BASS COAST AQUATIC LEISURE CENTRE REDEVELOPMENT FEASIBILITY STUDY

FINAL DRAFT REPORT

JANUARY 2021

BASS COAST

Prepared by Otium Planning Group Pty Ltd
In association with Peddle Thorp Architects &
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SPORT + LEISURE

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Otium Planning Group acknowledges the Australian Aboriginal, Torres Strait and South Sea Islander peoples of this nation. We acknowledge the traditional custodians of the lands on which our company is located and where we conduct our business. We pay our respects to ancestors and to Elders, past, present and emerging. Otium is committed to national reconciliation and respect for indigenous peoples' unique cultural and spiritual relationships to the land, waters and seas, and their rich contribution to society.

Contents

1. Introduction

In 2015 Council adopted a 10 year Bass Coast Aquatics Strategy (completed by Otium Planning Group) that combined all of the previous studies and consultation on the various aquatic leisure facilities across the shire, into a single planned and sequential future aquatic facility strategy.

The strategy made a number of integrated facility, program and service recommendations on the future priority area/s for aquatic and leisure centre development in Bass Coast Shire over the next ten years.

Bass Coast Shire Council area has currently only one existing aquatic leisure facility, which is located in Wonthaggi. The Bass Coast Aquatic and Leisure Centre (BCALC), Wonthaggi was opened in 1975 (45 years old) and incorporates the following (approximate) sized main activity and service areas:

- Indoor 25m x 14m (6 lane pool) = 350m2
- Indoor toddlers pool (5m x 4m) = 20m2
- Indoor sports court (34m x 22m) = 748m2
- Gym (was originally youth club/hall) 18m x 11m = 198m2
- Indoor Amenities 220m2
- Program Room 17m x 7m = 119m2
- Tennis Pavilion 15m x 5m = 75m2
- Meeting Room and Office
- Entry/Reception/Circulation/Storage

BCALC is currently managed by the YMCA who has a management contract with Council until 30th June 2021. The Centre offers a range of services, which include Aquatic Education programs, lap swimming, casual swimming, swim club activities, aqua aerobics, school group bookings, group fitness, gymnasium, personal training, gymnastics, vacation care and stadium sports.

There are currently three outdoor swimming pools within the Shire, but these are located at Primary Schools at Wonthaggi Primary School (no public use), Bass Valley Primary School (Corinella -no public use) and Cowes Primary School (limited public use during holiday periods).

There are three commercial learn to swim pools in the Shire being one at Inverloch (Invy Swimmers 5 Lindsay Close Inverloch) and two on Phillip Island Infinity Swim School (232 The Esplanade Surf Beach) and Cowes Concourse (4/24 the Concourse Cowes)

The Shire also has a Leisure Centre at Cowes that is also managed by the YMCA. It has dry facilities only including a health club, offices, group fitness room, crèche, single court stadium and sauna.

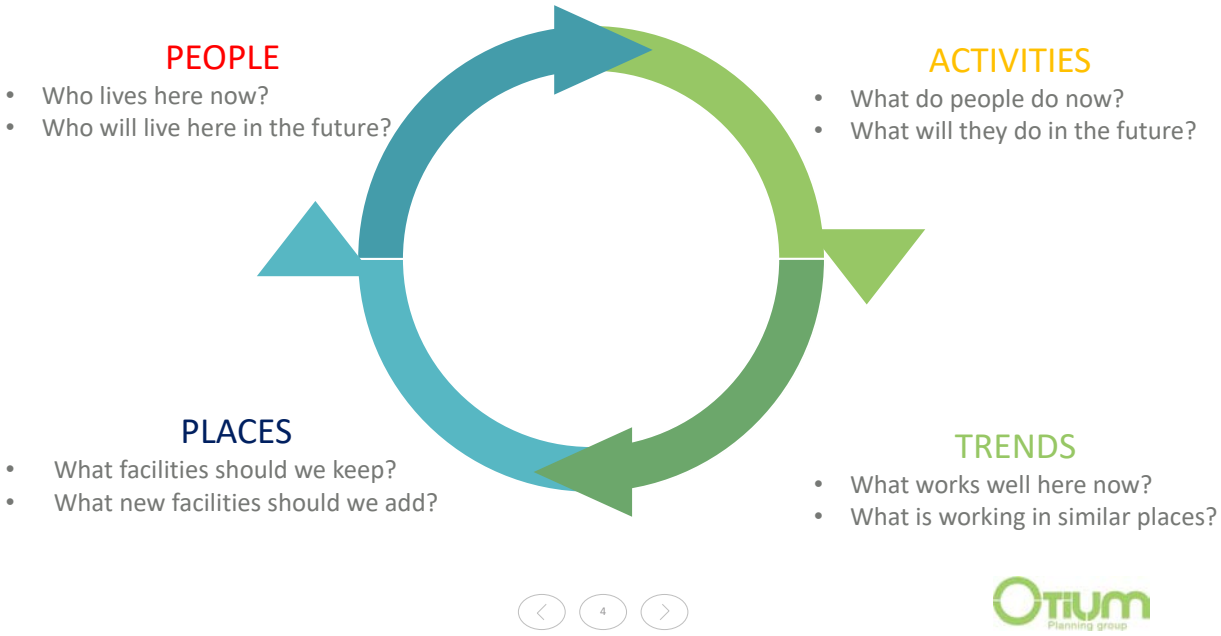
1.1 Report Scope

This report covers the final draft feasibility study report to guide the redevelopment and or replacement of BCALC. A separate report has been prepared for the proposed Phillip Island Aquatic Leisure Centre.

1.2 Otium Planning Group's Aquatic Leisure Centre Planning Model

In line with the project methodology offered by Otium Planning Group this review has been completed based on OPG's successful aquatic leisure facility planning framework, as listed on the next page.

OPG SUCCESSFUL AQUATIC CENTRE PLANNING FRAMEWORK



2. Project Area & BCALC User Catchment Review

2.1 Project Area Overview

Bass Coast Shire Council's website describes the area and its people " as a vibrant community within easy commuting distance from Melbourne. Bass Coast has demonstrated consistent growth over the past decade. As the Gippsland region grows, so do the opportunities to invest, live and work in the Shire.

Bass Coast is changing from a rural community based on agriculture, fishing and tourism. It is now a dynamic, modern community with options for commuting, greater opportunities and evolving services and technologies - while still maintaining a rural community feeling.

Less than ninety minutes' drive from the Melbourne CBD, Bass Coast Shire encompasses a unique combination of coastline and rural hinterland. The area has been a popular holiday destination for a long time with over three million visitors annually travelling to the area and experiencing the coastal and rural lifestyle that is attracting more permanent residents annually.

With a population of over 31,010 people, Bass Coast Shire covers over 860sq km spanning rich farmland, stunning coastline, a large range of smaller townships and tranquil hinterland. In the main holiday seasons the population is estimated to increase substantially.

The main town centres of Cowes, Inverloch, Grantville, San Remo and Wonthaggi provide quality housing, shopping and services.

Bass Coast Shire Council's high-level vision is to "be recognised as a unique place of environmental significance where our quality of life and sense of community is balanced by sustainable and sensitive development, population and economic growth".

2.2 Project Area Population Overview

Bass Coast Shire is located in south-eastern Victoria, about 130 kilometres south-east of the Melbourne CBD. Bass Coast Shire is bounded by Western Port Bay in the north and west, Cardinia Shire in the north-east, South Gippsland Shire in the east, and Bass Strait in the south.

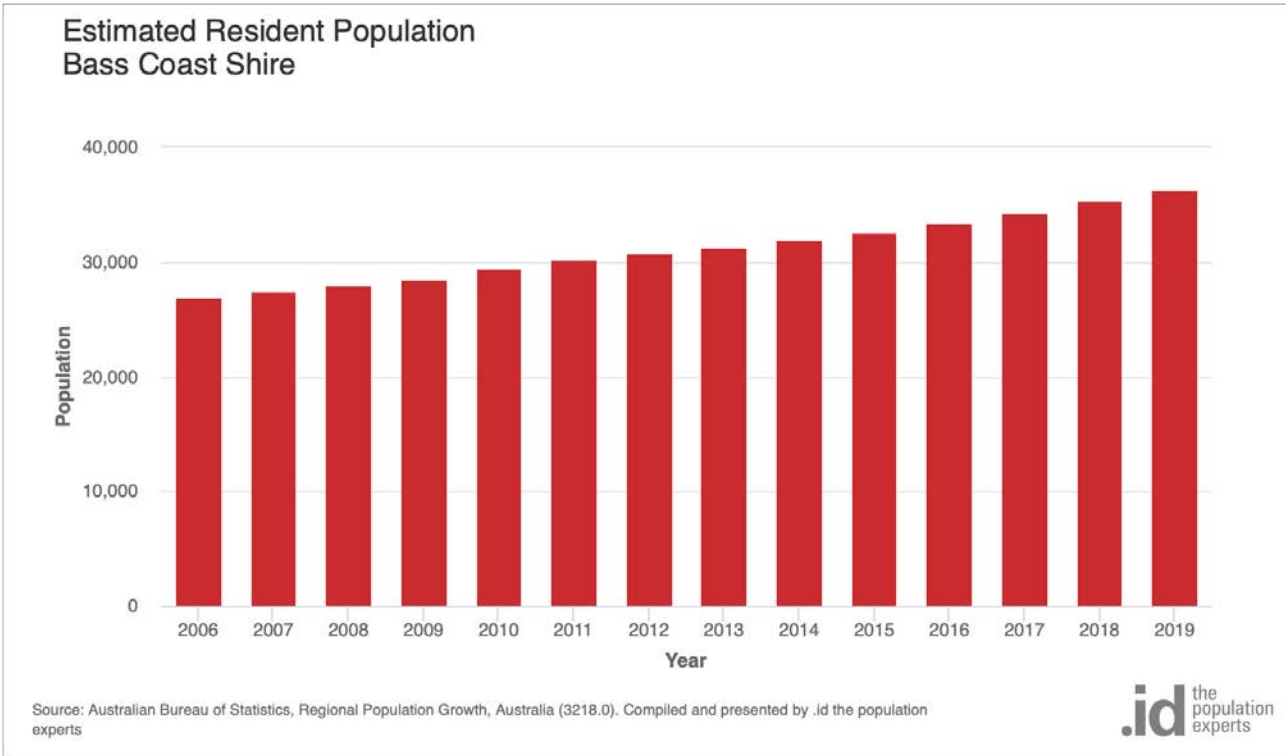
Council has commissioned **id** to develop information on current and future population. A review of the website https://profile.id.com.au/bass-coast/population highlights

The Census usual resident population of Bass Coast Shire in 2016 was 32,804, living in 25,817 dwellings with an average household size of 2.17.

The current resident population as at June 2019 was estimated at 36,320 residents.

The graph on the next page plots the Shire population over the past 14 years. The population trends indicate there was an estimated 26,491 people living in the LGA in 2006 and this had increased to 36,320 people by 2019.

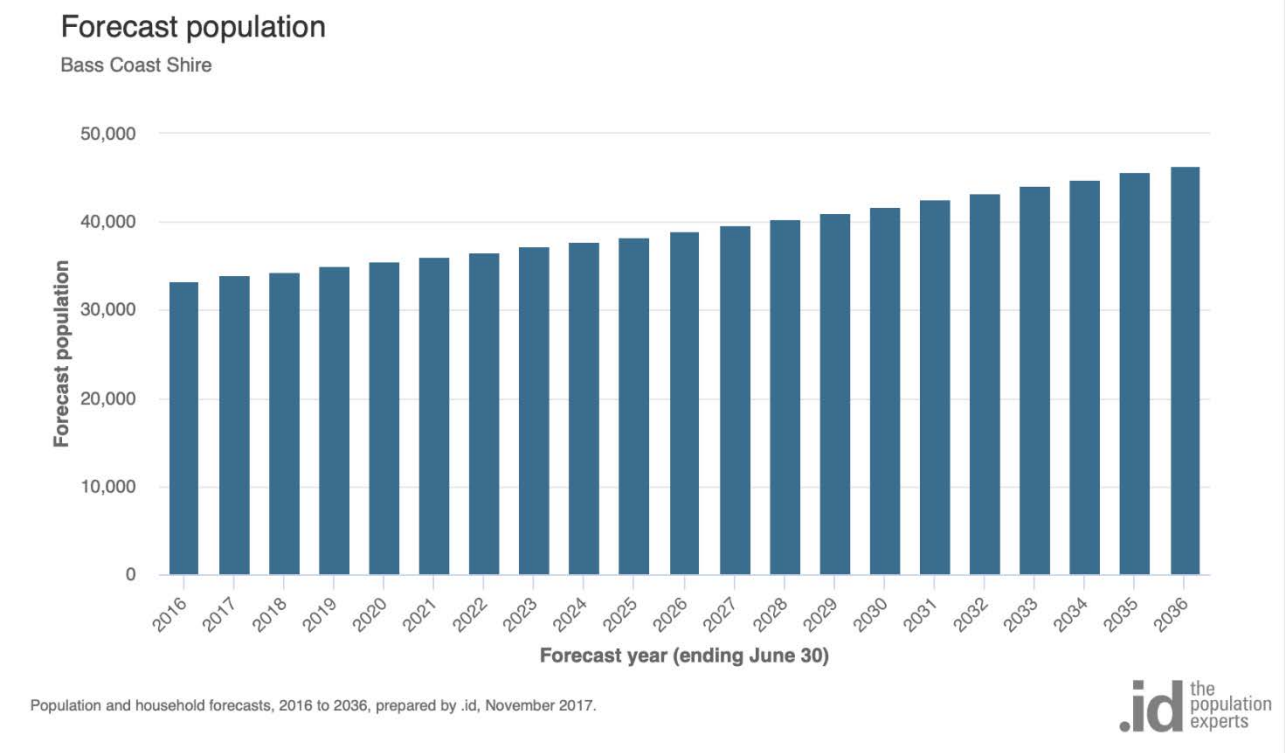
This indicates the area population has increased by 9,829 people which is an increase in population of 37% or 2.6% annually which is well above the Victorian state average population increase for this period.



2.3 Project Area Future Population Overview

The Bass Coast Shire population is projected to continue to increase from an estimated 33,311 people (2016 ABS) to 46,429 people by 2036. This is an increase of 13,118 or a population increase between 2016 and 2036 of 39.4% or an annual average of 1.96%.

These population trends are detailed in the following graph.



2.3.1 Bass Coast Shire Age Profile Review 2016 to 2036

The following table provides an overview of the Bass Coast Shire Council population age profile from 2016 to 2036.

Table 1: Bass Coast Population Age Profile 2016 to 2036

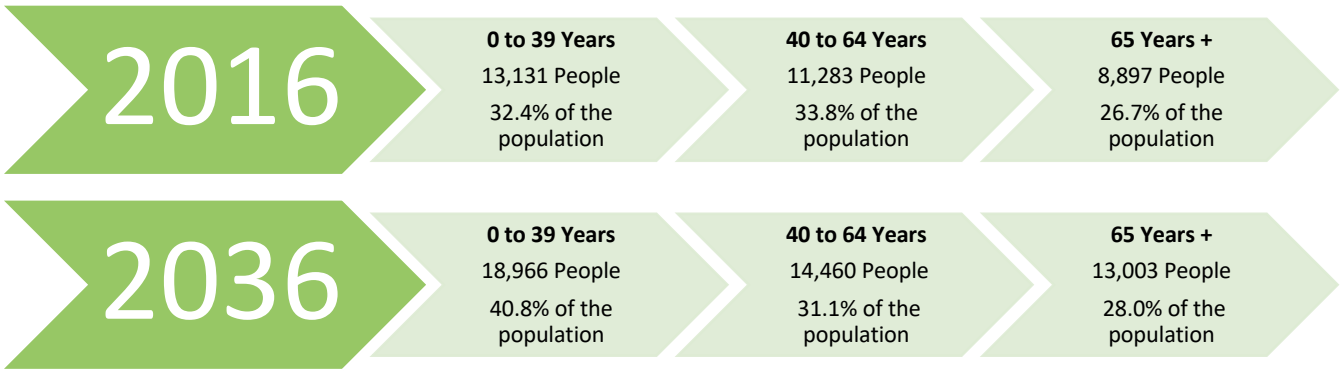
Age Group	2016		2026		2036		Change Between 2016 & 2036
	Number	%	Number	%	Number	%	Number
0 to 4	1,774	5.3	2,164	5.6	2,637	5.7	863
5 to 9	1,955	5.9	2,266	5.8	2,732	5.9	777
10 to 14	1,807	5.4	2,102	5.4	2,561	5.5	754
15 to 19	1,620	4.9	1,793	4.6	2,129	4.6	510
20 to 24	1,239	3.7	1,534	3.9	1,829	3.9	590
25 to 29	1,485	4.5	1,733	4.4	2,059	4.4	573
30 to 34	1,651	5.0	1,933	5.0	2,347	5.1	696
35 to 39	1,600	4.8	2,207	5.7	2,672	5.8	1,073
40 to 44	1,851	5.6	2,273	5.8	2,764	6.0	913
45 to 49	2,058	6.2	2,112	5.4	2,694	5.8	637
50 to 54	2,202	6.6	2,232	5.7	2,734	5.9	533
55 to 59	2,478	7.4	2,581	6.6	2,920	6.3	442
60 to 64	2,694	8.1	2,971	7.6	3,348	7.2	654
65 to 69	2,914	8.7	3,125	8.0	3,547	7.6	633
70 to 74	2,281	6.8	2,757	7.1	3,194	6.9	914
75 to 79	1,530	4.6	2,331	6.0	2,642	5.7	1,112
80 to 84	1,049	3.1	1,592	4.1	1,978	4.3	929
85 and over	1,126	3.4	1,233	3.2	1,643	3.5	517
Total persons	33,311	100.0	38,939	100.0	46,429	100.0	13,118

Note: Population and household forecasts, 2016 to 2036, prepared by .id , the population experts, October 2017.

