



CITY OF FORT LAUDERDALE AQUATIC CENTER



FACILITY ASSESSMENT REPORT

March 28, 2016



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INTRODUCTION

The purpose of this report is to evaluate the existing Fort Lauderdale Aquatic Center located at 501 Seabreeze Boulevard, assess the current condition of the buildings and pools, and present three options for the repair, renovation, or replacement of the buildings and pools within the facility.

The three options represent a “good, better, best” set of improvements to the facility for the city to consider.

The evaluation was performed by the following team members:

Architectural, project lead:	Walters-Zackria Associates, PLLC 1500 W. Cypress Creek Road, Suite 105 Ft. Lauderdale, FL 33309 954-522-4123
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Site evaluation visits were performed on January 12th, February 9th, February 11th, February 23rd and March 8th of this year.

City staff and Aquatic Center staff provided assistance during the site visits. They also provided input in the form of programming, staffing and equipment needs to incorporate into the three options developed by the team.

The existing Aquatic Center consists of 10 major components - five buildings and five pools:

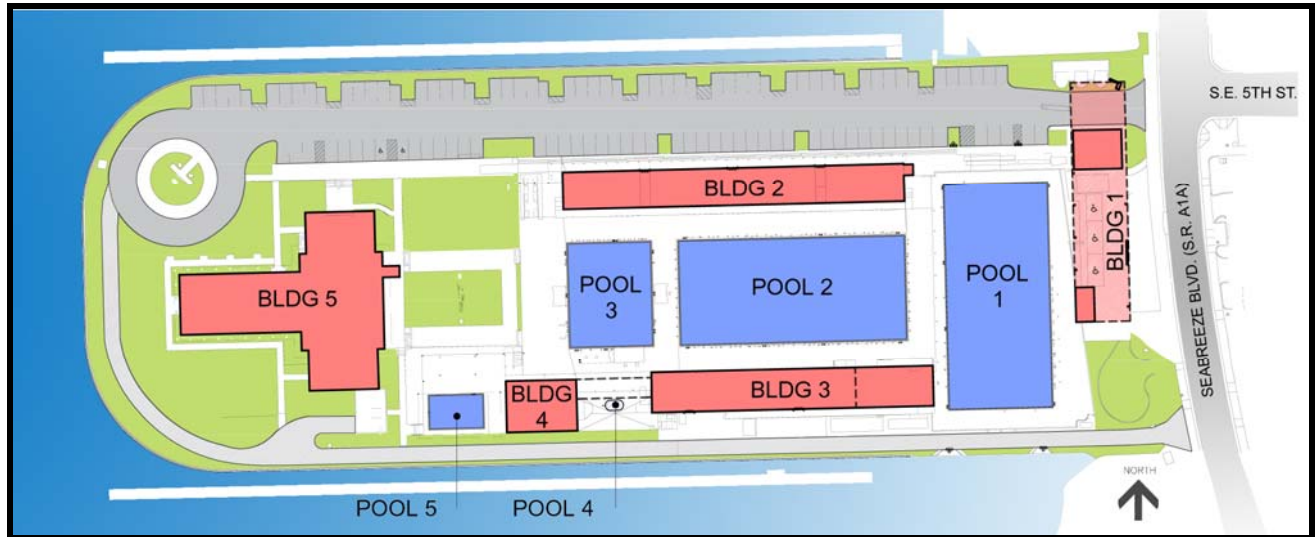


Figure 1 Site plan referencing buildings and pools

Building 1 is located on the east side of the property and extends over the entry of the complex. It was built in 1990 and houses a locker room and offices for the beach patrol, restrooms, gift shop and an extension of the main International Swimming Hall of Fame museum.

Building 2 was built in 1965 and renovated in 1990, updating and replacing the pool systems. Concrete bleachers are built above ground-floor functions such as restrooms, an FPL vault, the pool pump and filtration system, facility maintenance offices and admission booth.

Building 3 contains an FPL vault, staff offices, press room, timing room and the bathhouse. It is connected to Building 4 by an observation deck that holds bleachers. Building 3 & 4 were renovated in the early 1990s.

Building 4 houses a weight room and offices and timing booth above as well as a smaller observation deck.

Building 5 is on the west end of the property. It was built in 1967 and dedicated in 1968, and houses the main ISHOF museum and exhibition space, offices and archival storage rooms for materials and supplies, and a banquet hall overlooking the Intracoastal Waterway.

Pool 1 is the Training pool. It was added in 1990 with the facility renovations.

Pool 2 is the Competition pool. It was originally built in 1965 for competitions and was renovated in 1990 to maintain required standards for competition facilities.

Pool 3 is the Diving pool built in 1965 and has several springboards and dive platforms as well as an underground pool observation room. The springboards and platforms were renovated in 1990, and the platforms were renovated again in 1995.

Pool 4 is the small diver warm up spa. It is housed under the upper floors of Building 4.

Pool 5 is the teaching pool used for providing swimming lessons. This was added to the complex in 1990. It is on the west side of Building 4 and covered with a blue shade canopy.

History and Timeline of Construction

The Fort Lauderdale Aquatic Center (FLAC) is situated on a man-made pier which extends approximately 600 feet into the Intracoastal Waterway. The pier itself was completed in 1963 by the Inland Navigation District and dedicated to the City of Fort Lauderdale.

The 50-meter pool (pool #2 on the site plan), 25-yard diving well warm-up pool (pool #3 on the site plan) including the dive and pool observation room below deck, the seawall, parking lot and landscaping were completed in August of 1965. In December of that year, the pools were opened. The event included an international swim meet and spectators and was televised nationally.



Figure 2

Aerial view of Fort Lauderdale's "hall of fame" swimming pool. 1975. Black & white photoprint. State Archives of Florida, Florida Memory. Accessed 18 Feb. 2016.

<https://www.floridamemory.com/items/show/86317>.



Figure 3

Marks. High diving at Fort Lauderdale's "hall of fame" swimming pool. 1967. Black & white photoprint. State Archives of Florida, Florida Memory. Accessed 18 Feb. 2016.

<https://www.floridamemory.com/items/show/83395>.

The museum building and banquet hall (building #5 on the site plan) was constructed in 1967. Most of the funds used for construction of the building were provided by the City of Fort Lauderdale as well as grants and fundraising contributions from the Swimming Hall of Fame.

The pools were staffed and maintained by the City Parks and Recreation department and hosted programs for the local community such as conventions and aquatic events which included the Annual International Swim meet, the International Diving meet, the World High Diving Championships, the National Championships in swimming, diving, synchronized swimming, water polo and many, many others.



Figure 4

Marks. *Fort Lauderdale's "hall of fame" swimming pool*. 1967. Black & white photoprint. State Archives of Florida, Florida Memory. Accessed 18 Feb. 2016. <https://www.floridamemory.com/items/show/83396>.



Figure 5

Flyer advertising the International Swimming Hall of Fame. Fliers (printed matter). State Library of Florida: Florida Collection, BR0101. State Archives of Florida, Florida Memory. Accessed 18 Feb. 2016. <https://www.floridamemory.com/items/show/297300>.

By 1985, it was estimated that the facility brought \$20 million annually to the Fort Lauderdale area. This enticed other cities to build their own world-class aquatic facilities to compete with Fort Lauderdale. As these new facilities were developed around the country and the world, they were able to conform to the most modern safety and competition standards at that time, leaving the Fort Lauderdale aquatic center lagging behind in adapting to the changing standards.

In 1986, the City of Fort Lauderdale and the International Swimming Hall of Fame collaborated to raise funds and obtained grants from the State of Florida to improve the existing complex as well as some welcomed additions. The renovations included updating the bath, lockers and bleachers, bringing the original 50-meter pool and diving pool to national and international standards, resurfacing the deck, and replacing the pool pump and filtration system. New construction in 1990 included a second 50-meter pool, a teaching pool, and expanding the museum creating the iconic building at the entrance of the property (building #1 on the site plan) that has the signature "wave" design that is well known and associated with complex. The renovations were completed in 1991 which allowed the city to host the USA Swimming National Championships in which two world records were set in the newly renovated competition pool.

Between 1995-1996 modifications were made to the dive tower as well as enhancements to the changing rooms and restrooms, renovations to the ground floor of the museum building, improvements to the complex entryway, ADA accessibility improvements.

In 2002, the City Commission approved a 5-year funding plan to re-build a new aquatic center. From 2004 through 2010, proposals and quotes for the new aquatic center were submitted to the city for review. One firm in particular, Counsilman-Hunsaker, a large aquatic design firm headquartered in St. Louis, Missouri, submitted a proposal but the quote exceeded the city's \$27 million budget.

In recent years the standards for aquatic competitions have changed. The city has not been able to update the facility to meet minimum requirements and therefore is not able to host national or international competitions. The entire complex has fallen into disrepair due to the harsh seaside environment and lack of fundraising. In 2011, building two, including the bleachers, was condemned. Much of the pool equipment and amenities has become obsolete and non-functional.

The pools are still being used today by members of the public as a training and recreational facility for swimming and diving as well as providing swim lessons for children.

References

“History of Swimming in Fort Lauderdale and the International Swimming Hall of Fame.”
<http://www.ishof.org/history.html>. Web. 18 Feb. 2016.





CITY OF FORT LAUDERDALE AQUATIC CENTER

EXISTING CONDITIONS

A. Building 1 (International Swimming Hall of Fame east exhibit extension building):



Figure 6 Building 1, west elevation showing drive through entry and gift shop below

1. Existing Building Construction
 - a. Building Area: +/- 7,893 sf (two stories)
 - b. Foundations: Concrete spread footings with masonry stem walls
 - c. Bearing Walls: 8" concrete masonry unit
 - d. Roof Assembly:
 - 1) Structural steel girders
 - 2) Corrugated metal deck
 - 3) Concrete substrate with elastomeric roof coating
 - e. Swing Doors: Storefront doors on exterior (first floor gift shop), flush metal doors on interior

- f. Windows: non-impact 1/4" blue-green and clear reflective tempered glass in aluminum frame.
 - g. Floor: exposed concrete and rubber/vinyl flooring, tile
 - h. Ceilings: gypsum board, exposed
 - i. Stair: concrete, steel frame and painted steel mesh
2. Building Access: The existing concrete pavement around the outside is in fair condition. There are a few cracks which need patching to maintain a smooth surface. The sidewalks and driveways need to be pressure washed.
3. Building Height: +/- 50'-0" (top of Roof Ridge)
4. Building Component Condition Analysis:
- a. Foundations/Floor:
Most of the slab is covered with flooring finish material and cannot be inspected. Where visible, the existing slab appears to be sufficient based on a visual inspection. No unusual cracks are evident on the surface which might suggest uneven settlement or foundation failure.
 - b. Bearing walls:
The bearing walls are constructed of 8" concrete masonry units with concrete tie beams. The exterior surface is covered with stucco and paint. The interior surface has furring and gypsum wall board. There are no unusual cracks in the stucco or gypsum indicating structural fatigue or failure. This would suggest that the masonry walls and concrete tie beams to be in good condition and do not require major upgrades.

On the exterior second floor, the stucco is not smooth at the seams. This suggests some water intrusion has taken place. The exterior needs repainting. On the interior, there are signs of water intrusion at the window on the west wall.



Figure 7 Building 1, west elevation, buckling at the seams in the stucco



Figure 8 Building 1, second floor interior looking west. Water intrusion around window and possible mold underneath.

- c. **Roof Assembly:** The information available for review and analysis has been very limited. Many of the items listed are based on visual inspection at the time of this report. Destructive testing and analysis would be required to gather more definite information for each component.

Visual inspection of the structural steel girders, metal deck, concrete roof slab and connections to the masonry walls is restricted by the gypsum ceiling installed below the girders, and there is no access to the roof.

The majority of the ceilings and walls directly below the roof appear to be in good condition. There are no visible cracks or buckling at joints indicating any major defects in the structure. There are some water stains at the intersection points of the curved roof which indicates the roof drain on the exterior of the intersection is leaking.



Figure 9 Building 1, water stain on interior intersection of curved roof.



Figure 10 Previous leaks from the roof and walls causing water damage on the floor finish

- d. **Swing Doors:**
Flush Metal Doors are typical for all swing doors. Based on visual inspection, the metal doors seem to be in good condition on exterior and interior. Existing interior door hardware is in good condition as well.

The entry to the gift shop has storefront aluminum doors which are in poor condition, due to age and proximity to the ocean environment. The aluminum appears rusted at corners. Existing door hardware is also in poor condition. The hinges have been replaced but have since rusted. There are holes in the frame where the previous hinges were installed.

The aluminum needs to be refinished, holes patched and painted. Hardware needs to be replaced.



Figure 11 Building 1, exterior storefront door entering gift shop, rusted door hardware



Figure 12 Exterior gift shop, patched corner of rusted storefront window frame

- e. **Windows:** The existing storefront windows around the gift shop are constructed of 1/4" blue-green reflective tempered glass in aluminum frames. The frames are in poor condition and appear to be rusted and deteriorating due to exposure to elements near ocean environment. The sealant/caulking is cracking allowing water intrusion. Window glass is not laminated nor protected by a shutter system.

f. **Ceilings:**

Interior ceilings are gypsum wall board and appear to be in good condition with the exception of some water stains as mentioned above.

Exterior ceilings appear to be in good condition with the exception of peeling paint. Ceilings need to be pressure washed and repainted.



Figure 13 Interior gift shop, water damage at wall and ceiling corner



Figure 14 ceiling of drive through entry,

5. Mechanical Evaluation:

- a. Air Handling Units are inaccessible for maintenance purposes. Due to location and inaccessibility of unit, it is apparent that the equipment has not been well maintained. The photographs below demonstrate the locations of the equipment and its inaccessibility.

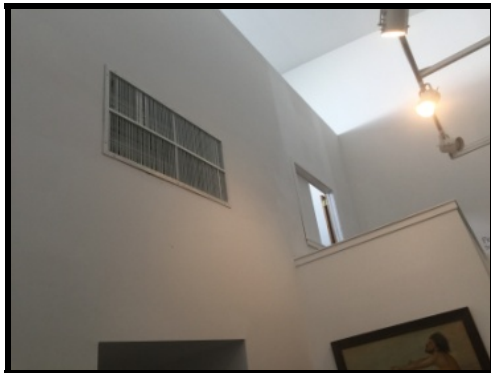


Figure 15 opening above restrooms to mechanical area, inaccessible



Figure 16



Figure 17 mechanical unit above ceiling space



Figure 18 mechanical unit in Proshop stair up to second floor, not easily accessible

- 1) Location: 1st and 2nd Floor

2) Criteria: FBC - HVAC 2014.

- b. The outside air intake damper is rusted and locked in place. Rusted louvered door, prohibiting ventilation. No ventilation or air conditioning for telecom closet. Photographs below show the rusted damper, the damaged door and the non-ventilated telecom closet.



Figure 19 Outside air intake damper



Figure 20 Damaged (rusted) door



Figure 21 Non-ventilated telecom closet

1) Location: 2nd Floor

2) Criteria: Industry Standard.

- c. 15 Ton Condensing Unit on the South Side of Building 1 appears to be in fair condition. It was installed in October 2013. While the equipment is in acceptable condition, the refrigerant piping is missing insulation. Remaining useful life for the equipment is approximately 10 years.



