COMMUNITY ENERGY EFFICIENCY PROGRAM

FINAL REPORT CEEP 1062

WYNDHAM LEISURE AND EVENTS CENTRE REDEVELOPMENT PROJECT

This activity received funding from the Australian Government

Australian Government
Department of Industry and Science
EXECUTIVE SUMMARY

Wyndham City Council supported by the Department of Industry and Science’s Community Energy Efficiency Program has recently completed the major redevelopment of the Wyndham Leisure and Events Centre (WLEC) at 80 Derrimut Road, Hoppers Crossing, Victoria.

This new facility is a vibrant and attractive community hub which caters for the current and future needs of the community and accommodates a large user group. WLEC has spaces for community wellbeing, events, recreation and socialising, and includes:
  ▪ A centrally located café and piazza.
  ▪ Aqua play area, 5 new pools and 2 water slides.
  ▪ A health and fitness precinct with gym and fitness classes.
  ▪ A redeveloped events centre with improved AV, acoustic and back of house areas.

The redevelopment project includes a numbers of energy reduction initiatives to bring the facility in line with current best practice, to deliver clear and measurable gains in energy efficiency and to contribute to achieving Wyndham City Council’s sustainability objectives.

Some of the energy efficiency initiatives include, but are not limited to,
  ▪ Retrofitting the internal lighting to the events auditorium and pool hall;
  ▪ Upgrading outdoor lighting to car park areas;
  ▪ Installing new building management system and outdoor weather station and new sub metering to pool hall;
  ▪ Upgrading heating, ventilation and air conditioning system;
  ▪ Installing new pool blankets;
  ▪ Upgrading hot water system and storage tanks;
  ▪ Upgrading daylight windows, roof and wall insulation and building sealing and tuning.

A total of $2,483,022 was spent on energy efficiency initiatives for this project. The Department of Industry and Science under the Community Energy Efficiency Program funded $1,241,511 for these initiatives which was matched by Wyndham City Council. The energy efficiency initiatives were part of a broader redevelopment costing $54.5 million in total.

The estimated energy efficiency improvement achieved by the initiatives listed above is as follows:
  ▪ Aquatic and Events Centre Energy Efficiency Savings: 1000.60 MJ/m2
  ▪ Aquatic and Events Centre Carbon Saving are: 27.9 kgCo2/m2

Total annual energy improvement is as follows:
  ▪ Pool hall lighting upgrades: Saving of 40,076 kWh
  ▪ Events Centre lighting upgrades: Saving of 16,011 kWh
  ▪ Pool Blanket: Saving of 1653 GJ Gas
  ▪ Solar Hot Water Collectors: Saving of 144 GJ Gas
PROJECT OBJECTIVES

Wyndham City Council’s objective for this project is to reduce Council’s operational impacts on the environment and ensure a sustainable and productive future for Wyndham City. This is in accordance with Wyndham City’s Environment and sustainability Strategy 2011 – 2015. This Strategy provides the following key focus areas to address this objective:

- Greenhouse gases and energy
- Water consumption
- Waste
- Biodiversity
- Food and Food Production
- Monitoring, Education, Communication and Reporting
- Future Directions / Planning

The WLEC redevelopment project has contributed in achieving all the above targets and outcomes set out in the strategy, in particular:

- This project aims at reducing corporate greenhouse emissions by reducing energy usage through replacing existing lighting with more energy efficient fittings and by the installation of new pool blankets.
- This project increases the energy efficiency through the replacement of the pool heating and ventilation system and by the installation of a building management system.
- This project demonstrates Council’s strong leadership role in sustainable design through educating, knowledge sharing and promoting energy efficiency initiatives at all levels of the government and the community.
PROJECT ENERGY EFFICIENCY ACTIVITIES

The following energy efficiency initiatives have been included in this project:

- **Pool Hall lighting upgrades**: This initiative included replacing all existing fittings with lower energy density fixtures at alternate locations to achieve better lighting outcomes. This initiative also included additional lighting controls including automated time of use controllers to ensure lights shut down when not required.

  The main consideration when installing the lights in the pool hall was to ensure the lights can be easily accessed from the pool concourse for future maintenance and replacement. The layout of the lighting bars was designed keeping this in mind.

  In hindsight Wyndham City Council should have opted for LED flood lights instead of metal halides to achieve a better energy efficiency outcome and a longer life span.

- **Events Centre lighting upgrades (indoor and outdoor)**: This initiative included replacing all existing light fittings with lower energy density LED fixtures to achieve more energy efficiency lighting outcomes. This initiative also included additional lighting controls including automated time of use controllers and programmable controllers to coincide with events ensuring lights shut down when not required.

  The installation of new LED lights in the Auditorium and the car park was fairly simple and resulted in a considerable improvement to the efficiency of the building.

- **Pool blanket**: This initiative is to prevent heat loss from the pool overnight that with substantially reduce the heating demand of the pool water and the dehumidification required for the air in the aquatic centre. The blankets are automated to assist the operators to cover the pool each night.