The Bass Coast Shire Council population age profile review between 2016 and 2036 indicates:

- In 2016 people in their most active years 0 to 39 years old accounted for 13,131 people or 39.4% of the Shires population. People aged 40 years to 64 years accounted for 11,283 people or 33.8% of the Shires population. People aged 65 years and greater accounted for 8,897 people or 26.7% of the Shires population.
- In 2036 it is projected that people in their most active years 0 to 39 years old will account for 18,966 people or 40.8% of the Shires population. People aged 40 years to 64 years will account for 14,460 people or 31.1% of the Shires population. People aged 65 years and greater will account for 13,003 people or 28.0% of the Shires population.

The age profile trends indicate by 2036 there will be the following main age groups living in the shire compared to 2016:



The age profile review indicates there will be slightly more people aged in their most active years (0 to 39 years old) + 5,835 (+8.4% of the total population). There will be +3.177 people aged 40 to 64 years old (-2.7% of the total population) and +4,106 people aged 65 years plus (+1.3% of the total population.

2.4 BCALC User Catchment Population Overview

The Bass Coast Aquatic Strategy 2015 to 2024 adopted the following locality/planning areas would be serviced by the Bass Coast Aquatic Leisure Centre Redevelopment or Replacement.

- Inverloch/Pound Creek
- North Wonthaggi
- Wonthaggi/Cape Patterson
- Rural Balance areas
- Waterline (Western Port Townships)

A review of Councils 2019 estimated resident population reports (id profile) predict the current (2019) and future (2036) population for these planning areas as listed in the following table.

Table 2: BCALC Population Catchment Review by Planning Area

Planning Area	2019 Population	% of Total Shire 2019 Population	Projected 2036 Population	% of Total Shire 2036 Population	Population Change between 2016 and 2036
Inverloch/Pound Creek	5,970	16.4%	7,413	16.0%	+1,443
North Wonthaggi	3,040	8.4%	5,086	10.9%	+2,046
Wonthaggi/Cape Patterson	6,784	18.7%	9,269	20.0%	+2,485
Rural Balance Areas	2,963	8.2%	3,289	7.0%	+326
Waterline	4,357	12.0%	5,579	12.0%	+1,222
Total Population	23,109	63.7%	30,631	65.9%	+7,522

The review of estimated people living in the BCALC projected user catchment zone indicates there were 23,109 people or 64.7% of the Shires population living in this area.

Future population projections for the BCALC user catchment area indicate a further 7,522 people are projected to be living in this area by 2036. This would see the area's population as a percentage (%) of the total Shire population increase by 2.2% to 65.9%.

The population review helps reconfirm Councils aquatic strategy that the BCALC should be developed to meet the Shires largest combined area population.

2.4.1 Wonthaggi North East Growth Area

The Wonthaggi North East Growth area has been identified for some time as a key growth area for Bass Coast Shire Council, and the peri-urban area of Melbourne. Please note that as this is a recently adopted precinct structure plan some of the areas future population forecasts will not have taken this population expansion area into account and therefore should be regarded as conservative forecasts.

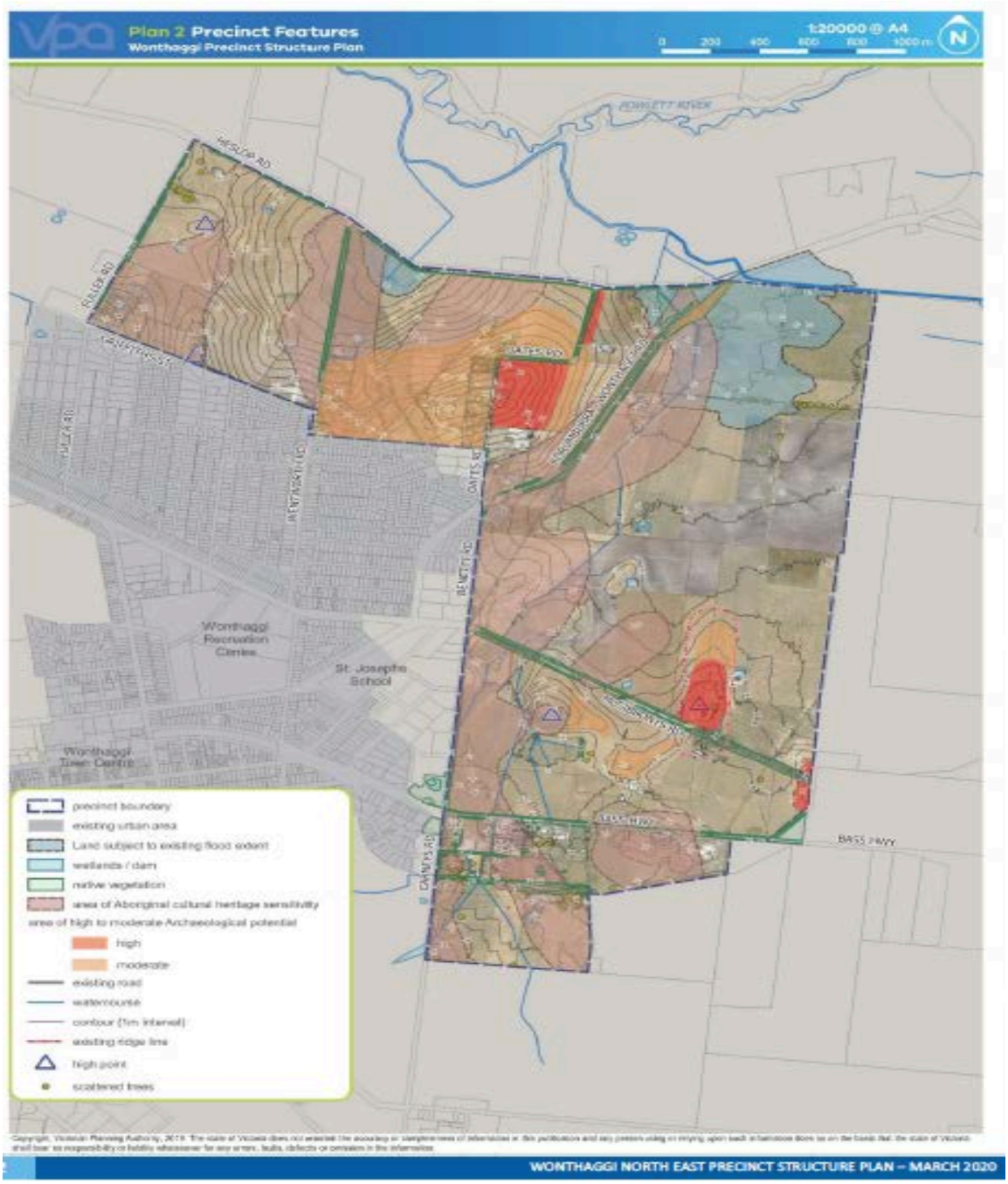
The Wonthaggi North East Precinct Structure Plan (WNEPSP) was completed in March 2020 and captures the benefits of growth while maintaining the town as a strong rural service centre, with attractive new communities and surrounding farmland.

It creates a strategic framework that will guide the town's growth from 8,000 to 20,000 residents through the construction of approximately 5,030 new homes over the next 30 to 50 years.

The WNEPSP also plans for the expansion of the town's existing infrastructure to service an increased population, including:

- A new road network that provides alternative routes through and around the town.
- An expanded business and industry precinct to increase the number of local jobs in Wonthaggi.
- New pedestrian and cycle paths, linking to and building on the significant Bass Coast trail network.
- A total of 98 hectares of new open space, including significant areas of waterways and wetlands.
- Provision for a new community and village hub.

A copy of the PSP area is listed below.

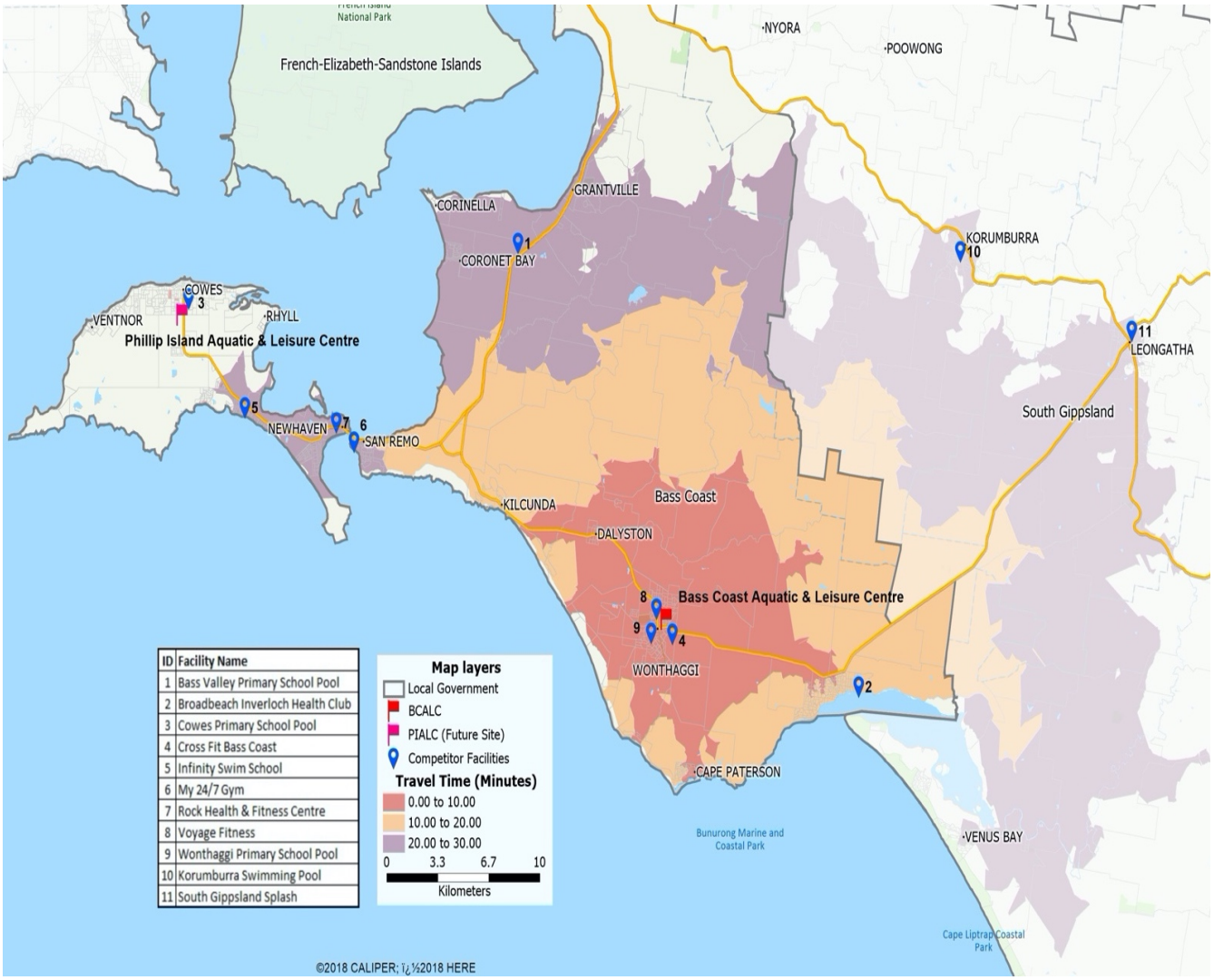


2.5 BCALC User Catchment Travel Time Overview

Aquatic Industry Trends indicate that the main user for aquatic leisure centres will come from close by through to about 30 minutes travel time. OPG have developed BCALC user travel time catchment maps based on the following user catchment areas:

- Primary catchment zone: 0 to 10 minutes travel time
- Secondary catchment zone: 10 to 20 minutes travel time
- Tertiary catchment zone: 20 to 30 minutes travel time

The BCALC user catchment travel time map is listed below. It also provides location details for BCALC and competitor aquatic and health and fitness centres in this user catchment zone.



The BCALC user catchment by travel time mapping highlights:

- Primary Catchment Zone (0 to 10 minutes travel time): 1 school pool & 3 health & fitness facilities in zone.
- Secondary Catchment Zone (10 to 20 minutes travel time): 1 commercial pool & health & fitness facility in zone.
- Tertiary Catchment Zone (20 to 30 minutes travel time): 1 school pool, 2 adjoining LGA swimming facilities, 1 commercial learn to swim centre and 2 health and fitness centres.

2.5.1 BCALC User Catchment Travel Time Population Review

The BCALC user catchment population has been detailed in the table on the next page and is based on 2019 projections and compared against the projected 2036 population for these catchments based on user travel time.

Table 3: BCALC Population Catchment Review by User Catchment Area (Travel Time)

Population	2016				2036			
Age Profile	0-10 Mins	10-20 Mins	20-30 Mins	Total 2016	0-10 Mins	10-20 Mins	20-30 Mins	Total 2036
Total Population	10,676	6,918	15,723	33,317	13,949	9,039	20,544	43,532
Male	5,117	3,361	7,653	16,131	6,686	4,391	9,999	21,076
Female	5,580	3,559	8,043	17,182	7,291	4,650	10,509	22,450
Age <5	626	320	900	1,846	931	476	1,338	2,745
Age 5 to 14	1,220	806	1,870	3,896	1,717	1,134	2,632	5,483
Age 15 to 19	611	332	829	1,772	803	437	1,090	2,330
Age 20 to 24	433	172	675	1,280	639	254	996	1,889
Age 25 to 34	1,061	515	1,525	3,101	1,489	723	2,141	4,353
Age 35 to 44	1,023	739	1,709	3,471	1,618	1,169	2,704	5,491
Age 45 to 54	1,365	882	2,056	4,303	1,913	1,236	2,881	6,030
Age 55 to 64	1,485	1,176	2,348	5,009	1,798	1,424	2,842	6,064
Age 65 to 74	1,475	1,201	2,245	4,921	1,931	1,572	2,939	6,442
Age 75 to 84	977	592	1,073	2,642	1,765	1,069	1,938	4,772
Age 85+	441	210	493	1,144	643	306	719	1,668

The BCALC user catchment population review highlights:

- In 2016 there were 33,317 people living in the combined user catchment zones and this is projected to increase to 43,532 by 2036.
- In 2016 there were slightly more females (51.6%) than males (49.4%) living in the user catchment zone and these gender population ratios are projected to stay at the same rates in 2036.
- In 2016 a total of 7,514 people (22.5% of total population) were aged 0 to 19 years old and this is expected to increase to 10,558 (24.2% of total population) by 2036.
- In 2016 a total of 12,155 people (36.5% of total population) were aged 20 to 54 years old and this is expected to increase to 18,905 (43.4% of total population) by 2036.
- In 2016 a total of 13,648 people (40.9% of total population) were aged 55 years plus and this is expected to increase to 14,069 (32.3% of total population) by 2036.

3. Bass Coast Aquatic & Leisure Centre Review

3.1 Centre Facilities

The Bass Coast Aquatic and Leisure Centre (BCALC) is located on the Wonthaggi Recreation Reserve off Wentworth Street Wonthaggi. The original recreation and sport facilities were opened in 1975 (45 years old) and the indoor aquatic centre and amenities were linked to the recreation facilities in 1982. The available layout plans are listed in appendix one of this report.

BCALC now incorporates the following (approximate) sized main activity areas:

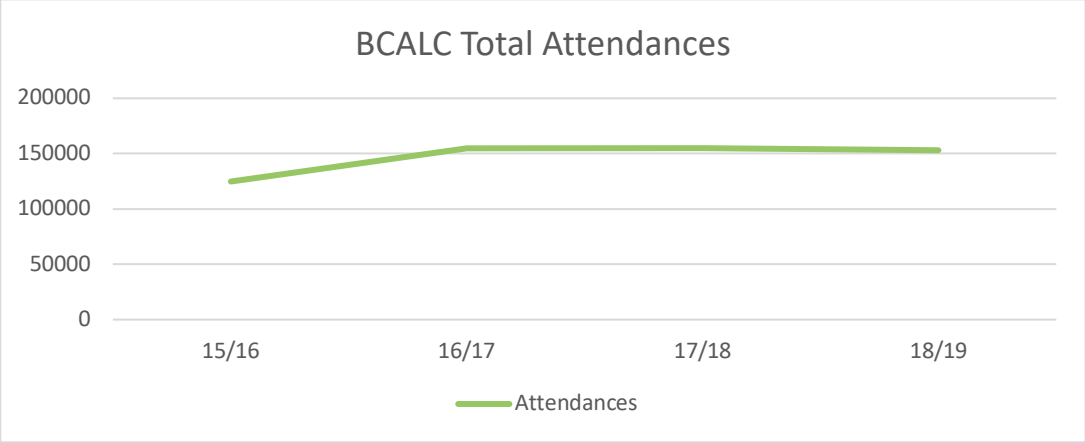
- Indoor aquatics hall (42m x 22m = 924m2):
  - Indoor 25m x 14m (6 lane) pool = 350m2
  - Indoor toddlers pool (5m x 4m) = 20m2
  - Aquatics plant room (8m x 12m) = 96m2
- Indoor sports court (34m x 22m) = 748m2
- Gym (was originally youth club/hall) 18m x 11m = 198m2
- Indoor amenities and change = 220m2
- Program Room with kitchette 17m x 7m = 119m2
- Tennis Pavilion (to rear of gym) 15m x 5m = 75m2
- Meeting Room and Office
- Entry/Reception/Circulation/Storage

BCALC is currently managed by the YMCA who has a management contract with Council until 30 June 2021. The Centre offers a range of services, which include Aquatic Education programs, lap swimming, casual swimming, swim club activities, aqua aerobics, school group bookings, group fitness, gymnasium, personal training, gymnastics, vacation care and stadium sports.

The following section provides an operational overview of the centre based on information from centre management.

3.2 BCALC Attendances

The figure below presents total BCALC annual attendances from 2015/16 to 2018/19. The data has been sourced from the centre counters documented in the YMCA monthly and annual reporting statistics.



Note – Centre counter installed in 2015/16, this year only has 10 months of data

Figure 1: BCALC Total Attendances

A review of the annual attendance data indicates that total attendances are very consistent at an annual average of 154,000 visits per annum.