Figure 22 condensing unit

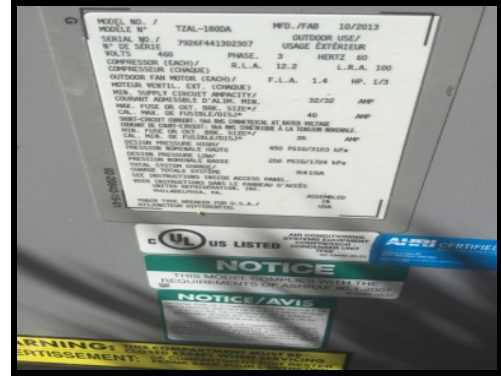


Figure 23 15 ton condensing unit



Figure 24 condensing unit

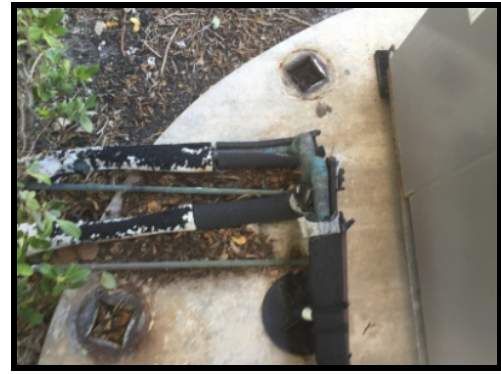


Figure 25 refrigerant piping missing insulation

- 1) Location: Ground Level, Exterior South Side
 - 2) Criteria: Industry Standard.
- d. There are three existing condensing units located on the north side of the building. One of the units is a residential type condensing unit in the 2-5 ton range and the other two condensing units vary from 10 to 15 tons (nameplate data is either missing or weathered and not legible). Visually, the equipment appears to be in poor condition due to age and weathering. Refrigerant piping insulation is missing as well. Remaining useful life for these condensing units is approximately one to two years.



Figure 26 15 ton condensing unit, rusted



Figure 27 10-15 ton condensing unit, rusted



Figure 28 Refrigerant piping missing



Figure 29 2-5 ton condensing unit, worn and rusting

- 1) Location: Ground Level, Exterior North Side
 - 2) Criteria: Industry Standard.
6. Electrical Evaluation:
- a. Floor outlets unprotected from water infiltration.



Figure 30 uncovered floor outlet

- 1) Location: 2nd floor.
- 2) Criteria: Code Violation and safety hazard.

7. Plumbing evaluation:

- a. Public Bathrooms (Men's and Women's): Toilets, lavatories, urinals and electric water cooler are showing signs of age and are not water efficient by current standards. Photographs below show current condition of plumbing fixtures (piping is not accessible).



Figure 31



Figure 32



Figure 33



Figure 34

- 1) Location: 2nd Floor
 - 2) Criteria: FBC-Plumbing 2014 and local ordinances
- b. Some exposed sanitary, cold and hot water, condensate and storm drainage is in poor condition (no photographs).
 - 1) Location: 1st Floor, 2nd Floor and Roof
 - 2) Criteria: Industry Standard.

B. Building 2 (entrance/admissions, pool equipment, main grandstand):



Figure 35 Building 2

1. Existing Building Construction
 - a. Building Area: +/- 16,600 sf (two stories)
 - b. Foundations: Grade beams on concrete piles
 - c. Bearing Walls: 8" and 12" concrete masonry unit
 - d. Roof assembly: built up roofing on precast concrete slab over walk areas only
 - e. Swing doors: flush metal doors
 - f. Overhead doors: metal doors
 - g. Windows: non-impact clear glass in aluminum frames.
 - h. Floor: exposed concrete, VCT, tile
 - i. Ceilings: exposed concrete, gypsum board, plaster
 - j. Stair: concrete
2. Building Access: The existing concrete pavement around the outside is in fair condition. There are a few cracks which need patching to maintain a smooth surface. The sidewalks and steps need to be pressure washed.

3. Building Height: +/- 30'-2" (top of railing)
4. Building Component Condition Analysis: this building was condemned in 2011 due to structural concrete degradation with many instances of concrete spalling on the inside of the building.
 - a. Foundations/Floor:

Most of the slab is covered with stored material or flooring finish material and cannot be inspected. Where visible, the existing slab appears to be sufficient based on a visual inspection. No unusual cracks are evident on the surface which might suggest uneven settlement or foundation failure. The only exception is in the pool equipment room. Due to the chemicals used to treat the water and maintain the pools, the slab is deteriorating and should be replaced.
 - b. Bearing walls:

The bearing walls are constructed of 8" and 12" concrete masonry units with concrete tie beams. The exterior surface is covered with stucco and paint. The interior surface is exposed or has furring and gypsum wall board.

The masonry walls and concrete tie beams are in fair condition and require some maintenance. On the exterior there are several cracks in the stucco. This could be due to settlement or structural fatigue. Destructive testing and analysis would be required to gather more definite information for each component. Without this in-depth investigation, it is difficult to determine what exactly is causing the cracks.

The interior walls are covered with gypsum and plaster. In these areas there are no cracks. However, in the areas with exposed concrete block, specifically in the pool filtration/equipment room where the water is treated, the concrete walls and floor are badly deteriorated from the chemical used throughout the years.



Figure 36 Exterior showing cracks in stucco



Figure 37 Interior pump room, chemicals deteriorating concrete

- c. **Roof Assembly:** the second floor has bleachers without a roof. The bleachers are mounted on a concrete slab which is discussed in the ceiling portion of the first floor below. There is a roof overhang on the north side of the building and east corner covering the admissions booth. This overhang is precast concrete with built up roof material enclosed by aluminum gravel stops on all sides. It has been noted by staff that the roof is prone to leaking. Due to the age of the roof, it should be removed and replaced with new.
- d. **Swing Doors:** Flush metal doors are typical for exterior swing doors and some interior swing doors. Based on visual inspection, the metal doors seem to be in fair condition on exterior and interior due to age. Existing interior door hardware is in fair condition as well. Refinishing will be required to clean up the doors and hardware based on the elements.
- e. **Overhead Doors:** Slatted overhead coil metal doors are in fair condition. They are worn due to age and exposure to the ocean environment. Doors and frames have minor dents and rust on edges. Refinishing will be required to clean up the doors and hardware based on the elements.
- f. **Windows:** The existing windows are clear glass in aluminum frames. The frames are in poor condition and appear to deteriorating due to exposure to elements near ocean environment. The sealant/caulking is worn and cracking allowing water intrusion. Some frames have dents or the unit has been removed to install window A/C units. The windows do not appear to be operable. Window glass is not laminated nor protected by a shutter system.

- g. Ceilings: Interior ceilings are plaster in some areas which appear to be in good condition. There are no cracks or water stains. In the areas where the ceiling is exposed to the concrete slab above, the concrete is spalling, cracked, chipped and falling off revealing rusted rebar underneath. It is the poor condition of this structural roof that has caused the building to be condemned by the city.



Figure 38 Interior maintenance/storage area, safety netting installed to prevent concrete falling on occupants. Hard hat area.

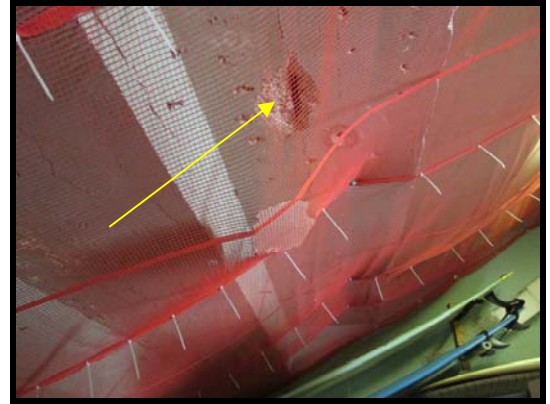


Figure 39 Interior ceiling of maintenance/storage area, showing chipped concrete and exposed rebar

h. Special Items:

- 1) Main grandstands (bleachers): The concrete stairs and ramps appear to be in poor structural condition. The ramps are too steep for ADA accessibility. Currently the bleacher area does not provide any ADA accessibility or seating area. An exterior lift or ADA ramp, for example, would need to be installed to provide access. The bleacher area was not evaluated as the area was fenced off for safety and could not be accessed. Based on the poor structural condition of the bleachers, they must be fully removed and replaced.
- 2) Restrooms: Currently the restrooms do not provide ADA access. The restrooms will need to be renovated to provide adequate facilities.
- 3) Event/sports lighting: The current event lighting system is antiquated. Since the complex renovation in 1990, Florida has adopted energy codes promoting energy efficiency as well as the Sea Turtle Protection Code. Without significant testing of the lighting system, it is difficult to determine if these lights meet the energy and turtle codes. Most likely they do not. It has also been noted by staff that the surrounding neighbors have complained of excessive light overspill. It doesn't appear that these light fixtures can be adjusted easily. From a visual inspection, there is some rusting on the structural steel members between the posts to which the light fixtures are mounted. Further inspection is needed to determine if the steel members are safe or if they need to be replaced.



Figure 40 Exterior event lighting, showing rust stains and peeling paint



Figure 41 Exterior access to bleachers, showing inadequate railings and no ADA access.

5. Mechanical Evaluation:

- a. All exhaust ductwork is rusted and in poor condition



Figure 42 rusted ductwork



Figure 43 rusted ductwork

- 1) Location: First Floor.
- 2) Criteria: Industry Standard

- b. Wall air conditioning units and condensate drain pans are in poor condition.



Figure 44 rusted wall air conditioning units



Figure 45 rusted wall air conditioning units

- 1) Location: First Floor.
- 2) Criteria: Industry Standard

6. Electrical Evaluation:

- a. The building, in general, is in poor condition. Two major FPL vaults are inside this building and extra planning on how to repair their structure needs to be well coordinated with FPL Company and the owner, as there are other buildings in the complex that shall remain powered from these vaults. Also, special coordination needs to be made with building personnel in order to maintain operation of a main pool equipment area during the building reconstruction.
 - 1) Location: 1st and only floor.
 - 2) Criteria: Safety hazard.
- b. The building has 3 main sport lighting structures that contain old technology lighting fixtures that are not energy efficient, provide light pollution and may not be turtle friendly. See picture, from observation 1, for existing structure example.



Figure 46 sport lighting structure and doors to FPL vault below

- 1) Location: 1st and only floor.
 - 2) Criteria: Code violation and industry standard
- c. The existing electrical service distribution includes three services (800A, 400A and 600A, 480V). Some of this service equipment is approximately 25 years old. The main electrical service serves building 2, pool equipment and building 5.



Figure 47



Figure 48

- 1) Location: 1st floor
 - 2) Criteria: Industry standard.
- d. Main pool equipment panel in pool equipment room is in poor condition.



Figure 49

- 1) Location: 1st floor
 - 2) Criteria: Industry standard
- e. Building light fixtures are in poor condition.
- 1) Location: 1st floor
 - 2) Criteria: Industry standard.
7. Plumbing Evaluation:
- a. Public Restrooms are not in use. The existing plumbing fixtures are in poor condition. Photographs below show current condition of plumbing fixtures (piping is not accessible).



Figure 50



Figure 51

- 1) Location: First Floor
- 2) Criteria: FBC-Plumbing 2014 and local ordinances

C. Buildings 3 & 4 (bathhouse, offices, press room, timing rooms, weight/training rooms):



Figure 52 Building 3

1. Existing Building Construction

- a. Building Area: +/- 10,972 sf (two stories); observation deck: 6,394 sf
- b. Foundations: Grade beams on concrete piles
- c. Bearing Walls: 8" concrete masonry unit
- d. Roof assembly:

2nd floor buildings: modified bitumen roofing system over 1½" rigid insulation on concrete structural roof deck.

Observation deck: built-up roofing system over 1 ½" rigid insulation board on precast concrete slabs
- e. Swing doors: exterior flush metal, exterior storefront, interior flush wood doors
- f. Windows: non-impact 7/32" clear tempered glass horizontal roller and single hung windows, and clear glass windows, all in aluminum frames. There is also 8" glass block.

- g. Floor: exposed concrete, VCT, tile, carpet
 - h. Ceilings: gypsum, acoustical tiles
 - i. Stair: interior with carpet finish, exterior concrete
2. Building Access:
- a. The existing concrete pavement around the outside is in fair condition. There are a few cracks which need patching to maintain a smooth surface. The sidewalks and steps need to be pressure washed.
 - b. The ramps appear to be in good condition and compliant with Florida Building Codes, with the exception of the ramp from the weight room at building 4, which is too steep of a slope, the ramp should be longer.
 - c. There is no elevator to the second floor of buildings 3 or 4, only stairs which are not ADA accessible.
 - d. The railings on the exterior stairs are not compliant. Railings need to have a guard rail as well as a hand rail, each at required heights per Florida Building Code (FBC)



Figure 53 Ramp on north side of Building 4, ramp not long enough, slope too steep



Figure 54 Northwest stair of Building 4, showing railings down stairs

3. Building Height: +/- 22'-2"
4. Building Component Condition Analysis:
- a. Foundations/Floor: Most of the slab is covered with stored material or flooring finish material and cannot be inspected. Where visible, the existing slab appears to be sufficient based on a visual inspection. No unusual cracks are evident on the surface which might suggest uneven settlement or foundation failure. The sidewalks and steps need to be pressure washed.
 - b. Bearing walls: The bearing walls are constructed of 8" and 12" concrete masonry units with concrete tie beams. The exterior surface is covered with stucco and paint. The interior surface is exposed or has furring and gypsum wall board or tile.

The masonry walls and concrete tie beams are in fair condition and require some maintenance. On the exterior there are several cracks on all sides of the buildings. The larger cracks appear on the south wall of Building 3. This could be due to settlement or structural fatigue. Destructive testing and analysis would be required to gather more definite information for each component. Without this in-depth investigation, it is difficult to determine what exactly is causing the cracks.

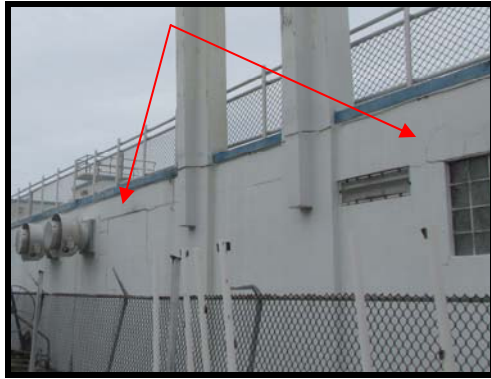


Figure 55 Building 3, south wall cracks along entire wall

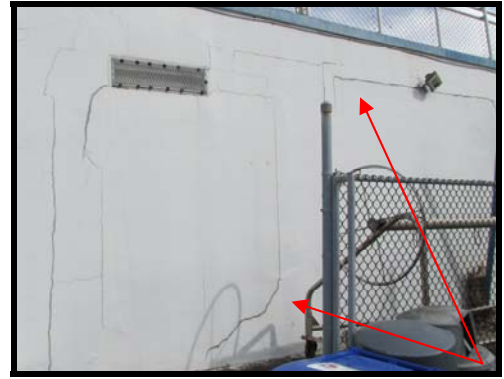


Figure 56 Building 3, south wall cracks along entire wall

The interior walls are covered with gypsum, plaster and tile. In these areas there are no cracks, but there is water damage and numerous damaged tiles.

c. Roof Assembly:

The second floor roof of both buildings is modified bitumen roofing system over 1½” rigid insulation on concrete structural roof deck. The roof membrane is in poor condition. The sealants and membrane are cracking. The vents penetrating the roof are rusted. These conditions are contributing to the water damage on the interior and mold growth problems. The roof was installed with the second floor in the 1990-1991 renovations.