  The installation of pool blankets required major structural works to be undertaken to support them. With Council retaining part of the existing roof structure, this task was very complex. Once the structural issues were resolved, installation of pool blankets was simple.

  With this building managed by an automated building control system / Bauer system, the overall benefits of the pool blankets have not yet been analysed.

- **Solar hot water**: This initiative included installation of flat plate collectors which harvest solar heat energy to create hot water. This system offsets the energy that would otherwise be required from gas.

  Solar hot water systems are a standard product in typical building projects and installation of these units is fairly simple. In combining solar hot water system with the instant hot water units, Wyndham City Council is able to maintain constant hot water throughout the building with regular reheating required.
• **Pool hall HVAC system:** This initiative included installation of eight new HVAC system and air ductwork in the pool hall. The HVAC units in the pool hall are managed by a Bauer control system which monitors the air pressure, temperature, humidity, etc. within the pool hall to determine the volume and quality of air needed to deliver an optimum indoor air quality.

There are several criteria’s that need to be considered prior to the installation of HVAC systems in pool environments. These include moisture levels, air pressure, air quality, amount of intake air, etc.

With the pool hall being a highly moist environment, it was essential for Wyndham City Council to ensure that all the ductwork was insulated and treated to avoid corrosion. The Bauer control system allows Council to modulate the air flow and temperatures within the pool hall to achieve the best air quality outcome. This system will be tested and analysed for the next 12 months to confirm the optimum setting for the pool hall.

• **Weather Station:** This initiative included installation of a weather station to monitor external conditions. This system reports to the Building Management System to control the sequence of operation of all mechanical plant, economy cycle and nigh purge strategies.

• **Sub-metering:** This initiative included installation of smart sub-metering for the pool hall for lighting and power. These meters are connected back to the Building Management System allowing trending and monitoring of usage.

• **Natural day lighting:** This initiative includes installation of insulated day lighting windows and shaded window systems for upper elevations of the aquatic centre to bring natural light into the pool hall.

The glazing around this building has been installed facing north to allow natural day light filtering into the building for most parts of the day. This results in glare issues at certain times of the day which is not ideal for operations in a pool environment.

• **Insulation:** This initiative includes installation of wall and roof insulation throughout the building.

• **Building Sealing:** This initiative includes installation of air cell blanket around the building to achieve the required air permeability / sealing rate for the Bauer Optimising System to operate efficiently.

Sealing of the new structure was easy; however Council faced considerable issues trying to seal parts of the existing building which were retained.

There were ongoing discussions between the Contractor, Architects and Council to overcome the issues experienced onsite which resulted in major cost variations to Council. This included installation of a secondary roof above the existing roof structure with a sandwich Aircell blanket to achieve the required building seal.
It should be noted that the initiatives listed above are part of a broader upgrade of the Wyndham Leisure and Events Centre redevelopment works. Many of the other self-funded upgrades have significant sustainability objectives and will contribute to energy and water savings across the site. Overall the project intends to achieve significant reduction in energy consumption and demonstrate strong leadership in sustainable design.

In addition to the above listed initiatives, the original funding agreement included the installation of two 65 KW Cogeneration Engines at WLEC. Following further investigations and site visits to other facilities that have installed Cogeneration, Wyndham City Council decided not to proceed with the installation of Cogeneration at WLEC. The main reasons are:

- Cogeneration is susceptible to defects (as advised by a number of other Council aquatic centre projects);
- Lack of knowledge within Council to operate the Cogeneration plant;
- Issues encountered by other facilities that have installed Cogeneration that has significantly impacted on them achieving their project financial and sustainable targets;
- Uncertainty around the increasing gas prices that impact the viability and payback period.
PROJECT DEMONSTRATION AND COMMUNICATIONS ACTIVITIES

Wyndham Leisure and Events Centre is a premier facility that caters for the growing needs of not only the Wyndham Community but also other regions. This facility due to the significant visitation per year and the broad range of users provides Wyndham City Council a perfect platform to promote sustainable energy efficiency features.

Wyndham City Council throughout the construction phase of the project has promoted the project and the energy efficiency initiatives by informing users and the community of the benefit of the project and the energy efficiency initiatives and the impacts they have on the environment.

The above information was included in the redevelopment brochures, regular media releases on Council’s websites and updated construction newsletters. Please see attached few examples of media releases, redevelopment brochures attached in Appendix 4.

This project was presented by Council project managers in the “Wyndham City Council your rates showcase” special meeting in 2014 and 2015 where the community was informed on the progress of this project with specific emphasis on the sustainable initiatives involved in the project. The presentation panels included information about the various initiatives listed below and also listed the associated benefits to the building and the environment. The initiatives included:

1. Water Efficient fixtures and fittings
2. Solar Hot Water
3. High Performance Glazing
4. Cogeneration Plant (this initiative was subsequently deleted)
5. Heat recovery ventilation
6. Rainwater collection
7. Air Exchange Heat recovery
8. LED Lighting
9. Condensing Boilers
10. Defender Filters
11. Pool Blankets

The project received appreciation on the energy efficiency initiatives from members of the community. The photographs of this event and the project panel presented are attached in Appendix 4.