A review of the data for 2018/19 indicates:

- 94,428 visits (61.3% of total centre annual users) attended centre programs.
- 34% (31,978) of users visit the centre for aquatic activities
- 66% (62,450) of users visit the centre for dry activities

The top 3 aquatic activities were:

1. Swimming Lessons
2. School Swimming Lessons
3. Concession recreational swimming

The top 3 dry activities were:

1. Membership visits
2. Aqua movers
3. Group exercise classes. The Living Longer Living Stronger Program, targeting those over 50 years of age, is the most popular of the group fitness classes.

3.3 BCALC Membership Trends

The table below presents the membership numbers at BCALC by category as at 1 March 2020.

Membership category	Male %	Female %	Total Number
Health & Wellness Adult	43	57	140
Health & Wellness Concession	40	60	105
Active adult (over 50's)	23	77	122
Health & Wellness Teen	33	64	29
Aquatic Adult	45	55	65
Aquatic Concession	38	62	102
Total Members			560

Note: Health & Wellness is inclusive of aquatic access

A review of the data indicates:

- There are 560 total members
- There are more females in every membership category, particularly over 50's (55%)

3.4 Facility Occupancy

The BCALC gym has a floor space of approximately 198m2. Industry trends indicate the capacity for gym areas are between 2 to 3 members/m2 subject to equipment provision.

Based on this membership capacity for such spaces, the current floor space would see the area suitable to meet the needs of 396 members to 594 members. The memberships base in March 19/20 was 560 which is at the upper end of the theoretical capacity of the gym area and equipment.

3.5 Financial Trends

Detailed financial information has been removed from this public report as the financials are regarded as "Commercial in Confidence" information as it is linked to tendered management contract. A review of the publishable data indicates:

- Revenue has increased 11% over the 5-year review period at an average of 2% p/a
- Revenue growth has slowed having increased 2% over the 3 years 2016/17-18/19 at an average of 0.66% p/a
- Expenditure has increased 19% over the 5-year review period at an average of 3.8% p/a
- The operating deficit has increased annually since 2014/15 and was at $420,000 in 2018/19.

3.5.1 Revenue performance

A review of the data indicates the top 5 revenue programs areas are:

- Memberships at 35.2% of total revenue
- Swimming lessons at 32.5%
- Out of school hours program 9.1%
- Recreational swimming at 8.8%
- Schools at 5.4%

These top 5 revenue sources account for 91% of BCALC total revenue.

3.6 BCALC Operational Summary

A review of the data collated for BCALC can be summarised as follows:

- Total attendances at BALC have levelled out over the review period. The Centre now attracts an average of 154,000 visits per annum
- Dry activities (largest floor space area) are more popular at the Centre compared to wet activities (only 25 m x 6 lane pool and small toddlers pool).
- Memberships and specific older adult programming constitute approximately 40% of centre visits and memberships are the highest revenue source . These cohorts and supporting program and amenity areas should be a high priority in any future re-development plans
- Swimming lessons are the most popular wet activity and the second highest revenue source. This program area and supporting amenity areas should be a high priority in any future re-development plans
- The operating deficit is currently well above its target at $420,000 2018/19 and increasing each year so future activity areas need to attract more regular users, offer a proportion of profitable activities and minimise operational cost increases.

4. BCALC Future Redevelopment Component Brief

This section reviews Councils Current Aquatic Strategy in relation to BCALC redevelopment reports and recommended facility improvements as well as linking to updated aquatic trends to help guide recommended future components to be recommended in a facility options redevelopment or replacement brief.

4.1 BCALC Redevelopment Update

There have been a number of Council decisions since Council adopted the Bass Coast Aquatic Strategy 2015 to 2024 that have had direct impacts on future BCALC redevelopment components. These include:

- **Construction of a three court indoor sports stadium at Wonthaggi Secondary College**, jointly developed by the school, Council and the Victorian State Government and opened in February 2020. This will now see all indoor sporting use and major competition relocated to this facility and will not see any future need for indoor sport courts at BCALC that .
- **Planning underway for a new Phillip Island Aquatic Leisure Centre** on a "high profile gateway site to Cowes" on a large allotment on the corner of Ventnor Road and Phillip Island Road to be acquired for this development as well as a large range of community sporting and recreation spaces will enable Council to provide adequate area and carparking for the proposed district size facility.
- **Completion of the Wonthaggi Recreation Reserve Master Plan** has now settled a large range of future facility improvement and expansion plans on the reserve and enables possible consideration of a new Greenfields Aquatic Leisure Centre to be developed on land adjoining Korumburra Road and Wentworth Street, Wonthaggi. This will allow Council compare the option of redeveloping the existing centre with closure impacting on users for a significant construction period compared to developing a new facility that could be built and opened so BCALC could still operate during its construction.
- **The future development of tennis clubrooms** adjoining the new tennis centre will also free up use of the tennis clubroom for BCALC future redevelopment.
- **The BCALC 2018 Condition Review** on the pool shells, water treatment and heating system completed by JWC Engineers found minimal issues with the facility and plant and equipment that would limit future operations but noted they would need replacement if the centre went through a major redevelopment (see section 4.2).

These key issues are considered in further detail in this section of the report.

4.2 BCALC Condition Review 2018

This report concentrated on the pool shells, water treatment and heating system at the BCALC and found they were in good to very good condition and should continue satisfactory operation for the notional 10-year period ahead. The report noted:

- The 25m pool shell appears in sound condition and there are no indications of any structural concerns that would have a significant impact within the next decade but noting that in 1994 the pool did suffer from uplift during a maintenance drain-down and then apparently dropped back to its original position (refer report by Brown Consulting (Vic) Pty Ltd, March 2013). There have been no reported issues with the pool shell nor the connecting pipework since which supports the view that it can continue satisfactorily as-is.
- Pool treatment equipment has been well maintained and recent replacement (2015) of boilers and heat exchangers have added to the reliability of the system.
- The near new UV disinfection unit (~2012) has made a significant improvement to the water quality which has helped offset the relatively high turnover times.
- Likewise, the pool tiling in both pools is in good condition for its age, and normal maintenance regimes should be sufficient for the next 10 years.

While there is nothing that appears an imminent risk of failure or will require significant remedial funds in the near future, such an occurrence cannot be precluded, and it is prudent to maintain a sinking fund for such a contingency. This review concurs with previous reports that the pools and equipment are not to a level that could be included in any major facility redevelopment. Some of the relevant issues in relation to this recommendation include:

- The two pools are served by one treatment system. This is no longer recommended for new public pool facilities. In any new development the Toddlers pool should be provided with its own dedicated system.
- The turnover times of the current treatment system are well above current guidelines. For a new redevelopment, a higher capacity treatment plant will be necessary.
- The skimmer boxes on both pools present a constraint to the proper collection of soiled surface water. Wet deck arrangements would be standard in a new development together with a balance tank.

Other issues that need to be considered in any BCALC redevelopment include:

- Pool Hall Columns: Rust at the base of the main columns will need rectification in the short term if the pool hall is to be retained for the longer term (i.e. greater than 10 years).
- Northern Pool Hall Brickwork: Structural reviews will be required to determine extent of structural damage to brickworks and associated footings in the north east corner of the pool hall.

4.3 BCALC Updated Technical Review 2020

JWC Engineers were appointed to complete an updated technical and asset condition review of the current BCALC in September 2020. They were also contracted to review the geotechnical samples completed in October 2020 and comment on any issues related to future proposed facility development.

A detailed separate report has been completed by JWC Engineers and a summary of key technical report findings are listed as follows.

1. ***The facility was built in two stages*** *– indoor sports centre 1975 and the aquatic component in 1982..*

2. ***For master planning purposes:***
   - *Pool hall measured 42 x 22.5m. Roof Height – 4.90m to flat ceiling around periphery. Central high-light glazing.*
   - *stadium 31.8 x 21.75. Roof Height 8.1m to u/s roofing. 3.0m to lower solid wall / straw transition,*

3. ***The site slopes gently to SW****. This area was reportedly a swamp many decades ago. Thus it is clearly prone to natural water from the higher ground in the NE draining along the north side of the pool hall, towards the west. The ground here is almost perennially damp/wet, with significant drainage infrastructure along the north side and west end of the pool hall. Drawings are been sourced via Jarvis Weston.*
   Looking around this immediate neighbourhood, at least the catchment area does not seem large.

4. ***25m pool and toddler pool****, although still in good condition with no sign of distress, they are domestic type construction. I concur with previous reports that they could not be re-used in any redevelopment.*

5. ***Pool hall roof*** *– inspection through lower level Luxalon ceiling (very limited viewing) showed underside of roof sheeting /purlins all been covered with plastic sheeting. This would be to counter condensation dripping down from roof, and for added thermal insulation. The entire roof, sheeting & purlins, were replaced in 2000. Main portal beams are painted & in good condition albeit with minor surface rust. Roof & structure looks ok for re-use.*

6. ***Pool hall columns*** *– rust at concourse level – rust is visible immediately above concourse level. Concrete was jackhammered out and showed rust had not penetrated down the column face. Minor preventative remedial works will be required with the redevelopment.*

7. ***Pool hall*** *– NW pool corner & concourse – historic movement.*
   a. *Previous report (Brown Consulting Eng, 2013) stated:*
      i. In 1994 the pool lifted significantly off its sub-base with the highest point being in the north west corner. This occurred while the pool was being emptied for maintenance. The pool dropped partly back into position when the water below it was pumped-out but during the upheaval there was evidence of significant stress cracking in the pool walls adjacent to the north west corner.

ii. In 2004 the concourse slabs adjacent to the pool north west corner dropped well below adjacent paving levels. The damaged slab was demolished to make way for a new section of concourse which was installed after the area was re-filled to bring it back up to level. The concourse drainage was damaged during this event and significant amounts of water made its way into the pool sub-drain system. It was not possible at that time to assess the extent of the damage, if any, to the pool base.

b. *The 1994 uplift event would be consistent with the high ground water levels as above. And 2004 event is consistent with erosion of the slab sub-base.*
c. *There is some slight horizontal cracks in masonry at NW corner, say 1- 2mm. Using laser lines along joins in the masonry on north and west walls show they are rising ~2-3cm towards the NW corner. Any historic movement cracking has long since been covered over.*
d. *Anecdotally staff say there are / were voids found under concourse on north side due to water issues, presumably found during the 2004 slab settlement event.*
e. *Staff showed me numerous blisters in the methacrylate floor coating due to water vapour migrating up through concourse slab. Blisters were popped and liquid oozed out. All slabs should have plastic membrane underneath to prevent his vapour migration. These will need to be checked with pool demolition and a contingency provided in first cost plan for potential remedial works / partial concourse re-build.*
f. ***Summary** – there is concern and risk with the concourse sub-base. There is a reasonably high chance that remedial works will be required, but noting that much of it will need to be demolished in any event for new pool piping. The building footings for the main structural frame appear sound.*

8. ***Pool hall – west wall**. The masonry walls are infill panels, between columns. They are non-structural for vertical loads but may provide bracing (depending on the end-frame portal design). Panels can be removed for the view but cross-bracing 'X' rods may be necessary in some bays. Glare from the low western sun will be an issue in this elevated position.*

9. *Stadium.*
a. *Building frame is in good condition. Some minor structural works recommended to stiffen up lateral bracing members.*
b. *No issues supporting a suspended ceiling within the stadium provided it is lightweight acoustic panels in a grid system.*
c. *Safe maintenance access within the new void space created is always an issue. Gantry walkways spanning across the 22m wide space will be required, together with access onto them. These bridge structures will be quite substantial, but does allow any heavier loads (e.g. aircon units, ductwork, in-line fans) to be supported by them, avoiding extra load on the roof structure.*
d. *Some roof leaks have been reported previously, new roof sheeting is recommended.*
e. *Condensation can be seen to be an issue in the structure, and it reportedly drips on the playing surface on cold mornings. New roofing will allow modern insulation and thermal breaks to be installed.*

10. *Water treatment plant - Reuse*
a. *The plant is well maintained and overall in good condition.*
b. *Reuse of the various main components (filters, pumps, boilers) is quite feasible but most likely only as discrete components within a new system.*
c. *Available plant capacity follows Required pool demands.*
d. *It is (conservatively) assumed that new pipework will most likely be required throughout the plantroom just to match new pools and their layouts.*

11. ***Heating.** Gas boilers are relatively new (2018) but go against Council's sustainability initiative. Renewable energy sources / capacities will heavily influence boiler re-use.*

12. ***Remaining areas** – the structure and footings for the remaining parts of the facility appear in sound condition despite the ground water issues. There is no sign of cracking, settlement etc.*

13. ***Changeroom roof sheeting** – replaced only a few years ago.*

14. ***Gym and plantroom roof etc** – generally in poor condition, very flat in places (ponding) , and box gutter design issues. Thus full roof replacement, for the entire facility, including design modifications, is recommended with the redevelopment.*

15. ***The pool hall Air Handling Unit*** *will, by definition, be totally replaced to meet the requirements of the larger pool hall.*

Review of Geotech Reports December 2020

16. A preliminary geotechnical report was commissioned by Council soon after the initial site inspections and the Civil Test report was received on 27 November. Borehole locations were based on the various site development options being considered. As well around the existing facility, this included for a potential new facility in the flat open area, south of the existing bowling club.

17. Findings show:
    a. Founding layers are generally sandy SILT and silty SAND, overlying silty CLAY and then weathered ROCK. These stratums are not unusual.
    b. No permanent groundwater was not found although it was damp and became wet with depth in some boreholes.
    c. Perched water was found on the east and north side of the existing facility, and also in one (southern-most) borehole south of the bowling green. Perched water tables will impact deeper excavations but are manageable.
    d. Significant fill depths (0.7m to 1.4m) are present at eastern end of existing facility. Piers or deep strip footings would be required.
    e. Similar fill depths are present at western end of facility. Footings here would be as for (a).
    f. Fill depths along north side of facility are ~0.5 to ~1m. This depth would not present major issues.
    g. South of bowling green has nominal fill depths (<0.3m). Founding CLAY starts at about 0.5m – 1m depth and extends to about 4m. This would not likely present any engineering issues over than the perched water and generally becoming wet with depth.

In summary the geotechnical conditions are manageable. Conditions south of the bowling green are somewhat more suited to construction than around the existing facility.

4.4 Industry Trends Guiding Successful & Sustainable Facilities

Aquatic leisure facilities provide a range of values and benefits for communities including:

- Health and fitness services allowing people to enjoy the benefits of physical activity.
- The provision of a safe and welcoming spaces, supporting social inclusion and a sense of connection for all members of the community.
- Opportunities to participate for recreation, competition or sport.
- Community development that contributes to the development of social capital, helping to create links in a community.
- Positive impacts on physical and mental wellbeing.
- Water safety/education and water confidence programs that can reduce the incidence of drownings in the community.
- Fostering community pride.

The primary focus in contemporary aquatic facility design is on expanding the facility mix to include a combination of 'wet' and 'dry', community and commercial activity options that are also scoped by the current and future user market. These include spaces that accommodate a range of activities such as:

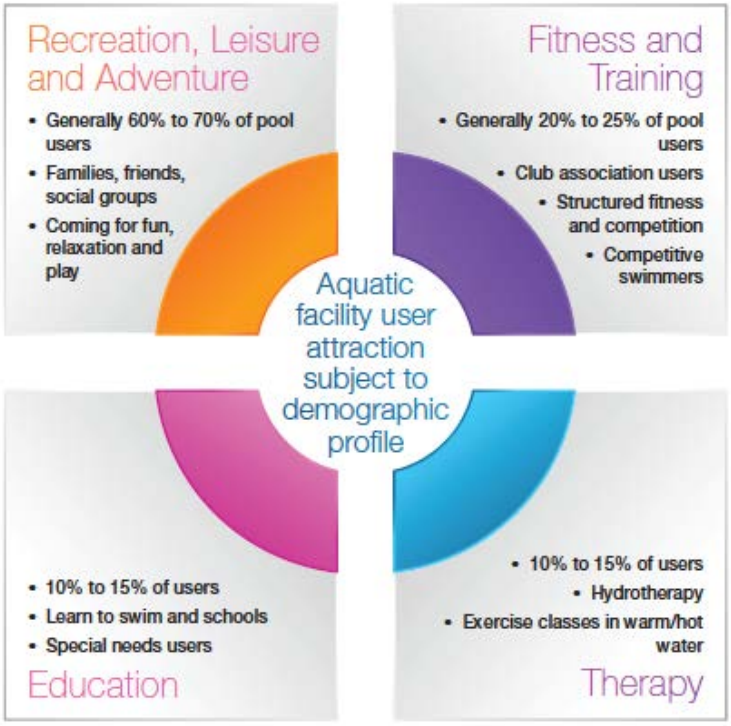
- Lap and fitness swimming,
- Aquatic programs such as learn-to-swim and older adult exercise,
- Leisure/adventure water, with interactive water play elements,
- Health and fitness gymnasium providing cardio and weight training areas
- Group class spaces,
- Wellness services,
- Multi-purpose program spaces, community
- Meeting rooms/spaces,
- Creche,
- Quality and healthy food and beverage options
- Appealing merchandising/retail areas.

Successful and sustainable contemporary aquatics and leisure facilities are also community destinations and meetings points for a range of physical and social activities.

OPG aquatic facility research and reviews of more than 500 aquatic leisure centres highlights that there are 4 distinct key user markets you need to attract to the facility if you wish to develop if for high use and sustainable operations. These are:

- Recreation, Leisure and Adventure
- Fitness and Training
- Education
- Therapy

Facilities that are designed to include these elements will attract the four key user markets outlined in the graphic below.



4.4.1 Operationally Sustainable Facility Trends

Historically many aquatic leisure centres are operationally unsustainable as they have built limited market user facilities such as long course swimming pools (50 metre pools) or small health and fitness areas and have not included other higher user attractor water such as leisure pools, warm water program pools, splash pads and water play areas, spas and saunas etc.

Many of these operationally unsustainable facilities have also not been sized for the likely current and future user catchment population and therefore face low usage and associated low operating revenue and high operating costs.

Industry benchmarking for example indicates you need a 70,000 to 100,000 population catchment to attract enough users to help pay the operational costs of a 50 metre pool due to its high staffing, services and maintenance costs.

You can reduce the operational subsidy of this high cost water area by adding in more commercial high attractor activities such as programmable water, health and fitness and wellness services but again such large capital and operational cost areas require significant user catchment populations to improve sustainability.