The observation deck which serves as the roof to the first floor is a built-up roofing system over 1 ½” rigid insulation board on precast concrete slabs. The roof membrane is in poor condition and the sealants and membrane is cracking. The roof is original to the building which was built in 1965.



Figure 57 Roof of Building 3, showing cracked sealant around penetrations as well as between roof membrane pieces



Figure 58 Observation deck between Buildings 3 & 4, showing dark spots indicating pooling of water and water damage

Although general maintenance has been on going throughout the years, there are several roof leaks throughout the buildings. Both roof assemblies need to be replaced as they are beyond their lifecycle.

d. Swing Doors:

Flush metal doors are typical for exterior swing doors and some interior swing doors. Based on visual inspection, the metal doors and frames are in poor condition on exterior and interior due to age and exposure to the ocean environment. Existing exterior door hardware is also in poor condition due age and rust. Doors and hardware should be replaced.



Figure 59 Exterior door on west side of Building 3 going into women's locker room, showing rusted door frame



Figure 60 Exterior door on west side of Building 3 going into women's locker room, showing rusted door frame

The storefront doors and hardware on the exterior are in poor condition. The aluminum frames and hinges have rust due to age and exposure to the ocean environment.

Existing interior flush wood doors are in good condition. Some doors are slightly worn on the edges and corners, but can easily be sanded and refinished. The hardware is in good condition.

- e. **Windows:** There are several types of existing windows. The second floor additions to the building have 7/32" clear tempered glass horizontal roller and single hung windows with crank roll down shade-shutters on the exterior. It's been noted by staff that many of the windows do not work, and a majority of the shutters are not operable. Codes have been updated since these were installed, so they are not compliant with the current building code. Many of the windows leak damaging the surrounding walls and carpet.



Figure 61 Window on Building 3 showing rust, peeling paint and cracks in the wall below



Figure 62 Window on second floor of Building 3 at top of stairs, showing water damage



Figure 63 Building 3 window, top of stairs, water intrusion at window, ceiling and wall behind fire extinguisher



Figure 64 Building 3, top of stairs, water damage from window and roof

The windows on the first level of Building 3&4 are clear glass in aluminum frames. The frames are in poor condition and appear to deteriorating due to exposure to elements near ocean environment. The sealant/caulking is worn and cracking allowing water intrusion. Some frames have dents. The windows do not have hurricane shutters on them.

The bathrooms and locker rooms have glass block in the window openings. The block needs cleaning and the sealant and mortar is worn and cracking.

f. Ceilings:

Most of the ceilings are drop down ceiling grid with acoustical tiles or metal tiles. There is evidence of water damage on the ceilings throughout both buildings. Some of the water stains on the ceiling tiles appear to have mold growth which needs to be remediated properly.



Figure 65 Ceiling above stairs in Building 3 showing water damage



Figure 66 Building 4, meeting room ceiling on first floor, water damage and mold

The bath/locker room ceiling grid is rusting in some places and some tiles are broken. In some places the grid is uneven indicating that the grid is not being held up properly due to the grid itself failing or the support wire above failing.



Figure 67 Building 3 women's locker room, showing uneven grid

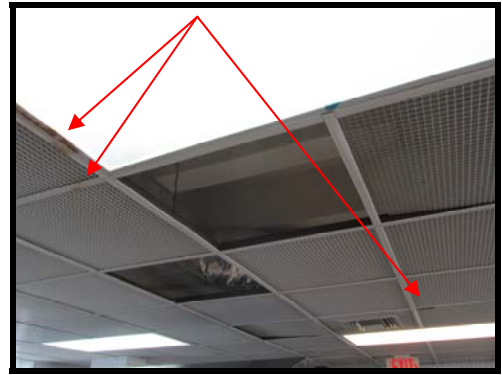


Figure 68 Building 3 men's locker room showing rusted grid and broken ceiling tiles

g. Special Items:

- 1) Main grandstands (bleachers): Currently the bleacher area does not provide any ADA accessibility or seating area. An exterior ADA lift or elevator would need to be installed to provide access.
- 2) Event/sports lighting: As also noted for Building 2 on the north side, the current event lighting system is antiquated and does not meet current energy or turtle protection codes. From a visual inspection, there is some rusting on the structural steel members between the posts to which the light fixtures are mounted. Further inspection is needed to determine if the steel members are safe or if they need to be replaced.
- 3) Due to the age, several parts of the building do not meet current codes and will need to be updated such as windows and hurricane shutters and accessibility according to the Florida Building Code.
- 4) Life safety: Lighting systems should be tested to determine if emergency lights are installed and properly illuminate the space. Also, fire extinguishers need to be inspected to determine if all are up to date and if there is an adequate supply of extinguishers in the proper locations. Proper door hardware should be installed, such as panic bars, for emergency exits specifically in the weight room, locker rooms and other public areas.
- 5) Locker rooms: the restrooms, locker rooms and shower areas have tile floors and walls. Several areas of the tiles are broken and the sealant is deteriorating. The metal lockers are rusted as well as some of the restroom accessories. The lockers and accessories should be replaced with new rust resistant fixtures.



Figure 69 Building 3, women's shower, broken floor tile



Figure 70 Building 3, men's locker room, cracked and deteriorating sealant



Figure 71 Building 3, women's locker room, rusted lockers



Figure 72 Building 3, men's locker room, rust along the bottom and work locker doors, sides and benches



Figure 73 Building 3, men's restrooms dryers

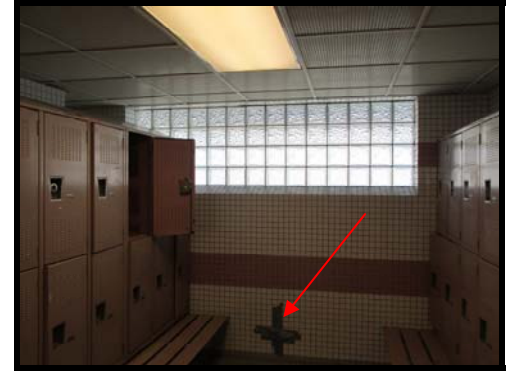


Figure 74 Building 3, women's locker room, broken wall tiles that were taped

5. Mechanical Evaluation:

- a. Exhaust was not operational in the electrical room on the first floor. The Telecom closet on the first floor does not have ventilation or air conditioning.



Figure 75 electrical room, exhaust inoperable

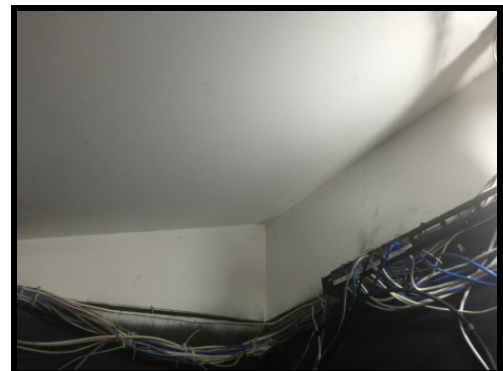


Figure 76 telecom room, no exhaust

- 1) Location: First Floor
- 2) Criteria: Industry standard.

- b. There are two residential type air handling units on the second floor in the east area of the building (approximately 2 to 5 tons each). The units appear to have experienced condensate backups. Based on the visible aging of the equipment, installed in 2012, the anticipated remaining useful life of the air handlers is between 5 and 10 years, with maintenance. On the second floor in the offices areas, there is no ventilation or air conditioning in the electrical room.



Figure 77 air handling unit



Figure 78 air handling unit

- 1) Location: First Floor
- 2) Criteria: Industry Standard

c. Rooftop condensing units and the condensing unit stands show serious deterioration. Rust is visible throughout and the coil fins appear to be flaking off.



Figure 79 visible rust throughout unit



Figure 80 unit stand in poor condition



Figure 81 serious deterioration of the coil fins

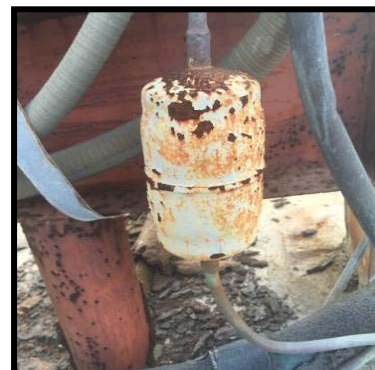


Figure 82 rusted connections

- 1) Location: Roof
- 2) Criteria: Industry standard.

- 3) Recommendation: (Options 1, 2 and 3) Replace condensing units and condensing unit stands with new. This replacement will require replacement of the associated air handlers notes previously.
- d. Timing/storage Room on roof has a wall air conditioner that is not in working condition.



Figure 83



Figure 84

- 1) Location: Roof
- 2) Criteria: Industry Standard
- e. Boiler Room louvered door is rusted preventing required ventilation and preventing combustion air from flowing through louver. Boiler Room make-up air louver and boiler flue is missing sealant and water proofing. These areas are showing signs of water infiltration.

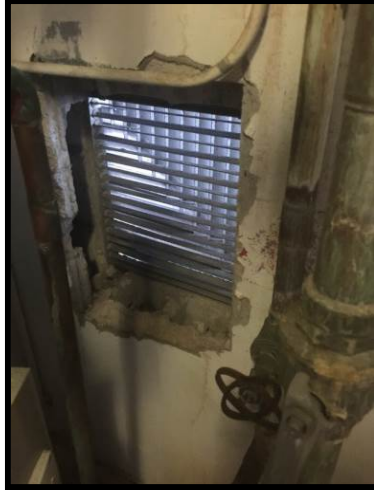


Figure 85 make-up air louver, missing sealant and water proofing



Figure 86 boiler room flue, missing sealant and water proofing

- 1) Location: First floor women's locker room.
 - 2) Criteria: Code Violation.
- f. The air handling units that serve the Men's and Women's Locker Rooms appear to be 10-15 tons each. The units require maintenance but appear to be in reasonable operating condition. The air handling unit that serves the office next to the electrical room appears to be a 2-5 ton residential unit and also requires maintenance. The anticipated remaining useful life of these units is approximately 4-5 years.



Figure 87 air handler unit serving electrical room



Figure 88 air handler unit serving locker room

- 1) Location: First Floor
- 2) Criteria: Industry standard.

- g. The condensing units associated with the Men's and Women's Locker Room air handling units are also 10-15 tons each. These units appear to be in operating condition but require maintenance. Refrigerant pipe insulation is missing or damaged. The remaining useful life of the equipment is estimated 2-5 years.



Figure 89



Figure 90

- 1) Location: First Floor.
- 2) Criteria: Industry Standard.

- h. The air handling units that serve the Gym and the Meet Room require maintenance only. Both units are residential type units between 2 and 5 tons each. The estimated remaining useful life of the equipment is between 2-5 years.



Figure 91



Figure 92

- 1) Location: First Floor.
- 2) Criteria: Industry Standard.

8. Electrical Evaluation:

- a. Exterior light fixtures are in poor condition.



Figure 93



Figure 94

- 1) Location: 1st floor
 - 2) Criteria: Industry standard
- b. The existing electrical service distribution includes services of 800A and 400A, 480V pieces of equipment. Some of this service equipment is approximately 25 years old. However, the equipment enclosures show signs of corrosion. These services serve building 3, building 4, the small building between buildings 3 and 4, and building 1. A few metal conduits also show corrosion. Special coordination shall be made as to maintain power to other buildings while any construction takes place.



Figure 95



Figure 96



Figure 97



Figure 98

- 1) Location: 1st floor
 - 2) Criteria: Industry standard
- c. An FPL vault is inside this building and should be kept whether the building is renovated or rebuilt. Provisions shall be made to maintain the FPL vault.
- 1) Location: 1st floor
 - 2) Criteria: Industry standard.
- d. Shower lights are in poor condition.



Figure 99

- 1) Location: Shower areas
 - 2) Criteria: Industry standard
- e. Shower areas do not have emergency lights.



Figure 100 lights in women's shower

- 1) Location: 1st floor
 - 2) Criteria: Code violation. Safety hazard.
- f. Locker room lights seem to have some light bulbs that use low color temperature and have low color rendering capability.



Figure 101 lights in women's locker room, yellowish color

- 1) Location: 1st floor
 - 2) Criteria: Industry standard
- g. Mechanical room electrical conduits, J-boxes and disconnect switches are corroded. This situation weakens the protection of the wiring which can become a hazard for personnel or a fire hazard.



Figure 102 disconnect switch and junction box

- 1) Location: 1st floor
- 2) Criteria: Industry standard. Safety hazard.

h. Outside pool equipment disconnects, conduits and supports are in poor condition.



Figure 103



Figure 104

- 1) Location: 1st floor
- 2) Criteria: Industry standard. Safety hazard.

i. Unused conduits, wiring, J-Boxes and equipment outside and inside building.



Figure 105



Figure 106

- 1) Location: 1st floor.
- 2) Criteria: Code violation. Industry standard.

9. Plumbing Evaluation

- a. Kitchen Sinks are not provided with hot water connection.



Figure 107



Figure 108

- 1) Location: First and second floors
- 2) Criteria: Code Violation.

- b. All restroom lavatories are not provided with hot water. Lavatories are also missing ADA shield protection.



Figure 109



Figure 110

- 1) Location: First Floor. West Side
- 2) Criteria: Current Code Violation

c. Visible leaking of condensate piping above ceiling. Ceiling is showing signs of water damage and mold. Photographs below are of the damaged ceiling tiles.



Figure 111



Figure 112

- 1) Location: First Floor. West Side
- 2) Criteria: Health Code Violation

d. Men and Women's Bathrooms and Shower: Gas Water Heater (Bradford White Magnum model # D65T3703N, 1965), water closets, showers and floor drains are showing signs of age and are deteriorated. See photographs below.



Figure 113



Figure 114

Location: First Floor. West Side

1) Criteria: Industry standard.

e. The electric water cooler is not ADA compliant.

1) Location: Office Second Floor.

2) Criteria: Code Violation.

D. Buildings 5 (International Swimming Hall of Fame main exhibit and banquet hall):



Figure 115 Building 5, main exhibits and banquet hall/auditorium

1. Existing Building Construction

- a. Building Area: +/- 18,646 sf (two stories)
- b. Foundations: Grade beams on concrete piles
- c. Bearing Walls: 8" concrete masonry unit
- d. Roof assembly: built-up roofing system over 1 ½" rigid insulation board on precast concrete slabs

Elevator tower: modified bitumen roofing system over 1½" rigid insulation on concrete structural roof deck.