Further to the above, the project team have undertaken multiple onsite briefing with Council staff members and guests informing them of the various energy efficiency initiatives undertaken on the project.

In addition to the above, Wyndham City Council’s Environment & Sustainability department reports annually on its sustainable purchasing to ECO-Buy. This data is used to assess whether Wyndham is achieving its outlined green purchasing targets, and to benchmark against other local governments. The results from the ECO-Buy report are reported annually in Wyndham’s State of Environment Report.
The expenditure on the energy efficiency expenditure for WLEC will be captured in the 14/15 results reported on Wyndham’s 14/15 State of the Environment Report.

It is also proposed that the energy, heat and water consumption of this facility is projected on the several LED screens around the facility to inform the community and keep them informed on the efficiency of this building.
OUTCOMES AND BENEFITS OF THE PROJECT

Wyndham City Council’s objectives and the energy efficiency initiatives for this project have been discussed in the previous sections of this report.

The project initiatives apart from improving the efficiency of the building have various other co-benefits such as:

- Reduced operational and maintenance costs.
- Improved building quality.
- Longer life span of fixtures, fitting and plant.
- Improved safety within and external to the building.
- Patron comfort.
- Demonstrates Wyndham City Council’s commitment to sustainable design.

All project objectives and initiatives were completed as per the requirements of the original funding agreement, however the below two initiatives were deleted during the course of this project:

1. Installation of Cogeneration Plant – Wyndham City Council following significant investigations decided not to proceed with the installation of Cogeneration at WLEC. The main reasons are:
   - Cogeneration is susceptible to defects (as advised by a number of other Council aquatic centre projects);
   - Lack of knowledge within Council to operate the Cogeneration plant;
   - Issues encountered by other facilities that have installed Cogeneration that has significantly impacted on them achieving their project financial and sustainable targets;
   - Uncertainty around the increasing gas prices that impact the viability and payback period.

Wyndham City Council while investigating the options available for Cogeneration identified several studies which compared cogeneration to other energy efficiency initiatives. These studies reinforced Wyndham City’s decision of not proceeding with the installation of cogeneration. Please see below link to one of such articles:


2. Installation of glass louvers – The purchase and installation of glass louvers has been deleted from the scope of works and replaced with fixed glass to meet the air permeability / sealing requirements.
Following the deletion of the above listed initiatives, the estimated annual cost savings and the carbon savings for the overall building efficiency reduced. The cost savings reduced to $27,576 from $65,546 and the carbon savings reduced to 167,377kgCO2 from 608,848kgCO2.

However, the energy efficiency improvement increased to 262.10 MJ/m² with the deletion of Cogeneration which significantly reduced the gas usage of the site.

Project Timeframes:
Wyndham City Council experienced few delays with the completion of the overall project due to unforeseen soil conditions below the existing structure and pools which resulted in a complete re-design of the 50m pool and also required Council to re-investigate the construction methodology for all the other pools.

The re-design works and revised construction methodology has an impact on the project program and completion date. Wyndham City Council along with the Contractor reviewed the sequencing of various activities onsite to mitigate this delay and also reviewed acceleration strategy to reduce the overall quantum of delay. Once these issues were resolved the project was completed without any major issues.

The energy efficiency initiatives were delivered as an integral component of the construction process and were monitored regularly by the project managers and the consultants.

Ongoing – Maintenance:
The installation of few energy efficiency initiatives not only improve the efficiency of the building but also significantly reduce the ongoing maintenance requirement. Few of these initiatives are discussed below:

1. Installation of LED lights in the auditorium and car park reduces ongoing maintenance and the LED lights have a longer life span as compared to standard light bulbs.
2. The installation of dimmable metal halides in the pool hall not only reduces the energy consumption, but the configuration of these lights allow for easy maintenance access for future replacement.
3. The Bauer control system modulates the usage of the HVAC units and reduces the wearing of the units. Also with the Bauer control system reduces the moisture content in the air giving the ducts and the building materials a longer life span.
4. The automated control mechanism for the pool blankets reduces ongoing maintenance requirements.

Procurement:
Wyndham City Council with its procurement policies and processes provided fair and reasonable opportunities for Australian companies to tender for this project including local businesses, green suppliers, etc. Wyndham City Council’s procurement policy ensured that this project is committed at being:

- Ethical and of the highest integrity
- Fair (to all parties)
- Accountable and transparent
- Carried out on the basis of obtaining value for money
- Sustainable and consistent.

Wyndham City Council project managers also engaged with Australian companies through all stages of the project as described below:
- Design – the design and consultant team for WLEC project engaged with suppliers and endeavoured to source and specify Australian made services and products with the design.
- Procurement – the project team endeavoured to nominate Australian made products where possible within tender drawings, specifications and schedules.
- Construction – all construction works were completed to relevant Australian standards.

Evaluation:
WLEC’s building management system is patched to all sub-meters installed around the site and will enable Wyndham City Council to monitor the performance outcomes of specific energy efficiency upgrade initiatives. This includes the sub-metering for electricity, hot water usage and gas usage.