Adding in more multi-use and high user market attractor facilities and are most likely to provide more reasons for people to visit and stay longer, improving health and wellbeing and financial sustainability.

Major increases in energy and water costs in recent years (and predictions of higher energy costs into the future) require aquatic and leisure facilities to also incorporate modern, environmentally sustainable features.

4.4.1.1 Long Course and Short Course Swimming Pools

Usually, the most contentious issue when replacing or redeveloping an existing community swimming pool is the question of providing a long course (50 metre pool) or a short course (25 metre pool). Historically when most swimming pools were developed in Australia it was in the period of the late 1950s to the mid 1970s.

During this time some 360 plus community swimming pools were developed across the country with many facilities in the 1960s supported by Federal Government Memorial Pool funding matching local funding.
It was also a time when we were coming off Melbourne hosting the 1956 Olympics and Australian major medals success in the swimming competition events.

The majority of these facilities built were outdoors and offered similar swimming facilities being:

- 50 metre pool 7 or 8 lanes wide (2m to 2.1m wide lanes).
- Learn to swim program pool (usually 10m x 10m)
- Toddlers/wading pools

Some facilities in larger communities may also have had a diving pool added with up to 10m diving platform. In these times most people recreated and played sport locally and the community swimming pool became a much loved social and activity hub for the community with a real family feel to come and cool down on hot Australian summers.

The majority of these facilities are now 55 to 65 years old, and many are past their construction life and been replaced with more modern/contemporary facilities that provide more varied water areas for the broader markets of users.

This has seen, particularly in Victoria the replacement of the outdoor 50m pool with indoor aquatic leisure facilities, available to be used all year round and with multiple water areas to attract maximum user markets whilst also adding more commercial components such as health and fitness and indoor sport courts to help subsidise the high operational costs of water areas.

In most of these projects planning stages there is a community push for a 50m pool -even pushing for them to be outdoors in Victoria's limited user summer weather. This is clearly driven by a number of issues being:

- Our historical attachment to 1960s pool we all grew up with and visited with the family.
- The constant media during major events showing swimming always in a 50m competition pool
- The organised swimming club movement looking for more-long course and lane space
- The lack of community knowledge of the capital and long term operating and maintenance costs of such facilities particularly in smaller regional population areas.
- The lack of knowledge of how communities with modern and contemporary aquatic facilities with multiple indoor aquatic areas make so much more regular use of swimming pools than the low patronage 50m outdoor pool models.

Where the population is limited, and the age profile of residents is spread between young and old it is critical that, developers of swimming pools, that wish to attract maximum use and operate as sustainably as possible make sure they invest in multiple water areas of different lengths, configuration, depth and water temperature.

Our reviews of more than 500 projects as well as industry trend research by Government, Education and Aquatic Organisations is that we should be providing (or if funds do not permit master planning for) for at least 3 water areas in any new project to cater for:

- Recreation and leisure water
- Lap swimming and fitness water
- Therapy and education water

Section 4.3 above shows the likely take up by the user markets of these 3 water areas. It also highlights that the trigger for expanding the lap swimming and fitness water area is where the facility can draw on a 70,000 to 100,000 potential user population catchment and in this catchment, there are no major competitor facilities offering similar options.

4.4.2 Regionally Located Facility Trends

In areas of smaller or limited populations OPG notes it is essential that the future facilities development take into account:

- Facility components that best match the user catchment population markets are chosen
- Competing facilities within and close to the user catchment need to be reviewed to ensure facilities they offer are taken into account in demand assessment and visitation modelling.
- Sizing facility components for likely size of user markets.

4.4.3 Sport and Recreation and Facility Provider Trends

Community expectations about recreation and how leisure time is spent is changing. This is driven by several factors, as identified below.

4.5 BCALC Redevelopment Update Review

The updated Shire Demographic profile and travel time user profile review has highlighted that this centre should be planned to cater for a likely catchment of 25,000 people increasing to 34,000 people by 2036.

Added to these projections will be the expansion of the Wonthaggi future population related to the recently released Wonthaggi North Growth Area PSP that could see the user catchment population grow to more than 40,000 people.

The current and future demographic data confirms that the *"future BCALC Replacement facility will service the largest user catchment in Bass Coast Shire Council area and therefore should provide for a broad range of aquatic and health and wellness components to attract a broad range of user markets and age ranges".*

We also note that Council's Aquatic Strategy 2015 provides for two aquatic centres in the Shire being the replacement facility in Wonthaggi in association with a new district aquatic leisure centre to be built at Cowes on Phillip Island.

Council's aquatic strategy adopted on 24th of June 2015 presented a detailed component brief and staging to guide the development. OPG have reviewed these components and recommendations in line with updated user catchment demographics as part of the 2020 BCALC Redevelopment Scope and Component Options Review.

OPG's future BCALC redevelopment component recommendations are covered in the following table on the next page and are listed in the OPG August 2020 Review Column.

Table.4 BCALC Redevelopment 2015 Components and Staging Review

Area	Component	Current Facility Provision	Redevelopment Plan Provision	2015 Community Consultation Impacts	2015 Aquatic Strategy Review	OPG August 2020 Review
Aquatics	Competition Pool	25m x 14m (6 lanes) 350m2	• New 25m x 10 lanes (2.5m) so 25m x 25m (625m2). • New plant to service new pool	• Mixed opinions on need for 10 lanes or 8 lanes. • Need to change depths of 25m pool	• 10 lane 25m pool not justified as provides only lap swimming deep water area for limited user market. • High capital cost and limited budget requires change to 8 lane x 2.5m wide 25m x 20m (500m2). • Recommended depth 1.1m to 1.8m. • Ramp access down sideline closest to change facility access.	• Confirm 10 lane (2.5m/lane) x 25m short course pool will meet competition and training requirements for a 205000+ user catchment. • Water depth should be modified to now include slightly greater depth being 1.1m deep to 2.0m deep pool. • Universal access should be ensured via 1.5m wide ramp to 1.1m pool entry. • Pool temperature range 26C to 28C.
	Warm Water/LTS Program Pool	Small toddlers pool 5m x 4m (20m2) so no current facility	• New LTS (13m x 4.5m = 58m2) and warm water program pool linked by access ramp (13m x 7m = 91m2). • Ramp takes up 3m x 15m = 45m2 of non-usable water. • Total usable water 149m2	• Need separate pool as all activities currently done in 25m pool • Most requested facility • Concern not big enough • Needs to be done as 1st stage	• Largest current aquatics income comes from learn to swim and schools, so area proposed is considered too small. • High use of centre by older adults that will increase with aging of the population indicates warm water program area is also too small. • Proposed pool area would be 20m x 15m (300m2) plus 1.5m ramp central to the two water areas to reduce ramp nonprogrammable area • Consider accessible spa at the end of the ramp and in warm water program pool	• Do not recommend shared entry warm water program pool and LTS pool due to safety issues. • New technology has enabled more multi-use features can be considered for this facility than the proposed shared ramp entry. • Propose a shared warm water/learn to swim pool with moveable tilt floor to enable range of water depths to be achieved in the one pool. • Recommended pool 20m x 12m (240m2) with moveable floor able to operate at depths from 0mm to 1.4 metres. • Universal access via a moveable ramp to suit floor levels. • Pool temperature range 31C to 34C. • Consider redeveloping in existing pool hall.
	Water Play and Toddlers Pool	Small toddlers pool	• New water play and toddlers pool (7.5m x 18m = 135m2 approx.).	• Supported as a high priority activity	• Need to redesign based on area that may be available in pool hall with larger LTS/Warm Water Program Pool • Need to consider zero depth to 300mm deep	• Recommend a combination splash pad and water play unit adjoining a 0mm to 300mm toddlers pool. This area to be located away from the 25m pool and close to change facilities and café wet lounge. • Suggested unit AP 550 (Whitewater West) • Consider redeveloping in existing pool hall.
	Spa and Sauna	Not provided?	• Not provided	• Recommended to be considered/included	• High income activity area that links well to warm water program pool. • One option is to link spa to warm water program pool and accessible by ramp. • Locate sauna adjacent to warm water program pool	• Dry and steam sauna recommended adjacent to the warm water/LTS pool. • Allow 16m2 concourse area plus concourse shower zone adjacent. • Concourse spa recommended and consideration of spa bubblers zone in the warm water program pool
	Waterslide/s	Not provided	• Not provided	• Recommended to be considered/included	• High requested adventure area by youth. • High income area opportunity	• Not recommended at this site. Better positioned at PIALC as tourist activity.

Area	Component	Current Facility Provision	Redevelopment Plan Provision	2015 Community Consultation Impacts	2015 Aquatic Strategy Review	OPG August 2020 Review
Aquatics (Continued)	25m Pool Spectator Area	Not provided	2 Rows of seats downside of 25m pool	• Requested consideration of more spectator seating	• Spectator areas are a high capital cost that are not used all the time. • Centre size and population does not support major events pool so keep as planned	• Recommend capacity for up to 200 seats via concrete bleachers down sideline of the 25 metre pool (x 4 rows).
	Aquatic Storage	Small storage space	New larger storage space off pool hall	• Increase provision of aquatic storage. • Ensure adequate storage near LTS and WW Program Pool	• Support need for increased size of storage	• Provide up to 80m2 of aquatic storage in two locations being adjoining warm water program/LTS pool (40m2) and 25m pool (40m2).
Health and Fitness	Gym/Weights Area	Small gym (18m x 11m = 198m2) located off main foyer.	New larger area gym at 630m2 provided in stage 2 development	• Supported new development	• Health and fitness membership is largest income source for current operations so need to consider how can expand gym and program room's a.s.a.p. • Suggest consideration of redeveloping the current stadium as the new gym and program area due to lower cost and better opportunity to then locate new 2 indoor courts onsite (and also access them better).	• Confirm need to increase size of gym and weights area to improve membership capacity. • An area of 600m2 floor space would allow for a membership capacity of 900 to 1,200 members subject to equipment selection and layout. • In current facility redevelopment option reuse of the stadium (742m2) would see adequate floor space plus development of a new wellness room and storage. • Consider layout for 24 hour gym access
	Program Rooms	Temporary portable building used as spin room ad stadium used as group fitness class area	3 x program rooms (1 x 198m2, 1 x 116m2 and 1 x 113m2)	• Supported new development	• Group fitness is a major income source and profitable if spaces are large enough. • Suggest consideration of redeveloping the current stadium (748m2) as the new gym and program area due to lower cost and better opportunity to then locate new 2 indoor courts onsite (and also access them better).	• Three group fitness rooms proposed to be developed being: ▪ Room 1: 198m2 ▪ Room 2: 120m2 ▪ Room 3: 200m2 • Opportunity for BCALC redevelopment to reuse the current gym as room 1, develop new access to the tennis club room for room 3 and develop room 2 as part of the sport court/gym redevelopment
Front of House	Foyer/Reception and Administration	Shared space located to service both wet and dry areas	New modern entry and reception linking also to café and retail and administration areas	• Not raised in consultation	• Well designed and functionally laid out. • Need to consider if new indoor sport courts are built how these are accessed and controlled from main entry	• New foyer and front of house required subject to functional layout. • Areas to include, foyer (120m2), reception and shared café servery (60m2), café kitchen/storage (60m2) and dry lounge (60m2). • Administration offices, staff facilities and meeting space 200m2. • Storage/comms room etc 80m2. • Retail part of foyer zone near reception.

Area	Component	Current Facility Provision	Redevelopment Plan Provision	2015 Community Consultation Impacts	2015 Aquatic Strategy Review	OPG August 2020 Review
Indoor Sport	Indoor Sport Courts	Single court stadium	No future redevelopment proposed for indoor sport courts	• High priority to develop 2 new full size indoor sport courts	• Support the need for 2 indoor sport courts at the facility. • Consider reusing the stadium as new gym and group fitness area (refit out) and develop new courts where new H&F areas proposed	• No future indoor sports courts proposed at this site now that Wonthaggi Secondary Courts constructed.
Amenities	Wet Change	Shared wet and dry change	Separate wet and dry change proposed	• Wet change proposed in stage 1	• Adequately sized areas allowed for in the plans	• Central wet change area providing for male (90m2) and female (90m2) change
	Dry Change	Shared wet and dry change	Separate wet and dry change proposed	• Dry change proposed in stage 3	• Adequately sized areas allowed for in the plans	• Central dry change area providing for male (50m2) and female (50m2).
	Family Change	One family change	6 family/accessible change	• Proposed in stage one	• Excellent provision	• 4 x accessible family change or change village
	Group Change	No facilities	2 x group change	• Proposed in stage one	• Excellent provision	• See above
	Changing Places/DDA Change			•	•	• 2 x DDA accessible change/amenities off warm water program pool. Consider changing places area off warm water program pool.
Other Areas	Meeting Room	Small Room	Small meeting room	• Proposed in stage three	• Small area needs expanded space	• See front of house

4.6 BCALC Redevelopment 2020 Component Brief

OPG developed a detailed component brief that allowed for three different options for BCALC Redevelopment Concepts being:

- Option 1: Redevelopment of BCALC including some repurposing of existing pool, hall, health and fitness and stadium areas (guided by variation Technical Report by JWC Engineers - Option 1 – new 10 lane 25m pool located to the east of the existing pool hall
- Option 2: Demolish BCALC and replace with new facilities on existing site with all new areas.
- Option 3: Develop greenfield facility on land to the south of existing centre (incorporating the croquet club) but retaining the skateboard facilities. This would see the need for relocation of the croquet club to fit the development in (future croquet club site to be determined in association with Council Officers)

Layout plans and capital and operating costs were completed and presented to a Councillor and officer forum in January 2021. Further internal reviews were completed on the three options during February and March 2021.

A final Council workshop was held in April 2021 where it was agreed to adopt the option 3 development option of constructing a new facility on land south of the existing centre (incorporating the croquet club site) but retaining the skateboard facilities.

4.6.1 BCALC New Facility on Southern Site Component Brief

The final recommended development concept component brief is detailed in the following tables on the next pages.

4.6.2 BCALC New Facility on Southern Site Component Brief

Table.5 BCALC New Facility on Southern Site Component Brief

ACTIVITY AREA	FACILITY COMPONENTS	TARGET MARKETS	FACILITY OBJECTIVES	FUNCTIONAL RELATIONSHIPS	OTHER FEATURES TO CONSIDER	AREA SCHEDULES	FACILITY AREA (m^2)
Aquatic Facilities	Main Competition Pool with 25m x 10 lanes (2.5m/lane) and access ramp (1.5M wide)	• Education • Lap swimming • Health and fitness • Events • Training • Programs	• Provide indoor activity areas for residents, schools and leisure users • Provide club and fitness activity area.	• Adjacent to spectator areas • Deep pool areas located away from shallow water pools	• Disabled access/ramp/ hoist/other • Note feasibility and cost benefit analysis review to determine if built as a 6 or 8 lane indoor pool	• Pool – 25m x 25m • Ramp 1.5m wide downside line • Wet Deck – 0.5m around pool edge • Concourse – 3.0m sides, 4.0m ends • Water depth 1.1m to 1.8m	625m^2 Plus concourse surrounds
	Spectator Area for 25m pool	• Education • Competition • Events • Casual spectator	• Provide seating provision (200)	• Adjacent to side of 25m pool • Ensure no pool hall columns in vision lines	• Consider range of options for providing more spectator seating for school events	• Seating area down sideline of pool plus walkways etc • Allow 4 rows 31m x 5m	155m^2
	Warm Water/leisure/Learn to Swim Program Pool (Catering for older adults, leisure and learn to swim areas with moveable floor)	• Leisure activities • Social groups • Entertainment • Education/LTS • Programs • Infants • Families • Programs • Therapy	• Provides a combined Warm water LTS pool to attract older adults and families and young children • Provide broad leisure and education experiences • Provide program area for exercise LTS lessons	• Adjacent to 255m pool • Close to change rooms • Consider enclosing in own pool hall	• Access via adjustable depth ramp linked to moveable floor	• Pool 20m x 12m (0mm to 1.4m deep. • Ramp 1.5m wide • Concourse average 3m around pool area • Water temperature range 30 to 35C	270m^2 Plus concourse surrounds
	Water Play Unit and Splash Pad with adjoining Toddlers Pool	• Children • Youth • Families	• Provide a play space with water and sprays	• Adjacent to the warm water/leisure/LTS pool	• Nil depth access to splash pad • Toddlers pool 0mm to 300mm deep	• 23m x 23m splash pad area based on AP550 Unit • Toddlers pool 60m2	600m2 Plus concourse surrounds
	Dry and Steam Saunas	• Older adults • Social • Therapy • Sports recovery • Non-organised leisure	• Provide hot water pool, steam room and dry sauna for social/ relaxation and therapy • Capacity for approx. 16 people	• Close to change facilities • Zone away from children's areas (planter areas) • Spa saunas close to program pool	• Landscape area • Concourse shower close by	• Sauna – 20m^2 dry • Sauna – 20m^2 steam • Concourse shower 5m^2	45m^2
	Inground Spa	• Older adults • Social • Therapy • Rehabilitation	• Provide inground spa adjacent to dry and steam sauna • Cater for up to 16 people	• Locate next to warm water/leisure/LTS pool	• Concourse shower close by	• Spa -30m2	30m2 Plus concourse surrounds