- e. Swing doors: flush metal, storefront, interior flush wood doors

- f. Windows: ¼" clear and solar gray tempered glass in clear anodized aluminum frame.
 - g. Floor: exposed concrete, VCT, tile, carpet
 - h. Ceilings: gypsum, acoustical tiles
 - i. Stair:
 - interior: exposed concrete or with carpet finish
 - exterior: exposed concrete with aluminum railings
2. Building Access:
- a. The existing concrete pavement around the outside is in good condition. The sidewalks and steps need to be pressure washed.
 - b. The ramps and railings appear to be in good condition and compliant Florida Building Codes.
3. Building Height: +/- 33'-9"
4. Building Component Condition Analysis:
- a. Foundations/Floor: Most of the slab is covered with stored material or flooring finish material and cannot be inspected. Where visible, the existing slab appears to be sufficient based on a visual inspection. No unusual cracks are evident on the surface which might suggest uneven settlement or foundation failure.
 - b. Bearing walls:

The bearing walls are constructed of 8" and 12" concrete masonry units with concrete tie beams. The exterior surface is covered with stucco and paint. The interior surface is exposed or has furring and gypsum wall board or tile.

The majority of the masonry walls and concrete tie beams seem to be good condition with exception of the areas under the windows. The stucco is cracked or bubbling and the paint is peeling indicating water damage. Further investigation is needed to determine if the damage is structural. Destructive testing and analysis would be required to gather more definite information for each component.



Figure 116 View of west elevation of Building 5, showing cracks, chipped paint and water damage under windows



Figure 117 Exterior of Building 5 at northwest exit stair, showing cracked and deteriorating stucco allowing water intrusion

The interior walls are covered with gypsum, plaster and tile. In these areas there is severe water damage.



Figure 118 Second floor lunch room, southwest corner, showing severe water damage to wall and floor, rot and mold



Figure 119 Northeast corner of banquet hall showing major roof leaks leading to the closing of the space to the public

c. Roof Assembly:

All roofs, except elevator tower, are built-up roofing systems over 1 ½" rigid insulation board on precast concrete slabs. The roof membrane is in poor condition and the sealants and membrane is cracking. There are areas where water pools and penetrates the roof membrane causing it to bubble. All of the drains and metal penetrations are rusted. The roof is original to the building which was built in 1965.

The elevator tower is modified bitumen roofing system over 1 ½" rigid insulation on concrete structural roof deck. The roof membrane is in poor condition. The sealants and membrane is cracking. The roof was repaired with the 1990-1991 renovations, but it is still the original roof that was originally built in 1965.

Although general maintenance has been on going throughout the years, there are several roof leaks throughout the building, specifically in the banquet hall/auditorium. Staff has indicated that, due to the roof leaks, the banquet hall has been ordered closed in the past year to the public and is no longer able to be rented for events. All roof assemblies need to be replaced as they are beyond their lifecycle.



Figure 120 Roof top of banquet hall, damaged, causing major leakage on the interior



Figure 121 Roof over main exhibit space, dark spots indicate standing water causing the membrane to detach and bubble



Figure 122 Roof over library, dark spot indicates pooling water damaging the roof membrane



Figure 123 Roof over lobby area, showing the standing water patterns

d. Swing Doors:

Flush metal doors are typical for exterior swing doors and some interior swing doors. Based on visual inspection, the metal doors, frames and hardware are in good condition. Some doors and frames have scratches but can be refinished.

The exterior and interior storefront doors and hardware are in good condition with the exception of the doors at the banquet hall. They are worn due to age and nearby water leak.

Existing interior flush wood doors are in good condition. Some doors are slightly worn on the edges and corners, but can easily be sanded and refinished. The hardware is in good condition.

e. Windows:

The windows are 1/4" clear and solar gray tempered glass in clear anodized aluminum frame. The actual windows are in good condition. The water damage underneath the windows are most likely due to cracked stucco or sealant. These

windows do not have hurricane shutters and codes have been updated since these were installed, so they are not compliant with the current building code. Many of the windows leak damaging the surrounding area walls and carpet.

f. Ceilings:

Most of the ceilings are drop down ceiling grid with acoustical tiles. There is evidence of water damage on the ceilings in the conference room and in the banquet hall. The leak in the conference room could be from the air conditioning unit. A more intrusive investigation will be required to determine the cause of the leak.



Figure 124 Ceiling in conference room, first floor



Figure 125 Conference room table, damaged from water leak

There is also water damage on the ceiling adjacent to the elevator tower on the first and second floors. This is most likely from the roof material deteriorating allowing water penetration. The roof should be replaced.



Figure 126 Second floor elevator lobby indicating water damage to ceiling tiles from roof above



Figure 127 Deteriorating roofing material at elevator tower causing leaks and water damage below

g. Special Items:

- 1) Stair railings: Several stairs throughout the building do not comply with the Florida Building Code, such as the height, width between rails and extension beyond the landing. The railings should be replaced with new that meet required codes.



Figure 128 Stairs from office and mechanical room to outside. Railings do not comply with Florida Building Code



Figure 129 Stairs from mechanical room next to banquet hall. Stairs do not comply with Florida Building Code

- 2) Mezzanine: there is no ADA access to the second level of the library. An elevator or lift should be added to provide access.
- 3) ADA Access: There are several areas that do not have ADA access. From the exhibit space to the banquet hall, from the exhibit space to the concession area and conference room on the north side, and once in the banquet hall, there is no access to an accessible restroom.
- 4) Elevator: elevator should have raised tactile signs on second floor indicating floor destination. A more in depth ADA evaluation will need to be done to determine where the elevator is lacking compliance to the latest Florida Accessibility Codes.
- 5) Life safety: a more extensive study should be taken to ensure there are adequate exits on the first and second floors that are ADA accessible, extinguishers throughout the building, width of stairs, exit signs, etc. Required egress door hardware needs to be installed on the door on the second floor leading down the stairs to the outside. Also, steps need to be taken to ensure that emergency exit doors are not locked, or able to be locked with a deadbolt.

5. Mechanical Evaluation:

- a. Existing exposed ductwork in mechanical above banquet hall restrooms is leaking, damaged and uninsulated. Some of the ductwork is below the code required height.



Figure 130 low ductwork in mechanical space above restrooms in banquet area



Figure 131 low ductwork in mechanical space above restrooms in banquet area



Figure 132 ductwork in mechanical space above restrooms in banquet area



Figure 133 ductwork in mechanical space above restrooms in banquet area

- 1) Location: 2nd Floor, above restrooms in banquet hall
- 2) Criteria: Code Violation

- b. Maintenance clearance for existing heat pump units is minimal. Heat pump units shall be provided with maintenance. The existing units vary in capacity from 5-10 tons. The remaining useful life expectancy is 2-3 years.



Figure 134



Figure 135

- 1) Location: 2nd Floor
 - 2) Criteria: Code Violation and industry standard.
- c. Remaining heat pumps on the 2nd floor: Maintenance clearance for existing heat pump units is minimal. Heat pump units shall be provided with maintenance. The existing units vary in capacity from 5-10 tons. The remaining useful life expectancy is 2-3 years.



Figure 136



Figure 137



Figure 138



Figure 139

- 1) Location: 2nd Floor
- 2) Criteria: Code Violation and industry standard.

d. Cooling Tower and pumps are in fair condition and require maintenance. Many components of the condenser water system (fittings, pumps, Cooling Tower) are

showing signs of age and deterioration. The condenser water pipe penetration through the exterior wall of building needs to be sealed and caulked. Life expectancy of equipment is approximately 8-10 years.



Figure 140



Figure 141



Figure 142 condenser water pipe through building needs sealant/caulk

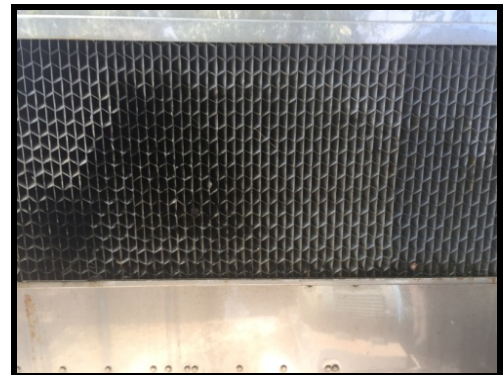


Figure 143 cooling tower beginning to rust

- 1) Location: 2nd Floor
- 2) Criteria: Industry standard

6. Electrical Evaluation

- a. Exit signs currently not illuminated.
 - 1) Location: 1st floor.
 - 2) Criteria: Code violation. Safety hazard.
- b. This building has a 600A, 480V electric service and panel boards in good condition. Some relocation may be needed to avoid conflict with mechanical ductwork above panels/transformer at second floor. Two panels and one transformer have ductwork

routed above which is a code violation and a safety hazard for maintenance personnel.



Figure 144



Figure 145

- 1) Location: 1st and 2nd floors
 - 2) Criteria: Code Violation.
- c. Emergency lights not accessible for regular testing. Additional fixtures needed to cover all means of egress.
- 1) Location: 1st and 2nd floors
 - 2) Criteria: Code violation. Safety hazard.
- d. Fire alarm devices not present on second floor.



Figure 146

- 1) Location: 2nd floor
- 2) Criteria: Code violation. Safety hazard.

- e. “The Bob Alexander Room” area has no exit and emergency lighting.



Figure 147

- 1) Location: 1st floor
- 2) Criteria: Code violation. Safety hazard.

7. Plumbing Evaluation:

- a. Public Bathrooms (Men’s and Women’s): Toilets, lavatories, urinals, the water heater and the electric water cooler are showing signs of age and are not water efficient by current standards. Photographs below show current condition of plumbing fixtures (piping is not accessible).



Figure 148



Figure 149



Figure 150



Figure 151

- 1) Location: 2nd Floor
- 2) Criteria: FBC-Plumbing 2014 and local ordinances

E. Pool 1 (training pool, built 1990):



Figure 152 View looking east over Pool 1, training pool, adjacent to Building 1

1. Size: 50M x 25M x 4'
2. Capacity: 755,000 Gallons
3. Filtration: 2,098 GPM
4. Overview: The pool is a 25Y x 50M x 10 lane concrete vessel supported by concrete piling. The pool was built circa 1990. The pool gutter is a "Paddock Industries" stainless steel gutter anchored to the concrete wall ledge with integral embedment bar welded to the bottom of the gutter. The gutter is equipped with filtered water nozzles around the perimeter as well as additional evaporation nozzles for cooling the stainless steel water channel during hot summer months. The pool is surrounded on four sides by minimal width concrete deck with portable bleachers located on the east and the south sides of the pool. The pool deck is lighted with four post lights on the north and south. The pool is also equipped with low voltage pool lights with junction boxes mounted in the deck and transformer mounted in the enclosure walls that surround the pool. The pool is equipped with tiled lane lines and wall targets for both 50M and 25Y swim courses along with lane dividers that are stored on reels on the pool deck. There are conventional depth markers and no diving markers surrounding the perimeter and portable lifeguard stands on two sides east and west. The filtration system is located on the south side of the pool

behind the administration building. The system consists of a tandem stainless steel pump pit and vacuum sand collection tank that is submerged into the ground adjacent to the marina and running east and west. The system was manufactured by “Paddock Industries”, the same manufacturer as the stainless steel gutter. The pool is heated by “Symbiont” geothermal heat pumps that are stacked four over four adjacent to the filtration vault. Thermal heating blankets are used during colder nights to contain pool heat. The blankets are stored on reels that rest on the pool deck next to the administration building.

- a. Pool Structure: The pool shell is piling supported and appears to be in reasonably good condition. As the pool was filled with water, a more detailed investigation of the walls and floor could not be made.
- b. Interior: The pool surface is comprised of an aggregate finish pool plaster that is in extremely poor condition. The surface has delaminated in many places leaving an unsightly and rough appearance. The grout for the lane lines and wall targets is also badly worn from age and chemical usage in the water. The interior pool plaster and tile must be completely removed to the original concrete surface and a new finish applied.



Figure 153 Interior pool plaster, the pool has never been resurfaced since it was built in 1992

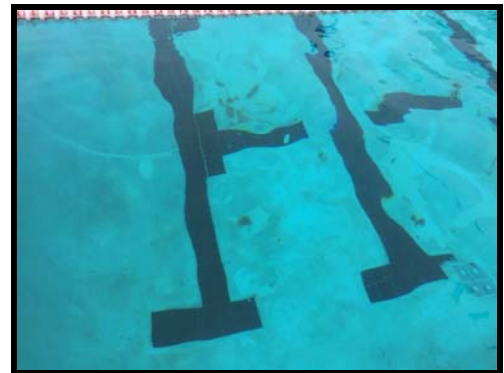


Figure 154 Worn grout lines and interior pool plaster

- c. Gutter: The stainless steel gutter is also showing signs of age; the surface is stained and rusting in several areas around the inlet port openings and other areas as well. The rusting has caused pin holes in the surface creating a leaking condition when the cooling/evaporator channel is put in operation. Overall the gutter is 25 years old and not worthy of repair as more than 50% of the component would need replacement.



Figure 155 Stainless steel gutter, view taken from the deck above shows inside of the gutter rusting and corroding at joints and anchor points



Figure 156 Stainless steel gutter



Figure 157 Rust of gutters affecting surface, causing leaks



Figure 158 Light junction/transformer box in deck

- d. **Underwater Lighting:** The pool currently is equipped with (24) 300 watt incandescent 12 volt lights. The underwater lights, in conjunction with the overhead pool lights, provide enough lighting to allow the use of night swimming. The current light system has been repaired many times previously and continues to plague aquatics managers. The lights are old and do not work for long, before they trip circuits, rendering them inoperable. All of the lights and associated junction and transformer boxes need to be replaced. Continued repair of the fixtures is not warranted. For now, the pool manager keeps the lights off.
- e. **Perimeter Piping:** The piping at the pool is limited to (3) rows of floor return fittings fed by a single 8" feed pipe from the pumps. The pipe is buried under the concrete floor and is inaccessible for replacement without major demolition of the concrete slab. The pipe should remain as is; repair in sections, if needed. The main drain gravity and gutter lines are located partly under the pool floor at the deep end and are routed to the filtered tank underground. These pipes also should be left as is; repair as needed in the event of failure.
- f. **Paddock Vacuum Sand Filter Tank:** The subterranean vault is partially filled with sea water resulting from a corroding floor. The floor has been repaired several times only to leak again from ground water pressure created at high tides. Many fittings in

the vault are also corroded from sea water, as well as some valves that are inoperable due to rust and corrosion. The pump motors are fairly new and operational, but impeller casing, valves, and flanges are badly rusted and require replacement. Pump motor starters and disconnect switches are poorly mounted to a plywood board secured to the housing with stainless bolts. The plywood is warped and swollen from the wet environment and not suitable for mounting electrical components. Although the sand media is operational, it is the original media provided by the manufacturer when the pool was built in 1990. The media can continue to be used until it no longer can provide long filter runs. The overall condition of the equipment vault is poor and worthy of replacement. It can however continue to be used and patched as needed. Replacement of the filter plant without major renovation to pool makes no sense.

- g. Heat Pumps: The Symbiont Heat Pumps are in fairly good condition and currently are completely operational. The support frame holding the heat pumps (heat pumps are stacked) are severely corroded and worthy of immediate replacement. The plate heat exchange is currently in fair condition; however the well pump and water loop pump may need replacement soon.
- 5. Summary/Recommendations- As a whole, the pool vessel, piping, and filter plant have performed well but have reached the point where a new training pool needs to seriously be considered. Repairs can continue to be made as needed, however the cost of a major renovation at this point may not be worth the investment due to age of the pool. At the very least, the repair scenario should include a new stainless gutter, a new interior surface finish, new tile lane lines and wall targets, a new underwater lighting system with deck boxes and transformers, a new filter plant and a new heat pump support frame.
- 6. Additional items that apply to all proposed options:
 - a. Controls:
 - 1) Existing: Budget chemistry control system circa 2005 lacks desired features found in similar facilities. It is in mediocre condition; face panel is broken, sensors are circa 2005 (I4). It controls ORP & pH only. It monitors temperature. It has no interactive or expansion capabilities.



