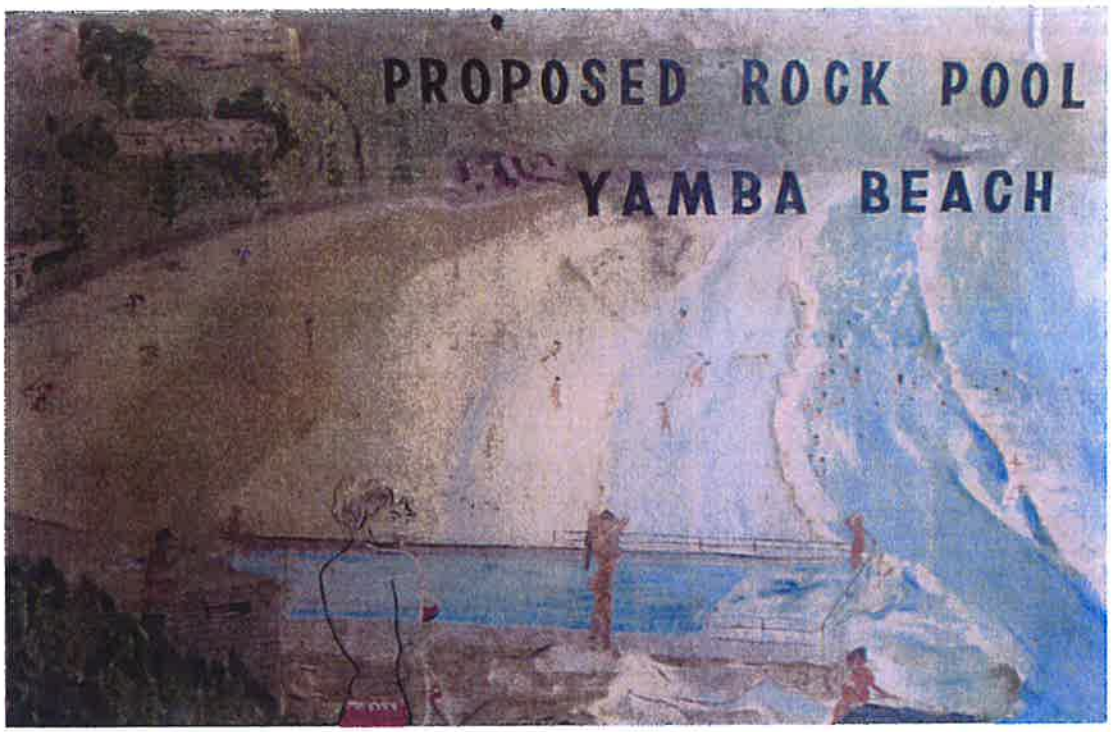
clarence
VALLEY COUNCIL

COASTAL ROCK POOL SURVEY



OPTIONS AND RECOMMENDATIONS

JANUARY 2010

Contents

Attachments

Survey sheets are attached for the following Ocean Pools:

Forster Ocean Baths
Newcastle Ocean Baths
Merewether Ocean Baths
Norah Head Rock Pool
The Entrance Ocean Baths
Collaroy Rock Pool
Dee Why Rock Pool
Curl Curl Rock Pool
Freshwater Rock Pool
Queenscliff Rock Pool
Port Kembla Olympic Pool
Huskisson Sea Pool
Yamba Rock Pool

EXECUTIVE SUMMARY

As part of Council's review of Yamba's Rock Pool, Clarence Valley Council's Deputy General Manager requested Open Spaces Staff to undertake an investigation of rock pools in other council areas along the NSW coast.

Thirteen rock pools in seven Council districts (including Yamba) were inspected with local council area representatives assisting with the gathering of information. Three pools, The Entrance, Freshwater and Huskisson, stood out in the survey as having the most relevance to what is hoped to be achieved in Yamba.

The report highlights the social significance of the Yamba Rock Pool, identifying it as part of "what makes Yamba, Yamba".

Of all the pools surveyed Yamba Rock Pool was found to be the most in need of refurbishment. It has been identified that the majority of the pool's concrete structure has substantial cracks and leaks and that concrete cancer is present. Replacing worn, damaged sections of the pool that are affected by concrete cancer is recommended. Experience has shown that if at first you attempt to repair, you will only end up replacing, adding extra costs to the project. It is more prudent to plan their staged replacement. Regarding sediment within the rock pool , all council representatives surveyed advised grates placed in sea walls around tidal filled rock pools are not effective in controlling sediment in the pool .To achieve cleaner water the pool must be raised above the level of tide and wave action.

The report identifies two separate pumping systems used in the pools surveyed and advises further investigation is needed in this area with respect to Yamba. This report also identifies other issues raised such as

Global warming - council must be factoring into plans for the maintenance and upgrading of the ocean rock pool

Weekly water quality testing is required for the rock pool

The surrounds of Yamba's Rock Pool are in a poor condition and their upgrade is recommended with the pool construction.

This report looks at four design options, discusses their advantages and disadvantages, and recommends Option D (to raise the pool above tidal influences).

The report makes the following recommendations.

1. The pool is raised out of the tidal zone
2. Global warming to be factored into any design
3. How the pool sits in the landscape of main beach is vital in any new design
4. Upgrade of pool deck, promenade surrounds and the rock sea wall around the edge of the beach to be included in the upgrade.

BACKGROUND

Yamba Rock Pool

Yamba and its inhabitants have always had a close affinity with the ocean and swimming. They have valued sea bathing and swimming in an environment that is safer than the surf beaches. Baths offered a safer environment than the surf, an important consideration given the dangerous surf and the ever present possibility of a shark attack. The community has developed a high regard for the pool and identifies it as part of "what makes Yamba, Yamba". The pool has been used extensively by real estate agents and tourist operators to promote the carefree coastal life style Yamba has to offer.

The Yamba Rock Pool was constructed in 1969 at a cost of $33,534.

It is located on a rocky outcrop on the southern end of Yamba's iconic Main Beach.

- The pool is of concrete construction which has been partially set into the surrounding rock and partially formed up proud of the surrounding rock.
- The pool is 33 metres long,10.5 metres wide, 1 metre deep at the shallow end and 1.6 metres at the deep end
- The pool has a separate catch pool/weed trap, located on the eastern end, which acts as an area where the sea water is captured and used to fill the pool by way of a chamber under the concrete decking
- The pool is filled from the ocean during high tides and has no separate pump or filtration equipment.
- The pool can only be completely emptied at low tide, this is needed for cleaning.

SURVEY

This report examined thirteen rock pools in seven Council districts (including Yamba). Local council representatives met staff at each site to assist in the gathering of information. Yamba pool was included in the survey to give a direct reference to its current condition .The surveys of each pool can be found as attachments to this document.

List of Councils, Pools and Contacts

COUNCIL	POOL	CONTACT
Great Lakes Council	Foster Ocean Baths	David Bortfeld, Kerry Simmons
Newcastle City Council	Newcastle Ocean Baths, Merewether Ocean Baths	Peter Withers
Wyong Shire Council	Norah Head Rock Pool The Entrance Ocean Baths	Bruce Phillips Robert Barwick
Warringah Council	Curl Curl Rock Pool Dee Why Rock Pool Collaroy Rock Pool Freshwater Rock Pool Queenscliff Rock Pool	Steve Bax
Wollongong City Council	Port Kembla Olympic Pool	Gordon Smith (consultant)
Shoalhaven City Council	Huskisson Sea Pool	Ken Norwood
Clarence Valley Council	Yamba Rock Pool	Greig McDowall

STRUCTURAL

Council's commissioned report: Yamba Rock pool has had a long history of structural and sediment retention problems as is highlighted by the following extracts from the Council's commissioned report May 2009.

"3.1 The pool has a number of structural issues which are attributed to the age and construction method of the pool.

3.6 The pool also has a large number of cracks of varying widths and severity. All the cracks have not been recorded due to the number and extent.

3.7 The pool is filled when the walls are overtopped during high tide and moderate surf conditions. We understand that during very calm conditions the high tide does not fill the pool.

3.8 During the filling of the pool, sand and seaweed can be washed into the pool where it becomes trapped and cannot escape.

3.9 The seaweed that is trapped in the pool eventually starts to rot and break down and the pool becomes stagnant and very odorous.

3.10 The amount of sand and seaweed being washed into the pool varies depending on the ocean conditions"

***McKenzie Burridge & Associates Pty Ltd* - May 2009**

"The seaweed that is trapped in the pool eventually starts to rot and break down"

Since the report in May 2009 the cracks have become wider making the pool less capable of holding water especially in times of low swell and small tides. Several attempts have been made since then to repair these holes/cracks, which have been mainly unsuccessful, the reason being "we are trying to repair on repairs". In some cases the crack has widened so much that the water pressure blows the patching material from the hole.

Replace Rather than Repair: The options associated with repairs to the cracks in the Yamba Rock pool were discussed with each of the individual council representatives. The following was noted.

- Yamba Rock pool is constructed of concrete and steel and is a victim of the harsh environment in which it is situated.
- Although it may seem cheaper at the time to repair damaged sections of the pool the repairs are, and can only be, superficial. The cracks open the concrete exposing the reinforcing steel to the effects of salt water. "Concrete Cancer" sealing the concrete will not stop the cancer.
- Replace damaged sections of rock pools. All pools surveyed facing similar problems of structural integrity, as part of their management strategy have planned removal and replacement of damaged sections (Dee Why 2009 replaced North wall, Curl Curl planned replacement North wall 2010).
- Replacing worn damaged sections of the pool that are affected by Concrete Cancer is recommended. Although it may seem an expensive option to replace these affected sections, experience has shown that if at first you attempt to repair you will only end up replacing, adding extra costs to the project. It is more prudent to plan their staged replacement.

"Curl Curl planned replacement North wall 2010"

SEDIMENT

Cleaning of Yamba Rock Pool January 2010

Every pool inspected had varying degrees of sediment in their systems. The following are considerations for pool design to reduce the amount of sediment in Yamba Rock Pool.

1. Positioning of the pool on the rock shelf. If the pool is placed on a rock shelf away from the Beach (in deep water) the quality of the water is less likely to be affected by sand and other sediment found in the inter-tidal zone. Yamba Rock Pool is situated in the southern corner of Main beach in the inter-tidal zone and has had major problems of sediment (sand and seaweed) since construction.
2. The height of the pool wall has a direct influence on how a pool functions. It acts as a barrier to the ocean and surf, controlling the quality of the water in the pool and determining how the pool is filled. Yamba Rock Pool is filled on the high tide by waves overtopping the pool wall on the northern side and through grids in the sea wall on the eastern side.
3. The way in which a pool is filled affects the water quality in the pool. There are three different systems used – tidal, pump and a combination of both
    - Tidal - If a rock pool is filled by the tide and wave action only, it is more likely to have substantial sediment problems. Yamba Rock Pool is filled in this way.

- Pump - If a rock pool is filled by a pump only, it is more likely to have a negligible amount of sediment in its system. (*Note:* the placement of the inlet pipe is critical to achieve the desired result).
- Combination of Both - depending on the position of the pool on the rock shelf, a rock pool filled by a combination of both tide and pump is likely to have a lesser degree of sediment-related problems than a pool filled by tide and wave action only, resulting in better water quality. All pools inspected filled in this way had walls that were overtopped on only the highest tides. (*Note:* In extreme storm events generally all ocean rock pools will be inundated by large waves.

4. The pool's floor height in relation to low tide will determine the pool's ability to be drained for maintenance.
   - The drainage valve is placed in the lowest point of the pool floor.
   - Pools that are filled by tide and wave action (Yamba Rock Pool) can only be emptied on or near low tide. Maintenance is restricted to either side of low tide.
   - A rock pool filled by pump is set higher on the rock shelf, the pool walls giving protection from the tide and waves. Thus raising the height of the pool floor and drainage valve giving greater flexibility when scheduling maintenance.
   - The Entrance Ocean Baths is an excellent example of a rock pool that was once filled by the tide and wave action being upgraded to a pump filled facility. This pool has a lot of similarities to Yamba Rock Pool and is recommended for further investigation.

"The Entrance Ocean Baths is an excellent example of a rock pool".

OTHER:

Pumps

Great care needs to be taken when designing a rock pool pumping system. Pumps help keep water in the rock pools fresh, provided the surrounding coastal waters are not themselves polluted.

Pumps in the pools inspected fell into two categories; Dry Mounted and Submersible.

- Dry Mounted pumps are set in a pump house, this can be sited away from water, using an inlet pipe line to access water.

  Advantages:

  - Dry Mounted are cheaper to install and to maintain than Submersible pumps
  - Inlet pipeline gives flexibility in the positioning of the pools intake.

Dry Mounted pump inlet pipe (Entrance Ocean baths)

Disadvantages:

- To protect them from the elements, Dry Mounted pumps are required to be in a pump house.
- These constructions are usually visually unattractive.

- Submersible pumps are set in pump wells that are usually low or flush to pool wall with the pump submerged in the water. They pump directly from an inlet trench/water deep enough to operate.

Advantages:

- Submersible pumps are built in ground they are not readily noticeable being less visually intrusive than the Dry mounted Pump.

Disadvantages:

- High cost of in installation and maintenance.
- To operate they must have clean water next to the pool wall.

Submersible Pump Freshwater Rock Pool

Common pump problems:

- Incorrect positioning of the inlet (causing the pump inlet to silt over);
- Stop pumping;
- Have insufficient capacity;
- Have sumps too high to allow for complete drainage; and
- Lack facilities for cleaning and removing the debris around pump inlets.

Water quality testing

- All Councils surveyed with the exception of Warringah Council and Clarence Valley Council have the water quality tested in their rock pools weekly.
- Clarence Valley Council tests water quality in Angourie's Blue and Green Pools as well as in other areas. At different times these areas are closed to the public because of poor water quality
- Yamba Rock pool is a favorite swimming spot for locals and tourists alike.

In the interest of public health this report strongly recommends that Yamba Rock Pool be included in this water monitoring program as soon as possible.

Global Warming

If Global Warming occurs at predicted rates, rising water levels will eventually drown the existing ocean rock pools/baths along the N.S.W. Coast. It is a consideration that Council should be factoring into plans for the maintenance and upgrading of their ocean rock pools/baths.

It is to be noted that recent renovations of Sydney's Clovelly Baths and surrounding promenade took into account global warming in its design.