ACTIVITY AREA	FACILITY COMPONENTS	TARGET MARKETS	FACILITY OBJECTIVES	FUNCTIONAL RELATIONSHIPS	OTHER FEATURES TO CONSIDER	AREA SCHEDULES	FACILITY AREA (m^2)
	Other support facilities - Storage - First aid room - Pool office - Wet lounge - Party Room - Plant rooms	• Service areas	• Service areas	• Storage adjacent to program pool • First aid providing direct concourse access and external ambulance access • Pool office close to program pool • Wet lounge adjoins café and leisure pool	• Link circulation and wet lounge areas • Consider issues of access to outdoor pools • Provision of security lockers on the concourse	• Storage – 80m^2 • First aid – 15m^2 • Pool office – 20m^2 • Wet lounge - 60m^2 • Party room – 40m^2 • Plant – 380m^2	595m^2
Subtotal Aquatics							**2,320m^2 plus concourse surrounds**
Health Fitness & Wellness	Weights Room (requires 24-hour access design	• Health and fitness • Therapy • Competition/clubs • Industry training	• Possible internal fit out of sport court. • Provide general fitness area incorporating weights, cardio equipment and circuit area • Major revenue area	• Located close to reception • Located close to dry change • Close to multipurpose room • Shared storage • Requires 24-hour access design for gym and change areas	• Ensure provision for future extension opportunities	• Gym – 600m^2 • Office – 20m^2 • Fitness test X 2 – 40m^2 • Store – 30m^2	690m^2
	Multipurpose Rooms / Function Rooms	• Health and fitness • Therapy • Competition / clubs • Industry training • Social group • Events/social	• Room 1 reuse current gym and room 2 tennis club room. • Provide multi-use timber floor area	• Locate close to reception • Locate close to change • Adjacent to gym • Shared storage • Close to meeting room	• Kitchenette with servery to multipurpose and meeting/training room • Provision of acoustic treatment	• Group fitness 1 200m^2 • Group fitness 2 120m^2 • Group fitness 3 200m^2 • Stores – 40m^2	520m^2
Subtotal Health Fitness and Wellness							**1,210m^2**
Front of House Areas	Foyer / Reception / Merchandising/Café (shared café and reception)	• All customers	• Provide welcoming entry area that allows users to relax and socialise • Social areas for casual • Shared reception/café	• Links to dry lounge and café • Links to meeting/ training/clubroom • Airlock between public front of house and pool hall.	• Merchandise located on moveable displays	• Foyer/Merch 120m^2 • Reception – 40m^2 • Admin Store – 30m^2 • Dry lounge – 60m^2 • Café serveries – 40m^2 • Kitchen – 40m^2 • Café/Merch store 40m^2	370m^2
	Offices/Administration/ Staff Rooms	• Centre staff	• Provide areas for staff and centre administration	• Close to reception • Vision into activity circulation spaces.	• Possible extension of areas if further centre activity areas added	• Offices x 4 – 60m^2 • Work area – 75m^2 • Storage – 40m^2 • Staff amenities – 25m^2	200m^2

ACTIVITY AREA	FACILITY COMPONENTS	TARGET MARKETS	FACILITY OBJECTIVES	FUNCTIONAL RELATIONSHIPS	OTHER FEATURES TO CONSIDER	AREA SCHEDULES	FACILITY AREA (m^2)
	Meeting/Training Room	• Centre management and staff • Swimming Clubs • Training orgs	• Provide a flexible multi-use space that can be used for meetings/functions	• Need to be located close to centre entry	• Trophy cabinet for swimming & triathlon club's memorabilia • Lock up kitchenette	• Meeting area 10m x 8m	$80m^2$
Subtotal Front of House							$650m^2$
Amenities / Change	Main Pool Hall/Change Rooms and Amenities	• Aquatics hall users	• Provide modern amenities easily maintained	• Adjoining pool concourse and close to reception	• Lockable links to dry facilities to open up all amenities	• Male – $90m^2$ • Female – $90m^2$ • Service areas – $10m^2$	$190m^2$
	Warm Water/Leisure/LTS family and DDA Change	• Pool users • Families • People with disabilities • Older adults	• Provide separate change for Program Pool users.	• Close to Program Pool • Within enclose Program Pool zone	• Ensure fully accessible	• 4 cubicles @ $12m^2$ • 2 x changing places @ 14m2	$74m^2$
	Dry Change Rooms and amenities	• Health and fitness users • Meeting users • Café users	• Provide modern amenities easily maintained	• Adjoining weights and aerobics room	• Use as group change in high user periods	• Male – $50m^2$ • Female – $50m^2$ • Service areas – $10m^2$	$110m^2$
Subtotal Amenities / Lounge							**$374m^2$**
Other Areas	Dry Plant Room		-	-	-	▪ Allowance	$200m^2$
	Comms Room/store					▪ Allowance	50 m^2
Subtotal Other Areas							**$250m^2$**
Total Dry Spaces							**2,484 m^2**
Total Aquatic Spaces (Note does not include concourse surrounds that will be added during design							**2,320m^2**
ESTIMATED TOTAL DEVELOPMENT AREA							**4,804m^2**

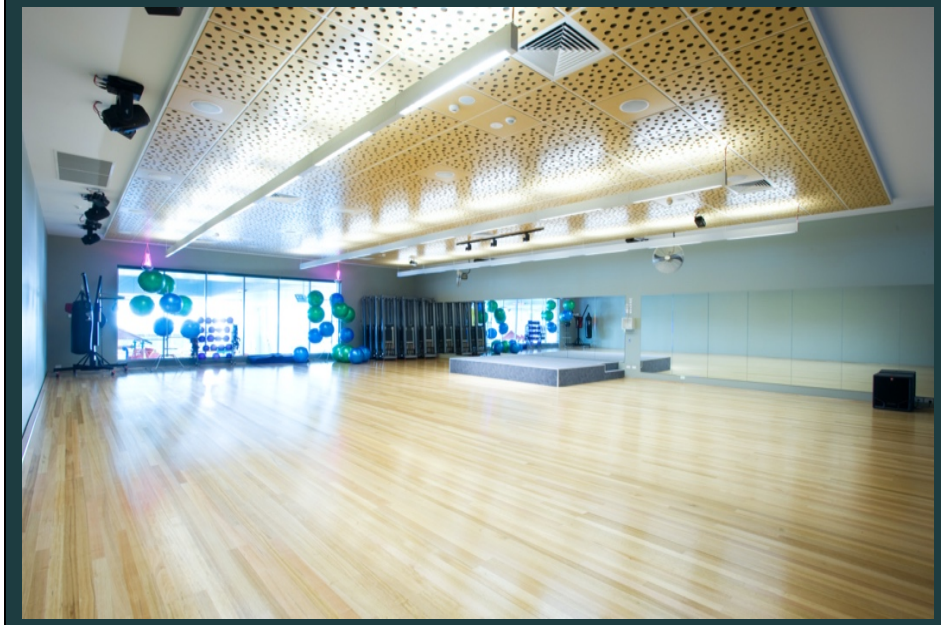
Images of the main activity areas proposed in the recommended development concept are detailed on the following pages.

25 Metre x 10 lane Indoor Pool

Program /LTS Pool Moveable Floor

Program Pool/Learn to Swim Pool in own Pool Hall

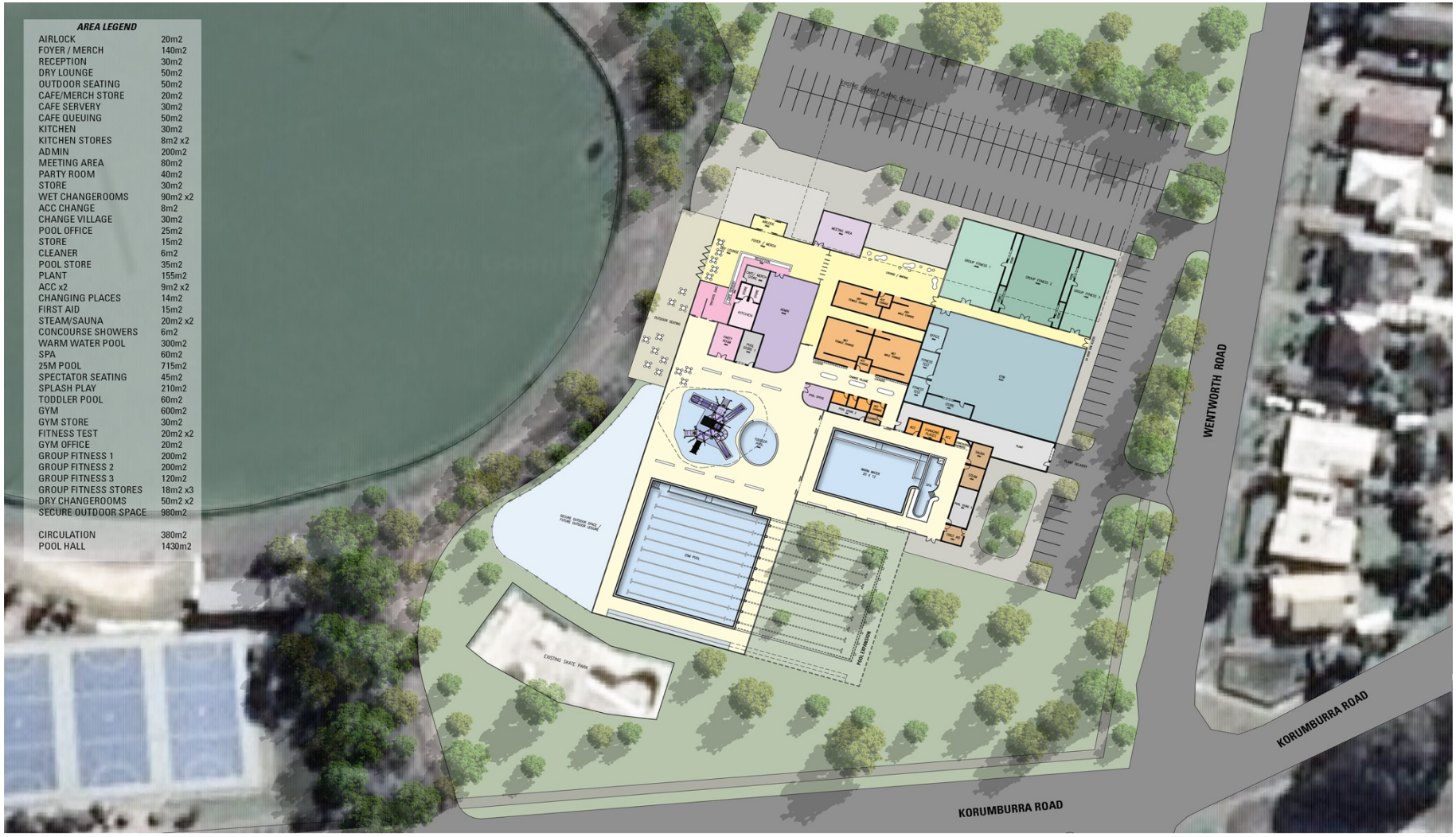
Splash Pad and Water Play Combination Unit

Group Fitness/Multi-Purpose Room	Front of House – Reception/Shared Café
	

4.7 BCALC Recommended Development Concept Plan

The BCALC recommended concept plan has been developed by Peddle Thorp Architects. The plan is based on the detailed component brief as listed in section 4.6 of this report. The site, layout plan and a sample development elevation are detailed on the next pages.

BCALC New Facilities on Southern Site Concept Plan



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BASS COAST AQUATIC LEISURE CENTRE
BASS COAST

PROJECT NO: 3-20-0067
REASON FOR ISSUE: REVIEW

BCALC REPLCEMENT RECOMMENDED CONCEPT

REVISION: A
DATE: 22-04-2021
SCALE: 1:500 @A2

DRAWING NO: **F003A**

BCALC New Facilities on Southern Site Elevation Drawing

4.8 BCALC Facility Indicative Capital Cost Plan

Turner and Townsend Quantity Surveyors have completed an indicative capital cost plan for the BCALC recommended development concept based on current construction costs. The detailed cost plan is listed in appendix three of this report. A summary of the main costs in the indicative cost plan is listed in the following table.

Table.6 BCALC Recommended Development Concept Indicative Capital Cost Summary

Cost Category	New Facilities at Southern Site
Total Building Works	$19,411,749
Total Aquatic Works	$7,963,200
Total External Works & Services	$3,470,000
Design Contingencies	$3,085,000
TOTAL CONSTRUCTION COSTS	**$33,929,949**
Construction Contingencies & Fees	$7,912,000
TOTAL PROJECT COSTS (Excl GST)	**$41,841,949**

Please note the BCALC cost plan does not include capital costs for relocation of croquet facilities or demolition of existing BCALC facilities but includes all car parking and access road costs as shown on the layout plan. It does not include any future cost escalation (as construction date not known) but includes a 6% of capital allowance for ESD initiatives.

Based on current similar facility construction costs Turner and Townsend Quantity Surveyors estimate the indicative capital costs of the BCALC replacement facility on the southern site would be in the order of $41.842M.

4.8.1 BCALC Future 50 Metre Pool Expansion Indicative Capital Cost

As noted in section 4.4.1 Otium Planning Group has not recommended development of a 50m indoor pool in the BCALC replacement priority components due to the smaller than required user catchment population across the whole Shire. Industry trends indicate the user catchment population to ensure a reasonable operationally sustainable indoor aquatic facility should be 70,000 to 100,000 people.

The BCALC current user catchment is estimated at 33,300 people (ABS 2019) and this is projected to increase to 45,500 people by 2036. This future population projection may increase slightly further if Wonthaggi North Growth Area residential development is higher than projected but this would see at a high projection a user catchment of up to 50,000 people.

As has been noted the highest predicted future Aquatic Leisure Centre user catchment population is well below the minimum population catchment to sustain a 50m indoor pool. OPG in its recommendations on facility components noted these factors when recommending a 10 lane x 25m indoor pool.

The extra two lanes added to a standard 8 lane pool will see capacity to cater for a further 20% more users and this has been recommended to meet the larger population catchment of the Shires two proposed aquatic leisure centres.

The recommended development concept plan shows a dotted line that highlights a future expanded pool area if the 25m x 10 lane pool was extended to a 50m pool length. A graphic of this pool area is listed below.

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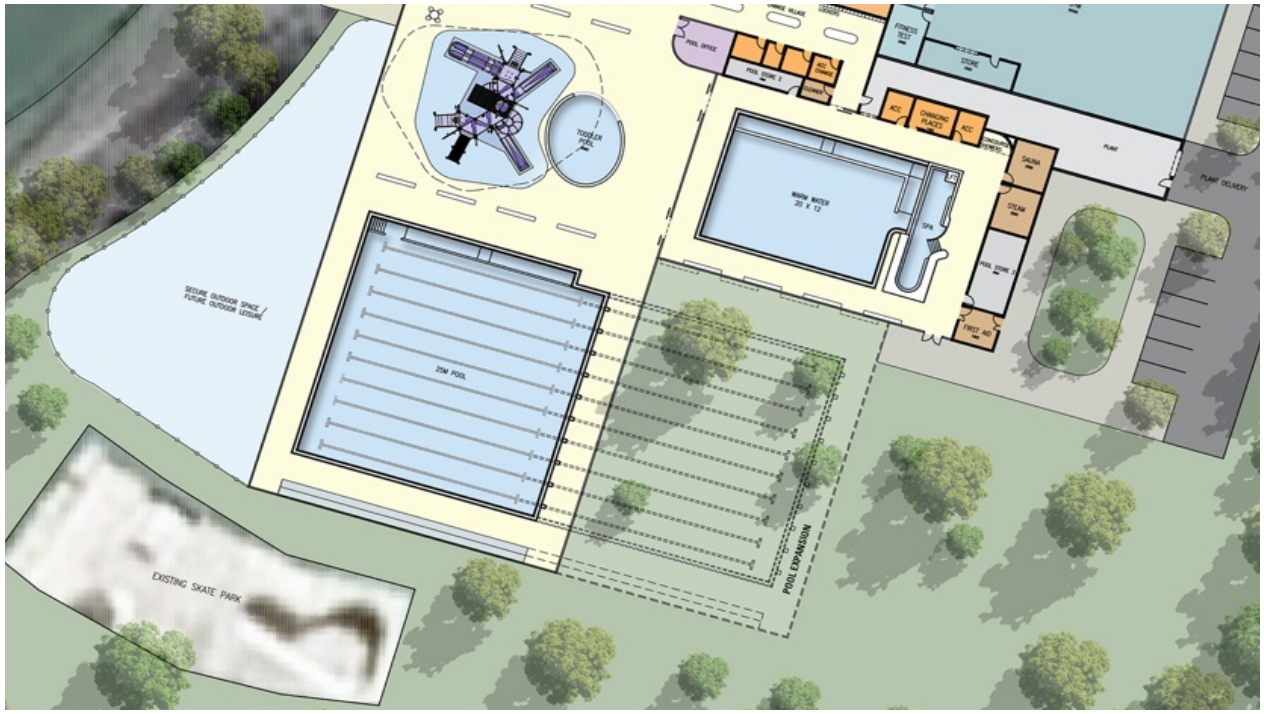


Initial development of the 25m x 10 lane pool with access ramp could be redeveloped in the future if the balance tank for this pool was located at the eastern concourse end of the pool. A future 25m x 10 lane pool extension could be added to this pool by demolishing the wet deck and eastern pool wall to create a 50m length pool.

An indicative estimated capital cost of the proposed 25m pool extension (based on current construction costs) would likely incur the following extra capital cost allowances as listed in the table on the next page.

Table.7 BCALC Extra 25m Pool Indicative Capital Cost Summary

Cost Category	New Facilities at Southern Site (25m x 10 lane pool)	Southern Site 25m Pool Extension (50m x 10 lane Pool)	New Facilities at Southern Site with 50m x 10 lane pool
Total Building Works	$19,411,749	$2,830,048	$22,241,797
Total Aquatic Works	$7,963,200	$3,062,000	$11,025,200
Total External Works & Services	$3,470,000	$180,000	$3,650,000
Design Contingencies	$3,085,000	$607,204	$3,692,204
TOTAL CONSTRUCTION COSTS	**$33,929,949**	**$6,679,252**	**$40,582,201**
Construction Contingencies & Fees	$7,912,000	$1,450,000	$9,362,000
TOTAL PROJECT COSTS (Excl GST)	**$41,841,949**	**$8,129,252**	**$49,971,201**

Note: Does not include the capital cost of relocating and developing new croquet facilities but includes all car parking and access road costs as shown on the layout plan.

The indicative capital cost review calculates the estimated extra cost to construct a 25m pool and pool hall extension, extra plant room area and services to enable a 50m pool to be developed at the southern site is estimated to cost just under $8.129M.

When added to the new facilities development cost this would see a 50m pool option at the Southern site increase the capital costs to $49.971M.

4.9 BCALC Facility Option 10 Year Financial Modelling

Otium Planning has developed a financial model for the new facility development at BCALC that has been developed to highlight likely base case business performance

The 10 year financial models have been developed using OPGs Aquatic and Leisure Centre electronic financial software. The model was first established in collaboration with KPMG via the development of the Business Case for Melbourne Sports and Aquatic Centre (MSAC) in 1996/97.