Figure 159 Starters in enclosed space can be located above grade and connected to the BECSys5/7L for direct control of pool circulation and proof of DOH flow compliance



Figure 160 Circa 1994 controller is in need of repair or replacement, and does not provide the control features required in a 50-meter pool facility

- 2) Recommendations: Replace with BECSys5 or 7L to provide accurate control of chemistry with enhanced safety and efficiency features, and expansion capabilities to handle future energy conservation or regulatory needs:
 - a) ORP, pH, and Direct Reading PPM
 - b) Control of water level, monitoring of water consumption
 - c) Direct Control of PPM
 - d) Monitoring of Filter Soiling, automated filters
 - e) Remote Control, Electronic log keeping and Alert Notification
 - f) Direct control of GPM
 - g) Disable pump in event of pump pit flooding for operator safety

b. Chemical feed:

- 1) Existing: Stranco Co2 Feeder circa 2003. Pit is in poor condition and requires near term replacement. Consumption estimated to be high as it utilizes diffuser stone as opposed to more efficient venturi system. Stenner Bleach feed system is undersized and requires near term replacement.



Figure 161 Co2 system, circa 1994 requires repair or replacement, and its inefficient use of Co2 gas is costing the City additional money every month

- 2) Recommendations pH: Replace Co2 Feed System with vacuum venturi based package for safety and efficiency.
- 3) Chlorination: Replace bleach system with NexGen on-site electrolytic chlorination to make 95% of all chlorination needs on site, either on capital or on a NexGen Equipment Maintenance Agreement (EMA). Redundant tablet-based Pulsar feeder provides DOH permitting needs in condensed package and is available under a factory EMA program.

c. Pumping and Filtration System:

- 1) Existing: Paddock vacuum sand filter, circa 1990, is in operable condition. Media has not been changed in many years and needs replacement; however this is an intricate process and may require specific replacement of laterals and parts. The integrated pump package is prone to flooding, and has tidal standing water issues, as per FLAC staff. The pumps are not capable of achieving required DOH flow standards and should be upgraded to comply with codes. Operating this pool with flooded conditions poses certain safety considerations for FLAC staff.



Figure 162 Standing water in vault poses safety concern, and fluctuated with the tide per FLAC staff. BECSys5 flood sensor will disable power to the circulation pumps in the event of an unsafe level of water in the tank.



Figure 163 Subterranean vault filled with sea water



Figure 164 Paddock Vacuum Sand Filter and Pump Vault is submerged and subjected to sea water



Figure 165 Training pool filtration system vault, Circa 1990 is functional but has some code compliance, safety and operational issues that need to be addressed

2) Recommendations:

- a) This system could continue to operate as is. If flow issue is to be addressed, new in-line pumps could be provided to meet DOH flow, and to fit within the existing configuration. External MCC-VFD could be added to replace the existing starters and disconnects to remove this hazardous electric from the subterranean vault. (Flood sensors to deactivate pump power is part of recommended controls package), or
- b) Entire system could be replaced with a fully automatic permanent media hi-rate granular filtration system equipped with water saving air scour system. Composite strainers would be added to pump package to complete conversion to pressure-side filtration.

d. Heating System:

- 1) Existing: Symbiont system is being well maintained and is a more modern piece of equipment.
- 2) Recommendations:
 - a) Provide in-line booster pump to supply filter water to heater loop from recirculation line. This will allow proper flow through the heaters, while allowing independent turndown of main circulation loop for energy savings.

F. Pool 2 (competition pool, built 1965):



Figure 166 View looking west over pool #2, competition pool

1. Size: 165' x 75' x 6'
2. Capacity: 573,180 Gallons
3. Filtration: 1,600 GPM
4. Overview: The competition pool is a 50M x 25Y x 6' deep vessel used for competitive events. The pool was one of two pools built with the original facility in 1965. It is now 50+ years old. The overall state of the pool structure appears to be in good condition; however, the vessel displays the signs of many repairs and alterations that have occurred over the life of the pool.
 - a. The Gutter: The gutter at the perimeter of the pool has been modified from its original concept. It now mimics a more conventional "Rim Flow" Gutter with a fiberglass grate that covers a concealed trough beneath it. In order to accomplish this modification, the pool's edge has been raised several inches, presenting a positive posture with a high curb around the pool. The piping system is conventional with both wall return fittings and gutter drain fittings piped to a loop that runs continuously around the perimeter. The loop is connected to the filter tank and pumps, which is located in an equipment room beneath the pool deck on the

north side of the facility. The piping system is old and leaks water, hence requiring replacement. Continued repairs are made by staff as needed to keep the pool operational.



Figure 167 Gutter at perimeter of pool



Figure 168 Pool interior, exposed aggregate plaster

- b. Interior: The pool interior is an exposed aggregate plaster that was last installed in 1991. Under the best conditions, plaster finishes may last only 5-7 years before requiring replacement. It is evident that the surface is quite old, since many areas of the floor and walls show signs of delamination leaving an unsightly appearance. DOH has allowed operation of the pool under current circumstances, due to exceptional management of water chemistry by FLAC staff. DOH has previously closed other facilities with similar interior surface issues, so a remediation program should be undertaken as soon as possible.
- c. The pool deck is surrounded by metal 3'x 3' grates approximately 15' on center that allow access to a continuous +/-3' deep trench that runs tight around the perimeter of the pool wall. This is used by staff to repair leaks in the pool wall and filtration system and to troubleshoot pool issues.



Figure 169 Access panels along pool side to drainage pipes below



Figure 170 Underground access view of drain pipes that run parallel to pool

- d. There are other issues that usually are noticeable, such as broken or chipped tile at the gutter and waterline, damaged and broken coping caps, a failing gutter grate system, and uneven pool deck areas that are rusting from re-bar exposure corrosion.

Additionally, the current starting blocks are old and outdated, and some have failing platforms, anchor and grips.



Figure 171 Starting blocks are old and broken in various degrees, such as platforms, grips, and Anchors. The blocks are vastly outdated and lag far behind current models in use at other facilities



Figure 172 7'-0" wide lane width does not meet national standard lane width of 8'-2"

5. **Design Deficiencies:** Since the pool was constructed in 1965, there have been many changes in the competitive pool industry prompting dimensional changes in design. Comparatively, The FLAC pool does not meet several critical FINA (Federation Internationale de Natation) and/or USA swimming dimensional requirements which prevents the hosting of sanctioned events. Some of these deficiencies are as follows:
 - a. Pool is too shallow at 4'-0" (End Depth) for national level competition start block dive starts which requires 6'-7" water depth, or YMCA and High school dive starts that require a minimum 5'-0" water depth.
 - b. The pool is too shallow for synchronized swimming events which require 2-3m water depth.
 - c. Lane width is 7 ft. wide, where the national standard lane width is 8'-2".
 - d. The pool does not have a moveable bulkhead that allows for partitioning of the pool for special events.
 - e. The electronic timing system is not functional.
 - f. The electronic score board is not functional.
6. **Pool Equipment:** The pool pumps (2) and vacuum D.E. filter system is currently operational and performing well. The geothermal heat pump units are also in good condition and performing well. The units are located outside the room west of the pool in a separate fenced area. The pool equipment "face piping" is in excellent condition and there are no signs of leaking pipes in the room. The current method of sanitizing pool water is soda ash and chlorine gas. The gas canisters are contained in a separate room and used to supply the feeder for the "Dive Well" pool as well. Both pools share the same equipment room. The room lighting is inadequate and the facility has been cited for this violation by DOH. The ceiling of the room is being supported by steel jacks in some areas, and is structurally in need of repair. Temporary netting is hung from the ceiling to catch falling concrete pieces. Other items of concern include chemical feeder pumps that

need to be updated and/or replaced. There are also some electrical deficiencies that affect operation of the trash pump, and the separation tank bag liners need to be replaced.



Figure 173 DE system is functional and could be utilized in Option 1, but is very labor intensive and created additional demands for storage, use, and disposal of potentially carcinogenic DE powder



Figure 174 The pool equipment "face piping" is in excellent condition and there are no signs of leaking pipes in the room

7. Recommendations: As mentioned earlier in this evaluation, the pool is 50+ years old and has certainly surpassed the customary 25-year life expectancy for consideration for pools of this type. If the pool is to remain operational, it is imperative that the interior tile be repaired and/or replaced along with a completely new exposed aggregate surface finish. Any loose or broken tile on the lane line markers and wall targets should also be replaced. The markers should get new grout. It may be necessary to remove and completely replace all markers. Any unsafe start blocks should be replaced. The gutter grates should be replaced in areas that need it and any broken or chipped pieces of coping should be replaced. Areas of the deck, where rusting is occurring, should be exposed and assessed in more detail to initiate a repair plan.
8. Additional items that apply: Both Systems for Pools #2 and #3 share treatment strategies and thus have similar recommendations.
 - a. Controls:
 - 1) Existing: Budget chemistry control systems, circa 1994-1998, lacks desired features found in similar facilities. Mediocre face panel display is inoperative. Sensors are old and require near term replacement. It controls ORP & pH only. It monitors temperature. It has no interactive or expansion capabilities.
 - 2) Recommendations: Replace with BECSys5 or 7L to provide accurate control of chemistry with enhanced safety and efficiency features, and expansion capabilities to handle future energy conservation or regulatory needs:
 - a) ORP, pH, and Direct Reading PPM,
 - b) Control of water level, monitoring of water consumption
 - c) Direct Control of PPM
 - d) Monitoring of Filter Soiling, automated filters

- e) Remote Control, Electronic log keeping and Alert Notification
- f) Direct control of GPM
- g) Disable pump in event of pump pit flooding for operator safety



Figure 175 Competition pool and Dive Well controllers, CES circa 1990's are in need of repair or replacement



Figure 176 Gas Chlorination system is very dangerous to operators and patrons alike and should be either replaced or outfitted with scrubbers, etc. Staff certification for gas is minimal and should be revisited ASAP.

b. Chemical feed:

- 1) Existing: Gas Chlorine System is operable but is extremely dangerous to staff and patrons alike. While site does admirably job to keep pace with some required regulatory and safety issues, recommended safety items such as scrubbers are not present, and staff certifications for handling this poisonous gas are limited. Pulsafeeder Soda Ash System is operable, is old technology, and can only be used with Gas chlorine System.
- 2) Recommendations pH: Replace Soda Ash with Co2 Feed System with vacuum venturi based package for safety and efficiency. Chlorination: Replace bleach system with NexGen on-site electrolytic chlorination to make 95% of all chlorination needs on site, either on capital or on a NexGen Equipment Maintenance Agreement (EMA). Redundant tablet-based Pulsar feeder provides DOH permitting needs in condensed package and is available under a factory EMA program.

c. Pumping and Filtration System:

- 1) Existing: VacDE Filters, circa 1965, is in operable condition. Filter cleaning is labor intensive, and requires handling and disposal of DE powder. The pumps appear to be capable of achieving DOH flow standards.
- 2) Recommendations:
 - a) This system could continue to operate as is. External MCC-VFD could be added to replace the existing starters and provide energy savings, or

- b) Entire system could be replaced with a fully automatic permanent media hi-rate granular filtration system equipped with water saving air scour system. Composite strainers would be added to pump package to complete conversion to pressure-side filtration.

d. Heating System:

- 1) Existing: Symbiont system is being well maintained and is a more modern piece of equipment.



Figure 177 The pool pumps (2) and vacuum D.E filter system is currently operational and performing well. The geothermal heat pump units are also in good condition and performing well. The room lighting is inadequate. It is required by code to have 30 Fc of illumination at the floor level



Figure 178 geothermal units are located outside the room west of the pool in a separate fenced area.

2) Recommendations:

- a) Provide in-line booster pump to supply filter water to heater loop from recirculation line. This will allow proper flow through the heaters, while allowing independent turndown of main circulation loop for energy savings.

G. Pool 3 (diving pool, built 1965):



Figure 179 View looking northwest over Pool 3, diving pool

1. Size: 165' x 75' x 6'
2. Capacity: 573,180 Gallons
3. Filtration: 1,600 GPM
4. Overview: the pool is a piling supported concrete vessel that measures 25 yards x 20 yards with depths ranging from 4'-2" to 18'-5". The pool was built at the same time as the competition pool in 1965. It also is a 50 + year old and shares similar problems so that of its sister pool. The pool is primarily a diving pool, which no longer complies with today's standards for diving as outlined in the FINA Rulebook. Some of the issues that plague the pool diving components are as follows:

- a. The platforms on the Dive Tower are too narrow.
- b. The platform surfaces need replacement.
- c. The safety railing does not comply with current specifications and continue to have recurring failures.
- d. The platforms are stacked.
- e. The springboards are too close to the pool deck.
- f. The springboards on the east/west are incorrect positions.
- g. The pool is undersized.
- h. The adjacent underground dive observation room is taking in water from the deck drainage system. It holds approximately 5' of standing water at all times, and staff reports that it takes 1.5 to 2 days to pump out the water to allow the room to be used. The original ladder rungs have been corroded and are unusable; a newer aluminum ships-ladder provides access.



Figure 180 Underground view of dive pool



Figure 181 Ladder into dive observation room, corroded and filled with water



Figure 182 Underground view of competition pool window, room filled with water

- i. Interior: The exposed aggregate interior surface finish is rough and stained from age and hence requires replacement. The tile and the tile grout are also old and some damaged and broken pieces need replacement. The precast coping cap covering the gutter trough is broken, cracked, and chipped in several areas, hence requires replacement. The coping is an old configuration. That may make it difficult to find a replacement. As such, all of the coping might need replacement. The deck surrounding the pools has similar rusting conditions and similar high and low spots where water ponds during rain events.
- j. Perimeter piping: The pool piping is plumbed in a loop around the pool and connected to gutter fittings and wall return fittings. The fittings are plastic and are not part of the original pool equipment installation. The gutters leak and lose water as is the case with most pools that have had a long life. There are unresolved plumbing leaks under the deck. The plumbing runs back to an equipment room below the grandstand on the north side where the pump and filter share space with the competitive pool. The pumping system is in operational condition and the associated plumbing show no signs of leakage or imminent failure. The vacuum D.E. filter is high maintenance and is an old system, but manages to maintain water clarity at a very high level.
- k. The pool deck is surrounded by metal 3'x 3' grates approximately 15 feet on center that allow access to a continuous +/-3' deep trench that runs tight around the perimeter of the pool wall. This is used by staff to repair leaks in the pool wall and filtration system and to troubleshoot pool issues. See Pool No. 2 for photographs of similar access grates.

1. Heat pumps: The pool is heated via 3 Geothermal Heat Pump Units of which one unit is not working and requires replacement. The physical appearance of the units is in good condition as they are maintained by FLAC staff on a regular basis.

The pool water chemistry system mirrors that of the competition pool and shares the same issues with the chemical feeders and gas chlorinator system.