Surrounds / Promenade / Pool Deck

The surrounds of Yamba's Rock Pool are in a poor condition when compared to the other pools surveyed.

The following is a list of basic pool facilities required for the pool surrounds:

- Pool access both for disabled and pool maintenance;
- Hand railing and safety chains;
- Promenade upgraded to remove all slip/trip hazards, including widening of Northern wall;
- Pool lighting;
- Seating and lounging areas for pool users;
- Shaded area;
- Shower/freshwater tap.
- Although not looked at in depth in this report the rock sea wall around the edge of the beach is in urgent need of upgrade/replacement. It is recommended that this work be carried out in conjunction with the upgrade of the rock pool.

CONCLUSION

- Of all the pools surveyed, Yamba Rock Pool was found to be in the worst condition and in urgent need of refurbishment. It has been found that the majority of the pool's concrete structure has substantial cracks, leaks and that concrete cancer is present.
- The issue associated with repairs to the cracks in the Yamba Rock pool was discussed with each of the individual council representatives. They advised to replace rather than repair the affected sections of the pool.
- Global Warming must be factored into plans for the maintenance and upgrading of the ocean rock pool.
- Grates place in sea walls around tidal filled rock pools are not effective in controlling sediment in the pool.
- To reduce sediment all council representatives surveyed advised that the pool must be raised above the level of tide and wave action.
- Because of the raising of the pool height it will require a pump to fill the pool. Further investigation is required into what type of pump to be used (*Note:* The placement of the inlet pipe is critical to achieve the desired result).
- The pool's floor (bottom) height needs to be raised to allow for maintenance.
- Weekly water quality testing is required for the pool.
- The surrounds of Yamba's Rock Pool require upgrading.

OPTIONS

This report looks at four design options.

Option A **- Abandon the pool and fill it in**

Advantages

- This is the cheapest option, requiring the filling in of the pool with suitable material and rehabilitating the site.

Disadvantages

- Politically this would be very unpopular, probably noteworthy enough to make national press level.
- Socially the community has developed a high recognition of the pool and identifies it as part of "what makes Yamba, Yamba". Council would face solid opposition across the community if this option was to go ahead.

Option A **is not recommended**

Option B **- Repair / replace pool at same height**

Advantages

- The cost of refurbishment will be reduced if the existing structure can be used as a frame to envelop a smaller size pool within its walls.
- The pool would still be filled by waves and the tide.
- The pool floor would be slightly raised assisting with maintenance.

Disadvantages

- Predicted rise in sea levels associated with global warming will flood the complex.
- The current water quality access and sediment retention issues are not addressed in this model and would continue to be an issue.

Option B is **not recommended**

***Option C* - Repair/replace pool at same height, raise the pool wall and install pump**

Advantages

- Would be similar to option B with the added advantage of an immediate improvement in the water quality.
- Sediment would be greatly reduced.

Disadvantages

- As sea levels rise the pool sea wall would act as a dam, keeping the ocean out of the pool.
- The pool deck and promenade at their current height would be flooded.
- Access for the disabled would continue to be non existent and maintenance access would continue to be restricted.
- There would be additional operational cost for the pump on the maintenance budget.

Option C will only be viable in the short term and for this reason is **not recommended**.

***Option D* - Repair/replace pool, raise the pool above tidal influences and install pump**

Advantages

- Raising the pool would protect Council's investment in this valuable asset from rising sea levels associated with global warming.
- It would also provide an opportunity to incorporate disabled and maintenance access, and a more user friendly pool deck/promenade, in the pool's design.
- The pump would deliver an immediate improvement in water quality and a reduction of pool sediment estimated between 90%-95%.

Disadvantages

- This is the most costly of the options, requiring major construction work.
- There would be additional operational maintenance costs for the pool pump.

This option **is recommended** as the preferred option.

RECOMMENDATIONS

- The pool to be raised out of the tidal zone.
- Global warming to be factored into any design.
- How the pool sits in the landscape of Main Beach is vital in any new design.
- Upgrade of pool deck, promenade and surrounds is included in the project.
- The rock sea wall around the edge of the beach is in urgent need of replacement. It is recommended that this work be carried out in conjunction with the rock pool upgrade.

Entrance Ocean baths recent renovations included raising of the pool and surrounds by 600 mm

Bibliography

NSW Ocean Baths email: info@nswoceanbaths.info

Report Yamba Rock Pool McKENZIE BURRIDGE& ASSOCIATES PTY. LTD.
22 May 2009

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POOL INSPECTION LIST SURVEY
FORSTER OCEAN BATHS

Name of Pool	Forster Ocean Baths (Bullring, Haden's Pool)			
Location	North Street Forster, NSW, 2428 Baths are set at the Southern end of Forster Beach at the base of Second Head. Direct access to Baths from the beach (Latitude South 32d 10m 16s, Longitude East 152d 30m 52s)			
Council Area Name	Great Lakes Council			
Council Contact				
Name	David Bortfeld		Kerry Simmons	
Phone	65 917 360		659 917 360	
Email	**'David.Bortfeld@greatlakes.nsw.gov.au"kerrie.Simmons@greatlakes.nsw.gov.au'**			
Dimensions				
Width in mtrs	70	Length in mtrs	50-70	
Depth in mtrs - Shallow end	1 mtr- sand beach	Deep end	1.5	

Pool Height of wall above sea level: high tide overtops pool
(No need to be exact, e.g. 1.8 metre high tides go over the wall)

High tide generally overtops pool, the size and direction of the swell have influence in this area

HIGH TIDE OVERTOPS POOL

Describe pool maintenance access:

From beach SW corner pool

MAINTENANCE ACCESS FROM BEACH

External Protection from Wave Action

1. Rock Shelf (short description, e.g. length, width, height, other)
N. wall minor only little to no protection some protection NE corner

ROCKSHELF

NOTE; Through out the year the rock shelf is regularly covered by a build up of sand covering the pump intake and filling the pool with sand

2. Wave wall (short description, e.g. length, width, height, other
Small wave wall in NE corner to protect racing lanes in the pool
LENGTH; 30 mtr
WIDTH at top; 400 mm
HEIGHT above pool wall 1mtr

WAVE WALL

3. Other protection

The pump intake has a grill to try and reduce the amount of rocks being drawn into the pump

PUMPINTAKE

NOTE; Through out the year the rock shelf is regularly covered by a build up of sand covering the pump intake and filling the pool with sand

Pool Materials Construction

1. Concrete	■	3. Natural (rock/sandstone)	☐
2. Combination	■	4. Other *(use below)*	☐

The pool has a sand beach on Southern side otherwise concrete

POOLS SAND BEACH

Pool Materials Technical

1. Type of concrete mix used:
   (i.e. any special admixtures and/or any protective coatings associated with the exposure to the sea water including the splash zone.)

Pool built in the 1930's no knowledge of specifications of the concrete mix

2. Type of reinforcement used in construction
   (e.g. galvanised steel, stainless steel, poly fibres)

Pool built in the 1930's no knowledge of specifications of the reinforcement used (believed to be galvanised steel)

3. Details of any expansion joints and the system used

Rubber used on concrete decking

4. Has the pool a electrolysis control system YES ☐ NO ■

Pool Year of Construction:
1930's completed 1934

Current Condition **Good** ■ **Fair** ☐ **Poor** ☐

Leaks/Cracks

1. Nil	☐	4. Major	☐
2. Minor	■	5. Other	☐
3. Significant	■		

History of repairs

- Capping the scuppers
- Disabled ramp installed
- Pump needs repair regularly
- New/ additional sump pumps to be installed in sediment well to address problems with ware on the impeller of the primary pump.

Pool Filled By:

1. Wave action (tidal)	☐	2. Pump	■
3. Combination of wave action and pump	☐	4. Other *(use below)*	☐

If Pump Used

1. Pump Make
Two Orrell 300 AX
2. Size
3. Year of installation
4. Operational life of pump
5. Maintenance issues
6. Annual cost $25,000 - $30,000

7. Other Poor placement of the ocean inlet has caused a lot of sand and rock to be sucked into the pumping system causing continuous major ware on the pumps impeller
Pool Cleaning
1. Weekly ☐ Fortnightly ☐ Other ■
2. Machinery required: Front-end loader, Backhoe ,pressure cleaner
3. Staff numbers required: 3 - 4
4. Water quality testing: Weekly ☐ Fortnightly ☐ Other ■ Visual only
5. Sanitation system used: Nil *e.g. chlorine* : Nil
6. Antifouling system used Yes ☐ No ☐ Please give details:

Pool Sediment			
1. Sand only:	minor ■	significant ☐	major ☐
2. Seaweed only:	minor ☐	significant ☐	major ☐
3. Sand and Seaweed:	minor ☐	significant ☐	major ☐
4. Other:	minor ■	significant ☐	major ☐
Some rocks			
History of Repairs			
1. Major repairs: Yes ■ No ☐ Details: Scuppers, Pumps			
2. Minor repairs: Yes ■ No ☐ Details Concrete work (cupping's – fixing leaks)			
Technical Advice			
Details of :			
1. Designers: 2. Henry Haden, a Dredge Master with the NSW Department of Public Works, lived in a house on the corner of West and North Streets. He gave his name to Haden's Pool, the pool developed in the 1930s to become the Forster Ocean Baths.			
3. Architect: No information available 1930's construction			
4. Structural Engineers: No information available 1930's construction			

5. Builders: Stroud Council work for the dole.	
***Important* to get referees for any consultants used or importantly what they were like to work with – e.g. any problems – e.g. excessive delays with designs, successes, etc.**	
Operating/ Maintenance Costs	
1. Yearly Budget $50,000 - $60,000	
2. How is this Funded	
a) User Pay	☐
b) Council Funds	■
c) Combination of A & B	☐
d) Other Details:	☐
Major User Groups	
1. Swimming Club:	10% of time
2. Schools:	03% of time
3. Social / recreational:	80% of time
4. Other:	07% of time Tourists

Additional Advice / Comments:

- General the pool is in good condition and is well used by the community
- The build up of sand on the North wall creates severe problems of water supply to the pool placing the inlet further out in the ocean or in a position further along the rock shelf in deep water would improve the supply and water quality.
- The pools history shows that it has been closed for many consecutive weeks because of poor water quality.
- As the pool is overtopped with high tide seaweed and sand are washed directly into the pool.
- The amenities for the pool include 2 electric BBQ's ,picnic structures, change rooms and toilets .note no shower in change rooms
- The disabled access ramp is well situated, the hand rail in conjunction with a non slip cement surface makes for ease of entry.
- Car park while small is adequate for the pool the surrounding street parking comes into play at peak times.

An active maintenance program is in place with major work under way for an improvement in the pumping system underway.

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POOL INSPECTION LIST SURVEY
NEWCASTLE

Name of Pool	Newcastle Ocean Baths		
Location	30 Shortland Esplanade, Newcastle, NSW, 2300, Australia (Latitude South 32d 55m 47s, Longitude East 151d 47m 20s) Newcastle City > Newcastle		
Council Area Name	Newcastle City Council		
Council Contact			
Name	Peter Withers		
Phone	49745012	Mobile	0413156839
Email	pwithers@ncc.nsw.gov.au		
Dimensions ; The baths has a wooden catwalk which divides the facility into 2 pools. One is an Olympic and the other pool 80 metres by approx 48 metres.			
Width in mtrs	90	Length in mtrs	50
Depth in mtrs - Shallow end	1.2 metres	Deep end	2.2 metres

Pool Height of wall above sea level:
(No need to be exact, e.g. 1.8 metre high tides go over the wall)

Approx 1.2 metres above high tide

EASTERN WALL

Describe pool maintenance access:
The baths has a sand bottom. Once a week the bath walls and ramps are white washed with a lime and cement mixture. The whitewash is allowed to dry and cure for a couple of hours before the baths are filled using pumps

External Protection from Wave Action

1. Rock Shelf (short description, e.g. length, width, height, other)
Baths are built on a extensive rock shelf this coupled the concrete promenade And the height of the pool wall gives protection from all but the larger storm surfs.

LARGE CONCRETE PROMENADE & ROCK SHELF

2. Wave wall (short description, e.g. length, width, height, other
Southern wall has extra ½ metre on top of pool wall.

3. Other protection
The baths has a 4 metre high grandstand located along the length of the Olympic pool with a 4 metre high wall returned around the eastern side of the Olympic pool.

GRANDSTAND 4 METRE HIGH

Pool Materials Construction			
1. Concrete	■	3. Natural (rock/sandstone)	☐
2. Combination	☐	4. Other *(use below)*	☐

Pool Materials Technical

1. Type of concrete mix used:
   (i.e. any special admixtures and/or any protective coatings associated with the exposure to the sea water including the splash zone.)

? 1930's construction

2. Type of reinforcement used in construction
   (e.g. galvanised steel, stainless steel, poly fibres)

Original probably galvanised steel
Stainless on all repair work including buildings

3. Details of any expansion joints and the system used
4.

In promenade
Original tar used any replacement work rubber is used

5. Has the pool a electrolysis control system YES ■ NO ☐

Facade and all replacement of buildings only

Pool Year of Construction: 1930

Current Condition **Good** ■ **Fair** ☐ **Poor** ☐

Leaks/Cracks			
1. Nil	■	4. Major	☐
2. Minor	☐	5. Other	☐
3. Significant	☐		

History of repairs
¾ of South wall collapsed 7 years ago reo between promenade and wall gave way (concrete cancer)
When replaced Stainless reo use in concrete, structure dowelled into bedrock (Stainless rod used)

Pool Filled By:

1. Wave action (tidal) ☐	2. Pump ■
3. Combination of wave action and pump ☐	4. Other ☐ *(use below)*

PUMPHOUSE & INLET

If Pump Used

1. Pump Make No information
2. Size No information
3. Year of installation No information
4. Operational life of pump No information
5. Maintenance issues
To much sand in pool intake (can fill up at times)impellers need regular maintenance
6. Annual cost
7. Other;
There is restricted access for crane when pump is required to be remove for repair

Pool Cleaning

1. Weekly ■ Fortnightly ☐ Other ☐
2. Machinery required: Tractor , Quad bike
3. Staff numbers required: 5 - 6

4. Water quality testing: Weekly ■ Fortnightly ☐ Other ☐	
5. Sanitation system used: *e.g. chlorine* Nil	
6. Antifouling system used Please give details: White wash – cement	Yes ■ No ☐

AMENITIES (note stainless steel poles used for shade sails)

Pool Sediment			
1. Sand only:	minor ■	significant ☐	major ☐
2. Seaweed only:	minor ☐	significant ☐■	major ☐
3. Sand and Seaweed:	minor ■	significant ☐	major ☐
4. Other:	minor ☐	significant ☐	major ☐

History of Repairs		
1. Major repairs: Details:	Yes ■	No ☐
2. Minor repairs: Details On going	Yes ■	No ☐

Technical Advice

Details of :

1. Designers:

1922 Newcastle City Council

2. Architect:
Not known

3. Structural Engineers:
Not known

4. Builders:
The baths project commenced.

1911
Mr Griffith, the NSW Minister for Public Works, provided 3,000 pounds to Newcastle Council for establishment of a safe swimming bath on the flat rocks of the foreshore near the tramway terminus, subject to approval via a ratepayers' referendum.