Over the last 24 years the model has been constantly used and refined for in-excess of 250 aquatic and health facility projects and is recognised by local, state and federal governments as a reliable business forecasting financial operational tool.

4.9.1 Global Impacts

The 10-year projections are developed using the following global impact assumptions.

Business Growth

Industry trends indicate it can take up to 3 years to establish new facilities usage, programming, membership and operating income and expenditure as there will need to be an establishment year, a development year and in year 3 a consolidation of business year.

As BCALC is an established business it is assumed business will remain closer to 100% (pending final choice of site location and construction staging) and from year 4 onwards it is assumed the business growth will slowly increase.

If Council elects to build on the southern site this assumption should be re-visited as it is likely business will remain closer to 100% in year 1 as there will be a decreased risk of lost business due to the redevelopment.

Table 8: BCALC Business Growth Annual Allowances

Year									
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
97%	99%	100%	101%	101.5%	102%	102.5%	103%	103.5%	104%

Price Growth/Increases

Fees and charges for accessing the Centre and programs and services price growth are set at 1% annually from year 2 onwards.

Consumer Price Index (CPI)

The financial models are annually impacted by a CPI increase. This has been set at 1.8% from year 2 to year 10. An additional 1.2% is provided every year to account for salary increases. An additional 2.5% is provided every year to expense items that may increase above CPI such as services and utilities.

4.9.2 Key Business Assumptions

The following business and management assumptions impact on the BCALC 10 year financial modelling.

4.9.2.1 Operating Hours

The BCALC is estimated to be open 92.5 hours per week and operating all days except Christmas Day and Good Friday. The facility would vary between the hours of 6.00am to 8.30pm Monday to Friday and 8.00am to 6.00pm Saturday and Sunday. The gym would be open 24 hours a day, every day.

4.9.2.2 Entry Charges

Entry charges are based on current BCALC fees. An assumption has been made that the Wonthaggi and Phillip Island Centres will operate under an integrated service model and offer the same fees and charges for like programs and services.

4.9.2.3 Recurrent Operating Expenditure

The majority of recurrent operating expenditure including utilities, chemicals, administration, marketing, maintenance, and cleaning and are based on the industry benchmarks for similar facilities. Current actuals at BCALC were used as a starting point also for these assumptions.

4.9.2.4 Maintenance Allowances

Industry trends indicate that high use aquatic and health centres usually require an annual programmed maintenance allowance to ensure they are presented at a high standard.

To compensate for this an annual programmed maintenance an allowance of $143,000 has been allowed for at BCALC per annum.

4.9.2.5 Management/Staffing

There are a range of management models that could be implemented for the “day to day” management and operation of the proposed facility. For this modelling, a Contract Management Model has been assumed and average contractor labour rates are used for each role.

The contract management model is where Council contracts or leases out management rights of the facilities to either a professional contract management company or an individual to operate the facilities on their behalf. This is usually done through a contract for an agreed term and set of conditions detailed in a specification and contract that binds each party.

The specification is tailored to include the key operating, health and wellness and asset management objectives of Council. The main operators in the Victorian market include:

- YMCA
- Belgravia Leisure
- Aligned Leisure
- Bluefit
- Clublinks

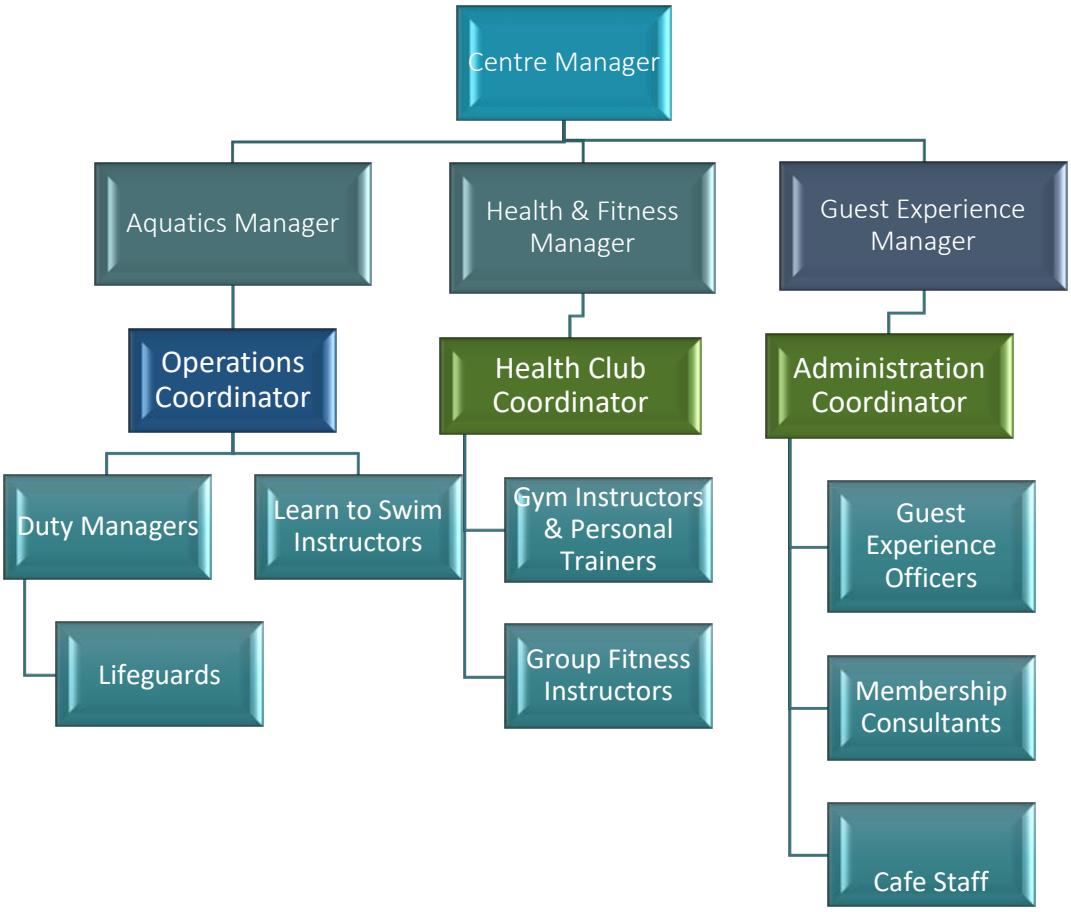
Please note a separate facility organisational structure for each BCSC ALC has been developed. Pending future decisions regarding construction and timing.

OPG would recommend subject to development timing both Centres operating under one integrated management structure that could deliver economies of scale benefits to Council.

But to ensure each centre can be analysed as a separate development OPG have modelled standalone management for each facility.

It should be noted an integrated model that shares some senior management positions across both centres (i.e. Health & Fitness Manager, Customer Services Manager, Operations Manager) would be expected to save salary costs and improve the operating performance of the combined centres.

The proposed standalone staffing structure for BCALC is listed as follows on the next page.



Please note no allowance of Council staff costs required to manage the contract on Council's behalf is made in this model. A summary of key staffing positions and allocations by Full Time Equivalent (FTE) positions salary is listed in the table below.

Table 9: Proposed Staffing FTE

Staff Position	BCALC FTE Staff (Full Time Equivalent)
Centre Manager	1
Guest Experience Manager/Coordinator	1
Customer Service	2.6
Operations Coordinator/Team Leader	1
Aquatics Manager/Coordinator	1
Duty Managers	1.7
Lifeguards	6.4
Aquatic instructors	3.9
Café/kiosk	2
Health and Fitness Manager/Coordinator	1
Health Club Coordinator/Team Leader	1
Membership consultants/Admin Team Leader	0.2
Gym instructors	2.1
Group fitness instructors	0.7
TOTAL	**25.6 FTE**

4.9.2.6 Insurance

The model includes an allowance for public liability insurance by the operator.

4.9.2.7 Food and Beverage/Merchandising

Due to the number of visitors to the Centre the model assumes secondary spend income based on a percentage per spend per visitor. The model assumes the operator will be responsible for the café and merchandise.

The staffing structure includes a staffing allowance for the café which are based on customer service providing café services in off-peak periods and dedicated café staff present for service peak periods.
The assumptions for secondary spend include:

Café

$1.50 per spend with a 55% penetration

Merchandise

$1.10 spend with a 35% penetration

4.9.2.8 Sponsorship

No allowance for sponsorship has been included in this model. There may be the opportunity to attract sponsorship as the project develops further.

4.9.2.9 Asset Management

The operating models do not include an allowance for Asset Management or depreciation.

4.9.2.10 Usage Assumptions

The usage for the Centres is based on the current and predicted future user catchment populations living in the 15 minute travel time of BCALC (primary user catchment zone) and 15 to 30 minute travel time of BCALC (secondary user catchment zone) as well as guided by benchmarking of similar size and capacity facilities in Victorian regional areas

4.9.3 BCALC Recommended Development Concept 10 Year Financial Models

A base case (average) 10 year financial model that covers the recommended development concept has been developed for the proposed centre. A Conservative Case (10% less usage than the base case) and an Optimistic Case (10% more use than the base case) have also been completed to give Council a likely operational usage and financial performance range.

The 10-year business projections are detailed in the following tables.

BCALC Recommended Development Concept Base Case 10 Year Operational Business Model

Table 10: BCALC Recommended Development Base Case 10 Year Operational Business Projections

CATEGORY	YEARS										AVERAGE PER ANNUM (000)
	1 (000)	2 (000)	3 (000)	4 (000)	5 (000)	6 (000)	7 (000)	8 (000)	9 (000)	10 (000)	
Revenue	$3,131	$3,282	$3,405	$3,532	$3,646	$3,763	$3,884	$4,009	$4,137	$4,270	$3,706
Expenditure	$3,420	$3,511	$3,601	$3,693	$3,785	$3,880	$3,977	$4,078	$4,180	$4,286	$3,841
Operational Profit/(Loss)	($288)	($228)	($195)	($160)	($139)	($116)	($93)	($68)	($42)	($15)	($135)
Visitations	291	297	300	303	305	306	308	309	311	312	305

Note Does not include development costs such as depreciation, capital cost repayments, land tax, Council rates.

The 10-year base case business projections indicate:

- Revenue is expected to increase annually ranging from $3,131,000 in year 1 to $4,270,000 by year 10.
- Expenditure is expected to increase annually ranging from $3,420,000 in year 1 to $4,286,000 in year 10.

- The Centre is expected to operate at an annual operating deficit from the first year. The average operating deficit is estimated to be approximately $135,000 per annum.
- Centre attendances are expected to gradually increase from 291,000 in year one to a high of 312,000 in year ten.

4.9.4 BCALC Business Modelling with 50 Metre Pool

To assist with understanding the likely operational cost impacts of expanding the 25m pool to a 50m indoor pool OPG have also developed a 10 year operational model for this larger aquatic area.

Key operating assumptions that have been added or adjusted to the 25m pool option include:

- Income: Have assumed an increase of approximately 10% more adult aquatic users and 5% increases in aquatic membership and centre membership.
- Expenditure: Have made increased operational cost allowances for extra staffing, energy, maintenance and operating costs for the 1,000m2 increase in area which includes 625m2 extra pool and deeper water area.

The 10-year business projections for the BCALC 50 pool option are detailed in the following table.

Table 11:BCALC 50m Pool Option Base Case 10 Year Operational Business Projections

CATEGORY	YEARS										AVERAGE PER ANNUM (000)
	1 (000)	2 (000)	3 (000)	4 (000)	5 (000)	6 (000)	7 (000)	8 (000)	9 (000)	10 (000)	
Revenue	$3,235	$3,391	$3,518	$3,649	$3,766	$3,887	$4,012	$4,140	$4,273	$4,410	$3,828
Expenditure	$3,753	$3,852	$3,951	$4,052	$4,154	$4,258	$4,366	$4,476	$4,589	$4,705	$4,215
Operational Profit/(Loss)	($518	($462)	($433)	($403)	($388)	($372)	($354)	($336)	($316)	($295)	($388)
Visitations	308	314	317	320	322	323	325	327	328	330	321

Note Does not include development costs such as depreciation, capital cost repayments, land tax, Council rates.

The 10-year base case business projections indicate:

- Revenue is expected to increase annually ranging from $3,235,000 in year 1 to $4,410,000 by year 10.
- Expenditure is expected to increase annually ranging from $3,753,000 in year 1 to $4,705,000 in year 10.
- The Centre is expected to operate at an annual operating deficit from the first year. The average operating deficit is estimated to be approximately $388,000 per annum.
- Centre attendances are expected to gradually increase from 308,000 in year one to a high of 330,000 by year 10.

4.9.5 BCALC Business Modelling 25 Metre & 50 Metre Pool Comparisons

The comparison of the new facilities 25m x 10 lane pool and the 50m x 10 lane pool annual operating deficits are listed in the following table.

Table 12:BCALC 25m and 50m Pool Option Base Case 10 Year Net Operational Profit/(Loss) Comparisons

Facility Option	YEARS										AVERAGE PER ANNUM (000)
	1 (000)	2 (000)	3 (000)	4 (000)	5 (000)	6 (000)	7 (000)	8 (000)	9 (000)	10 (000)	
25m Pool Operational Profit/(Loss)	($288)	($228)	($195)	($160)	($139)	($116)	($93)	($68)	($42)	($15)	($135)
50m Pool Operational Profit/(Loss)	($518)	($462)	($433)	($403)	($388)	($372)	($354)	($336)	($316)	($295)	($388)

The 25m pool and 50m pool operational models indicate both pool option configurations are projected to operate at annual losses. The 50m pool is projected to operate at the highest annual operating loss of $230,000 more in year 1.

The combined 10 year operating loss for the 50m pool option is $3.880M compared to the 25m pool option at $1.350M.

4.9.6 BCALC Recommended Development Concept Business Case Scenario Comparisons

The following tables provide a 10-year impact comparison for the following different business scenarios for the recommended development concept based on:

- Optimistic Case - 10% more use than the base case
- Conservative Case - 10% less use than the base case

Optimistic Case Option

The following table details the 10-year optimistic case option.

Table 13: BCALC Recommended Development Concept Optimistic Case – 10% More Use

CATEGORY	YEARS										AVERAGE PER ANNUM (000)
	1 (000)	2 (000)	3 (000)	4 (000)	5 (000)	6 (000)	7 (000)	8 (000)	9 (000)	10 (000)	
Revenue	$3,445	$3,611	$3,746	$3,886	$4,011	$4,140	$4,273	$4,410	$4,551	$4,697	$4,077
Expenditure	$3,455	$3,548	$3,639	$3,732	$3,826	$3,922	$4,021	$4,123	$4,227	$4,334	$3,883
Operational Profit/(Loss)	($10)	$62	$107	$153	$184	$217	$251	$287	$324	$363	$194
Visitations	321	327	330	334	335	337	339	340	342	344	335

Note Does not include development costs such as depreciation, capital cost repayments, land tax, Council rates.

The 10-year optimistic case business projections indicate:

- Revenue is expected to increase annually ranging from $3,445,000 in year 1 to $4,679,000 by year 10.
- Expenditure is expected to increase annually ranging from $3,455,000 in year 1 to $4,334,000 in year 10.
- The Centre is expected to operate at an annual operating deficit in years 1 and in surplus in years 2-10. The average operating surplus is estimated to be approximately $194,000 per annum.
- Centre attendances are expected to gradually increase from 321,000 in year one to a high of 344,000 in year ten.

Conservative Case Option

The following table details the 10-year conservative case option.

Table 14: BCALC Recommended Development Concept Conservative Case – 10% Less Use

CATEGORY	YEARS										AVERAGE PER ANNUM (000)
	1 (000)	2 (000)	3 (000)	4 (000)	5 (000)	6 (000)	7 (000)	8 (000)	9 (000)	10 (000)	
Revenue	$2,818	$2,954	$3,065	$3,179	$3,281	$3,387	$3,496	$3,608	$3,724	$3,843	$3,335
Expenditure	$3,385	$3,474	$3,562	$3,653	$3,744	$3,838	$3,934	$4,032	$4,134	$4,238	$3,800
Operational Profit/(Loss)	($566)	($519)	($497)	($473)	($462)	($450)	($438)	($424)	($410)	($394)	($465)
Visitations	262	268	270	273	274	276	277	278	280	281	275

Note Does not include development costs such as depreciation, capital cost repayments, land tax, Council rates.

The 10-year conservative case business projections indicate:

- Revenue is expected to increase annually ranging from $2,818,000 in year 1 to $3,843,000 by year 10.
- Expenditure is expected to increase annually ranging from $3,385,000 in year 1 to $4,238,000 in year 10.
- The Centre is expected to operate at an annual operating deficit from the first year. The average operating deficit is estimated to be approximately $465,000 per annum

- Centre attendances are expected to gradually increase from 262,000 in year one to a high of 281,000 in year ten.

4.9.6.1 BCALC Recommended Development Concept Business Scenario Comparison

The following table provides a comparison of the average operational performance over the 10-year period of each business scenario models model based on:

- Optimistic Case = 10% more use
- Base Case = Average predicted use
- Conservative Case = 10% less use

Table 15: BCALC New Facilities Business Scenario Comparisons

FACILITY STAGES	FACILITY BUSINESS SCENARIO		
	Conservative Case 10% Less Use Average Over 10 years	**Base Case (Average Use) Average Over 10 years**	**Optimistic Case 10% More Use Average Over 10 years**
Revenue	$3.335M	$3.706M	$4.077M
Expenditure	$3.800M	$3,841M	$3.883M
Operational Profit/(Loss)	($465,000)	($135,000)	$194,000
Visitations	275,000	305,000	335,000

The above BCALC recommended development concept business scenarios provide Council with a range of annual average projected business performance targets including:

- Revenue is projected to range from $3.335M to $4.077M
- Expenditure is projected to range from $3.800M to $3.883M
- Operational profit/(loss) is projected to range from a loss of ($465,000) to a profit of $194,000.
- Visitations are projected to range from 275,000 visits to 335,000 visits.