Wyndham City Council’s Sustainability and Environment Department will be recording this data over the next 12 months to confirm the performance outcomes. Being Council’s largest energy and water consumer, the energy efficiency initiatives incorporated in this project will have a major impact on Council’s broader energy and water usage profile.
BUDGET

The project has been delivered over the budgeted expenditure due to Wyndham City Council incurring additional costs in achieving few of the energy efficiency initiatives. These additional expenditures have been completely funded by Wyndham City Council out of the overall project budget. These initiatives have been listed and discussed below:

Building Sealing: The aquatic pool hall air conditioning unit is controlled by a Bauer Optimising System which requires a maximum air permeability rate of 10m³/hour. During construction works, the contractor engaged a specialist consultant, Air Barrier Technologies to assess the building works for achieving the required air permeability / sealing rates. The report suggested significant additional works to meet the specifications. These include:
- Installing a secondary roof above the existing roof structure retained during construction with a sandwich Aircell blanket to achieve the required building seal.
- Wrapping the new build with an Aircell blanket to achieve the required building sealing.

The initial allowance in the CEEP activity schedule for $12,000 for building sealing was mainly to caulk the building joints / connections and was inadequate to cover the costs for these additional works. The works associated with the building sealing within the aquatics pools hall increased significantly resulting in substantial additional cost to Council. The actual cost to Council for these works is $345,000.

External Car Park Lighting: The actual cost for the supply and installation of LED Lights in the car park is $540,000 as opposed to $256,000 listed in the funding schedule.

Funding Contribution (to date):

<table>
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<tr>
<th>Source of Funding</th>
<th>Budgeted Expenditure</th>
<th>Expenditure to date</th>
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<tr>
<td>Department of Industry and Science</td>
<td>$1,091,511</td>
<td>$1,091,511</td>
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<td>Wyndham City Council</td>
<td>$1,241,511</td>
<td>$1,858,511</td>
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<td>Total</td>
<td>$2,333,022</td>
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Note:
- It is noted that the Department of Industry and Science will release the final milestone payment of $150,000 following the approval of the sixth milestone / final report.
- The over expenditure of $617,000 by Wyndham City Council is due to additional costs incurred on Building Sealing and External Car Park Lighting.

Refer to the expenditure spread sheet with complete breakdown in Appendix 3.
PROJECT OPERATION, MECHANISMS AND PROCESSES

Wyndham City Council managed this project in-house with the support of the head architect (Suters Architects) and a diverse range of sub-consultant working under the head architects contract. Various external consultants were engaged at different stages of this project to assist with specific specialised tasks.

Wyndham City Council had two internal project managers working on this project assisted by the head architect offering contract administration role.

Due to the size and complexity of this project, Wyndham City Council adopted for a formal governance structure during the design and construction of the project to assist with the decision making process. Councillors, internal project managers, various stakeholders (internal / external) and the head consultants formed part of this group.

The Council Project Managers led the overall project including the consultants and contractors from the feasibility to completion.

Based on the outcomes of this project, it is envisaged that Wyndham City Council may use a similar model than the one adopted for this project for similar scale projects. However, Council’s preference will be to have a more involved internal engagement process where the project manager leads an internal team of various Council staff members who have expertise in relevant streams. This will help Council promote such projects at all levels within the Council as well as with the community.
CONCLUSION

The Redevelopment of the Wyndham Leisure and Events Centre is one of the biggest capital works projects undertaken by Wyndham City Council. The Department of Industry and Science’s Community Energy Efficiency Program funding and support has enabled Wyndham City Council to incorporate various energy efficiency initiatives into the redevelopment project and achieve Council’s sustainability objectives and also demonstrate strong leadership in sustainable design.

This facility due to the significant visitation per year and the broad range of users allows Wyndham City Council to promote best practice in sustainable design and increase awareness in the community.

With approximately $3 million spent on energy efficiency initiatives that were part funded by the Department of Industry and Science, this project is one of the biggest investments by Wyndham City Council in sustainable initiatives and sets up an example for other Council projects.

Wyndham City Council would like to acknowledge the support from the Department of Industry and Science for this project. The Department, throughout the development of this project has recognized the design / planning issues Council experienced and has always assisted with solutions.
DECLARATION

The Authorised Officer of the organisation makes the following declarations:

☐ I declare that I am authorised to submit this Final Report (including any attachments) on behalf of 

...wyndham..CI...COUNCIL... (Name of organisation)

☐ I declare that the information provided in this Final Report is true and accurate.

☐ I understand, and acknowledge that giving false or misleading information in this Final Report is an offence under the Criminal Code Act 1995.

☐ I understand that final payment will only be made in accordance with the Funding Agreement including on satisfactory completion of Milestones.

Authorised Officer Signature: [Signature] Date: 22/07/2015

Name: Samantha Krull

Position: Manager Major Projects Organisation: Wyndham City Council

Witness Signature: [Signature] Date: 22/07/2015

Name: Saurabh Chandra

Position: Project Manager Organisation: Wyndham City Council

The use and disclosure of information provided in this Final Report is regulated by the relevant provisions and penalties of the Public Service Act 1999, the Privacy Act 1988, the Freedom of Information Act 1982, the Crimes Act 1914 and the general laws of the Commonwealth of Australia.