The baths were envisaged as being artistic, substantial, 'the finest in the state' , measuring 100 yards by 50 yards and 'free from the dangers of surf undertow and sharks'.The proposed baths complex was to including dressing-rooms, refreshment rooms, offices, a gymnasium (35 feet by 20 feet for women and 55 feet by 30 feet for men) and hot saltwater baths.

1913
The incomplete 'Griffith Ocean Baths' were opened free of charge to the public on New Year's Day 1913 for temporary use by bathers during the holiday season and to 'give a practical knowledge of the immense capacity the baths would have when opened'. A large (100 foot long and six foot wide) temporary dressing-shed was provided, but 'as it was generally expected that the males would be in the majority', they alone could use the new shed. Female bathers were offered use of a shed adjoining the engine house. Council asked surf club inspectors to patrol the baths on New Year's Day and keep order.

1914
Not only had the cost of the baths project had exceeded Blackwell's original estimates by more than 2,000 pounds, but storms and heavy seas had already damaged the baths. Facing strong objections to the cost of his elaborate plans, Castleden the architect wisely submitted a modified plan at half the cost.

1917
Baths patrons complained not only about the lack of dressing accommodation, but also about the water quality at the baths. The water was said to be 'so thick, you can cut it with a knife'.

1918
The baths remained open for free public use and new dressing accommodation was built. A new City Engineer, J. F. Shine, completed the raised rock platforms and built a sluice channel with an automatic gate to reduce sand accumulating in the Baths.

***Important* to get referees for any consultants used or importantly what they were like to work with – e.g. any problems – e.g. excessive delays with designs, successes, etc.**

Operating/ Maintenance Costs
See attached

1. Yearly Budget
See attached

2. How is this Funded

a) User Pay	☐
b) Council Funds	■■
c) Combination of A & B	☐
d) Other	☐

Details:

Major User Groups	
1. Swimming Club:	15% of time
2. Schools:	15% of time
3. Social / recreational:	65% of time
4. Other:	05% of time

Additional Advice / Comments:
1922 Newcastle City Council advise that steps set into the concrete are an attraction for oysters and other marine growth it is better to use stainless steel structures

STAINLESS STEEL USED IN DISABLED ACCESS

Newcastle Baths are undergoing major refurbishment to their amenity buildings basically keeping the façade and replacing the rest using modern materials while keeping the original design of the building .I was advised the Baths are impacted by surf from the south and the 4 metre high wall would have been better placed at this end of the pool.
Observations.

- General the Baths are in very good condition and are well used by the community
- The baths are open 24 hours a day (closed only for cleaning)
- The baths have a fulltime lifeguard in attendance
- The baths have a kiosk that was well patronised at the time of inspection.
- The occasional build up of sand in and around the pump inlet can create problems of water supply to the pool placing the inlet further out in the ocean or in a position further along the rock shelf in deep water would improve the supply and water quality.
- The water quality of the Baths is of a high standard this is achieved by the raising of the pool above the inertial zone and the use of a pump to fill.
- 5 – 6 staff are used in weekly pool clean
- At times they have problems with the intake area of the pump filling with sand restricting at the pumps ability to function.
- The pump house has limited access for larger plant required for maintenance
- The disabled access ramp is well situated, the hand rail in conjunction with a non slip cement surface makes for ease of entry.
- Pool cleaned weekly
- Water quality tested weekly
- The Car park is adequate for week days surrounding street parking is limited patrons are encouraged to use public transport or walk at peak times.
- An active maintenance program is in place with major replacement of the promenades planned.

PROMENADE SCHEDULED FOR REPLACEMENT

Property of Clarence Valley Council

clarence valley COUNCIL

POOL INSPECTION LIST SURVEY
MEREWETHER OCEAN BATHS
(NEWCASTLE)

Name of Pool	Merewether Ocean Baths		
Location	Merewether, NSW, 2291, Australia (Latitude South 32d 57m 07s, Longitude East 151d 45m 23s)		
Council Area Name	Newcastle City Council		
Council Contact			
Name	Peter Withers		
Phone	49745012	Mobile	0413156839
Email	pwithers@ncc.nsw.gov.au		
Dimensions; The baths has 2 pools. The main pool is 100 metres by 50 meters and the toddlers pool is 100 metres by 15 metres. The main pool has a set of starting blocks located at each end of the southern end of the facility forming an Olympic pool.			
Width in mtrs	100	Length in mtrs	50
Depth in mtrs - Shallow end	1.2 metres	Deep end	2 metres
Pool Height of wall above sea level: *(No need to be exact, e.g. 1.8 metre high tides go over the wall)* Pool wall is less than ½ - above high tide Medium seas overtop wall			
Describe pool maintenance access: Pool access is by way of concrete ramp. This is from the beach at the beginning of the rock shelf ,this can only be accomplished on lower tides			

POOL ACCESS IS BY WAY OF CONCRETE RAMPS

The cleaning process at Merewether Baths is scheduled around the tides as the baths will only empty properly around low tide.

The toddler's pool at Merewether also has a concrete floor. Because of ongoing maintenance issues associated with ongoing lifting and cracking in the floor the floor has been covered with over 30 centimetres of sand. This strategy has been very successful in resolving the issue as well as providing a very much appreciated soft environment for toddlers using the area.

External Protection from Wave Action

1. Rock Shelf (short description, e.g. length, width, height, other)
30 -50 metres The shelf is low and flat providing limited protection except at low tide.

30 – 50 METRE ROCK SHELF

2. Wave wall (short description, e.g. length, width, height, other
Wave wall is pool wall 600 wide on eastern side approximately i.5 metres wide southern side and 3 metres on the northern side

WALL 3 METRES WIDE NORTHERN SIDE

3. Other protection

Nil other protection Baths are exposed medium and larger seas have direct impact

MEDIUM & LARGER SEAS HAVE DIRECT IMPACT

Pool Materials Construction

1. Concrete	■	3. Natural (rock/sandstone)	☐
2. Combination	☐	4. Other *(use below)*	☐

The toddler's pool at Merewether also has a concrete floor. Because of ongoing maintenance issues associated with ongoing lifting and cracking in the floor the floor has been covered with over 30 centimetres of sand. This strategy has been very successful in resolving the issue as well as providing a very much appreciated soft environment for toddlers using the area.

THE TODDLER POOL

Pool Materials Technical

1. Type of concrete mix used:
   (i.e. any special admixtures and/or any protective coatings associated with the exposure to the sea water including the splash zone.)

1930's construction concrete mix not known .
50 MPA to be used in all updates /maintenance work

2. Type of reinforcement used in construction
   (e.g. galvanised steel, stainless steel, poly fibres)

Stainless steel and Mild steel and Gal Steel
Since construction different approaches have been employed.
All new work uses stainless steel

3. Details of any expansion joints and the system used
On promenade rubber will be used to replace tar

4. Has the pool a electrolysis control system YES ☐ NO ■

Pool Year of Construction: 1930's

Current Condition **Good** ■ **Fair** ☐ **Poor** ☐

Leaks/Cracks

1. Nil	■	4. Major	☐
2. Minor	☐	5. Other	☐
3. Significant	☐		

History of repairs

- Replace Promenade continuing to be completed over several years
- Floor in toddlers pool had continues leaks this was overcome by covering with sand to a minimum depth of 300 mm

Pool Filled By:

1. Wave action (tidal)	☐	2. Pump	■
3. Combination of wave action and pump	☐	4. Other *(use below)*	☐

If Pump Used

PUMP HOUSE & PUMP

1. Pump Make No information available
2. Size No information available
3. Year of installation No information available
4. Operational life of pump No information available
5. Maintenance issues No information available
6. Annual cost No information available
7. Other
Pool Cleaning
1. Weekly ☐ Fortnightly ☐ Other ■ During the period October to March the baths are cleaned twice weekly. The main pool has a concrete floor. Once a week (usually Fridays) the baths are given a full clean which includes whitewashing the ramps and walls and cleaning the floor using a mechanical broom attached to the beach cleaning tractor. The baths are also flushed, ramps whitewashed and the floor cleaned on the other cleaning day (usually Mondays). The bath are cleaned once a week and given a full clean in the fringe period outside the winter months (3 months) The baths are given a full clean once a fortnight during the winter months. The baths walls and ramps are whitewashed with a lime and cement mixture. The whitewash is allowed to dry and cure for a couple of hours before the baths are filled using pumps. The cleaning process at Merewether Baths is scheduled around the tides as the baths will only empty properly around low tide.
2. Machinery required: a mechanical broom attached to the beach cleaning tractor
3. Staff numbers required: 5 - 6
4. Water quality testing: Weekly ■ Fortnightly ☐ Other ☐
5. Sanitation system used: *e.g. chlorine* N/A
6. Antifouling system used Yes ■ No ☐ Please give details: The baths walls and ramps are whitewashed with a lime and cement mixture. The whitewash is allowed to dry and cure for a couple of hours before the baths are filled using pumps

Pool Sediment			
1. Sand only:	minor ☐	significant ☐	major ☐
2. Seaweed only:	minor ☐	significant ☐	major ☐
3. Sand and Seaweed:	minor ■	significant ☐	major ☐
4. Other:	minor ☐	significant ☐	major ☐

History of Repairs

1. Major repairs: Yes ☐ No ■
   Details: none available

2. Minor repairs: Yes ■ No ☐
   Details ongoing as needed

Technical Advice

Details of :

1. Designers:

1920's construction From 1929 to 1934
A sewer outfall at Merewether beach caused pollution problems at the beach and the ocean baths used for weekly swimming competitions. It was rational to contemplate building bigger and better ocean baths at Merewether following an amplification scheme for Newcastle sewage intended to treat all sewage, screen out solids and discharge only ' the liquefied portion' into the ocean and so eliminate pollution at Merewether Beach.

1934
The NSW Department of Local Government agreed to advance a thousand pounds to Merewether Council for tools/material required for the swimming baths proposed to be constructed under the Emergency Relief Scheme. Construction of the baths began with excavation of the Children's pool. Excavated stone was used on local roads.

1935
At cost of 2,600 pounds, the new Merewether Ocean Baths, acclaimed as the 'largest of their kind in the state' opened as part of the Merewether Golden Jubilee celebrations in November .There was a procession in fancy dress from the Council chambers to the baths.

2. Architect: 1920's construction no information available	
3. Structural Engineers: 1920's construction no information available	
4. Builders: Newcastle City Council	
Important **to get referees for any consultants used or importantly what they were like to work with – e.g. any problems – e.g. excessive delays with designs, successes, etc.**	
Operating/ Maintenance Costs	
1. Yearly Budget	
2. How is this Funded	
a) User Pay	☐
b) Council Funds	■
c) Combination of A & B	☐
d) Other Details:	☐
Major User Groups	
1. Swimming Club:	05% of time
2. Schools:	15% of time
3. Social / recreational:	80% of time
4. Other:	% of time
Additional Advice / Comments: This is the largest pool surveyed	

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POOL INSPECTION LIST SURVEY
NORAH HEAD ROCK POOL
(CABBAGE TREE HARBOUR)

Name of Pool	Norah Head Rock Pool		
Location	Cabbage Tree Harbour - Bald Street, Norah Head, NSW, 2263, Australia (Latitude South 33d 16m 45s, Longitude East 151d 34m 12s)		
Council Area Name	Wyong Shire Council		
Council Contact			
Name	Bruce Philips		Robert Barwick
Phone	02 4333 2404		02 4350 5768
Email	Bruce.Phillips@wyong.nsw.gov.au Robert.Barwick@wyong.nsw.gov.au		
Dimensions			
Width in mtrs	30m	Length in mtrs	60m
Depth in mtrs - Shallow end	Sand beach	Deep end	1 – 1.5

Pool Height of wall above sea level:
(No need to be exact, e.g. 1.8 metre high tides go over the wall)
Water flows through rock wall and over tops most tides

WATER FLOWS THROUGH ROCK WALL

Describe pool maintenance access:
Limited access is required as the pool needs virtually no maintenance.
Only after large storm events a excavator is sometimes required to reset the odd boulder in the wall this is achieved by walking the machine over the rock shelf at low tide.

External Protection from Wave Action

1. Rock Shelf (short description, e.g. length, width, height, other)
Extensive rock shelf – reef protects the pool

ROCK SHELF AND REEF

2. Wave wall (short description, e.g. length, width, height, other
Wave/pool 80 metres long made from natural rock ,semi circular in shape water flows through and over tops at high tide

3.Other protection
The pool is well protected from wave action by the outer reefs

Pool Materials Construction

1. Concrete	☐	3. Natural (rock/sandstone)	■
2. Combination	☐	4. Other *(use below)*	☐

Pool Materials Technical

1. Type of concrete mix used:
(i.e. any special admixtures and/or any protective coatings associated with the exposure to the sea water including the splash zone.)

n/a

2. Type of reinforcement used in construction
(e.g. galvanised steel, stainless steel, poly fibres)

n/a

3. Details of any expansion joints and the system used

n/a

4. Has the pool a electrolysis control system YES ☐ NO ■

Pool Year of Construction: Not Known may have been site of aboriginal rock fish trap

ROCK POOL 1950'S

Current Condition **Good** ■ **Fair** ☐ **Poor** ☐

Leaks/Cracks

1. Nil	☐	4. Major	☐
2. Minor	☐	5. Other	■
3. Significant	☐	The pool is designed for water to travel through and over the wall!	

