[5] See http://www.vitp.ca/.

to permit cars to drive on it.

VITP facilitated a local company gaining a license to manufacture the product. The product was installed as a demonstration project and first of its kind in Canada. The solutions are cost-comparable because grasspave does not require extensive sub surface storm water drainage, oil traps and so on. Instead, vehicle-generated hydrocarbon deposits are bio-remediated in the soils.

Figure 5: Grasspave parking lot

The advantages of this approach are that it creates the least disturbance to groundwater and rather than creating an excess and localized storm water discharge into nearby creeks and streams, permits a more gradual recharge. It improves plant retention and growth, reduces the amount of landscape watering required from potable water supplies, and thereby improves overall water consumption. It recycles prior materials. A permeable approach of this kind requires ongoing maintenance but avoids stormwater infrastructure maintenance and replacement. It helped gain unanimous community support for the project. Since it reduces heat gain normally associated with asphalt, it has a benefit to adjacent buildings in reduced heat gain and reflection. It also looks better.

The direct financial benefit is thought to be negligible with little cost difference in non-test installations. Indirect benefits are approvals, heat and associated energy reduction and visual benefits, and improved groundwater management. Grasspave however was reported to have appreciable marketing and community benefits, resulting in reduced timescales for approvals and increased absorption.

ROADSIDE TREATMENT

The normal way to construct road edges in this region is to construct concrete curbs with stormwater gutters and drains. This includes oil traps, separators and so on before discharging into creeks or larger storm drains. It was proposed to retrofit existing curbs to some extent, and when new roads and cubs when needed, to use soft verges which would allow rainwater to permeate directly back into the groundwater.

Figure 6: Soft verge drainage

The concept to this was to improve localized dissipation of stormwater and reduce creek erosion. By using structural verges allowed the creation of "bio-swales," which although reported to be slightly more complex and costly to build, used cheaper materials and combined with reduced maintenance and operation, offered a solution concluded to be less expensive and more ecologically appropriate.

WATER CONSEVARTION

Several water conservation measures were adopted within the building including infrared shutoffs and restrictors, dual flush toilets and so on. These are in reasonably common use and this review concentrates on the use of waterless urinals[6].

Waterless urinals comprise a synthetic material construction with specific design of soil trap, with specialized sanitary liquid in the trap that is designed to allow urine to pass through the trap with minimal dislodging of the liquid. The basic principle to this is somewhat similar to the concept that oil and water do not easily mix. Thus, the heavier urine falls through the trap, leaving the liquid behind. The liquid provides the necessary buffer from soil pipe risers and acts as a sanitary solution. The urinal requires minimal cleaning.

The advantage to this is a significant reduction in water consumption, since toilets consume a considerable quantity of water, calculated at 995,000 litres annually. Although the sanitary liquid needs replacing periodically and replenishing fairly often, the overall cost of this is comparable with a traditional urinal. There are less parts to malfunction in a waterless urinal than a toilet or traditional urinal. With appropriate maintenance there is no difference in odour.

In valuation terms there is a claimed reduction on maintenance and management which would require adjustment of investment pro forma. The main benefit noted by VITP leadership was promotional.

Figure 7: EcoTrap® system

ENERGY ASPECTS

In part due to the project's existing structure and equipment and partly to reduce capital and ongoing costs, it was decided to minimise energy use. This included using low-energy lighting, electrostatic dust traps, innovative air handling distribution and related items. Externally, low energy landscape and parking illumination was designed to reduce light pollution, albeit the site is not located near other properties. Finally the Park facilitated retrofitting gas reclaimation to a nearby landfill with proceeds directed to reduce energy bills to the Park.

The claimed overall benefit of lighting was calculated at 33% better than the ASHRAE standard applicable at the time VITP applied for LEED® Gold. The way this was achieve is documented in the Green

[6] See page 7 of VITP's "Green Building and Site Design" document, Figure 7 and the EcoTrap web site.

Building and Site Design document and included thermal storage at no premium charge or cost, water pump and valve efficiencies, and T8 light fittings. Some improvements were made to increase natural lighting, which also increased building floor area by reclaiming external walkways as office space.

Energy savings provide a reasonably simple benefit for valuation purposes that can be integrated directly into management and operations calculations to benefit an investment valuation. Note that the degree of benefit depends on the nature of lease structure, since landlords may pay for the capital cost but the tenant largely benefits from the savings, especially with a net lease. Payback depends on the extent of energy retrofit (if an existing building) and comments received suggest this is easier, more cost-effective and more sustainable when replacing older fittings when there is a remainder life cycle for existing fixtures.