Information contained in the Final Report may be disclosed by the Department for purposes such as promoting the program and reporting on its operation and policy development. This information may also be used in answering questions in Parliament and its committees. In addition, the selected project information will be made publicly available. Public announcements may include the name of the grant recipient and of any project partners; title and description of the project and its outcomes; and amount of funding awarded.
APPENDIX 1: SITE PHOTOS
## APPENDIX 2: ENERGY EFFICIENCY IMPROVEMENT

<table>
<thead>
<tr>
<th>Project Title</th>
<th>80 Derrimut Rd Aquatic and Events</th>
<th>Project ID</th>
<th>CEEP1062</th>
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<td>Funding Recipient</td>
<td>Wyndham city Council</td>
<td>Date</td>
<td>24 June 2015</td>
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### Overall Building Efficiency - Cumulative Effect of All Upgrades

| Name of Building               | Wyndham aquatic and events centre |
| Location (address)             | 80 Derrimut Rd Hoppers Crossing   |
| Type of building, facility or site | Aquatic and Events Centre |
| Activity Type and Measure      | Lighting upgrades, pool blanket, solar hot water (all as described in detail below) |
| Energy Efficiency Estimate Method | BCA JV3 modelling profiles (lighting)  |
|                                | Spread sheet calculation (lighting, pool blanket)  |
|                                | Supplier data (solar hot water and cogeneration)  |
| Baseline Energy Usage          | 32,320,864 MJ per annum (whole site gas and electricity) |
| Baseline Energy Efficiency     | 4380 MJ/m2 pa across both buildings (gas and electricity) |
| Energy Efficiency Improvement  | 262.10 MJ/m2 |
| Reporting Data (Measuring Energy Efficiency and Additional Data) | A total building site area (GFA) of 7379m2 |
|                                | Daily hours of operation: 5am to 10pm |
| Cost of Activity               | $1,216,111 |
| Estimated Cost Savings         | $27,576 |

### Building, Facility or Site Initiative 1

| Name of Building               | Wyndham aquatic and events centre |
| Location (address)             | 80 Derrimut Rd Hoppers Crossing   |
| Type of building, facility or site | Aquatic and Events Centre |
| Activity Type and Measure      | Pool hall lighting upgrade |
| Energy Efficiency Estimate Method | The simulation used to provide the estimates is based on the Building Code of Australia method for determining lighting power density and lighting energy usage as described in JV3 modelling methodology. With usage profiles as per the note below. |
| Baseline Energy Usage          | 32,320,864 MJ per annum (whole site gas and electricity) 406,257 MJ estimate for pool hall lighting alone |
| Baseline Energy Efficiency     | 4380 MJ/m2 pa across both buildings (gas and electricity) 226 MJ/m2 per annum pool hall lighting energy density |
| Energy Efficiency Improvement  | Reduction of 30MJ/m2 across total building area Reduction of 72MJ/m2 per annum in pool hall area |
| Reporting Data (Measuring Energy Efficiency and Additional Data) | A total site area of 7379m2 A total pool hall area of 3119m2 Daily hours of operation: 5am to 10pm Assumed existing lighting level turn down of 30% average overnight. Measured existing lighting power density of 9W/m2 |
| Cost of Activity               | $449,000 |
| Estimated Cost Savings         | $9,375 per annum |
| Name of Building, Facility or Site | Wyndham aquatic and events centre |
| Location (address) | 80 Derrimut Rd Hoppers Crossing |
| Type of building, facility or site | Aquatic and Events Centre |
| Activity Type and Measure | Events Centre lighting upgrade |
| **Energy Efficiency Estimate Method** | The simulation used to provide the estimates is based on the Building Code of Australia method for determining lighting power density and lighting energy usage as described in JV3 modelling methodology. With usage profiles as per the note below. The efficiency measure is reported against the events area alone as well as against the total site area. |
| **Baseline Energy Usage** | 32,320,864 MJ per annum (whole site gas and electricity) 200,000 MJ estimate for events centre lighting alone |
| **Baseline Energy Efficiency** | 4380 MJ/m2 pa across both buildings (gas and electricity) 103 MJ/m2 per annum events centre lighting energy density |
| **Energy Efficiency Improvement** | Reduction of 7.8MJ/m2 across total building area Reduction of 30MJ/m2 per annum in events centre |
| **Reporting Data (Measuring Energy Efficiency and Additional Data)** | A total site area of 7379m2 A total events centre area of 1925m2 Assumed usage profile as per appendix report Existing lighting power density of 9.5W/m2 |
| **Cost of Activity** | $557,111 |
| **Estimated Cost Savings** | $2,401 per annum |