5. Recommendations- Due to age of the pool and condition of related facilities it is not recommended to pursue structural modifications to any of the tower or springboard components. The pump and filtration system components are in good working condition and should be repaired or replaced as needed.

In summary, the Dive Tower and associated Springboards have many issues that can only be resolved via major reconstruction or replacement of the pool with a new facility.

6. Additional items:

- a. Controls:

- 1) Existing: Budget chemistry control systems are circa 1994-1998 and lacks desired features found in similar facilities. Mediocre, face panel display is inoperative, sensors are old and require near term replacement. It controls ORP & pH only. It monitors temperature. It has no interactive or expansion capabilities.
- 2) Recommendations: Replace with BECSys5 or 7L to provide accurate control of chemistry with enhanced safety and efficiency features, and expansion capabilities to handle future energy conservation or regulatory needs:
 - a) ORP, pH, and Direct Reading PPM,
 - b) Control of water level, monitoring of water consumption
 - c) Direct Control of PPM
 - d) Monitoring of Filter Soiling, automated filters
 - e) Remote Control, Electronic log keeping and Alert Notification
 - f) Direct control of GPM
 - g) Disable pump in event of pump pit flooding for operator safety

- b. Chemical feed:

- 1) Existing: Gas Chlorine System is operable but is extremely dangerous to staff and patrons alike. While staff does a commendable job to keep pace with some required regulatory and safety issues, recommended safety items such as scrubbers are not present, and staff certifications for handling this poisonous gas are limited. Pulsafeeder Soda Ash System is operable, but is old technology and can only be used with Gas chlorine System.

- 2) Recommendations pH: Replace Soda Ash with Co2 Feed System with vacuum venturi based package for safety and efficiency.
- 3) Chlorination: Replace bleach system with NexGen on-site electrolytic chlorination to make 95% of all chlorination needs on site, either on capital or on a NexGen Equipment Maintenance Agreement (EMA). Redundant tablet-based Pulsar feeder provides DOH permitting needs in condensed package and is available under a factory EMA program.

c. Pumping and Filtration System:

- 1) Existing: VacDE Filters, circa 1965, are in operable condition. Filter cleaning is labor intensive, and requires handling and disposal of DE powder. The pumps appear to be capable of achieving DOH flow standards.
- 2) Recommendations:
 - a) This system could continue to operate as is. External MCC-VFD could be added to replace the existing starters and provide energy savings, or
 - b) Entire system could be replaced with a fully automatic permanent media hi-rate granular filtration system equipped with water saving air scour system. Composite strainers would be added to pump package to complete conversion to pressure-side filtration.

d. Heating System:

- 1) Existing: Symbiont system is being well maintained and is modern equipment, although one unit is currently not working and is in need of replacement.
- 2) Recommendations: Provide in-line booster pump to supply filter water to heater loop from recirculation line. This will allow proper flow through the heaters, while allowing independent turndown of main circulation loop for energy savings.

H. Pool 4 (diver warm up pool, built 1965):



Figure 183 Pool #5, spa, under Buildings 3 & 4 observation deck

1. Size: 13' x 7'
2. Capacity: 2,700 Gallons
3. Filtration: 50 GPM
4. Overview: Dive Warm Up Pool is located on the west side of the Administration Building #3 and east of Building #4. The pool is an oval shaped vessel approximately 15 feet long and 7 feet wide. The pool vessel is a hybrid that consists of a 6" unit concrete shell placed over the original pool vessel which was a "fiberglass structure". The work was done by in-house personnel in conjunction with a local pool builder.
 - a. Pool Structure: the condition of the pool is useable although one could clearly tell this was not an originally designed concrete pool. There are some features of the make shift pool that are not code compliant, such as the handrail anchor, and the skimmer suction grate cover; however, DOH is aware of these issues and allows operation without penalty. The pool interior is conventional pool plaster with glazed waterline tile of which both are in poor condition. The vessel is repaired regularly by staff, but is not worthy of any major cosmetic renovation investment. The pool should remain in use until such time that a new vessel can be built in its place.



Figure 184 Skimmer section grate cover and handrail anchor, non-compliant, but allowed



Figure 185 Diver Warmup Spa is in disrepair and can be replaced by either a pre-plumbed pack, or the components can be site assembled and a prepared slab

- b. **Equipment:** the pool equipment is located on the south side of Building #3 in a prefabricated equipment pit. The pit is in very poor condition structurally as the cabinet is virtually falling apart. The equipment (pump, filter, and sanitation equipment) inside the cabinet is operational but barely code compliant. The internal piping and some components have been replaced and/or repaired previously to keep the pool in operation and compliant with yearly DOH inspections. Some of the units have been retrofitted to comply with recent Federal Guidelines such as the direct suction line which now includes the use of a “Vac-Alert” anti-entrapment device. The return line from the pump is connected with a natural gas heater located alongside the cabinet on a concrete base. The heater is in fairly good condition and is currently operational.



Figure 186 Manual pH feed, lack of chemistry control, and use of Bromine are a major cause for concern in a small body of water.



Figure 187 Equipment cabinet and equipment

- c. **Interior:** as the interior surface of this pool is rough from age, it is recommended to undercut all tile and fittings two inches and apply a new interior surface of SGM Diamond Brite Exposed Aggregate surface finish plaster to all existing plaster surfaces. Removal of all loose material should be done prior to the installation of

any new surface. It is also recommended that any new surface be applied by licensed installers only.

5. Recommendations: overall the pool and equipment is barely useable, and can continue to remain so, as long as the current "Patch and Repair" process is allowed to continue. The equipment cabinet and equipment can fail at any time. Attempts to fix the collapsing floor base continue, but soon this will prove to be a waste of time and money. The cabinet and equipment need to be replaced soon even before the realization of any new pool vessel. The cabinet can be replaced with a new prefabricated cartridge filter pack similar to a "Compact Filtration Inc." Model SPH1500 unit customized to suit the current pool vessel. The pack should be complete with pump, filter, water chemistry unit, and electrical panel. The cabinet should also contain provisions for connecting with the existing gas heater as well as connecting with the "Vac-Alert" anti-entrapment manifold.
6. Additional items:
 - a. Controls:
 - 1) Existing: No controls present, which poses treatment concerns on this small body of water.
 - 2) Recommendations: Replace with BECSys5 or 7L to provide accurate control of chemistry with enhanced safety and efficiency features, and expansion capabilities to handle future energy conservation or regulatory needs:
 - a) ORP, pH, and Direct Reading PPM,
 - b) Control of water level, monitoring of water consumption
 - c) Direct Control of PPM
 - d) Monitoring of Filter Soiling, automated filters
 - e) Remote Control, Electronic log keeping and Alert Notification
 - f) Direct control of GPM
 - g) Disable pump in event of pump pit flooding for operator safety
 - b. Chemical feed:
 - 1) Existing: Tablet system (Bromine) does not provide optimum chemical compounds on this small body of water, and is not capable of being controlled in its current configuration.
 - 2) Recommendations
 - a) pH: Replace with UDA (Ultra Dilute Acid Feed System).
 - b) Chlorination: Replace with Pulsar all-in-one tablet feed system which will provide all the chlorine, calcium, bicarbonate, and stain prevention requirements while using 1/10 the acid of traditional bleach systems.

c. Pumping and Filtration System:

- 1) Existing: Entire equipment skid is in mediocre to poor condition and has undergone many modifications over the years. The twin Triton filters are in poor shape and could easily be replaced with either an integrated replacement pack or a site-built on grade slab package, consisting of new pumps, filters, etc.
- 2) Recommendations: Entire system could be replaced with a new automatic permanent media hi-rate granular filtration system equipped with water saving air scour system.

d. Heating System:

- 1) Existing: Existing Gas Heater appears to be operative, although it is fair condition.



Figure 188 The existing gas heater is in fairly good condition. It can continue in operation regular maintenance by FLAC Staff



Figure 189 Some of the units have been retrofitted to comply with recent Federal Guidelines such as the direct suction line which now includes the use of a “Vac-Alert” anti-entrapment device

- 2) Recommendations:
 - a) Maintain existing heating system and tie into new mechanical system, or
 - b) Replace heater with high efficiency LoNOx heater

I. Pool 5 (teaching pool):

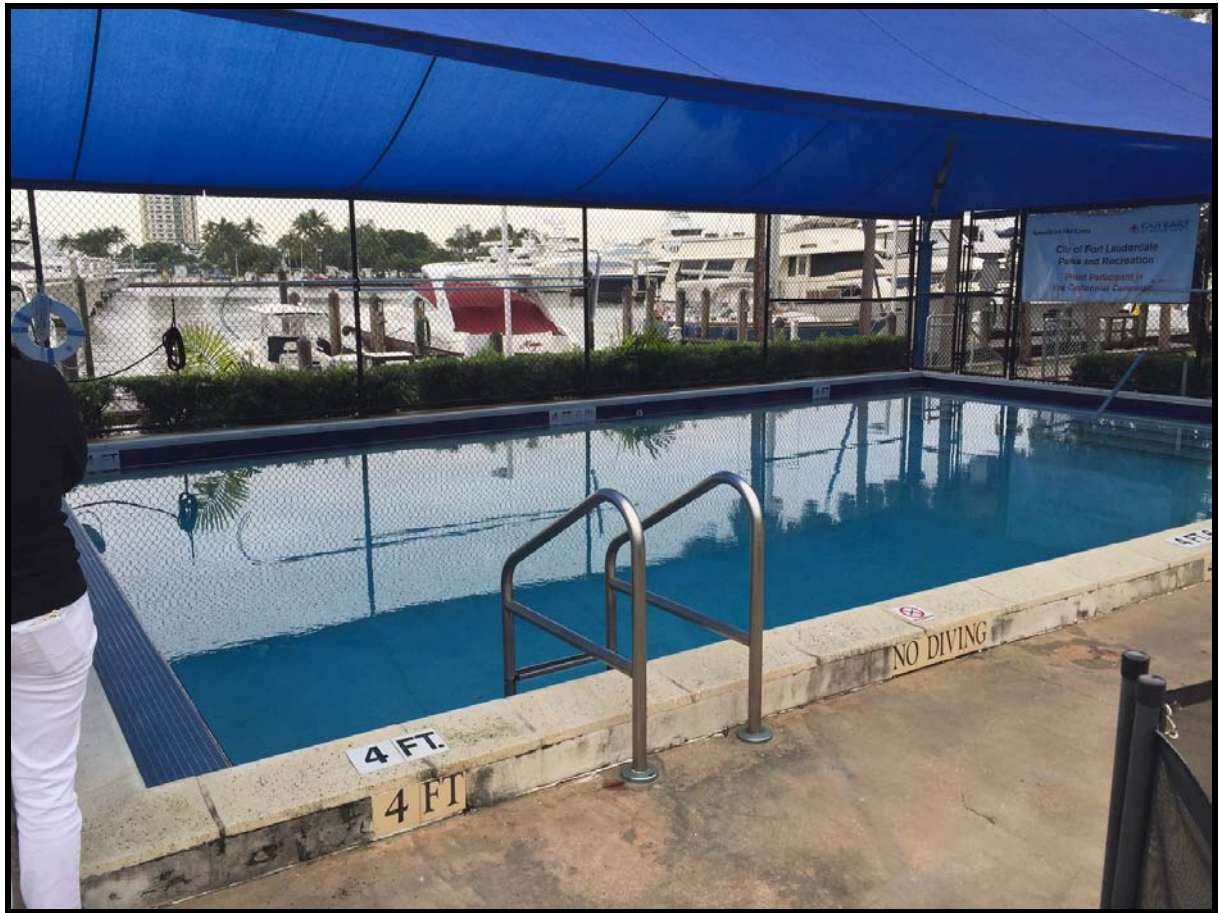


Figure 190 View looking south over Pool 5, teaching pool

1. Size: 40' x 24' x 4'
2. Capacity: 21,141 Gallons
3. Filtration: 59 GPM
4. Overview: Pool #5 is located west of building #4 on the south side of the site. The pool is approximately 24'-0"x40'-0" and has a maximum depth of 4'-0". The edge condition consists of a 12" wide tiled ledge with a gutter fitting equally spaced and resting 6' below a conventional precast coping. The center is commonly referred to as "Roll Out Gutter". The interior surface is an exposed aggregate plaster with dark contrasting tile at the edge of the pool steps.
 - a. Pool Structure: The condition of the pool is poor, as evidenced by the many modifications and repairs made to the vessel to comply with DOH code and to keep the pool operational. The interior finish is rough and stained, and some areas that are beginning to delaminate from the surface. The tile grout has worn away in

several places and needs replacement. The tile markers are stained, as are the grabrails and the handrail posts. The riser at the backside of the pool coping is unfinished and is missing grout in some areas, with the coping cap revealing the crack that separates the coping from the top of the pool beam.



Figure 191 Interior finish is rough and stained



Figure 192 Slab shows evidence that many modifications and repairs made to keep pool operational

- b. Interior: The interior pool finish should also be replaced with a product similar to “SGM Diamond Brite” exposed aggregate pool plaster. A complete removal of all prior interior pool surfaces may be required to install the new finish. Any new finish should only be installed by licensed individuals that provide a warranty on the product. At the same time the interior and all remaining tile should be re-grouted and sealed.
- c. Equipment: The pool equipment is located inside a prefabricated cabinet in a walled area west of the Teaching Pool. The cabinet is in poor condition showing signs of the many repairs and retrofits needed to keep the pool going. There are broken parts from past repairs and other debris on the floor of the equipment platform inside the cabinet. There are also signs of water damage from excessive rains that washed the unit, while the cover remained open. A gas heater sits at the edge of the yard against the enclosure wall and appears to be in good condition. Overall the equipment cabinet, equipment, and associated piping and components are kept running by aquatics staff to a bare minimum core standard for operation.



Figure 193



Figure 194 Equipment Vault Piping and other components have been retrofitted to relate top site conditions. The pool drain line is no longer connected to the Atmospheric Gap Funnel Drain and is routed to site drainage elsewhere beyond the perimeter wall.



Figure 195 Gas heater

5. Recommendations:

As a bare minimum, the pool equipment cabinet issue and equipment components need to be replaced with a new prefabricated cabinet. A similar cabinet complete with cartridge filter units, filter pump, water sanitation equipment, electrical panel, and associated plumbing pipes, to connect with the existing pool piping components should also be included. A salt/chlorine generator, to replace the current package unit from autopilot, should be considered as a supplemental means of sanitation that will save on chemical costs from the supplies.

Lastly, it is recommended to replace the outdoor Strantrol 720 Chemical Controller with a more up to date controller such as a BECSys5 or 7L Controller. The controller is an important component in the management of water chemistry and sanitation especially in a pool primarily used to instruct small children to swim. Hence it should be an up-to-date product.