Figure 8: Meeting area with low energy lighting

STAFF & PRODUCTIVITY

VITP project leadership attributed staff as the largest factor affecting success, since while tenant company executive were interested in VITP's green direction, it had attracted staff demand, influencing location decisions. This was credited to the amenities offered and overall environment, as the rent needed to be competitive. Compared to the baseline business case projections, VITP achieved projected full long term occupancy 20% faster.

Figure 9: VITP light fitting

Productivity is difficult to prove, however one tenant hired a consultant to assess productivity improvements, which were measured by a variety of indicators including lines of computer code. They concluded there had been a 30% overall productivity improvement compared to the previous location.[7]

While this statistic likely includes other factors affecting productivity than solely VITP's sustainable attributes, it suggests the potential for significant occupier benefit. Analysis of data provided by CB Richard Ellis and others undertaken in 2005 shows that staff costs account for approximately 80-85% of company total operating costs, with real estate a relatively small contributor. The 30% productivity improvement thus suggests a value to the business greater than its total expenditures on real estate. The company involved agreed the benefit was and remains substantial.

[7] See press release.

Other support for this is with regard to turnover. Only two tenants have vacated the building since it opened, both for financial reasons. This means several things for the valuer to consider. There are less vacancies/voids, less contributions to tenant inducement and fitting out costs, reduced transaction costs related to lease renewals, less fees (agents and legal, amongst others) and so on. The overall net benefit has proven to be superior investment income and income flow/security than originally projected. This disproved the initial informal government perspective that the proposal was risky.

In terms of broader economic benefit – which helps in supporting further development of the project – VITP commissioned an analysis of the spin-off benefit of the Park[8]. It concluded the net overall benefit to the region in the order of $280m. The study does not credit these to the sustainable attributes but does note this as a contributory benefit.

Figure 10: VITP LEED® Gold plaque

COMMUNITY SUPPORT

As noted previously, community approvals had been difficult to secure for other projects and initial indications suggested the Tech Park proposal would be more favourably viewed. However the sustainable aspects showcased during discussions for permits gained unanimous support, speeding the projects' approval.

Other similar projects in this municipality have gained comparable support and in one case, community rejection of a non-green residential project was reversed, to support a residential project of similar scope and nature that committed to stream restoration. This benefit is appreciable, speeding development, reducing finance carry and risk with resultant potential improvement in profit, which can be reflected simply through a development pro forma calculation.

VALUATION ASPECTS

The original business case used a hybrid development pro forma with supporting development cost and investment components, which relied on comparables for rental, inducement and other aspects. The analysis did not include debt finance carry for the land, i.e. it used an assumption of land carry whereas most development pro forma software makes an assumption of land carry from point of sale where there is a land valuation. The VITP business case was focused on the exit strategy and project viability, not land value. This was noted on corporate account at depreciated historic cost, which was mostly depreciated. In

[8] The study summary can be downloaded from VITP's web site.

effect and consistent with standards, the largest value was in the land, thus tending to ignore the potential realisable value of the existing buildings. This opened the potential for creating an investment by leveraging this under-stated and under-recognised latent value.

BC government does not require an appraisal as part of the business case for undertaking a public venture, but BCBC required a sound business case and applied standard private sector business management principles for a venture to be approved. In many respects, this process exceeded that undertaken by many private development companies and is a response to public accountability. Government now has a policy and process for major projects known as the Capital Asset Management Framework.[9]

In the previous section, each of the component aspects were analysed for the benefits they provided. Reference to the original business case and confirmatory discussions and interviews show that most benefits will not be adequately assessed using a simple comparable approach but require a more detailed adjustment, either through a comprehensive investment cash flow analysis (for an investment) or a development residual calculation that allows each component to be estimated, thus allowing sustainable attributes to be taken into account.

Many of the benefits are relatively small and apply through management cost savings and maintenance efficiencies. Larger benefits relate to productivity, absorption, turnover and related aspects that improve net income and by reducing risk, produce a greater return on investment.

CONCLUSION

The mechanisms used to value green attributes will depend on the market and the nature of each aspect. As this example shows, some sustainable aspects have a disproportionate benefit, for example the cost/benefit for water conservation had higher benefit in helping secure public approvals, even though the cost of them was relatively negligible compared to traditional costs.

Cost savings for certain aspects were small. By contrast emotive, publicity and related benefits exceeded the cost savings impact on investment and development value.

A key conclusion is that the project could be undertaken and achieve LEED® Gold within a budget established using traditional construction and development concept. This reduces any barriers to considering using sustainable principles, given the other quantifiable and intangible benefits noted above. In terms of impact on value, the main aspects are addressed in Green Value[10] and have not been repeated here.

[9] See Ministry of Finance web site.

[10] See Green Value web site.