History of repairs

Minor only, replace rocks after storm

Pool Filled By:

1. Wave action (tidal) ■■	2. Pump ☐
3. Combination of wave action and pump ☐	4. Other ☐ *(use below)*

Water height in pool rises and falls with tide

If Pump Used

1. Pump Make n/a
2. Size n/a
3. Year of installation n/a
4. Operational life of pump n/a
5. Maintenance issues n/a
6. Annual cost n/a
7. Other

Pool Cleaning

1. Weekly ☐ Fortnightly ☐ Other ■ Pool is cleaned by the tide
2. Machinery required: n/a
3. Staff numbers required: n/a
4. Water quality testing: Weekly ☐ Fortnightly ☐ Other ■ nil
5. Sanitation system used:
   e.g. chlorine

   n/a
6. Antifouling system used Yes ☐ No ■
   Please give details:

Pool Sediment			
1. Sand only:	minor ☐	significant ☐	major ☐
2. Seaweed only:	minor ☐	significant ☐	major ☐
3. Sand and Seaweed:	minor ☐	significant ☐	major ☐
4. Other:	minor ■	significant ☐	major ☐

Pool has a sand bottom

History of Repairs

1. Major repairs: Yes ■ No ☐
   Details: Occasional re-setting of the odd rock after a major storm event

2. Minor repairs: Yes ■ No ☐
   Details: Repairs to footpaths hand rails and toilet block

TOILET BLOCK (BLUE LOW SET BULDING)

Technical Advice

Details of :

1. Designers:

Not known

2. Architect: Not known
3. Structural Engineers: Not known
4. Builders: Not Known
Important **to get referees for any consultants used or importantly what they were like to work with – e.g. any problems – e.g. excessive delays with designs, successes, etc.**
Operating/ Maintenance Costs
1. Yearly Budget Nil repairs when needed seldom
2. How is this Funded
a) User Pay ☐
b) Council Funds ■
c) Combination of A & B ☐
d) Other ☐ Details:
Major User Groups
1. Swimming Club: % of time
2. Schools: % of time
3. Social / recreational: 100% of time
4. Other: % of time

Additional Advice / Comments:

- Very popular with mothers with small children
- little or no maintenance cost
- actively used by the community
- design may be suitable for use in areas such as Whiting Beach

VERY POPULAR WITH MOTHERS WITH SMALL CHILDREN

clarence valley COUNCIL

POOL INSPECTION LIST SURVEY
THE ENTRANCE OCEAN BATHS

Name of Pool	The Entrance Ocean Baths		
Location	Ocean Parade, The Entrance, NSW, 2261, Australia (Latitude South 33d 21m 01s, Longitude East 151d 30m 14s)		
Council Area Name	Wyong Shire Council		
Council Contact			
Name	Robert Barwick		
Phone	(02) 43 505 768	Mobile	
Email	**Robert.barwick@wyong.nsw.gov.au**		
Dimensions			
Width in mtrs	14 – 19 m	Length in mtrs	50 m
Depth in mtrs - Shallow end	1.1 m	Deep end	1.4 m

Pool Height of wall above sea level:
(No need to be exact, e.g. 1.8 metre high tides go over the wall)

2.0 m concrete water, sea water is pumped in.

Describe pool maintenance access:

Manually only no need for larger equipment

Drain pool, wash walls and remove sand from floor.

Once a week in summer. Once a fortnight in winter.

WADING POOLBEING FILLED AFTER CLEANING
NOTE: THE EXTENSIVE USE OF FENCING AND HAND RAILS

External Protection from Wave Action

1. Rock Shelf (short description, e.g. length, width, height, other)
2.

Rock shelf 20 metres wide

20METRE ROCK SHELF.

2. Wave wall (short description, e.g. length, width, height, other
Concrete walls
Concrete pool (walls and floor) 2metres above rock shelf

2 METRE POOL WALL
NOTE THE CRACK ABOVE DRAIN THS IS WAS THE OLD POOL HEIGHT BEFOR UPGRADE

3. Other protection

Pool Materials Construction

1. Concrete	■	3. Natural (rock/sandstone)	☐
2. Combination	☐	4. Other *(use below)*	☐

Pool Materials Technical

1. Type of concrete mix used:
(i.e. any special admixtures and/or any protective coatings associated with the exposure to the sea water including the splash zone.)

50 MPA Concrete used in upgrade work ,no technical knowledge of previous concrete used

2. Type of reinforcement used in construction
(e.g. galvanised steel, stainless steel, poly fibres)

Stainless steel used in recent works , Mild steel and Gal Steel used in older reinforcement.

3. Details of any expansion joints and the system used
None avaliable

4. Has the pool a electrolysis control system YES ■ NO □

Pool Year of Construction: Pre-1919
The baths site appears to have been used by Aboriginal people as a fish trap.
1919
A Naval man, Bob Roberts, bought a property overlooking an area where thousands of swallows nested on the cliff face. Having noted that the nearby beach was rocky and highly dangerous for children and other swimmers, Roberts then cleared rocks from the beach to create a safe swimming pool, later known as Roberts' pool.

1938
Erina Shire constructed a 50-metre, seven-lane Olympic-size pool at a cost of £425. near the site of the earlier tidal rock pool.
The pool received heritage listing and Premier Bob Carr visited the Entrance and pledged $330,000 in state funding for the baths. Wyong Shire and community groups had to find the balance of the estimated $726,000 needed for new concrete lining of the baths, a new pumping system, a renewed concrete concourse, improved access for the disabled and a repainted pool surface.

In the Golden Jubilee year for The Entrance Amateur Swimming club, Wyong Shire accepted the NSW Department of Sport and Recreation grant of $330,000 for upgrading the Ocean Baths and sent a letter of recognition to the Trustees of the Ocean Baths and the member for The Entrance. Council was contributing $100,000 for the upgrade. The Tuggerah Tuffs won the Northern Districts Winter Swimming Championships at Port Macquarie.

2004
The pool normally stays open all year but is supervised only from6am to 7pm from Monday to Sunday in summer and 7am to 1pm in Winter. In 2004, the pool closed over winter to allow large areas of concrete to be replaced as part of the $650,000 overhaul, which included repainting the walls of the baths and installing powerful new pumps to improve water quality. Cost contributions included $330,000 from the NSW government, $240,000 from Wyong Council and $90,000 from the baths community trust.

2005
Premier Bob Carr opened the upgraded baths mid-year on his last day as Premier of

New South Wales.

ROCK POOL BEFORE UPGRADE 2004

ROCK POOL PRESENT DAY (AFTER UPGRADE)

Current Condition	**Good** ■	**Fair** ☐	**Poor** ☐

Leaks/Cracks			
1. Nil	☐	4. Major	☐
2. Minor	■	5. Other	☐
3. Significant	☐		

History of repairs

- Reconstruction/upgrade of pools 2004-05
- Raised wall height 600 – 800
- Installed pumping system

Pool Filled By:			
1. Wave action (tidal)	☐	2. Pump	■
3. Combination of wave action and pump	☐	4. Other *(use below)*	☐


PUMP INLET PIPE

If Pump Used
1. Pump Make: ITT Flygt Limited
2. Size : For detail contact **ITT Flygt Limited**
3. Year of installation
4. Operational life of pump
5. Maintenance issues
6. Annual cost Approx $15k - $20k per year
7. Other
Pool Cleaning
1. Weekly ■ Fortnightly ☐ Other ☐
2. Machinery required: Nil required
3. Staff numbers required:2
4. Water quality testing: Weekly ■ Fortnightly ☐ Other ☐
5. Sanitation system used: *chlorine*
6. Antifouling system used Yes ■ No ☐ Please give details: "Dulux Aqua bond"

Pool Sediment						
1. Sand only:	minor ☐	significant ☐	major ☐
2. Seaweed only:	minor ☐	significant ☐	major ☐
3. Sand and Seaweed:	minor ☐	significant x	major ☐
4. Other: **NOTE;**	minor ☐	significant ☐	major ☐
Since the pool walls have been raised no sediment is found the pool has a slime algae build-up which is easily cleaned by hand			
History of Repairs			
1. Major repairs: Yes ☐ No ■ Details: Nil since 2004 -05 up grade			
2. Minor repairs: Yes ■ No ☐ Details Ongoing minor as they happen (not since upgrade)			
Technical Advice			
Details of :			
1. Designers: Northrop Consulting Engineers (02) 4929 5744			
2. Architect: No information supplied			
3. Structural Engineers: No information supplied			

4. Builders:
No information supplied

***Important* to get referees for any consultants used or importantly what they were like to work with – e.g. any problems – e.g. excessive delays with designs, successes, etc.**

Operating/ Maintenance Costs

1. Yearly Budget $150k

2. How is this Funded

a) User Pay	☐
b) Council Funds	■
c) Combination of A & B	☐
d) Other	☐

Details:

Major User Groups

1. Swimming Club:	10% of time
2. Schools:	10% of time
3. Social / recreational:	80% of time
4. Other:	% of time

Additional Advice / Comments:

- This pool before the recent upgrade had major problems with sand and seaweed sediment ,similar to what is currently experienced in the Yamba Rock Pool
- The increase to the pools wall height in conjunction with filling the pool by pump has eliminated this problem.
- The pool has extensive stainless hand railing and fencing (see photo)

EXTENSIVE STAINLESS STEEL HAND RAILING AND FENCING

- The baths have a fulltime contract lifeguard/cleaner similar to Maclean Olympic Pool .council
- The Entrance baths is a great example of how a increase in the pool height in relation to high tide coupled with the installation of a pump deliver a cleaner swimming environment for swimmers.
- I believe further investigation of this system with respect to Yamba Ocean Rock Pool is required.

FURTHER INVESTIGATION OF THIS POOLS UPGRADE IS STRONGLY RECOMMENDED

The pool before the recent upgrade had major problems with sand and seaweed sediment ,similar to what is currently experienced in the Yamba Rock Pool

clarence valley COUNCIL

POOL INSPECTION LIST SURVEY
COLLAROY ROCK POOL

Name of Pool	Collaroy Rock Pool		
Location	Beach Road, Collaroy, NSW, 2097, Australia (Latitude South 33d 44m 00s, Longitude East 151d 18m 16s)		
Council Area Name	Warringah Council		
Council Contact			
Name	Steve Bax		
Phone	02 9942 2538	Mobile	
Email	bax@warringah.nsw.gov.au		
Dimensions			
Width in mtrs	30	Length in mtrs	50
Depth in mtrs - Shallow end	1.2	Deep end	1.5

Pool Height of wall above sea level:
(No need to be exact, e.g. 1.8 metre high tides go over the wall)

Overtops wall

Describe pool maintenance access:
Ramp from promenade

DISABLED ACCESS & MAINTENANCE RAMPS

External Protection from Wave Action

1. Rock Shelf (short description, e.g. length, width, height, other)

5 – 10 Metres Northern and Western walls extending around headland Eastern Side.

ROCK SHELF WITH PUMP &PUMP INLET (FOREGROUND)

2. Wave wall (short description, e.g. length, width, height, other)

Wave wall is pool side, width at top 2 – 2.5 metres.
On western side the pool deck is cantilevered using stainless steel supports (see photo)

CANTILEVERED USING STAINLESS STEEL SUPPORTS

3. Other protection

The toddlers pool on the eastern side of the main pool acts as a wave wall and at times a trap for seaweed.

TODDLERS POOL

Pool Materials Construction

1. Concrete	■	3. Natural (rock/sandstone)	☐
2. Combination	☐	4. Other *(use below)*	☐

Pool Materials Technical

1. Type of concrete mix used:
   (i.e. any special admixtures and/or any protective coatings associated with the exposure to the sea water including the splash zone.)

40 MPA, saltwater resistant, thatched. used in all new work

2. Type of reinforcement used in construction
   (e.g. galvanised steel, stainless steel, poly fibres)

Stainless steel used in all new work.
Galvanised and mild steel used originally.

3. Details of any expansion joints and the system used

Rubber used on pool deck.

4. Has the pool a electrolysis control system YES ☐ NO ■

Pool Year of Construction: Early 1920s
A early rock pool appeared on the Collaroy estate subdivision plan.

1926
The ocean pool constructed for Warringah Shire by Arthur Larkin officially opened.

Current Condition	**Good** ■	**Fair** ☐	**Poor** ☐

Collaroy Pool had a major revamp 3 years ago

Leaks/Cracks

1. Nil	■	4. Major	☐
2. Minor	☐	5. Other	☐
3. Significant	☐		

History of repairs
Major refurbishment undertaken 3 years ago

MAJOR REFURBISHMENT 3 YEARS AGO

Pool Filled By:

1. Wave action (tidal)	☐	2. Pump	☐
3. Combination of wave action and pump	■	4. Other *(use below)*	☐

If Pump Used

Pump Make;
Pool Pump-supplier-Flygt – product – Robot Pump AISI 316, type RW4042DO-VBR00X1.

1. Size
2. Year of installation; 2 years ago
3. Operational life of pump; 6 – 10 years
4. Maintenance issues no maint 2 years annual service only
5. Annual cost; Pumps for 6 pools are maintained /replaced by Contractors $75,000

6. Other; Note pump is computer controlled to automatically adjust it operational time to the changing high tide.

PUMP &PUMP INLET

Pool Cleaning

1. Weekly ■ Fortnightly ☐ Other ☐

2. Machinery required: yearly bobcat broom contractor

3. Staff numbers required: 3 (6 – 7 hours) note cleaned at night

4. Water quality testing: Weekly ☐ Fortnightly ☐ Other ■
Warringah council dose not test water quality . Believe water quality is constantly changing with every high tide .pool water is the same as the surrounding ocean.

5. Sanitation system used:
e.g. chlorine
Algaecide and Cleaner – supplier - Cyndan chemicals –product "Algae –died B".

6. Antifouling system used Yes ■ No ☐
Please give details:
Pool Paint-supplier-Paintec Pty Ltd – product –Chlorinated Rubber Based paint.
Applied every two years approximate cost $2,000

Pool Sediment			
1. Sand only:	minor ☐	significant ☐	major ☐
2. Seaweed only:	minor ■	significant ■	major ☐
3. Sand and Seaweed:	minor ☐	significant ☐	major ☐
4. Other:	minor ☐	significant ☐	major ☐

Note; at certain times of the year seaweed builds up in the corner of the beach and also impacts on the pool

SEAWEED BUILDS UP IN THE CORNER OF THE BEACH AND ALSO IMPACTS ON THE POOL

History of Repairs

1. Major repairs: Yes ■ No ☐
   Details: 3 years ago major refurbishment

2. Minor repairs: Yes ■ No ☐
   Details; Ongoing , railings and chains

Technical Advice

Details of :

1. Designers:

Worley Parsons Maritime Division.