6. Additional items:

a. Controls:

- 1) Existing: Circa 1991 Strantrol 720 not operative and not connected at this time, which poses treatment concerns on this small body of water.
- 2) Recommendations: Replace with BECSys5 or 7L to provide accurate control of chemistry with enhanced safety and efficiency features, and expansion capabilities to handle future energy conservation or regulatory needs:
 - a) ORP, pH, and Direct Reading PPM,
 - b) Control of water level, monitoring of water consumption
 - c) Direct Control of PPM
 - d) Monitoring of Filter Soiling, automated filters
 - e) Remote Control, Electronic log keeping and Alert Notification
 - f) Direct control of GPM
 - g) Disable pump in event of pump pit flooding for operator safety

b. Chemical feed:

- 1) Existing: Residential-Grade Saline system is operative, but feeds chlorine in surge tank, which would interfere with any anticipated controls. pH feed system is in poor shape but appears to be somewhat operative.
- 2) Recommendations pH: Replace with UDA (Ultra Dilute Acid Feed System).
- 3) Chlorination: Replace with Pulsar all-in-one tablet feed system which will provide all the chlorine, calcium, bicarbonate, and stain prevention requirements while using 1/10 the acid of traditional bleach systems.

c. Pumping and Filtration System:

- 1) Existing: Entire equipment skid is in mediocre to poor condition and has undergone many modifications over the years. The twin cartridge filters are in fair shape and could easily be replaced. Replacement for this feature could be accomplished with either with an integrated replacement pack or a site-built on grade slab package consisting of new pumps, filters, etc.
- 2) Recommendations: Entire system could be replaced with a new automatic permanent media hi-rate granular filtration system equipped with water saving air scour system.

d. Heating System:

- 1) Existing: Existing Gas Heater appears to be operative, although it is fair condition.

2) Recommendations:

- a) Maintain existing heating system and tie into new mechanical system, or
- b) Replace heater with high efficiency loNOx heater

J. Site:

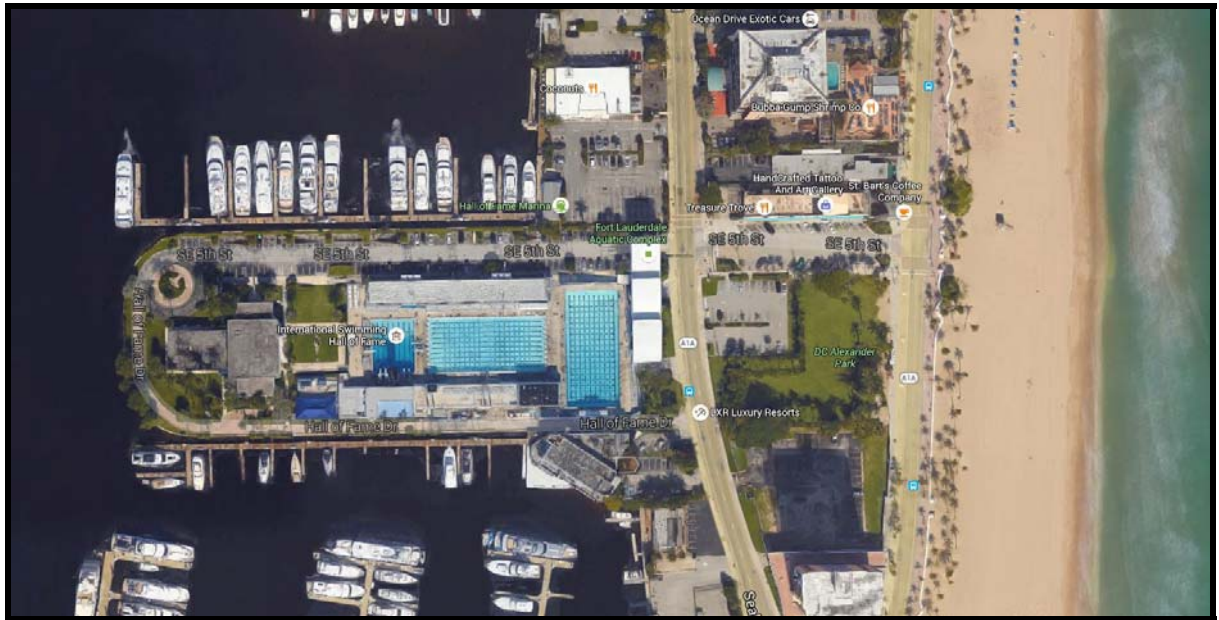


Figure 196 Aerial view of swimming complex

1. Existing Landscaping is in good condition on the north and east sides. The landscaping on the southeast side past the paver driveway should be cleaned up, mulched or apply sod and maintain the area.
2. Parking area: Asphalt is in fair condition. The parking lot should be resurfaced and striping applied to parking spaces. The parking blocks are in good condition but should be pressure cleaned. There are inadequate parking spaces for the occupancy of the complex. For example, per Fort Lauderdale zoning codes, there should be one parking space for every 200 sf of pool area. There is a total of 29,326 sf of pool area. 147 parking spaces should be provided, at the appropriate size required. Currently there are 103 parking spaces. That still does not include parking spaces for the grandstands and staff members. Also, not all parking spaces meet the required size of 8'-8" x 18'-0". More spaces need to be added within the complex or off site.
3. Site Construction: The existing site is constructed of concrete piles and concrete grade beams. There is no way to know the condition of these piles and beams without destructive testing and analysis. Depending on the conditions of the piles and beams, if they are poor, it could negatively impact the costs represented in this report.
4. Seawall and seawall cap: The seawall inspection consisted of a visual inspection of the entire seawall from the surface. The seawall was not inspected from under the water.

The seawall cap tie-backs were inspected via excavation of five selected areas. These areas were partially excavated to expose the tie-backs for visual examination. Based on the good condition of these tie-backs further investigation was not warranted.

- a. Based on visual inspections, the following was discovered:
- 1) The seawall is a precast panel system with a poured concrete cap.
 - 2) Rip-rap rocks have been installed to prevent scour at the toe of the wall.
 - 3) Tie-backs are installed to secure the wall and prevent rotation. The tie-backs consist of a steel rod and dead man.

b. Condition:

- 1) Seawall Panels: Seawall is in good condition. The panels appear to be in good condition with no signs of distress. There is some minor displacement of panels at the West side of the seawall.

The Joints will need to be re-grouted in this area.

- 2) Seawall Cap: The seawall cap is in good condition around most of the seawall. There is local spalling due to corrosion of the reinforcing steel within the cap. We estimate 100 lineal feet of cap repair.



Figure 197



Figure 198

Seawall cap will need to be repaired in spalled areas. Existing concrete will need to be chipped away and the reinforcing steel exposed. Steel shall be cleaned and coated. New repair mortar shall be used to renovate the cap.

- 3) Tie-Backs: The tie-backs are solid steel rods. Five rods were exposed from the seawall cap back approx. 5' since this is the most exposed area. The rods are originally wrapped with a protection material. The Rods are in good condition. There was minor rust closer to the seawall cap on one of the tie-backs. No additional work is required on the caps.



Figure 199 Tie back: exposed section of seawall tieback, condition of steel is very good



Figure 200 Tie back: exposed section of seawall tieback, condition of steel is very good, slight section of rust which was directed to be re-coated

- 4) Addition to Cap: We consider the wall acceptable for the addition of an additional cap approximately 16" tall. The new cap would raise the level of the seawall. The new cap should be installed at the same time as the repairs to the existing cap as listed above.



CITY OF FORT LAUDERDALE AQUATIC CENTER

PROPOSED IMPROVEMENTS

OPTION 1:

Provide a recreational Aquatic Center by improving the existing facility as follows:

- A. Building No.1 Renovate the existing building.
1. Proposed building functions to include:
 - Proshop and restrooms on the 1st floor
 - Aquatic Center administrative offices, Beach Patrol offices, and restrooms on the 2nd floor.
 2. Proposed interior improvements to include:
 - Remove existing finishes and provide new throughout the building.
 - Renovate existing restroom layouts to be code compliant.
 3. Proposed exterior improvements to include:
 - Replace existing windows and doors with new impact-rated thermally efficient units.
 - Add new window openings on 2nd floor east and west façades for increased views to ocean and aquatic center.
 - Patch and repair existing stucco finish
 - Repaint entire building
 - Apply new waterproof roof surfacing
 4. Proposed system upgrades to include:
 - Provide access and maintenance to all mechanical units
 - Maintain existing electrical system and replace broken or missing parts
 - Replace existing plumbing fixtures with new more efficient fixtures that meet current standards
- B. Building No. 2 Remove the existing building, concrete bleachers and light poles (condemned in 2011). Provide two (2) new stand-alone single-story buildings.
1. Proposed building functions to include:
 - East building for spectator restrooms, concessions and ticket office.
 - West building for the FPL vault and pool filtration equipment.
 2. Provide a new concrete slab-on-grade in between the two new buildings with a +/- 1,000 spectator capacity metal bleachers with a fabric canopy. Provide an ADA elevator for accessibility distributed throughout the bleachers. Provide a new fabric canopy over the bleachers.
 3. Provide a covered walkway with an 8' deep metal canopy along the back edge of the bleachers to protect spectators as they leave the facility and wait for rides in the parking lot.
 4. Keep existing FPL vaults in the building and replace/repair structure around it. Provide new electrical service throughout remaining structure. Replace parts that are showing age and are worn.
- C. Building No. 3 & 4 Renovate the existing building.

1. Proposed building functions to include:
 - Bathhouse functions for all pools (toilets/showers/lockers), storage rooms and first aid room on the 1st floor.
 - Officials/Hospitality Room, Swim and Dive team rooms, Drug Testing, Meet Management office, Timing / Scorekeeper room, and Electronic Timing storage room on the 2nd floor.
 - Provide a plaza deck with +/- 500 spectator metal bleachers with a fabric canopy over the 1st floor open roof areas.
 - Provide new railings.
 - Provide new ADA elevator and two (2) egress stairs.
2. Proposed interior improvements to include:
 - Remove existing non-bearing walls and provide new layout in metal framed partitions.
 - Remove existing finishes and provide new.
 - Remove existing toilet fixtures and provide new.
 - Remove existing drywall ceilings and drop ceilings and provide new.
3. Proposed exterior improvements to include:
 - Remove existing roll-up sunshades from all windows.
 - Replace existing windows and doors with new aluminum impact-rated thermally efficient tinted operable units.
 - Patch and repair existing stucco finishes.
 - Repaint entire building.
 - Reroof entire building, including all new trims, flashings, and copings.
 - Provide new aluminum gutters and downspouts.
 - Replace existing fabric at the canopy over the Diver spa.
4. Proposed system upgrades to include:
 - Provide maintenance to existing mechanical units and replace parts that are deteriorated or at end of life.
 - Keep existing FPL vaults in the building and replace/repair structure around it. Replace light fixtures, install life safety items, repair or replace broken or rusted parts, etc.
 - Replace existing plumbing fixtures with new more efficient fixtures that meet current standards

D. Building No. 5 Renovate the existing building.

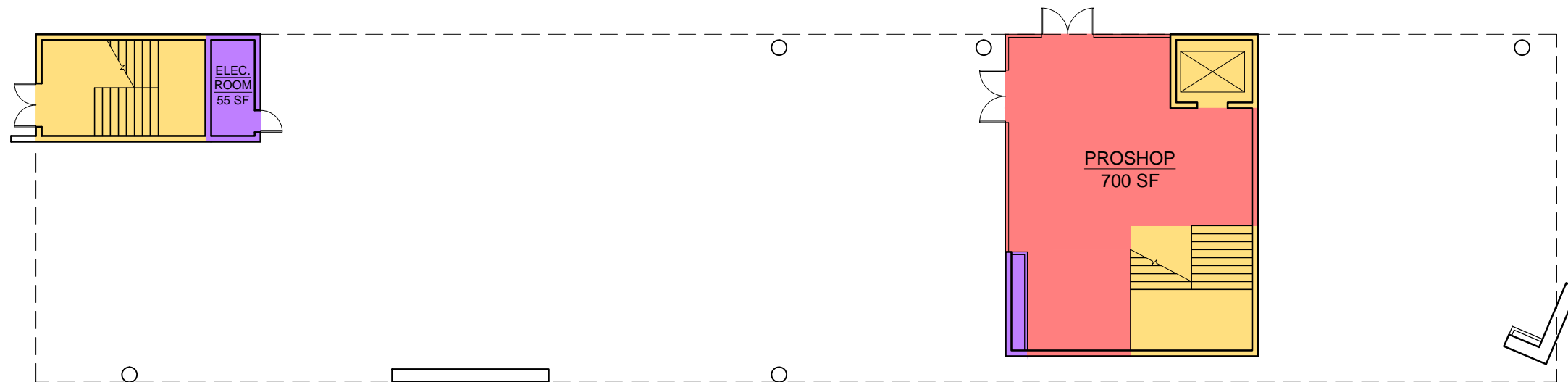
1. Proposed building functions to include:
 - Banquet facility, small catering kitchen, restrooms, fitness & recreation rooms, Conference room and Classrooms on the 1st floor.
 - Swimming support offices on the 2nd floor.
2. Proposed interior improvements to include:

- In the north-side wing remove the existing mechanical equipment and floor slab over the Reception area, Director's office and Conference room to allow for a higher ceiling space.
 - In the south-side wing remove the mezzanine and steps in the Library to allow for a higher ceiling space.
 - Remove the existing set of two interior stairs; incorporate the floor space into the new layout.
 - Remove existing non-bearing walls throughout the building and provide new metal studs partitions with water resistant drywall and provide new select wall finishes (paint, ceramic tile, etc.) appropriate for each use.
 - Remove existing plumbing fixtures and provide new.
 - Remove existing drywall ceilings and drop ceilings, and provide new.
3. Proposed exterior improvements to include:
- Replace existing windows and doors with new impact-rated thermally efficient tinted aluminum units.
 - Patch and repair existing stucco finishes.
 - Repaint entire building.
 - Reroof entire building, including all new trims, flashings, and copings.
 - Provide new roof drains, and aluminum gutters and downspouts.
 - Provide two new code-compliant egress stair towers.
 - Provide new ADA compliant elevator.
4. Proposed system upgrades to include:
- Provide maintenance to existing mechanical units.
 - Replace or relocate parts that do not meet code requirements
 - Replace or repair broken or worn items. Move ductwork from electrical panels, correct code violations,
 - Replace existing plumbing fixtures with new more efficient fixtures that meet current standards

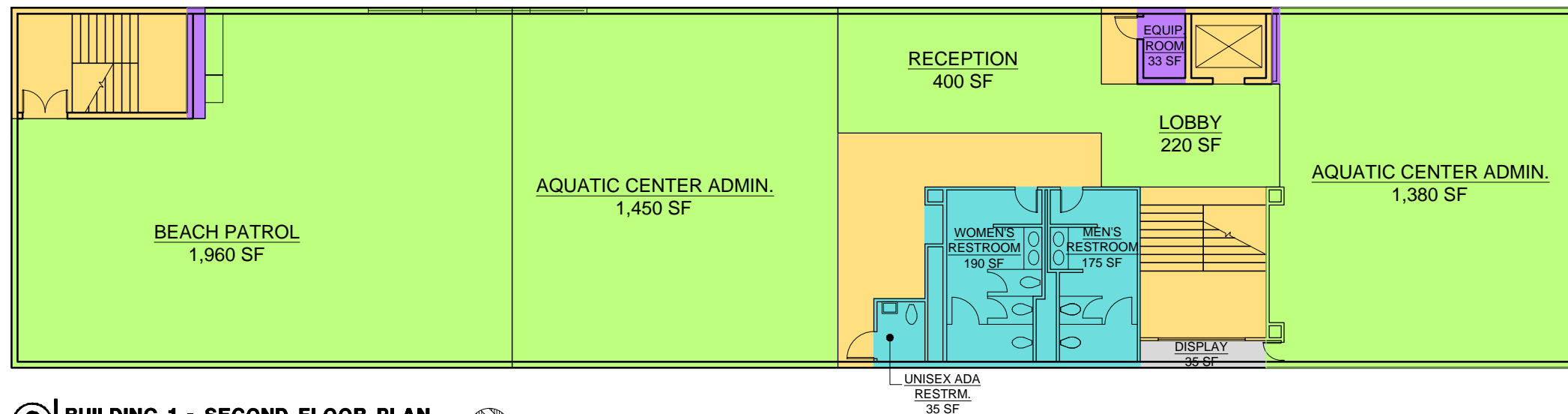
- E. Pool No. 1 Renovate the existing Training pool with new surfacing and gutters. See pool assessment in section E above for details.
- F. Pool No. 2 Renovate the existing Competition pool with new surfacing. See pool assessment in section F above for details.
- G. Pool No. 3 Renovate the existing Diving pool with new surfacing. See pool assessment in section G above for details.
- H. Pool No. 4 Renovate the existing Dive spa with new surfacing. See pool assessment in section H above for details.