4.10 Environmentally Sustainable Aquatic Facility and Plant Design

Council commissioned a sustainability strategy report for both the BCALC and Phillip Island Aquatic Leisure Centre projects. The report was completed by Integral Group. A detailed report has been produced to guide Council on best practice sustainability initiatives for the aquatic leisure centres

This section provides an overview of the report and highlights current trends and practice in relation to environmentally sustainable design (ESD) considerations for aquatic and leisure facilities.

The report notes that aquatic leisure centres are exceptionally energy, water and emissions intensive. Of all building types typical within Local Government property portfolios, aquatic centres are frequently the most resource intensive due to their high use of energy and water. When considering ESD, facility providers should consider the balance of:

1. Capital expenditure to implement and maintain ESD measures
2. Operational cost savings
3. Commitment to reducing environmental impacts including emissions reduction.

Consideration of ESD solutions and level of intervention should be made in the context of any Council ESD policies or related sustainability strategies.

It is also noted that the area may have a reasonable capacity to generate geothermal heating and associated energy systems. A geothermal energy feasibility study could be considered to investigate further this ESD initiative and to also highlight the likely capital costs and possible government funding support for this alternative energy solution.

4.10.1 Design and on-site renewables

There are a range of opportunities to reduce the resource consumption and enable high-efficiency systems. The goal is to create a high performance, passive building that makes optimal use of its climate and supports high efficiency building systems. This can be achieved through:

- **Natural ventilation –** Effective natural ventilation and making use of prevailing climate and wind patterns should form part of design development. Daytime natural ventilation can reduce HVAC loads and energy costs.
- **Building Fabric –** High performance, thermally efficient building fabric is critical to low energy and comfortable buildings. Best practice benchmarks: high insulation ratings, double-glazing or better, low-E glass and thermally broken windows and building fabric.
- **Solar access –** Buildings should aim to exceed the minimum solar access requirements for winter-time solar access at mid-day. Building geometry should maximise solar access.
- **Shading –** Shading or window screening should be considered an integral part of building design for thermal comfort and cooling load reduction. Horizontal shading to the north and vertical slat shading to the east and west are most effective.
- **Solar –** The installation of solar voltaic panels is a cost-effective way of reducing electricity costs. The proposed roof space would allow a sizable system that should have an attractive payback period. Solar thermal systems are a less suitable technology for aquatic centres due to their limited efficiency, limited flexibility and relatively low return on investment.

4.10.2 Specific ESD Initiatives

A range of specific ESD initiatives now commonly developed at aquatic facilities include:

Mechanical Systems

Optimally controlled mechanical systems within aquatic centres offer a good opportunity for energy savings. The Geothermal Feasibility Study could also inform the specific ESD initiatives.

Mechanical systems will be split between wet areas (i.e. pool zones) and dry areas (amenities / cafes). Options include

- **Best in Class Air to Air Heat Recovery for Pool Halls –** Humidity within wet zones (pool halls) is managed by outside air, however this contributes to the heating load. By utilising air-to-air heat recovery, a typical pool zone will make significant reductions in its energy use.
- **Pool Water Heating –** Electric heat pumps should be considered for pool water heating. Special CO2 heat pump units can generate heated hot water temperatures matching that conventional gas fire boilers, reaching up to 90°C.
- **Advanced Controls –** An important opportunity is to consider advanced controls to adjust the speed of pool AHU fans based on internal conditions – temperature and humidity. Controls can support high efficiency performance and improve the effectiveness of comfort and humidity control within the centre.
- **Specific fan power-** Air handling equipment should be selected in line with specific fan power compliance requirements of the best-practice energy efficiency standards.

Hydraulic Systems

Hydraulic systems are critical to delivering low energy aquatic centres. In order to deliver on this ambition two key goals should be adhered to 1) generating hot water as efficiently as possible; 2) moving water with as little energy as possible. Furthermore, greywater / rainwater opportunities onsite present numerous options for reducing water demand.

- **Domestic Hot Water –** Heat pumps can also provide domestic hot water, delivering water at 45°C. If hotter water temperatures are desired a secondary water loop heat pump could be attached to the main pool hall hot water loop - taking water temperatures from 45°C to 65°C. Alternatively an electric top up element positioned in the hot water storage tank can also boost hot water generation in times of peak demand.
- **Grey Water System –** If modern filtration and treatment systems are employed for filtering backwash water, the quality of the water can be sufficient for use in non-potable uses such as toilet flushing, and potentially irrigation.
- **Rainwater Harvesting –** There is significant potential to capture rainwater from the roof area. This can be used for irrigation, toilet flushing and potentially pool make- (subject to quality issues) up to reduce water demand.

Management

As well as market leading building service technologies to optimise performance, several strategies for managing aquatic centres are outlined below.

- **Utility Management System –** An automated building utility management system with its reporting features can assist the building operator to identify equipment faults or operational issues that result in excess use of energy and water. Using this data appropriately can save up to 10-30% in energy consumption annually.
- **Independent Commissioning Agent –** As aquatic centres are large energy consumers. An independent commissioning agent could provide an opportunity for significant energy savings. An independent commissioning agent ensures that building systems are correctly commissioning and independently verified as performing as designed.
- **Air Tightness Testing –** Adopting an air tightness target allows for close control of indoor environments which are therefore insulated from incoming infiltration. Any adopted target should be verified by testing, particularly within the pool hall.

Conclusions

The development of 2 future aquatic leisure facilities for Bass Coast Shire Council presents many opportunities to advance sustainability in a manner that:

- Improves the whole of life cost performance
- Reduces resource consumption and environmental impacts
- Supports the health and wellbeing of facility users
- Delivers public benefit beyond the provision of social infrastructure of the aquatic facilities.
- Showcases a commitment to residents and centre visitors through effective third party benchmarking and certification.

As Council progresses each facility to detailed design it is recommended that Council appoint an experienced ESD advisor to the design team to ensure contemporary design and engineering opportunities to advance Council's environmental sustainability ambitions are well informed and adequately designed and costed.

4.10.3 Council Climate Change Action Draft Plan 2020 to 2030

In September 2019, Bass Coast Shire Councillors joined a growing movement of councils leading the nation in declaring a climate emergency, recognising the serious risk that climate change poses to safety of the entire Bass Coast community, that immediate and urgent action is required to reduce our emissions, build community resilience against the local impacts of climate change and ultimately reverse global warming.

Bass Coast Shire is committed to doing everything it can to solve the challenge of climate change. It is critical that rapid action is taken to protect our natural assets, to maintain Bass Coast's unique environment and secure a liveable and healthy future for our community.

A key action of the plan is for Council in 2021 to update its existing ESD policy for Council buildings which would include:

- Design standards for new builds and major refits which target zero carbon construction and operation (including transition to all electric) and respond to expected climate impacts at end of asset life.
- Procurement guidelines to ensure reduced caron and climate resilient materials.
- Procedures for briefing consultants, architects and contractors to ensure climate risk mitigation is a central design intent and outcome.

These key outcomes will guide future ESD initiatives for the aquatic centres design and development.

4.10.4 Geothermal Energy Review

Council commissioned Rockwater – Hydrogeological & Environmental Consultants to complete a high level geothermal site pre-feasibility study for both of the proposed aquatic leisure centres. The study was completed to:

- Help inform and advise if both sites are conducive to the development of geothermal energy systems.
- Help inform the likely capital and operational cost impacts of such heating systems.

This report should be reviewed to identify specific study findings. As a summary OPG notes the report highlights that pool water and air heating will represent the bulk of energy consumption in the two aquatic centres and where possible geothermal system installation can substantially reduce the cost of this energy whilst also returning significant environmental and emission benefits and savings.

The prefeasibility study found in relation to the BCALC replacement project at Wonthaggi:

- The BCALC site is underlain by pre-tertiary cemented volcaniclastic sediments of the Strzelecki Group of Cretaceous age.
- The depth of water is likely to be 5m below ground level.
- The geothermal gradient in the region is relatively high at about 30C/km though there are no deep boreholes in Wonthaggi to confirm this.
- PIALC reviews indicated that the geology at the Phillip Island site was likely to be compatible with up to 4 geothermal concepts. Given that the largely un-fractured mudstone and siltstone of the Strzelecki Group occur down to 800m depth near the site it appears unlikely that the hydrogeology at BCAL will be conducive to a conventional deep hot sedimentary aquifer project (concept 1) and will also not be conducive to an open loop project (concept 3).
- The pre-feasibility study does identify future potential for investigating concept 2 (Deep Borehole Heat Exchanger – Deep BHE) and also concept 4 Shallow Close Loop GSHP Borefield..

These two concepts have advantages and disadvantages and were rated having compatible geology with high potential to be developed at Wonthaggi. and it was recommended that a detailed feasibility study be completed to de-risk the options and help determine the best value for money and return on investment concept.

The report estimates that the aquatic and indoor sport facilities proposed at BCALC will likely require a total heating load of 700 to 2,100KW.

For example if Council installed a conventional gas fired boiler at around $500,000 capital cost it was likely to record annual energy costs in year one of up to $500,000.

The concept 4 geothermal option was identified as the lowest capital cost option at $1.7M but annual operating costs would be around $290,000 (saving $210,000 annually in energy costs) whilst concept 2 at an estimated cost of $3.7M would see operating costs drop to $200,000 ($300,000 annual energy saving).

The pre-feasibility conclusions for the BCALC development noted:

“At the BCALC development site, the DBHE (Concept 2) and close-loop geothermal concept (Concept 4) appear to offer similar LCOH over a 30-year life-cycle. The calculated LCOH are $17/GJ to $19/GJ slightly lower than gas over the lifecycle confirming that both concepts are viable.

However, the DBHE concept achieves greater CO_2 offset (21% more savings).

The area required for the close-loop geothermal concept to provide the entire baseload is unlikely to be able to be accommodated on-site. Therefore, it is recommended that consideration be given to a hybrid geothermal solution whereby a closed-loop system is installed where there are car-parks or areas of lawn with a couple of DBHE units providing the balance of the heating requirements.

The hybrid geothermal solution can be developed further in a detailed feasibility study in collaboration with the mechanical engineer for the development so that the geothermal design capacity is optimised based on the anticipated baseload/peak load and the target CO_2 savings and CAPEX/OPEX

4.11 Where to From Here

This final draft feasibility report documents key user catchment & user market analysis that have guided the recommended facility option component brief. The report also presents from these findings:

- A recommended development concept layout plan on a new southern site
- Indicative capital costs for the project.
- Projected 10 year operating visitations and financial performance projections for the proposed facilities.

As part of the BCALC Redevelopment Feasibility Study Project review process OPG have issued the final draft report for Councillor and officer review

Following this Council Officers in association with OPG would develop and implement a community engagement strategy and seek community feedback on the final draft report.

Following close off of community feedback OPG will summarise and review these findings and following Council review include any Council approved changes in the final feasibility study report.

5. Warranties and Disclaimers

The information contained in this report is provided in good faith. While Otium Planning Group has applied their own experience to the task, they have relied upon information supplied to them by other persons and organisations.

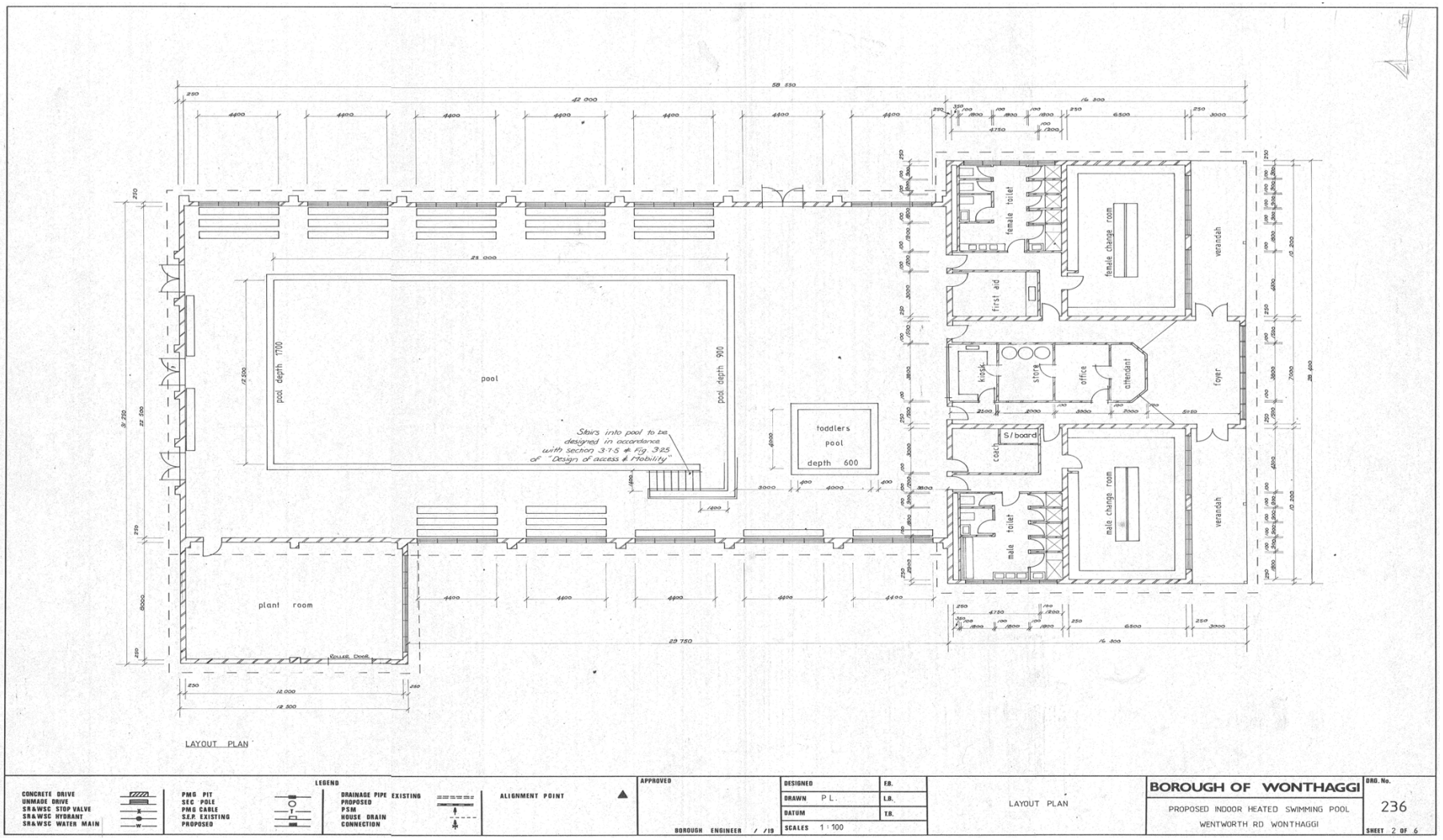
We have not conducted an audit of the information provided by others but have accepted it in good faith. Some of the information may have been provided 'commercial in confidence' and as such these venues or sources of information are not specifically identified. Readers should be aware that the preparation of this report may have necessitated projections of the future that are inherently uncertain and that our opinion is based on the underlying representations, assumptions and projections detailed in this report.

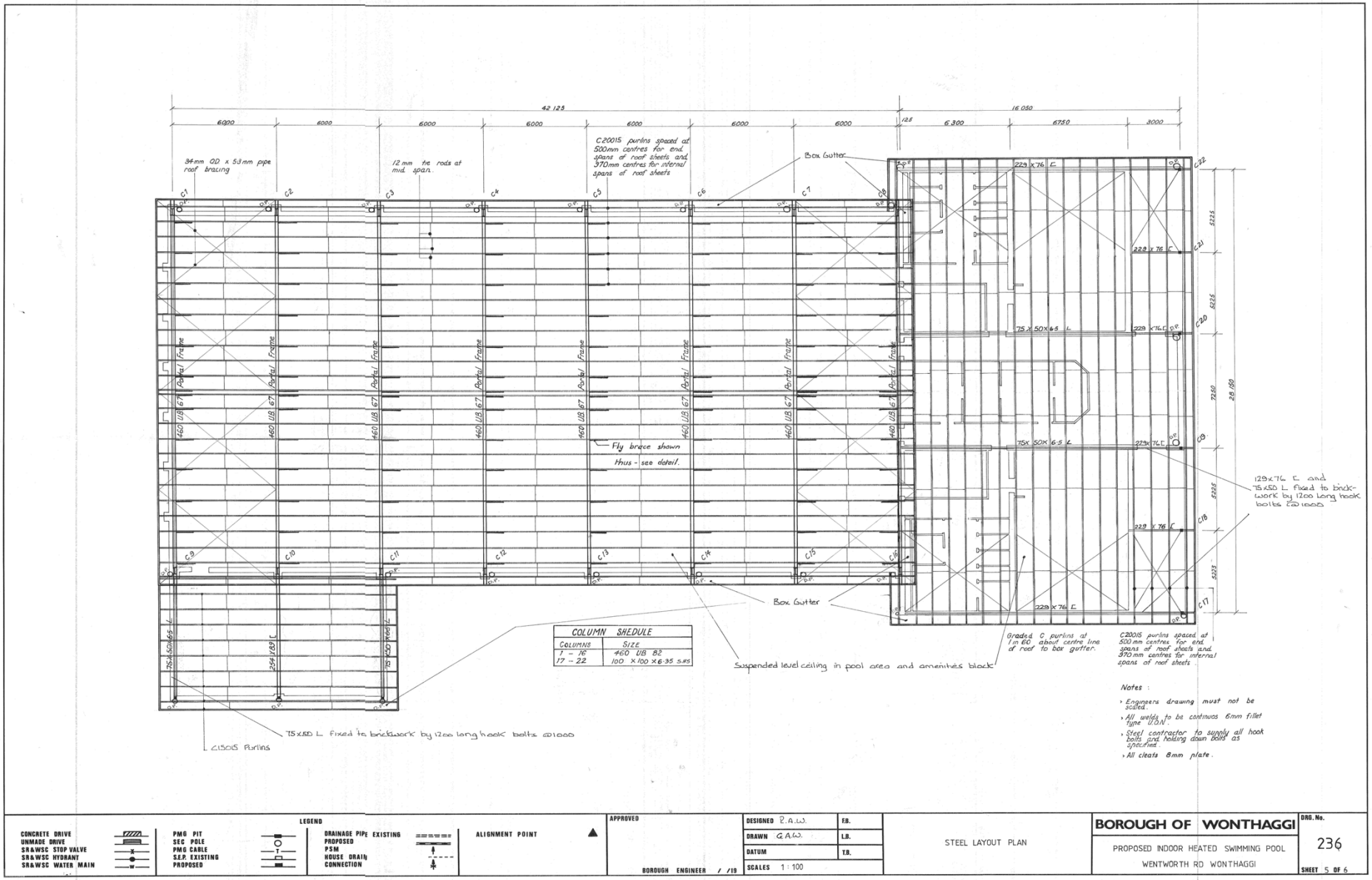
There will be differences between projected and actual results, because events and circumstances frequently do not occur as expected and those differences may be material. We do not express an opinion as to whether actual results will approximate projected results, nor can we confirm, underwrite or guarantee the achievability of the projections as it is not possible to substantiate assumptions which are based on future events.