### Building, Facility or Site Initiative 3

| Name of Building, Facility or Site | Wyndham aquatic and events centre |
| Location (address) | 80 Derrimut Rd Hoppers Crossing |
| Type of building, facility or site | Aquatic and Events Centre |
| Activity Type and Measure | Pool blanket |
| **Energy Efficiency Estimate Method** | Thermal calculation method for pool evaporation and pool blankets as described by University of NSW and as per manufacturer’s performance data and insulation value. |
| **Baseline Energy Usage** | 32,320,864 MJ per annum (whole site gas and electricity) 7,950,000 MJ (gas usage for overnight pool heating) |
| **Baseline Energy Efficiency** | 4,380 MJ/m2 pa across both buildings (gas and electricity) 6,363 MJ/m2 pa over pool surface area |
| **Energy Efficiency Improvement** | 224 MJ/m2 over whole site area 1,322 MJ/m2 pa over pool surface area |
| **Reporting Data (Measuring Energy Efficiency and Additional Data)** | Assume 9 hours coverage per night Assume overnight pool hall temperature of 21deg Assume maintained pool temperature of 29deg |
| **Cost of Activity** | $150,000 |
| **Estimated Cost Savings** | $14,000 per annum |

### Building, Facility or Site Initiative 4

<p>| Name of Building, Facility or Site | Wyndham aquatic and events centre |
| Location (address) | 80 Derrimut Rd Hoppers Crossing |</p>
<table>
<thead>
<tr>
<th>Type of building, facility or site</th>
<th>Aquatic and Events Centre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity Type and Measure</td>
<td>Solar Hot Water</td>
</tr>
<tr>
<td>Energy Efficiency Estimate Method</td>
<td>Manufacturers certified solar credits. These state the quantity of energy offset by the system for Melbourne. The panels are assumed to offset a gas fired boiler at 80% efficiency. The method is discussed in the supplementary report.</td>
</tr>
<tr>
<td>Baseline Energy Usage</td>
<td>32,320,864 MJ per annum (whole site gas and electricity) 125,870 MJ (gas usage for equivalent hot water quantity)</td>
</tr>
<tr>
<td>Baseline Energy Efficiency</td>
<td>0.26MJ/litre of 65deg water</td>
</tr>
<tr>
<td>Energy Efficiency Improvement</td>
<td>0.30MJ/litre of 65deg water 100% improvement</td>
</tr>
<tr>
<td>Reporting Data (Measuring Energy Efficiency and Additional Data)</td>
<td>Rinnai system is awarded 490 SRECs over 10 years Calculation based on energy required to heat equivalent volume of water to 65deg</td>
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<tr>
<td>Cost of Activity</td>
<td>$60,000</td>
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<tr>
<td>Estimated Cost Savings</td>
<td>$1,800 pa</td>
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Appendix 3: Financial Statement removed from report due to confidential information.
Continuing Services

The Wyndham Olympic Outdoor Pool (WOOP) will remain open for the duration of the WLEC redevelopment project. Please contact WOOP or Council for the most up-to-date hours of operation.

Membership options are available for the pool and gym. For more information or general queries please contact Borgani Leisure on 9748 2505.

Further Information

Stay up to date and learn more about the redevelopment:

- Check our website for regular updates, photos and announcements on wyndham.vic.gov.au/WLEC
- Join our database to receive regular updates by logging your details on the website
- Follow the ‘Healthy and Active in Wyndham’ Facebook page for everything you need to know about staying fit and active
- Scan the QR code below with your smart phone to be taken straight to the website

For further information please contact 9740 0777

The Wyndham Leisure and Events Centre
Redevelopment Project
Message from the Mayor

The re-development will create a vibrant and attractive hub that meets the needs of our burgeoning community. The re-development will provide a place for people to come together through recreation and events. It is exciting to bring this project to life, the biggest ever infrastructure investment by Wyndham City following a significant planning process. Construction is now underway on the facility which, when complete, will be the city’s one of its sites in Melbourne’s West. This facility is not only a great asset for the community, but a source of pride for Wyndham.

My fellow councillors and I are excited about delivering this project and look forward to sharing the journey with you.

Wyndham City Mayor, Bob Fairclough

A New Community Hub

The Wyndham Leisure and Events centre is being redeveloped by Wyndham City in partnership with the Victorian Government. The redeveloped centres will cater for the rapid growth of Wyndham’s population and cater for future needs.

The new facility will be a vibrant and attractive community hub with something for everyone – whether it is fun, fitness, health or entertainment. WLEC has space for community well-being, events, recreation and socialising:

- Centrally located Café and Piazza area where you can connect and meet
- Aqua play, 5 new pools and 2 giant waterslides
- A health and fitness precinct with gym and fitness classes
- A redeveloped Events centre with improved sound, acoustics, stage and much more
- Reconfigured car park with 551 spaces, including drop off zones
- Accessible change rooms and lift
- ‘Family friendly’ with a crèche and family change village.

Aquatics

With 5 NEW pools every need is met, from learn to swim, lap swimming for the serious athlete through to rehabilitation and therapy:

- A new 50m Olympic Pool, 8 lanes and a moveable island
- 25m learn to swim pool, and for event warm up and lap swimming
- Toddler pool
- Warm water therapy pool
- Spa
- Sauna and steam room.