Warringah council advise "Very good"

2. Architect:

As above

3. Structural Engineers: As above
4. Builders: By tender
Important **to get referees for any consultants used or importantly what they were like to work with – e.g. any problems – e.g. excessive delays with designs, successes, etc.**
Operating/ Maintenance Costs
1. Yearly Budget This is one of 6 ocean pools Warringah council have .The budget for the maintenance of the six is $275,000
2. How is this Funded
a) User Pay ☐
b) Council Funds ■
c) Combination of A & B ☐
d) Other ☐ Details:
Major User Groups
1. Swimming Club: 15% of time
2. Schools: 10% of time
3. Social / recreational: 50% of time
4. Other: 25% of time; community groups

Additional Advice / Comments:

- Collaroy Pool is well used and well looked after.
- If pool floor and walls where raised the pool would be out of the tidal influences eliminating seaweed in the pool in all but large seas associated with storm events.
- The raised floor level would give greater flexibility in the emptying of the pool (not just on the low tide).
- The pump inlet is fairly well positioned; but is still impacted by seaweed build-up from time to time. Investigations should be made to identify other sites for pump inlet relocation.

COLLAROY POOL IS WELL USED AND WELL MAINTAINED

clarence valley COUNCIL

POOL INSPECTION LIST SURVEY
DEE WHY ROCK POOL
(Dee Why Baths)

Name of Pool	Dee Why Rock Pool (Dee Why Baths)		
Location	Oaks Avenue, Dee Why, NSW, 2099, Australia (Latitude South 33d 45m 19s, Longitude East 151d 17m 57s)		
Council Area Name	Warringah Council		
Council Contact			
Name	Steve Bax		
Phone	02 9942 2538	Mobile	
Email	bax@warringah.nsw.gov.au		
Dimensions			
Width in mtrs	25 m	Length in mtrs	50
Depth in mtrs - Shallow end	1 m	Deep end	1.2
Pool Height of wall above sea level: *(No need to be exact, e.g. 1.8 metre high tides go over the wall)* Pool wall is 1 metre above high tide.			

Describe pool maintenance access:
Access is gained from car park by path to south eastern corner of pool to ramp.

ACCESS RAMP

External Protection from Wave Action

1. Rock Shelf (short description, e.g. length, width, height, other)

Rock shelf is 10 – 15 wide surf comes over in medium swell

2. Wave wall (short description, e.g. length, width, height, other
The pool has a low wall built on the eastern and northern pool decks ranging in height from 100 – 500 mm.

3. Other protection
On the eastern side of the pool there is a shallow old low walled pool that acts as a barrier

SHALLOW LOW WALL POOL EASTERN SIDE

Pool Materials Construction			
1. Concrete	☐	3. Natural (rock/sandstone)	☐
2. Combination	■	4. Other *(use below)*	☐

Pool Materials Technical

1. Type of concrete mix used:
   (i.e. any special admixtures and/or any protective coatings associated with the exposure to the sea water including the splash zone.)

40 MPA, saltwater resistant, thatched. used in all new work

2. Type of reinforcement used in construction
   (e.g. galvanised steel, stainless steel, poly fibres)

Stainless steel used in all new work.
Galvanised and mild steel used originally.

3. Details of any expansion joints and the system used

Rubber used on pool deck
Expansion joints every 4 metres on new work.

4. Has the pool a electrolysis control system YES ☐ NO ■

Pool Year of Construction:

1912 to 1915
Members of the Dee Why surf club founded in 1912 carved a pool about 20-foot square by hand out of the rock shelf at the southern end of Dee Why Beach.

1915
On 14 February, a Swimming Bath committee was formed and decided to ask Warringah Council to provide the funds and engineering to enlarge the original rock pool. The surf club also undertook fund-raising.

1919
The enlarged baths were officially opened on 27 December. The pool was taken over by the Council and further enlarged between 1919 and 1930.

Current Condition **Good** ■ **Fair** ☐ **Poor** ☐

Pool is in very good condition

Leaks/Cracks

1. Nil	■	4. Major	☐
2. Minor	☐	5. Other	☐
3. Significant	☐		

History of repairs

The pool has just undergone a major refurbishment; This included the replacing of the north and western walls. The walls had major concrete cancer.

Note; Advice from Warringah council was it more cost effective to replace the walls rather than repair them. And recommend replace rather than repair in similar circumstances.

Pool Filled By:

1. Wave action (tidal)	☐	2. Pump	☐
3. Combination of wave action and pump	■	4. Other *(use below)*	☐

If Pump Used

Pump Make; Pool Pump-supplier-Flygt – product – Robot Pump AISI 316, type RW4042DO-VBR00X1.

1.

2. Size

3. Year of installation

4. Operational life of pump; 6 – 10 years

5. Maintenance issues annual service , impeller ware

6. Annual cost; Pumps for 6 pools are maintained /replaced by Contractors $75,000

7. Other.

PUMP HOUSE

Pool Cleaning
1. Weekly ■ Fortnightly ☐ Other ☐
2. Machinery required: yearly bobcat broom contractor
3. Staff numbers required: 3 (6 – 7 hours) note cleaned at night
4. Water quality testing: Weekly ☐ Fortnightly ☐ Other ☐■ Warringah council dose not test water quality . Believe water quality is constantly changing with every high tide .pool water is the same as the surrounding ocean.
5. Sanitation system used: *e.g. chlorine* Algaecide and Cleaner – supplier - Cyndan chemicals –product "Algae –died B".
6. Antifouling system used Yes ■ No ☐ Please give details: Pool Paint-supplier-Paintec Pty Ltd – product –Chlorinated Rubber Based paint. Applied every two years approximate cost $2,000

PROMENADE WITH SUSPENDED SHOWER PLATFORM

Pool Sediment			
1. Sand only:	minor ☐	significant ☐	major ☐
2. Seaweed only:	minor ☐	significant ☐	major ☐
3. Sand and Seaweed:	minor ■	significant ☐	major ☐
4. Other:	minor ☐	significant ☐	major ☐

Generally removed once per year

History of Repairs

1. Major repairs: Yes ■ No ☐

Details: September 09 – October 09, The pool underwent a major refurbishment; This included the

- Replacing of the north and western walls. The walls had major concrete cancer.
- resurfacing the promenade 2 pack epoxy expensive but good
- replace and install new had railings

HAND RAILS &AND PROMENADE

2. Minor repairs: Yes ■ No ☐

Details Ongoing , railings and chains

Technical Advice

Details of :

1. Designers:

Worley Parsons Maritime Division.

Warringah council advise "Very good"

2. Architect: As above
3. Structural Engineers: As above
4. Builders: By tender
***Important* to get referees for any consultants used or importantly what they were like to work with – e.g. any problems – e.g. excessive delays with designs, successes, etc.**
Operating/ Maintenance Costs
1. Yearly Budget This is one of 6 ocean pools Warringah council have .The budget for the maintenance of the six is $275,000
2. How is this Funded
a) User Pay ☐
b) Council Funds ■
c) Combination of A & B ☐
d) Other ☐ Details:

Major User Groups	
1. Swimming Club:	15% of time
2. Schools:	30% of time
3. Social / recreational:	40% of time
4. Other:	15% of time cultural group

Additional Advice / Comments:

- Dee Why pool is well used and in excellent condition.
- If pool floor and walls where raised the pool would be out of the tidal influences eliminating sand and seaweed from the pool in all but large seas
- The pools drainage valve works effectively.

DRAINAGE VALVE

- The pump inlet is well positioned in deep water with little or nil sediment build-up.

PUMP INLET

- The pools position on the rock shelf away from the beach are allows for cleaner water in the pool when compared to pools that are constructed closer to the beach.
- With respect to Yamba's rock pool if a pump is used to fill the pool great care should be made in the positioning of the inlet ,this should be in a area of the least build up of sand and seaweed.(the deeper the water the better.

clarence valley COUNCIL

POOL INSPECTION LIST SURVEY
CURL CURL ROCK POOL
(South Curl Curl Pool)

Name of Pool	Curl Curl Rock Pool (South Curl Curl Pool)		
Location	Carrington Parade, South Curl Curl, NSW, 2096, Australia (Latitude South 33d 46m 28s, Longitude East 151d 17m 37s)		
Council Area Name	Warringah Council		
Council Contact			
Name	Steve Bax		
Phone	02 9942 2538	Mobile	
Email	bax@warringah.nsw.gov.au		
Dimensions			
Width in mtrs	12 -15 m	Length in mtrs	50 m
Depth in mtrs - Shallow end	1.0	Deep end	1.4
Pool Height of wall above sea level: *(No need to be exact, e.g. 1.8 metre high tides go over the wall)* Overtops wall			

Describe pool maintenance access:
Access is gained from car park by path to ramp in south western corner of pool

ACCESS RAMP & STEPS

External Protection from Wave Action

1. Rock Shelf (short description, e.g. length, width, height, other)
Eastern side 2 – 3 metres
South East rock shelf continues around headland

2. Wave wall (short description, e.g. length, width, height, other
East side wave wall25 metres long, 4 – 5 metres from pool, same height as pool
North side is pool wall

WAVE WALL

3. Other protection
Nil

Pool Materials Construction

1. Concrete	☐	3. Natural (rock/sandstone)	☐
2. Combination	■	4. Other *(use below)*	☐

Pool Materials Technical

1. Type of concrete mix used:
   (i.e. any special admixtures and/or any protective coatings associated with the exposure to the sea water including the splash zone.)

Pool is of old construction

- 20 – 30 MPA used
- 40 MPA, saltwater resistant, thatched. to be used in all new work

2. Type of reinforcement used in construction
   (e.g. galvanised steel, stainless steel, poly fibres)
   - Mild and galvanised steel used
   - Stainless to be used in future works

3. Details of any expansion joints and the system used
4. Rubber was noted on promenade

5. Has the pool a electrolysis control system YES ☐ NO ■■

Pool Year of Construction: 1918

South Curl Curl acquired a new influx of weekend visitors and the rock pool at the southern end of the beach was a popular bathing place.

1924
The Curl Curl Improvement Association requested that Warringah Council's engineer inspect the proposed site for a rock pool.

1925
The surf club was active in the enlargement of the rock pool to provide safer bathing. A public meeting about constructing baths led to the Curl Curl Improvement Association and South Curl Curl Life Saving Club forming a South Curl Curl Bath Committee to pressure council to enlarge the pool 'for the children' with the club raising funds for its completion via carnivals and social events at the clubhouse. A beauty pageant run by the swimming club helped to raise funds for the pool's construction.

1926
Warringah Shire Council completed construction of the South Curl Curl baths. The

outer wall of this original rock pool is now the centre wall of the present pool.

1927
The baths were formally opened.

Current Condition **Good** ☐ **Fair** ■ **Poor** ☐

The northern wall is planned for replacement in major upgrade 2010 ($250,000)
Note; Advice from Warringah council was it more cost effective to replace the walls rather than repair them. And recommend replace rather than repair in similar circumstances.

Leaks/Cracks

1. Nil	☐	4. Major	☐
2. Minor	■	5. Other	☐
3. Significant	☐		

History of repairs

- Last major restoration completed in excess of ten years ago
- Major works programmed 2010

Note; Advice from Warringah council was it more cost effective to replace the walls rather than repair them. And recommend replace rather than repair in similar circumstances.

NORTH WALL TO BE REPLACED 2010

Pool Filled By:

1. Wave action (tidal)	☐	2. Pump	☐
3. Combination of wave action and pump	■	4. Other *(use below)*	☐

If Pump Used

Pump Make; Pool Pump-supplier-Flygt – product – Robot Pump AISI 316, type RW4042DO-VBR00X1.

1.

2. Size

3. Year of installation

4. Operational life of pump; 6 – 10 years

5. Maintenance issues; annual service , impeller ware

6. Annual cost; Pumps for 6 pools are maintained /replaced by Contractors $75,000

PUMP

7. Other

Pool Cleaning

1. Weekly ■ Fortnightly ☐ Other ☐

2. Machinery required: Bobcat 4 times each year removes sand

3. Staff numbers required: 3 weekly clean(6 – 7 hours) note cleaned at night

4. Water quality testing: Weekly ☐ Fortnightly ☐ Other ■
Warringah council dose not test water quality . Believe water quality is constantly changing with every high tide .pool water is the same as the surrounding ocean.