Accordingly, neither Otium Planning Group, nor any member or employee of Otium Planning Group, undertakes responsibility arising in any way whatsoever to any persons other than client in respect of this report, for any errors or omissions herein, arising through negligence or otherwise however caused.

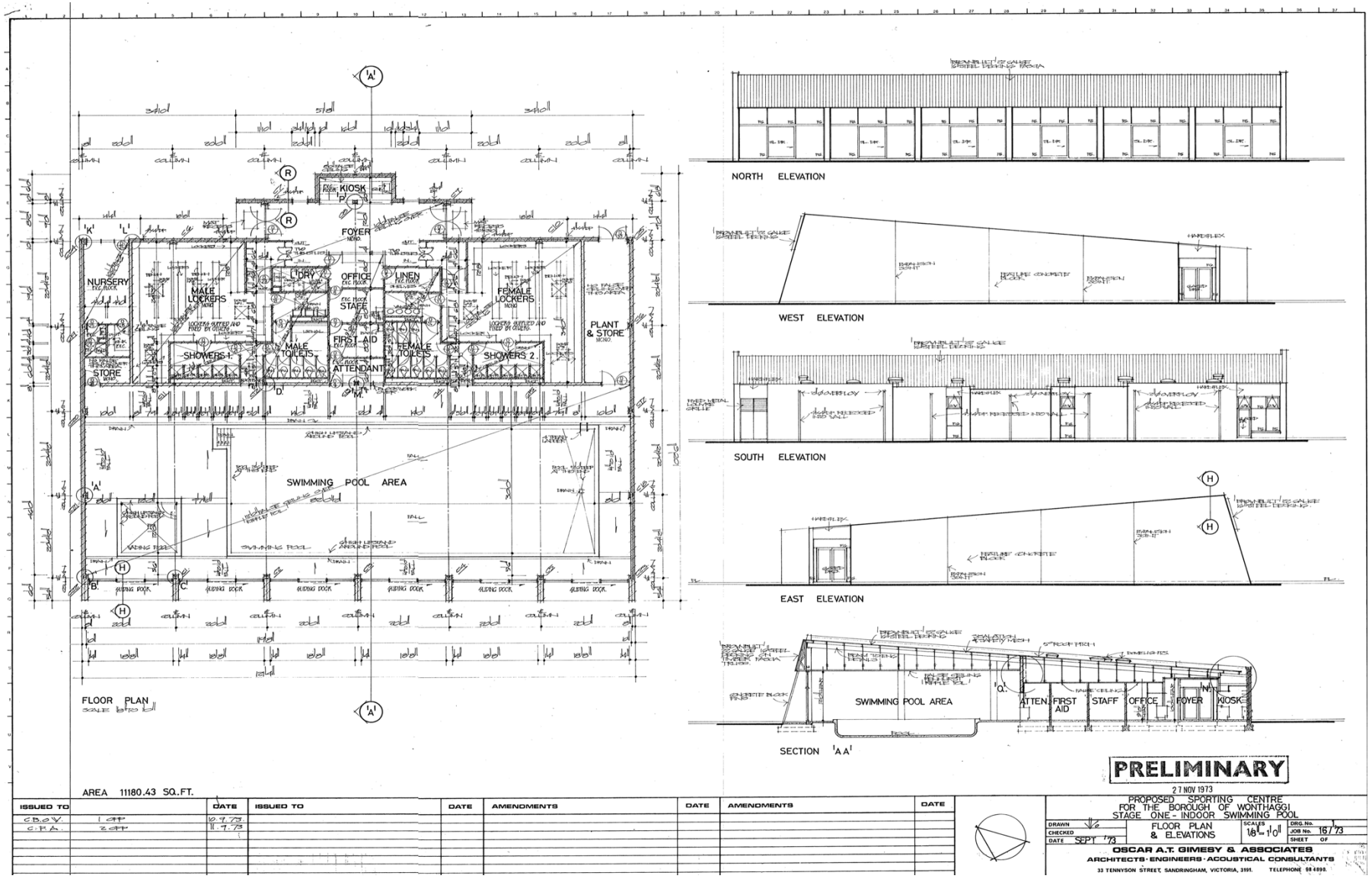
Appendix 1: BCALC Existing Facility Plans

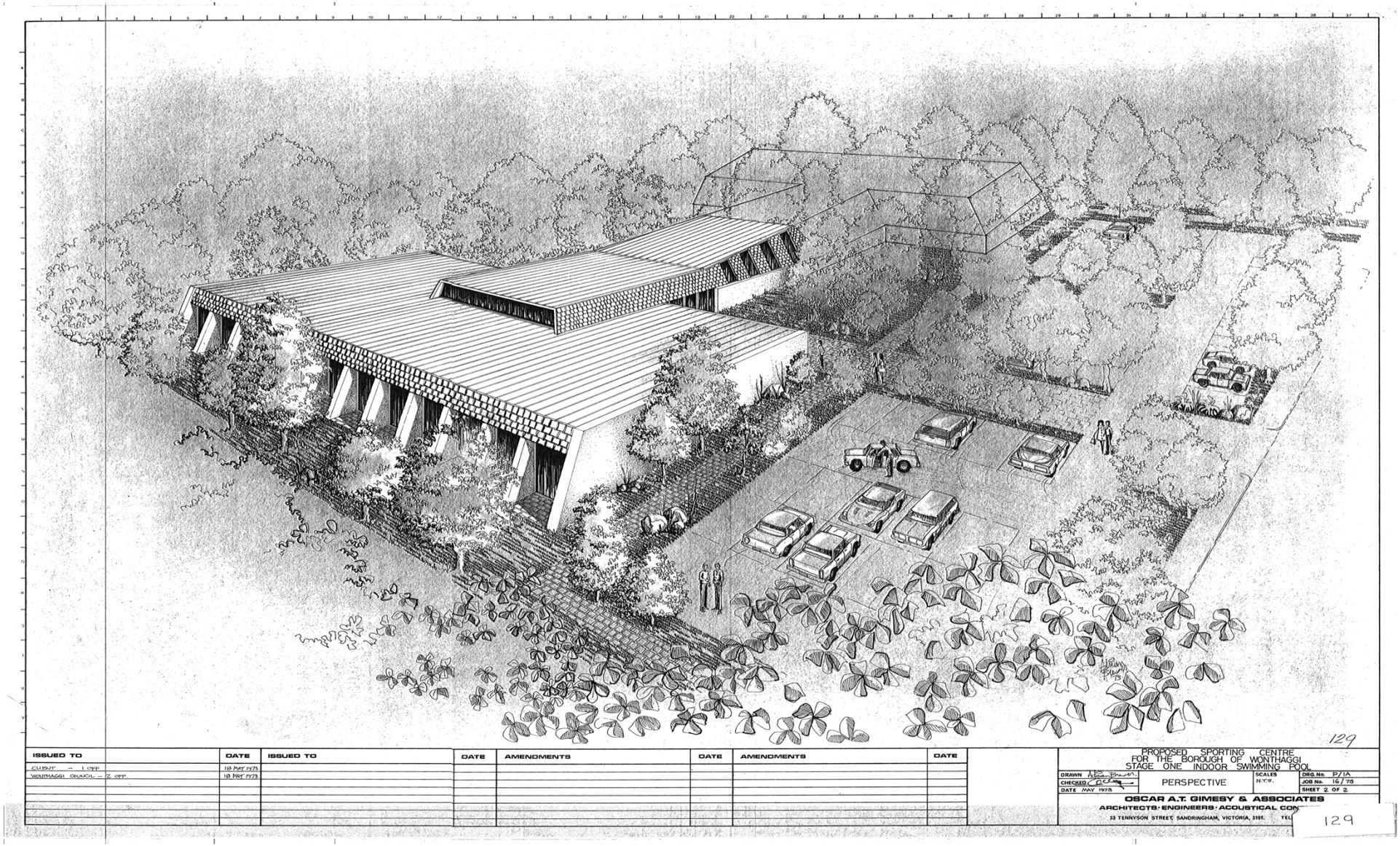
1982 BCALC Extension Plans (Aquatics)




42 125
16 050
6000
6000
6000
6000
6000
6000
6000
125
6 300
6750
3000
34mm OD x 5.3mm pipe roof bracing
12 mm tie rods at mid span.
C20015 purlins spaced at 500mm centres for end spans of roof sheets and 370mm centres for internal spans of roof sheets
Box Gutter
Portal Frame
460 UB 67
Fly brace shown thus - see detail.
COLUMN SHEDULE
COLUMNS | SIZE
1 – 16 | 460 UB 82
17 – 22 | 100 X 100 X 6.35 SHS
Box Gutter
Suspended level ceiling in pool area and amenities block
Graded C purlins at 1 in 60 about centre line of roof to box gutter.
C20015 purlins spaced at 500 mm centres for end spans of roof sheets and 370 mm centres for internal spans of roof sheets
129x76 E and 75x50 L fixed to brick-work by 1200 long hook bolts @2000
75 x 50 x 6.5 L
254 x 89 E
75 x 50 x 6.5 L
75 x 50 L fixed to brickwork by 1200 long hook bolts @1000
C15015 Purlins
Notes :
› Engineers drawing must not be scaled.
› All welds to be continuous 6mm fillet type U.O.N.
› Steel contractor to supply all hook bolts and holding down bolts as specified.
› All cleats 8mm plate.
LEGEND
CONCRETE DRIVE
UNMADE DRIVE
SR&WSC STOP VALVE
SR&WSC HYDRANT
SR&WSC WATER MAIN
PMG PIT
SEC POLE
PMG CABLE
S.E.P. EXISTING
PROPOSED
DRAINAGE PIPE EXISTING
PROPOSED
PSM
HOUSE DRAIN CONNECTION
ALIGNMENT POINT
APPROVED
BOROUGH ENGINEER / /19
DESIGNED R.A.W.
DRAWN G.A.W.
DATUM
SCALES 1 : 100
EB.
L.B.
T.B.
STEEL LAYOUT PLAN
BOROUGH OF WONTHAGGI
PROPOSED INDOOR HEATED SWIMMING POOL
WENTWORTH RD WONTHAGGI
DRG. No.
236
SHEET 5 OF 6

1973 BCALC Recreation Centre Plans





ISSUED TO	DATE	ISSUED TO	DATE	AMENDMENTS	DATE	AMENDMENTS	DATE
CLIENT – 1 OFF.	18 MAY 1973						
WONTHAGGI COUNCIL – 2 OFF.	18 MAY 1973						

PROPOSED SPORTING CENTRE
FOR THE BOROUGH OF WONTHAGGI
STAGE ONE INDOOR SWIMMING POOL

DRAWN
CHECKED
DATE MAY 1973

PERSPECTIVE

SCALES N.T.S.

DRG. No. P/1A
JOB No. 16/73
SHEET 2 OF 2

OSCAR A.T. GIMESY & ASSOCIATES
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Appendix 2: Wonthaggi Recreation Reserve Masterplan

Appendix 3: BCALC Facility Indicative Capital Cost Estimates

Base Coast Council

Wonthaggi - New Facility on Southern Site

Indicative Cost Plan

Basis: F003A drawing from Peddle Thorp dated 02/12/2020

QS REF: me29713
Date: 13/04/2021

Function	Area m2	Rate $/m2	Overall $
Building Works			
Airlock	20	$ 4,000	$ 80,000
Foyer / retail	140	$ 2,200	$ 308,000
Reception	30	$ 3,000	$ 90,000
- Extra for reception joinery	Allow		$ 30,000
- Extra for turnstiles	Allow		$ 100,000
Dry Lounge	50	$ 2,200	$ 110,000
Café / Merch Store	20	$ 2,000	$ 40,000
Café Servery / Queuing / Kitchen	110	$ 3,000	$ 330,000
Kitchen stores	16	$ 2,500	$ 40,000
- Extra for cafe equipment	Allow		$ 120,000
Administration	200	$ 2,500	$ 500,000
Meeting area	80	$ 2,700	$ 216,000
Party Room	40	$ 2,500	$ 100,000
Store / Pool Store	80	$ 2,500	$ 200,000
Wet Change	180	$ 3,000	$ 540,000
Accessible Change	8	$ 3,300	$ 26,400
Change Village	30	$ 2,800	$ 84,000
- EO for lockers	Allow		$ 100,000
Pool Office	25	$ 2,500	$ 62,500
Cleaner	6	$ 3,000	$ 18,000
Pool Plant	155	$ 2,000	$ 310,000
- EO for basement pool plant	Allow		$ 310,000
Accessible Change	18	$ 3,300	$ 59,400
Changing Places	14	$ 3,600	$ 50,400
- Extra for hoist and adult change table	Allow		$ 25,000
First Aid room	15	$ 2,700	$ 40,500
Steam / Sauna [shell]	40	$ 2,000	$ 80,000
Pool Hall	2826	$ 2,700	$ 7,630,200
- Allow bench seating to pool hall	Allow		$ 50,000
Gymnasium	600	$ 2,400	$ 1,440,000
Gym Store & Group Fitness Store	84	$ 2,000	$ 168,000
Fitness Test / Gym Office	60	$ 2,500	$ 150,000
Group Fitness 1-3	520	$ 2,500	$ 1,300,000
Dry Change	100	$ 3,000	$ 300,000
- EO for lockers	Allow		$ 100,000
Mechanical Plant	Allow		$ 600,000
Circulation	380	$ 2,200	$ 836,000
Allowance for piled foundations	Allow		$ 982,296
Allowance for fire sprinklers [excludes pool halls and indoor courts]	Allow	$ 220,000	$ 220,000
Allow for AV infrastructure	Allow	$ 230,000	$ 230,000
Allow for new building signage	Allow	$ 100,000	$ 100,000
Allwance for entrance Canopy	Allow		$ 240,750
ESD Initiatives	6.0%		$ 1,094,303
Total Building Works	**5,847**	**$ 3,320**	**$ 19,411,749**
Aquatic Works - Internal			
25m x 10 lane pool incl ramp access	Allow		$ 2,000,000
Splashpad / Waterplay	Allow		$ 630,000
- Allow for water features / equipment	Allow		$ 550,000
Warm water pool / LTS pool with spa	Allow		$ 1,800,000
- extra for moveable floor to WWP	Allow		$ 810,000
Toddler pool	Allow		$ 180,000
Sauna / Steam room fitout	Allow		$ 100,000
Pool equipment	Allow		$ 240,000
Builders works [excavation, etc]	Allow		$ 200,000
Allowance for piled foundations	Allow		$ 600,000
Preliminaries on aquatic works	Allow		$ 853,200
Total Aquatic Works			**$ 7,963,200**

Base Coast Council

Wonthaggi - New Facility on Southern Site

Basis: F003A drawing from Peddle Thorp dated 02/12/2020

Indicative Cost Plan

QS REF: me29713
Date: 13/04/2021

Function	Area m2	Rate $/m2	Overall $
External Works & Services			
Site Preparation incl removal of croquet courts	Allow		$ 146,175
- Earthworks	Allow		$ 204,945
Waste yard	Allow		$ 90,000
Pool plant access / bund	Allow		$ 30,000
New carpark	137 No		$ 690,480
Crossovers	Allow		$ 30,000
Allow for building forecourt	1138		$ 341,400
Secure outdoor space	980		$ 294,000
Outdoor seating	315		$ 315,000
Soft landscaping	Allow		$ 300,000
Allowance for fencing	Allow		$ 150,000
Allowance for External Services incl Stormwater	Allow		$ 878,000
Total External Works & Services	**5,847**	**$ 593**	**$ 3,470,000**
Sub Total	**5,847**	**$ 5,275**	**$ 30,844,949**
Design Contingency		10%	$ 3,085,000
Cost Escalation to tender			EXCLUDED
Construction Cost	**5,847**	**$ 5,803**	**$ 33,929,949**
Construction Contingency		10%	$ 3,393,000
Professional Fee Allowance [Incl PM]		9%	$ 3,360,000
Authority Fees & Charges	Allow		$ 309,000
- Substation contribution	Allow		$ 150,000
Fixtures, Fittings and Equipment	Allow		$ 340,000
Audio Visual/ Active IT Equipment Allowance/ Members systems	Allow		$ 360,000
- Gym equipment [assumed leased]	Note		EXCLUDED
Council internal costs	Allow		EXCLUDED
Legal, permits, marketing, other professional Fees	Allow		EXCLUDED
Sub Total			**$ 7,912,000**
Project Total in Today's Prices (excluding GST)			**$ 41,841,949**

Exclusions:

We have expressly not taken into account the impact of the Covid 19 pandemic (or any other matter coming to our attention after the date of this report) and accordingly have excluded from this report any implications in relation to programme, costs, supply shortages, performance of parties due to shortages of labour and the inability to travel due to global and national travel restrictions, etc. Turner & Townsend accepts no liability for any loss or damage which arises as a result of such matters or any reliance on this report which assumes such matters have been taken into account.

GST	Cost Escalation beyond December 2022
Upgrade or provision of authority services infrastructure external to the site	Works to adjoining streets
Land and finance costs	Public Art
Adverse soil conditions incl. excavation in rock, contaminated soil, soft spot	Asbestos & other hazardous materials removal
Diversion / relocation of existing inground services	Stormwater on site retention / detention system
Relocation / Decanting / Temporary Accom	Planning permit fees

Note: Exclusions within cost plan