Aquatic Fun for Everyone!

With a full face lift, the area will be expanded to have water activity zones that cater for all age groups and provide hours of entertainment all year round:

- Unique indoor waterslides, the biggest in Victoria
- Great indoor water play centre featuring slides, sprinklers and tipping bucket
- Splash pool and toddler play zone.

Health and Fitness

The new health and fitness centre will cater for all members of the community. Features include:

- A new Gym – double the size of the past gym
- 100 square metres of dedicated spinning space
- Members-only lounge and change space
- Dedicated group fitness area, 250 square metres.

Events Centre

The Events Centre is being fully refurbished with additional features that will benefit the whole community, great for concerts, theatre, banquets and performances:

- Increased stage size
- Upgraded lighting and sound systems
- Improved acoustics
- Increased back of house functionality
- Re-designed community rooms with operable wall systems.

A New, On-Site Café

Centrally located, the new café will have indoor and outdoor access, adjacent to the AquaPlay pool area.

Ecologically Sustainable Design

The design includes sustainability initiatives to reduce water and energy consumption across the site, including:

- New, more water efficient pool filters
- Rain water collection used for irrigation and toilet flushing
- A cogeneration plant that uses a mix of energy sources and reduces energy use, costs and environmental impacts
- Energy efficient heating and cooling systems
- More efficient indoor lighting
- LED technology used for car park lighting
- Native plants with lower water needs
- Facilities for cyclists.
Aquapulse & Encore

**The New Facility**

**Project Vision**

**Photo Gallery**

**Contact Us**

**Address:** 80 - 82 Derrimut Road, Hoppers Crossing

Aquapulse and the Encore Events Centre is almost complete with doors to opening to the public on Saturday 27 June 2015.

Wyndham City received $1.48 million in Federal funding and $2.6 million from the State Government. The remainder of the $34.4 million project was funded by Wyndham City.

The new facility will be a vibrant and attractive community hub with something for everyone – whether it is fun, fitness, health or entertainment.

**Aquapulse**

The expansions and upgrades at Aquapulse will cater for the Wyndham Community when the doors open and well into the future.

Features include:

- A new 50m Olympic distance pool
- A new 25m Learn to Swim Pool
- A new warm water Therapy pool to assist with Therapy and rehabilitation programs
- New Steam and Sauna rooms and Spa Pool
- Accessible change areas and lift
- An Aqua Play area featuring a tipping bucket, sprayers and slides for young children to enjoy.
- Two waterslides slides including Victoria's largest water slice, an adrenaline seeking 4 person raft theme park style slide
- A new state of the art gym with over 950m2 of weights, cardio and stretching space, a cycle studio, large group fitness studio, programmable gym area, members lounge and new change rooms.
- Family change area with large change cubicles with plenty of space to cater for families.
- Car park with 551 spaces
- Creche facilities
- Centrally located Café and Piazza area where you can connect and meet
- A redeveloped Events centre with improved sound, acoustics and stage

**Waterslide Construction Video**
Aquapulse & Encore

Vision

The project vision is to 'Create a vibrant and attractive community hub that provides space for community well being, events, recreation and socialising'.

Driven by the Aquatic Strategy, Aquapulse (formerly known as the Aquatic and Leisure Centre) will undergo major refurbishments and extensions to provide a number of facilities that cater for the needs of the Wyndham community now and into the future.

Encore (formerly known as The Events Centre) will be refurbished to increase the quality of finish to the existing facilities and to expand and improve key areas of the Centre.

A focus on the reduction of Council’s operational impacts to ensure a sustainable and productive future for Wyndham City is a key objective of ‘The Wyndham City Environment and Sustainability Strategy 2011 – 2015’.

Aquapulse

Aquapulse will undergo major refurbishments and extensions to provide a...

Encore

Encore (formerly known as The Events Centre) has been refurbished to...

Aquapulse – home to the biggest waterslide in Victoria and a range of leisure and sporting activities.
Aquapulse Set To Open – Plan Your Visit… at Wyndham

22.06.2015

The countdown is on for the opening of AquaPulse – Wyndham's newly redeveloped indoor aquatic and leisure centre and Council is encouraging patrons to plan their visit to avoid long queues.

With doors set to open on Saturday, 27th June 2015, which is at the commencement of the school holidays, the new indoor pools and waterslides are expected to be a popular attraction. Wyndham Mayor, Cr Peter Maynard encouraged residents to check how busy the Centre is before heading down.

"I'm sure many residents have been driving past AquaPulse and looking at those big slides with great anticipation, so we expect that the school holidays especially will be a busy time. We want to minimise waiting times as much as possible so that people have a positive experience," he said.

"Prior to visiting AquaPulse we are encouraging people to check out the WynActive Twitter or Facebook feeds, or the WynActive website to find out if the Centre has reached capacity. There will be posts to let people know if the pool has reached the maximum number of people – as there will be a limit to ensure the safety of patrons."

AquaPulse is a premier venue for Wyndham City and the entire western region and will provide residents with access to state of the art facilities and some of the biggest waterslides in the State.