5. Sanitation system used:
e.g. chlorine
Algaecide and Cleaner – supplier - Cyndan chemicals –product "Algae –died B".

6. Antifouling system used Yes ■ No ☐
Please give details:
Pool Paint-supplier-Paintec Pty Ltd – product –Chlorinated Rubber Based paint.
Applied every two years approximate cost $2,000

Pool Sediment			
1. Sand only:	minor ☐	significant ■	major ☐
2. Seaweed only:	minor ☐	significant ☐	major ☐
3. Sand and Seaweed:	minor ☐	significant ☐	major ☐
4. Other:	minor ☐	significant ☐	major ☐
Generally removed 4 times per year			
History of Repairs			
1. Major repairs: Yes ■ No ☐ Details: Ongoing planned replacing north wall 2010			
2. Minor repairs: Yes ■ No ☐ Details On going railings and chains			
Technical Advice			
Details of :			
1. Designers: No information available			
2. Architect: No information available			
3. Structural Engineers: No information available			

4. Builders: No information available	
Important **to get referees for any consultants used or importantly what they were like to work with – e.g. any problems – e.g. excessive delays with designs, successes, etc.**	
Operating/ Maintenance Costs	
1. Yearly Budget This is one of 6 ocean pools Warringah council have .The budget for the maintenance of the six is $275,000	
2. How is this Funded	
a) User Pay	☐
b) Council Funds	■
c) Combination of A & B	☐
d) Other Details:	☐
Major User Groups	
1. Swimming Club:	15% of time
2. Schools:	15% of time
3. Social / recreational:	65% of time
4. Other:	05% of time

POOL HAS A HIGH LEVEL OF USE

Additional Advice / Comments:

- The pool sediment problems are similar to Yamba Pool (not as severe)
- The pool has a pump that circulates fresh water through the pool and is of better quality than Yamba Rock Pool.
- The pool water quality would be greatly increased if the wall height was raised restricting the amount sediment entering the pool on the higher tide.
- The inlet pipe for the pump can not operate on low tide
- Pump is programmed to operate on high tide
- Warringah council that they are required to undertake a major refurbishment of their rock pools every 10 – 12 years

INLET PIPE & OUTLET PIPE
(At low tide)

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POOL INSPECTION LIST SURVEY
FRESHWATER ROCK POOL
(Freshwater Pool, Harbord Pool, Harbord Baths)

Name of Pool	Freshwater Rock Pool (Freshwater Pool, Harbord Pool, Harbord Baths)		
Location	Lumsdane Drive, Harbord, NSW, 2096, Australia (Latitude South 33d 46m 54s, Longitude East 151d 17m 40s)		
Council Area Name	Warringah Council		
Council Contact			
Name	Steve Bax		
Phone	02 9942 2538	Mobile	
Email	bax@warringah.nsw.gov.au		
Dimensions			
Width in mtrs	20 m	Length in mtrs	50m
Depth in mtrs - Shallow end	800 mm	Deep end	1 m
Pool Height of wall above sea level: *(No need to be exact, e.g. 1.8 metre high tides go over the wall)* Pool wall is 1 – 1.5 above high water			

Describe pool maintenance access:
Access is by ramp eastern end of pool, path from car park to rock shelf

ACCESS RAMP

External Protection from Wave Action

1. Rock Shelf (short description, e.g. length, width, height, other)
   - The rock shelf on the southern and western sides is extensive ranging between 15 – 30 metres with large boulders .

LARGE BOULDERS ON THE ROCK SHELF

   - he Eastern side the shelf raises well above pool height giving protection to the pool to all but the most extreme storm events

ROCK SHELF RAISES WELL ABOVE POOLHEIGHT
(Eastern Side)

2. Wave wall (short description, e.g. length, width, height, other

The pool wall is the wave wall

POOL / WAVE WALL

3. Other protection

The rock shelf has large boulders laying over it in the southern and western sides of the pool these make a natural barrier.

LARGE BOULDERS
(Southern & Western sides)

Pool Materials Construction

1. Concrete	■	3. Natural (rock/sandstone)	☐
2. Combination	☐	4. Other *(use below)*	☐

Pool Materials Technical

1. Type of concrete mix used:
   (i.e. any special admixtures and/or any protective coatings associated with the exposure to the sea water including the splash zone.)

Pool is of old construction

- 20 – 30 MPA used
- 40 MPA, saltwater resistant, thatched. to be used in all new work

2. Type of reinforcement used in construction
(e.g. galvanised steel, stainless steel, poly fibres)

- Mild and galvanised steel used
- Stainless to be used in future works

3. Details of any expansion joints and the system used

Rubber was noted on promenade

4. Has the pool a electrolysis control system YES ☐ NO ■

Pool Year of Construction:

1924

The Harbord Beach Improvement Committee (HBIC) asked Council to support the construction of a rock pool to the north of Freshwater Beach, just below McKillop Park and permission to hold surf carnivals to raise funds for it. Council agreed and arranged for the Shire engineer to design two pool options. The HBIC selected the longer pool option (70 feet by 50 feet).

1925

Shire President Parr opened the pool on 28 November 1925. The pool measured 33 yards (30.18 m) and was the first rock pool to be opened on the Northern Beaches. The pool had been constructed by Mr W. H. Morgan for a total cost of 472 pounds. In September, Mr R. Antill won a tender to construct the lower path from the beach to the pool at a cost of 105 pounds. The HBIC again contributed half the funds.

1926

There were requests to improve the pool by concreting its bottom providing lighting.

1930s

Concreting of the pool bottom was completed.

Current Condition **Good** ☐ **Fair** ■ **Poor** ☐

Concourse in poor condition due to age of concrete

Leaks/Cracks

1. Nil	☐	4. Major	☐
2. Minor	■	5. Other	☐
3. Significant	☐		

History of repairs

- Repairs are on going as needed
- it is planned to deepen the trench for the pumps inlet pipe

PUMP INLET TRENCH
(Planned To Deepen)

Pool Filled By:

1. Wave action (tidal)	☐	2. Pump	■
3. Combination of wave action and pump	☐	4. Other *(use below)*	☐

If Pump Used

PUMP HOUSE AND INLET

Pump Make; Pool Pump-supplier-Flygt – product – Robot Pump AISI 316, type RW4042DO-VBR00X1.

1.
2. Size
3. Year of installation
4. Operational life of pump; 6 – 10 years
5. Maintenance issues; annual service , impeller ware
6. Annual cost; Pumps for 6 pools are maintained /replaced by Contractors $75,000
7. Other

Pool Cleaning

1. Weekly ■ Fortnightly ☐ Other ☐

2. Machinery required: n/a

3. Staff numbers required: 3 (6 – 7 hours) note cleaned at night

4. Water quality testing: Weekly ☐ Fortnightly ☐ Other ■
Warringah council dose not test water quality . Believe water quality is constantly changing with every high tide .pool water is the same as the surrounding ocean.

5. Sanitation system used:
e.g. chlorine
Algaecide and Cleaner – supplier - Cyndan chemicals –product "Algae –died B".

6. Antifouling system used Yes ☐ No ■
Please give details:
Pool Paint-supplier-Paintec Pty Ltd – product –Chlorinated Rubber Based paint.
Applied every two years approximate cost $2,000

PAINTED STEPS

Pool Sediment			
1. Sand only:	minor ☐	significant ☐	major ☐
2. Seaweed only:	minor ☐	significant ☐	major ☐
3. Sand and Seaweed:	minor ☐	significant ☐	major ☐
4. Other:	minor ☐	significant ☐	major ☐

NOTE;
This pool is above high tide and well protected from the ocean, it has no sediment; it is the only Warringah ocean pool to have swimming lanes painted on the bottom surface of the pool.

History of Repairs

1. Major repairs: Yes ☐ No ■
   Details:
   A major upgrade is planned for 2011 the up grade currently has a budget of $250,000
2. Minor repairs: Yes ■ No ☐
   Details
   - Repairs if cracks in pool deck
   - Repairs to hand rails and chains
   -

Technical Advice

Details of :

1. Designers:

1924
The Harbord Beach Improvement Committee (HBIC) asked Council to support the construction of a rock pool to the north of Freshwater Beach, just below McKillop Park and permission to hold surf carnivals to raise funds for it. Council agreed and arranged for the Shire engineer to design two pool options. The HBIC selected the longer pool option (70 feet by 50 feet).

2. Architect:
No information avaliable

3. Structural Engineers:
No information avaliable

4. Builders:
1925
Shire President Parr opened the pool on 28 November 1925. The pool measured 33 yards (30.18 m) and was the first rock pool to be opened on the Northern Beaches. The pool had been constructed by Mr W. H. Morgan for a total cost of 472 pounds. In September, Mr R. Antill won a tender to construct the lower path from the beach to the pool at a cost of 105 pounds.

***Important* to get referees for any consultants used or importantly what they were like to work with – e.g. any problems – e.g. excessive delays with designs, successes, etc.**

Operating/ Maintenance Costs

1. Yearly Budget
This is one of 6 ocean pools Warringah council have .The budget for the maintenance of the six is $275,000

2. How is this Funded

a) User Pay	☐
b) Council Funds	■
c) Combination of A & B	☐
d) Other	☐

Details:

Major User Groups

1. Swimming Club:	15% of time
2. Schools:	05% of time
3. Social / recreational:	75% of time
4. Other:	05% of time

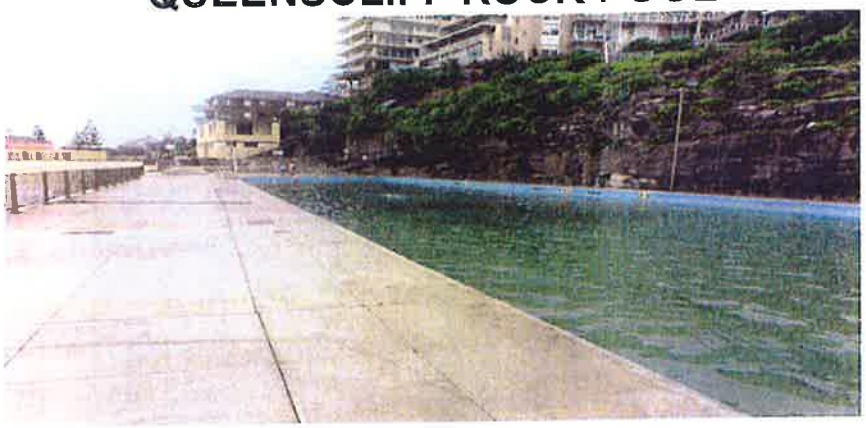
Additional Advice / Comments:

1. The pool is well protected from the ocean by the rock shelf
2. The pool is above high water out of the effects of the tide
3. the pool has no problems with sediment
4. The pump works effectively
5. Warringah plan to deepen the inlet trench to the pump to improve water quality.
6. Currently the trench faces the south west and is not flushed out enough by wave action.
7. Generally the pool is what we would like to achieve at Yamba's Main Beach with respect to water quality. What this pool highlights is that :-
    - The pool wall being above the tidal influences decreases the amount of sediment required to be cleaned from the pool.
    - Raising the pool wall out of tidal influences, combined with a correctly positioned pump will dramatically improve the water quality.

NOTE; it is critical that the optimum position of the inlet for the pump be identified.

clarence valley COUNCIL

POOL INSPECTION LIST SURVEY
QUEENSCLIFF ROCK POOL



Name of Pool	Queenscliff Rock Pool		
Location	North Steyne, Queenscliff, NSW, 2096, Australia (Latitude South 33d 47m 11s, Longitude East 151d 17m 22s)		
Council Area Name	Warringah Council		
Council Contact			
Name	Steve Bax		
Phone	02 9942 2538	Mobile	
Email	bax@warringah.nsw.gov.au		
Dimensions			
Width in mtrs	20 m	Length in mtrs	50 m
Depth in mtrs - Shallow end	1.2 m	Deep end	1.5
Pool Height of wall above sea level: *(No need to be exact, e.g. 1.8 metre high tides go over the wall)m* Pool wall 0 - 300mm above high water			

Describe pool maintenance access:
Pool access is limited to two stair ways or across sand from Queenscliff Surf club making maintenance difficult .pumps having to be dragged up the stairs when maintenance is required

LIMITED ACCESS
(2 Stairways)

External Protection from Wave Action

1. Rock Shelf (short description, e.g. length, width, height, other)
Rock shelf eastern side of pool only 1/3 width only, 2 metres above pool deck.

ROCK SHELF EASTERN SIDE OF POOL
(1/3 Only)

2. Wave wall (short description, e.g. length, width, height, other
Wave wall is pool wall

3. Other protection

Southern side of pool large outlet 4 – 5 metres wide gives some additional protection

LARGE OUTLET 4 – 5 METRES WIDE
(Southern Side)

Pool Materials Construction			
1. Concrete	■	3. Natural (rock/sandstone)	☐
2. Combination	☐	4. Other *(use below)*	☐

Pool Materials Technical

1. Type of concrete mix used:
   (i.e. any special admixtures and/or any protective coatings associated with the exposure to the sea water including the splash zone.)

Pool is of old construction

- 20 – 30 MPA used
- 40 MPA, saltwater resistant, thatched. to be used in all new work

2. Type of reinforcement used in construction
   (e.g. galvanised steel, stainless steel, poly fibres)

- Mild and galvanised steel used
- Stainless to be used in future works

3. Details of any expansion joints and the system used

Rubber was noted on promenade

4. Has the pool a electrolysis control system YES ☐ NO ■

Pool Year of Construction: 1937

The rock pool was built by unemployed labour as part of the Unemployment Relief Scheme. Manly Council was constructing a stone wall along the ocean front (North Steyne) and was prepared to take any stone from the excavation for the Queenscliff rock pool. The QSLSC maintained the pool for a few years, before Council took over this responsibility.

Current Condition **Good** ☐ **Fair** ■ **Poor** ☐

Leaks/Cracks

1. Nil	☐	4. Major	☐
2. Minor	■	5. Other	☐
3. Significant	☐		

History of repairs

- Ongoing over time
- Major up grade refurbishment planned 2012

Pool Filled By:

1. Wave action (tidal)	☐	2. Pump	☐
3. Combination of wave action and pump	■■	4. Other *(use below)*	☐

If Pump Used

Pump Make; Pool Pump-supplier-Flygt – product – Robot Pump AISI 316, type RW4042DO-VBR00X1.

1.

2. Size

3. Year of installation

4. Operational life of pump

5. Maintenance issues; annual service , impeller ware

6. Annual cost; Pumps for 6 pools are maintained /replaced by Contractors $75,000

PUMP HOUSE &STAINLESS STEEL INLET PIPE

Pool Cleaning

1. Weekly ■ Fortnightly ☐ Other ☐

2. Machinery required: There is no access pool has to be cleaned by hand

3. Staff numbers required: 3 (7 – 8 1/2 hours)

4. Water quality testing: Weekly ☐ Fortnightly ☐ Other ■

Warringah council dose not test water quality . Believe water quality is constantly changing with every high tide .pool water is the same as the surrounding ocean.

5. Sanitation system used:
e.g. chlorine

Algaecide and Cleaner – supplier - Cyndan chemicals –product "Algae –died B".

6. Antifouling system used Yes ■ No ☐
Please give details:

Pool Paint-supplier-Paintec Pty Ltd – product –Chlorinated Rubber Based paint.
Applied every two years approximate cost $2,000

POOL PAINTED EVERY TWO YEARS

POOL ACCESS IS BY 2 SETS OF STEPS OR ACROSS SOFT SAND FROM SURFCLUB

Pool Sediment			
1. Sand only:	minor ☐	significant ☐	major ☐
2. Seaweed only:	minor ☐	significant ☐	major ■
3. Sand and Seaweed:	minor ☐	significant ☐	major ☐
4. Other:	minor ☐	significant ☐	major ☐

Note. Queenscliff has a major problem with seaweed because of no vehicle access the seaweed is required to be removed by hand.

STAINLESS FENCE
(Eastern and Southern sides)

The fence was erected to keep the seaweed from the pool it has not been successful .**Note;** the bent fence panels caused by the wave action coupled with a build up of seaweed in the grates of the fence (this is similar to the bent grates found on Yamba's Rock Pool.)

History of Repairs

1. Major repairs: Yes ■ No ☐
   Details:

1982
Steps to and from the rock pool to the area above it were repaired.

1985
Repairs were made to the clubhouse. The Queenscliff pool was included as a heritage item on the draft Warringah *Local Environmental Plan* after the Warringah Heritage Inventory review identified it as having State or regional significance with the themes of 'leisure: organised and unorganised' and 'cultural and social life'.

Early 1990s
The pool was almost entirely reconstructed to produce a mechanically flushed 50-metre by 14-metre pool. The pool pumps were normally installed each September and taken out the following April for servicing.

1999
During remediation works on the adjacent outlet for Manly Lagoon, the pool was filled in and major pool repairs were undertaken.

2000
To allow tidal flushing of the Manly lagoon, its outlet low-flow pipes were

extended into deep water past the end of the Queenscliff rock pool. The impact of this work on the visual significance of the rock pool was considered both minimal and acceptable in heritage terms. Extensive work on the southern side of the rock pool was carried out when the low-flow pipes were installed.

2. Minor repairs: Yes ■ No ☐
Details
Ongoing general maintenance

Technical Advice

Details of :

1. Designers:
No information available

2. Architect:
No information available

3. Structural Engineers:
No information available

4. Builders:
No information available

Important **to get referees for any consultants used or importantly what they were like to work with – e.g. any problems – e.g. excessive delays with designs, successes, etc.**

Operating/ Maintenance Costs

1. Yearly Budget This is one of 6 ocean pools Warringah council have .The budget for the maintenance of the six is $275,000	
2. How is this Funded	
a) User Pay	☐
b) Council Funds	■
c) Combination of A & B	☐
d) Other Details:	☐
Major User Groups	
1. Swimming Club:	25% of time
2. Schools:	10% of time
3. Social / recreational:	65% of time
4. Other:	% of time

Additional Advice / Comments:

1. The pool is not protected from the ocean by the rock shelf
2. The pool is not above high water and the tide
3. the pool has major problems with seaweed sediment
4. Council has attempted to control the sediment by the erection of a fence on the Southern and Eastern sides This has not worked
5. The pump works effectively
6. Generally the pool has similar sediment problems as Yamba's Main Beach Pool with respect to water quality. What this pool highlights is that :-

- Grates/ fencing don't work as an effective barrier to control sediment
- The pool wall needs to be above the tidal influences decreasing the amount of sediment required to be cleaned from the pool.

clarence valley COUNCIL

POOL INSPECTION LIST SURVEY
PORT KEMBLA OLYMPIC POOL

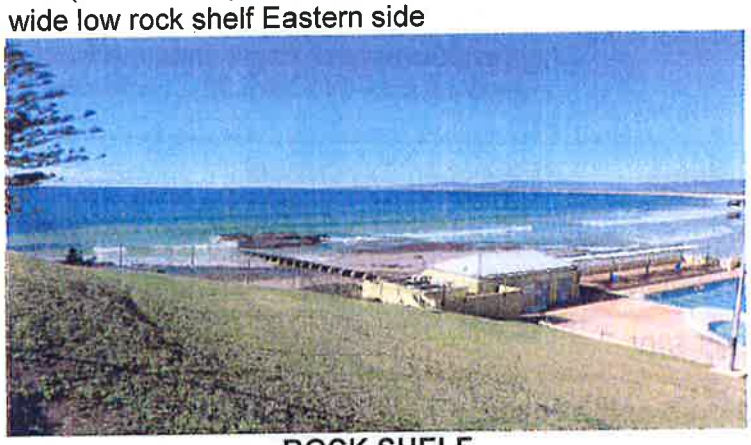
Name of Pool	Port Kembla Olympic Pool		
Location	Olympic Boulevard, Port Kembla, NSW, 2505, Australia (Latitude South 34d 29m 33s, Longitude East 150d 54m 3s)		
Council Area Name	Wollongong City Council		
Council Contact Consulting Engineer GEOFF NINNES FONG &PARTNERS			
Name	Gordon Smith (Director Aquatic Projects East Coast)		
Phone	02 9332 5100	Mobile	0409 746 007
Email	gordons@gnfp.com.au		
Dimensions of Main Pool (complex has 4 pools)			
Width in mtrs	30 m	Length in mtrs	50 m
Depth in mtrs - Shallow end	1.5 m	Deep end	2 m
Pool Height of wall above sea level: *(No need to be exact, e.g. 1.8 metre high tides go over the wall)* Pool wall 2- 3m above high water			

Describe pool maintenance access:
There is limited pool access this is either by way of the front entrance or by a gate in the western fence to the grassed area

ACCESS GATE WESTERN FENCE
(Grassed Area)

External Protection from Wave Action

1. Rock Shelf (short description, e.g. length, width, height, other)
50 metres wide low rock shelf Eastern side



ROCK SHELF

2. Wave wall (short description, e.g. length, width, height, other
The pools wall is 3 metres above the rock shelf

POOL WALL

3. Other protection

Pool Materials Construction

1. Concrete	■	3. Natural (rock/sandstone)	☐
2. Combination	☐	4. Other *(use below)*	■

Pool is fully Tiled

TILED POOL

Pool Materials Technical

1. Type of concrete mix used:
(i.e. any special admixtures and/or any protective coatings associated with the exposure to the sea water including the splash zone.)

Not known

2. Type of reinforcement used in construction
(e.g. galvanised steel, stainless steel, poly fibres)

Not known

3. Details of any expansion joints and the system used
Not known

4. Has the pool a electrolysis control system YES ■ NO ☐

Advised can be controlled by earthing

Pool Year of Construction:

1934
Central Illawarra Shire granted 4,000 pounds for pool construction at a site chosen after consultation with the Town Planning Association of NSW.

1935 to 1937
Horse teams worked on the pool construction. The levelling-off of the site and excavation work for the baths and construction of the approaches were carried out as an unemployment relief project and award wages were paid for the remaining work.

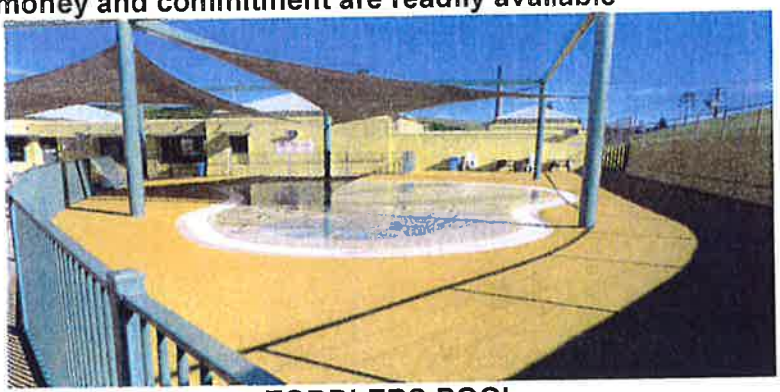
With the cost of rebuilding the pool estimated at $3.25 million, Wollongong City Council set aside $1 million and agreed to hold back on projects in other areas, so the work on the pool could start in 1998.

1998
Wollongong City Council closed the rundown pool for $4.3 million of renovation work.

2000
The replacement pool opened for use on the same hour of the same day as the original 1937 pool. The new pool contains a modern beach entry, a wading pool, a 15-metre learning pool, as well as the Olympic pool, toilets, showers, dressing-shed, lifeguard observation tower, disabled access and meeting rooms. It was highly commended in the design and construction category of the Institute of Public Works Engineering Australia Excellence Awards.

Current Condition **Very Good** ■ **Fair** ☐ **Poor** ☐

This pool is kept in pristine condition and is an example of what can be achieved if money and commitment are readily available



TODDLERS POOL

Leaks/Cracks

1. Nil	■	4. Major	☐
2. Minor	☐	5. Other	☐
3. Significant	☐		

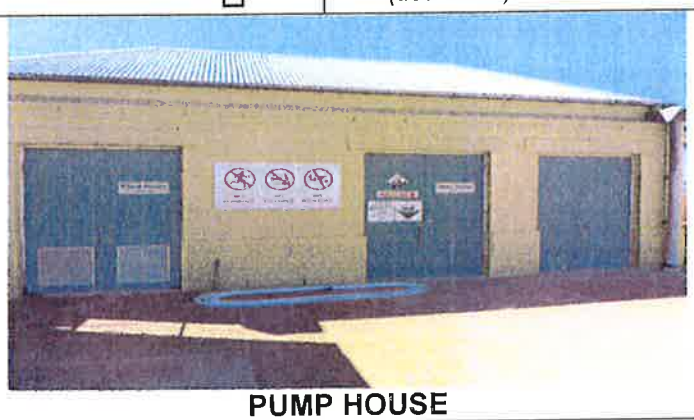
History of repairs

1998

Wollongong City Council closed the rundown pool for $4.3 million of renovation work.

Pool Filled By:

1. Wave action (tidal)	☐	2. Pump	■
3. Combination of wave action and pump	☐	4. Other *(use below)*	☐



PUMP HOUSE

If Pump Used

1. Pump Make Not known
2. Size Not known
3. Year of installation
4. Operational life of pump
5. Maintenance issues

The pump has two ocean inlet pipes, from time to time these pipes are covered in sand at time of inspection one of the pipes was out of action because of this

THE TWO INLET PIPES

6. Annual cost; Not known
7. Other
Pool Cleaning
1. Weekly ☐ Fortnightly ☐ Other ■ Pool cleaned daily
2. Machinery required:
3. Staff numbers required: 1 staff is also lifeguard
4. Water quality testing: Weekly ☐ Fortnightly ☐ Other ■ Daily If pump stops more than one hour the pool is closed because of poor water quality
5. Sanitation system used: *e.g. chlorine* Not known
6. Antifouling system used Yes ☐ No ☐ Please give details: Not known

SIGNAGE

Pool Sediment			
1. Sand only:	minor ☐	significant ☐	major ☐
2. Seaweed only:	minor ☐	significant ☐	major ☐
3. Sand and Seaweed:	minor ☐	significant ☐	major ☐
4. Other:	minor ☐	significant ☐	major ☐

Nil sediment in pool
The pump has a retention tank with screens to remove all sand etc

History of Repairs

1. Major repairs: Yes ■ No ☐
   Details:
   1998
   Wollongong City Council closed the rundown pool for $4.3 million of renovation work.
2. Minor repairs: Yes ☐ No ☐
   Details
   Not known

Technical Advice

Details of :

1. Designers:
   Not known

2. Architect:
   Not known

3. Structural Engineers:
   Not known

4. Builders:
   Not known

Important **to get referees for any consultants used or importantly what they were like to**

work with – e.g. any problems – e.g. excessive delays with designs, successes, etc.	
Operating/ Maintenance Costs	
1. Yearly Budget Not known	
2. How is this Funded	
a) User Pay	☐
b) Council Funds	■
c) Combination of A & B	☐
d) Other Details:	☐
Major User Groups	
1. Swimming Club:	25% of time
2. Schools:	50% of time
3. Social / recreational:	20% of time
4. Other:	05% of time

ATTENDANT'S OFFICE

Additional Advice / Comments:

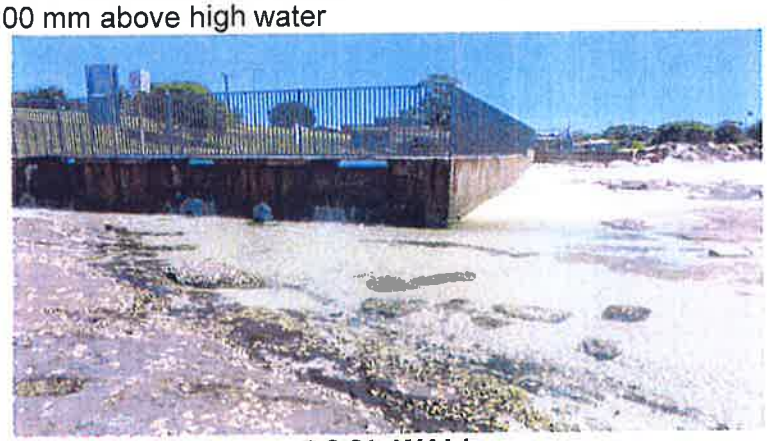
- This pool was constructed and is maintained to Olympic standard
- This pool has been included in survey to demonstrate what can be achieved with an unlimited budget
- Although the pool is of a high standard it still shows the need to have the basic's right
- The problem of sand build up blocking the inlet pipes is noted, it highlights the need for great care in the positioning of these pipes
- To fix this problem the council representative advised that the pipes should be placed further out in the Ocean. "Further out the better"
- Correct positioning on the rock shelf rather than a longer inlet pipe needs to be investigated before they commit to a longer pipe line
- The placement of the pool well above the tidal zone has eliminated the problem of sediment (sand and seaweed) pollution.

clarence valley
COUNCIL

POOL INSPECTION LIST SURVEY
HUSKISSON SEA POOL

Name of Pool	Huskisson Sea Pool		
Location	Owen Street, Huskisson, NSW, 2540, Australia (Latitude South 35d 02m 16s, Longitude East 150d 40m 23s)		
Council Area Name	Shoalhaven City Council		
Council Contact			
Name	Ken Norwood		
Phone	44 293 538	Mobile	0413 002 553
Email	Kevin@shoalhaven.nsw.gov.au		
Dimensions			
Width in mtrs	12 m	Length in mtrs	50 m
Depth in mtrs - Shallow end	1.1 m	Deep end	1.8 m

Pool Height of wall above sea level:
(No need to be exact, e.g. 1.8 metre high tides go over the wall)
Pool wall is 200 mm above high water



POOL WALL

Describe pool maintenance access:
Pool access is across park from car park.

POOL ACCESS

External Protection from Wave Action

1. Rock Shelf (short description, e.g. length, width, height, other)
The eastern side of the pool has a low rock shelf that is underwater at high tide approximately 20 metres wide.

ROCK SHELF

2. Wave wall (short description, e.g. length, width, height, other

There is a 10 – 15 metre long x 2 metre high stone wall on the south eastern corner of the pool.