Features include:
• A state of the art gym with dedicated fitness areas
• New pools including a 25m learn to swim pool, a 50m Olympic distance pool, spa and warm water exercise pools
• Steam and sauna room
• Accessible change areas and lift
• Creche facilities
• 2 waterslides including a four person raft and aquatic playground
• A Café and Pizza area.

Cr Peter Maynard said the Council is incredibly proud to deliver such a high quality Centre for current and future residents.

"This $54.4 million facility will serve our growing community now and into the future. AquaPulse and the Encore Events Centre have been designed to provide residents with a high quality leisure and entertainment complex that will be a source of pride for years to come."

"We understand that the school holidays is the perfect time to get along and check out the new facility, and we look forward to seeing everyone there – just remember to check in on the WynActive sites prior to getting the car and heading over."

Visit AquaPulse WynActive (http://aquapulse.wynactive.com.au) and like WynActive on Facebook (https://www.facebook.com/WynActive?fref=ts) or visit Twitter (https://twitter.com/wynactive) for more information.
The Largest Waterslide In Victoria Comes To Wyndham

23.10.2014

Have you noticed the massive waterslide being installed at 80 Derrimut Road? Wyndham City’s biggest ever infrastructure project is taking shape and is due to open in 2015.

Wyndham City Mayor Cr Rob Fairclough said the installation of the biggest water slide in Victoria is just one of the many fantastic features this redeveloped facility will deliver to the community.

"My fellow Councillors and I are excited to see this project coming to fruition and we know the community are equally enthusiastic. A recent posting on Council’s Facebook page with images of the slide being installed captured everyone’s imagination with more than 50,000 shares and hundreds of residents telling us they can’t wait till the facility opens,” Cr Fairclough said.

"Wyndham City’s biggest infrastructure project is taking shape and will showcase the largest water slide in Victoria. The two main components; aptly name the ‘toppy-turvy’ and the ‘bowling alley’ were recently installed. One of the unique features of the giant waterslide is the four person raft ride that starts 12 metres above the ground."

"The redeveloped facility will be the only one of its size in Melbourne’s West, providing a great asset to the community and a source of pride for Wyndham. The building will have several sustainable features such as solar hot water system, rain water tanks, LED lighting and external double glazing."

Wyndham City Councillor Peter Maynard, Portfolio holder for Sport, Leisure and Open Space said "The biggest water slide in Victoria is just one of the many fantastic features this redeveloped facility will deliver to the community. With 5 new pools, aqua play, a state of the art gym, onsite café and a refurbished events centre there is something for everyone, whether you are one or 101."

WYNDHAM LEISURE AND EVENTS CENTRE TO UNDERGO MAJOR REDEVELOPMENT

Wyndham Leisure and Events Centre in Hoppers Crossing will be transformed into a flagship recreation destination for Melbourne’s west with the contract for a $45.4 million redevelopment of the centre awarded to ADCO Constructions at Wyndham City’s Ordinary Council Meeting on Monday, 25th March.

The redevelopment will be Wyndham City’s largest ever capital works project and includes the construction of a new, 1000 square metre health club with dedicated spaces for spin, group fitness classes and a members lounge.

A 50-metre concrete pool with moveable boom, warm water hydrotherapy pool with in-built spa, a four-lane learn to swim pool and children’s water play centre and Victoria’s two largest waterslides will be part of the new aquatics precinct.

Other features will be a landscaped public piazza, multipurpose community rooms, an increased capacity crèche, café, expanded car park and a fully refurbished Events Centre with a larger stage, improved sound, lighting and backstage amenities and a new foyer.

Wyndham Mayor Cr Heather Marcus said the redevelopment will deliver significant social, economic and health benefits to the municipality’s burgeoning population.
“The community has outgrown the current Wyndham Leisure and Events Centre’s facilities,” Cr Marcus said.

“The expansion will provide our growing municipality with a state-of-the-art aquatics and events venue that will be a major landmark and a source of pride for Wyndham.”

While there will be some disruption for residents as redevelopment progresses, the new and improved Wyndham Leisure and Events Centre will be worth the wait.

“Council is taking steps to minimise the inconvenience for residents and the community during the course of the project. A temporary gym is now open at the Events Centre, with memberships offering access to gym and the Werribee Olympic Outdoor Pool from $11.25 per week,” Cr Marcus said.

“With the closure of the Centre’s aquatics facilities on Monday, 15th April, the community will be able to access the Werribee Olympic Outdoor Pool, which will extend its season of operation and remain open all year round (with limited hours of operation between Wednesday, 1st May and Thursday, 31st October). We hope the community will be patient as we move forward with this important project.”

The redevelopment has received $2.6 million from the State’s Government Better Pools program, $1.49 million from Community Energy Efficiency Program and $900,000 in Growth Areas Infrastructure Contribution funding. Council has made a long-term commitment to relocate Heaths Road Library to the 80 Derrimut Road site, but this project still requires significant external funding to go ahead.

For information on the project, phone Wyndham City on 9742 0777 or visit www.wyndham.vic.gov.au/WLEC