WAVE WALL

3. Other protection

The pool is situated within Jervis Bay and only storm events create waves large enough to impact on the pool

Pool Materials Construction			
1. Concrete	■	3. Natural (rock/sandstone)	☐
2. Combination	☐	4. Other *(use below)*	☐

Pool Materials Technical

1. Type of concrete mix used:
(i.e. any special admixtures and/or any protective coatings associated with the exposure to the sea water including the splash zone.)

Not known

2. Type of reinforcement used in construction
(e.g. galvanised steel, stainless steel, poly fibres)

Not known

3. Details of any expansion joints and the system used

Rubber observed on pool decking

RUBBER EXPANSION JOINTS POOL DECK

4. Has the pool a electrolysis control system YES ☐ NO ■

Pool Year of Construction: 1965

A 50-yard (48-metre) saltwater concrete pool was built with funds raised by the community's National Fitness Committee with input from local, NSW and federal Governments.

Current Condition	**V Good** ■	**Fair** ☐	**Poor** ☐

Leaks/Cracks

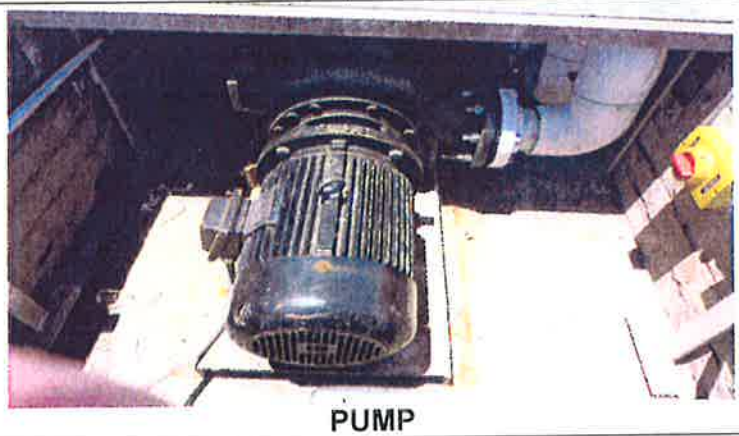
1. Nil	☐	4. Major	☐
2. Minor	■	5. Other	☐
3. Significant	☐		

History of repairs

Major repair to outside wall North east side 2004

Pool Filled By:

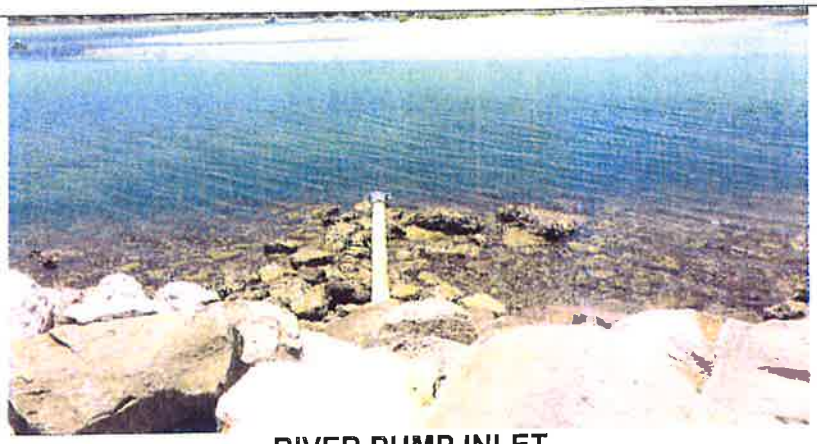
1. Wave action (tidal) ☐	2. Pump ■
3. Combination of wave action and pump ☐	4. Other ☐ *(use below)*



PUMP

If Pump Used

1. Pump Make CMG 3phase
2. Size; no information available
3. Year ;of installation no information available
4. Operational life of pump; no information available
5. Maintenance issues; no information available
6. Annual cost; no information available
7. Other;
   - The pump inlet is in the river this delivers a high standard of water quality.



RIVER PUMP INLET

Pool Cleaning

1. Weekly ☐ Fortnightly ☐ Other ■ vacuumed daily, walls scrubbed weekly (Thursdays)
2. Machinery required: Pressure blaster
3. Staff numbers required: 2 staff required
4. Water quality testing: Weekly ☐ Fortnightly ☐ Other ■ Monthly
5. Sanitation system used:
   e.g. chlorine

No Sanitation system used

6. Antifouling system used Yes ■ No ☐
   Please give details:

Chlorinated rubber.

Pool Sediment			
1. Sand only:	minor ☐	significant ☐	major ☐
2. Seaweed only:	minor ☐	significant ■	major ☐
3. Sand and Seaweed:	minor ☐	significant ☐	major ☐
4. Other:	minor ☐	significant ☐	major ☐

Although the pool is above normal sea height at certain times of the year the pool is impacted by seaweed. This weed builds up on the beaches and rock shelf and in storm events is washed through the fence into the poo.
At the time of inspection it was noted a significant build of weed on the beach to the north.

History of Repairs

1. Major repairs: Yes ■ No ☐
   Details:
   Major repair to outside wall North east side 2004

2. Minor repairs: Yes ■ No ☐
   Details
   On going paint , pump valve, fence

Technical Advice

Details of :

1. Designers:
Shoalhaven City Council

2. Architect:
Not known

3. Structural Engineers:
Not Known

4. Builders:
Volunteers - local community groups

Important **to get referees for any consultants used or importantly what they were like to work with – e.g. any problems – e.g. excessive delays with designs, successes, etc.**

Operating/ Maintenance Costs

1. Yearly Budget
$40,000 - $50,000

2. How is this Funded

a) User Pay	☐
b) Council Funds	☐
c) Combination of A & B	■
d) Other	☐

Details:

Major User Groups

1. Swimming Club:	% of time
2. Schools:	05% of time
3. Social / recreational:	95% of time
4. Other:	% of time

The pool is open from 6am – 6 pm daily between November
Pool has full time attendant / lifeguard
To increase hours the pool is opened Council is about to trial the pool opened without an attendant.

Additional Advice / Comments:

- Pool is of a good design & is very well maintained
- This pool is of a similar standard to Port Kembla pool
- Pool has full time attendant / lifeguard
- The seaweed sediment in the pool could be eliminated if the sea wall was raised by approximately (600 mm – 1.00 m)
- The inlet pipe for the pump is well positioned in the river delivering clean water to the pool
- The pool seems to be under utilised this may be why it is in such a good condition The friends of Huskisson Pool have lobbied hard for extended hours for the pool .

The pool comes across as not user friendly this may be because of the fencing coupled with the restricted hours of operation. At the time of inspection there was no one using the pool although it was in the middle of a hot sunny day 2 weeks before Christmas.

clarence valley COUNCIL

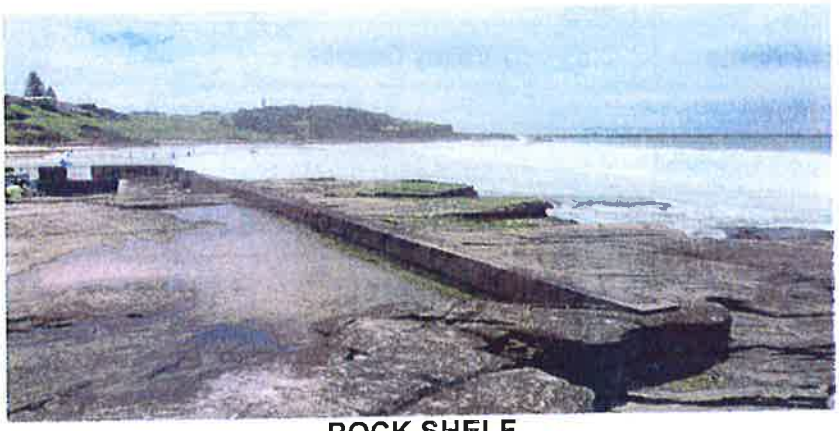
POOL INSPECTION LIST SURVEY
YAMBA ROCK POOL

Name of Pool	Yamba Rock Pool		
Location	Flinders Park Clarence Street, Yamba, NSW, 2464, Australia (Latitude South 29d 26m 09s, Longitude East 153d 21m 54s)		
Council Area Name	Clarence Valley Council		
Council Contact			
Name	Greig McDowall		
Phone	02 6646 2588	Mobile	0428 296 239
Email	Greig.mcdowall@clarence.nsw.gov.au		
Dimensions			
Width in mtrs	33 m	Length in mtrs	
Depth in mtrs - Shallow end		Deep end	
Pool Height of wall above sea level: *(No need to be exact, e.g. 1.8 metre high tides go over the wall)* I.8 metre tide goes over wall northern side & through the grates in the wave wall eastern side.			
Describe pool maintenance access: Pool access is limited to a narrow pathway to pool to gain access to pool and sediment trap is by steel ramps			

POOL MAINTAINANCE ACCESS

External Protection from Wave Action

1. Rock Shelf (short description, e.g. length, width, height, other)
The rock shelf is 5 metres wide on the Eastern side of the pool ,nonexistent in the North eastern quadrant of the pool and extends around the headland to Convent Beach in the south.



ROCK SHELF

2. Wave wall (short description, e.g. length, width, height, other
Yamba pool's wave wall is approximately 1 metre above the pool deck in the North East quadrant of the pool, while keeping its height in relation to the pool deck the wall continues along the Eastern side of the pool for 18 – 20 metres finishing flush with the rock shelf
Except for the Stainless Steal grates The wall is a effective sea barrier,
The grates allow seawater to spill through them to fill the pool a majority of the sediment found in the pool enters in this way

WAVE WALL

3. Other protection

There is no other pool protection

Pool Materials Construction

1. Concrete	■	3. Natural (rock/sandstone)	☐
2. Combination	☐	4. Other *(use below)*	☐

Pool Materials Technical

1. Type of concrete mix used:
   (i.e. any special admixtures and/or any protective coatings associated with the exposure to the sea water including the splash zone.)

Pool is of old construction

20 – 30 MPA used

2. Type of reinforcement used in construction
   (e.g. galvanised steel, stainless steel, poly fibres)

   Type of reinforcement used not known probably Mild and or galvanised steel used

3. Details of any expansion joints and the system used

4. Has the pool a electrolysis control system YES ☐ NO ■

Pool Year of Construction: 1968

Complaints about pollution at the quarry pool plus a health inspector's confirmation

that that it was a health hazard convinced Maclean Shire Council to construct a rock pool at Yamba's main surfing beach.

1969
Yamba's new rock pool was completed at a cost of $33,534.

Current Condition	**Good** ☐	**Fair** ☐	**Poor** ■

Leaks/Cracks

1. Nil	☐	4. Major	■
2. Minor	☐	5. Other	☐
3. Significant	■		

History of repairs;
Yamba pool has had constant repairs to cracks in its walls and floors repairs on repairs, floors it has now reached the stage that these leaks are re - appearing immediately after they have been plugged. A major crack across the pool's floor has slumped 80 mm in the last 12 months.

POOL FLOOR SLUMPED 80 MM ALONG CRACK

Tiles on steps and around edge of pool are broken, Concrete access paths have been washed away . access for machinery to sediment pool has crumbled There is only minimal hand railings these do not meet minimum safety standard

Pool Filled By:

1. Wave action (tidal)	■	2. Pump	☐
3. Combination of wave action and pump	☐	4. Other *(use below)*	☐

If Pump Used ;No pump used

1. Pump Make
2. Size
3. Year of installation
4. Operational life of pump
5. Maintenance issues
6. Annual cost
7. Other

Pool Cleaning

1.	Weekly ☐ Fortnightly ■ Other ■ Pool is cleaned monthly in winter Easter – October, Fortnightly Summer October - Easter
2.	Machinery required: Bobcat, 3 Pumps
3.	Staff numbers required: 2 - 3
4.	Water quality testing: Weekly ☐ Fortnightly ☐ Other ■ Currently Clarence Valley Council does not do water quality testing
5.	Sanitation system used: *e.g. chlorine* Nil
6.	Antifouling system used Yes ☐ No ■ Please give details:

Pool Sediment			
1. Sand only:	minor ☐	significant ☐	major ☐
2. Seaweed only:	minor ☐	significant ☐	major ☐
3. Sand and Seaweed:	minor ☐	significant ☐	major ■
4. Other:	minor ☐	significant ☐	major ☐

History of Repairs

1. Major repairs: Yes ■ No ☐
   Details: Removal of tiles around pool edge recapped with 2 pack epoxy mix .

2. Minor repairs: Yes ■ No ☐
   Details; repairing cracks constantly.

Technical Advice

Details of :

1. Designers:
NOT KNOWN

2. Architect:
NOT KNOWN

3. Structural Engineers:
NOT KNOWN

4. Builders:
Maclean Shire Council

From the 1860s
Quarrying rock for the training walls constructed at Yamba to provide a safer entry for ships into the Clarence River at Yamba created a potential swimming pool.

1893
With the Yamba quarry completely exhausted, quarrying operations moved south to Angourie.

1940s
The pool in the former quarry was used for recreation, sport and swimming training by local people and schools.

1962
After public baths were opened in the nearby town of Maclean, the Maclean High School no longer used Yamba's quarry pool for swimming and lifesaving classes.

1968
Complaints about pollution at the quarry pool plus a health inspector's confirmation that that it was a health hazard convinced Maclean Shire Council to construct a rock pool at Yamba's main surfing beach.

1969
Yamba's new rock pool was completed at a cost of $33,534.

Important **to get referees for any consultants used or importantly what they were like to work with – e.g. any problems – e.g. excessive delays with designs, successes, etc.**
Operating/ Maintenance Costs
1. Yearly Budget **$32,000 08- 09**
2. How is this Funded
a) User Pay ☐
b) Council Funds ■
c) Combination of A & B ☐
d) Other ☐ Details:

Major User Groups	
1. Swimming Club:	% of time
2. Schools:	10% of time
3. Social / recreational:	90% of time
4. Other:	% of time

Additional Advice / Comments:
Surrounds of the pool are in urgent need of repair

CRACKS IN THE POOL

BROKEN STEPS

UNDERMINED POOL WALL

BROKEN ACCESS PATH

DAMAGED NORTH WALL

POOL DECK SLIP TRIP HAZARDS

CRACKING/TRIP HAZARDS

LIMITED POOL MAINT ACCESS