- I. Pool No. 5 Renovate the existing Instructional pool with new surfacing. See pool assessment in section I above for details.
- J. Pool Deck Patch and repair concrete deck areas as needed. Provide new thin-coat surfacing treatment ('Spray Deck Surface' or similar) over existing 34,000 square feet deck areas.
- K. General Replace all non-functioning or end-of-life mechanical, electrical and plumbing equipment.

Note that Option 1 will provide the city with a facility that is not compliant with most current swimming and diving competition regulations. It will only serve as a training and recreational aquatic center for the community.



1 BUILDING 1 - FIRST FLOOR PLAN
SCALE: 1/16" = 1'-0"



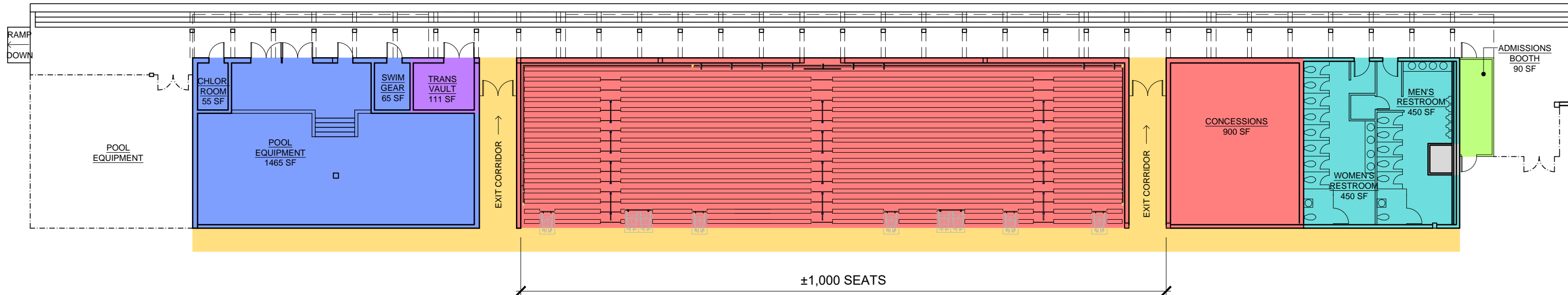
2 BUILDING 1 - SECOND FLOOR PLAN
SCALE: 1/16" = 1'-0"

AREA CALCULATIONS	
FIRST FLOOR:	1,392 SF
SECOND FLOOR:	7,000 SF
LEGEND	
■	PUBLIC ACCESS
■	STAFF/OFFICES
■	TEAM ACTIVITIES
■	POOL TREATMENT/MAINTENANCE
■	SUPPORT/MEP
■	RESTROOMS/LOCKERS
■	STORAGE
■	CIRCULATION



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CITY OF FORT LAUDERDALE AQUATIC CENTER
OPTION 1, BUILDING 1, CONCEPTUAL FLOOR PLAN
MARCH 28, 2016



1 BUILDING 2 - FLOOR PLAN
SCALE: N.T.S.



AREA CALCULATIONS	
FIRST FLOOR:	3,050 SF
BLEACHERS/OBSERV.:	6,558 SF
LEGEND	
■	PUBLIC ACCESS
■	STAFF/OFFICES
■	TEAM ACTIVITIES
■	POOL TREATMENT/MAINTENANCE
■	SUPPORT/MEP
■	RESTROOMS/LOCKERS
■	STORAGE
■	CIRCULATION

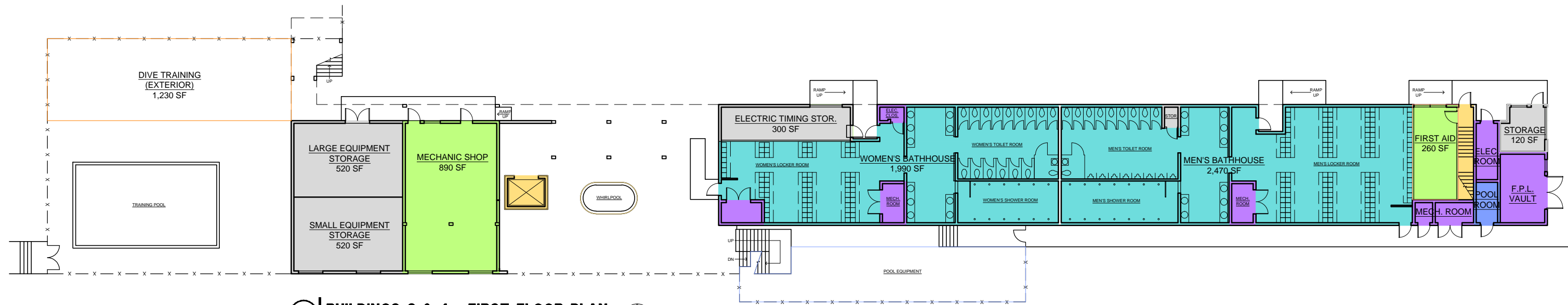


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CITY OF FORT LAUDERDALE AQUATIC CENTER
OPTION 1, BUILDING 2, CONCEPTUAL FLOOR PLAN

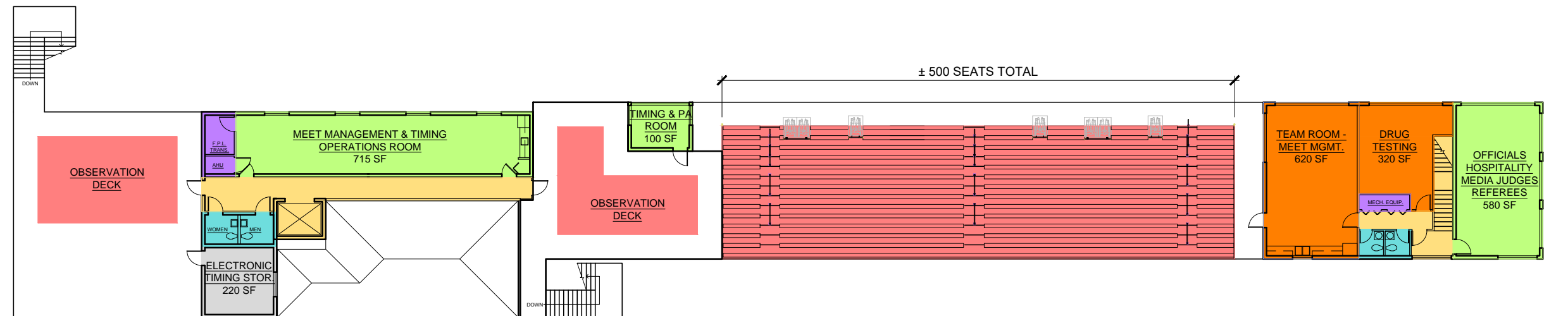
MARCH 28, 2016



1 BUILDINGS 3 & 4 - FIRST FLOOR PLAN
SCALE: N.T.S.

AREA CALCULATIONS	
FIRST FLOOR:	8,133 SF
SECOND FLOOR:	3,619 SF
OBSERVATION DECK:	7,447 SF

LEGEND	
■	PUBLIC ACCESS
■	STAFF/OFFICES
■	TEAM ACTIVITIES
■	POOL TREATMENT/MAINTENANCE
■	SUPPORT/MEP
■	RESTROOMS/LOCKERS
■	STORAGE
■	CIRCULATION



2 BUILDING 3 & 4 - SECOND FLOOR PLAN
SCALE: N.T.S.



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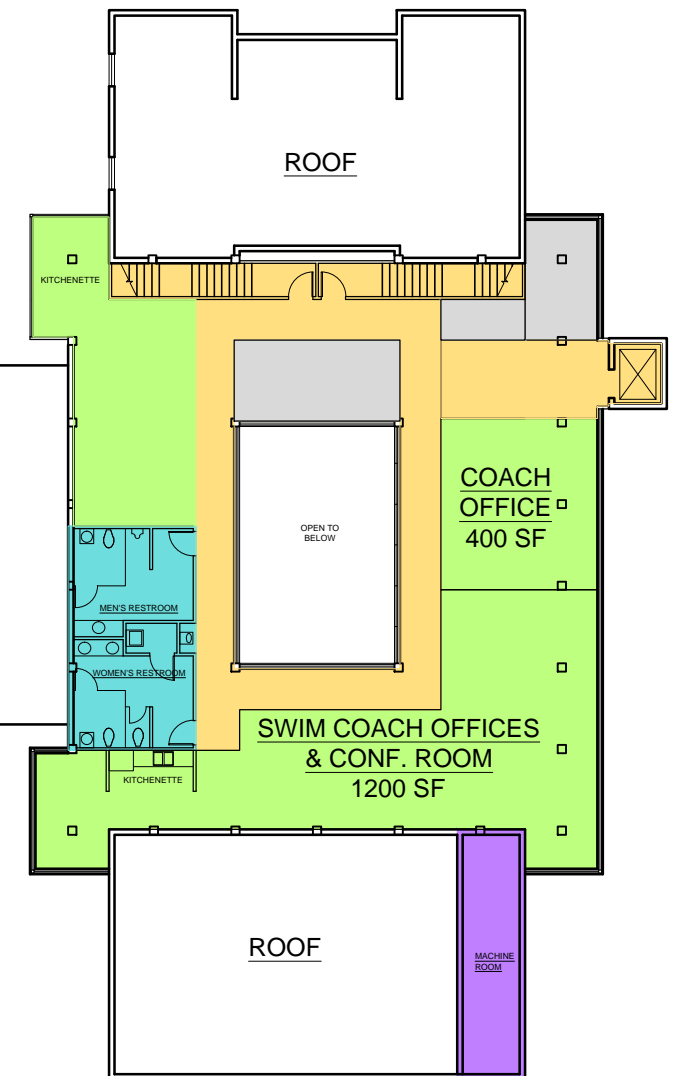
CITY OF FORT LAUDERDALE AQUATIC CENTER
OPTION 1, BUILDINGS 3&4, CONCEPTUAL FLOOR PLAN

MARCH 28, 2016



1 BUILDING 5 - FIRST FLOOR PLAN
SCALE: N.T.S.

AREA CALCULATIONS	
FIRST FLOOR:	11,294 SF
SECOND FLOOR:	5,206 SF
LEGEND	
■	PUBLIC ACCESS
■	STAFF/OFFICES
■	TEAM ACTIVITIES
■	POOL TREATMENT/MAINTENANCE
■	SUPPORT/MEP
■	RESTROOMS
■	STORAGE
■	CIRCULATION



2 BUILDING 5 - SECOND FLOOR PLAN
SCALE: N.T.S.



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CITY OF FORT LAUDERDALE AQUATIC CENTER
OPTION 1, BUILDING 5, CONCEPTUAL FLOOR PLAN
MARCH 28, 2016

OPTION 2:

Provide a semi-competitive mid-level Aquatic Center by improving the existing facility as follows:

- A. Building No. 1 Same as option 1 - Renovate the existing building.
1. Proposed building functions to include:
 - Proshop and restrooms on the 1st floor
 - Aquatic Center administrative offices, Beach Patrol offices, and restrooms on the 2nd floor.
 2. Proposed interior improvements to include:
 - Remove existing finishes and provide new throughout the building.
 - Renovate existing restroom layouts to be code compliant.
 3. Proposed exterior improvements to include:
 - Replace existing windows and doors with new impact-rated thermally efficient units.
 - Add new window openings on 2nd floor east and west façades for increased views to ocean and aquatic center.
 - Patch and repair existing stucco finish
 - Repaint entire building
 - Apply new waterproof roof surfacing
 4. Proposed system upgrades to include:
 - Provide access and maintenance to all mechanical units
 - Maintain existing electrical system and replace broken or missing parts
 - Replace existing plumbing fixtures with new more efficient fixtures that meet current standards
- B. Building No. 2 Same as in option 1 – Remove the existing building, concrete bleachers and light poles (condemned in 2011). Provide two (2) new stand-alone single-story buildings.
1. Proposed building functions to include:
 - East building for spectator restrooms, concessions and ticket office.
 - West building for the FPL vault and pool filtration equipment.
 2. Provide a new concrete slab-on-grade in between the two new buildings for a +/- 1,000 spectator capacity metal bleachers with a fabric canopy. Provide an ADA elevator for accessibility distributed throughout the bleachers.
 3. Provide a covered walkway with an 8' deep metal canopy along the back edge of the bleachers to protect spectators as they leave the facility and wait for rides in the parking lot.
 4. Keep existing FPL vaults in the building and replace/repair structure around it. Provide new electrical service throughout remaining structure. Replace parts that are showing age and are worn.

B. Building No. 3 & 4 Remove existing building. Provide new 2-story building.

1. Proposed building functions to include:

- Bathhouse functions for all pools (toilets/showers/lockers), lifeguard locker rooms, conference and first aid rooms, mechanic shop, concession area, large pool storage and equipment rooms, and other support functions on the 1st floor.
- Existing FPL vault and electrical room within a new enclosure on the 1st floor.
- Meet management and timing rooms, and Officials/Hospitality Room on the 2nd floor.
- Provide plaza deck with +/- 500 spectator capacity metal bleachers and fabric canopy over the 1st floor open roof areas.
- Two (2) egress stairs and one (1) elevator for vertical circulation.

C. Building No. 5 Renovate the existing building.

1. Proposed building functions to incorporate:

- Expanded multi-level Conference Facility including a Banquet room with covered terrace and Catering Kitchen and restrooms on the 1st floor, and a larger Assembly room with restrooms on the 2nd floor.
- Beach Patrol suite with dedicated storage and parking spaces on the 1st floor with Beach Patrol offices immediately above on the 2nd floor.
- Weight room and classrooms on the 1st floor
- Recreation/Exercise room and Coaches Offices on the 2nd floor.
- Potential to house Crew/Rowing Team office and equipment on the 1st floor adjacent to the Beach Patrol suite.

2. Proposed interior improvements to include:

- In the north-side wing remove the existing mechanical equipment and floor slab over the Reception area, Director's office and Conference room to allow for a higher ceiling space.
- In the south-side wing remove the mezzanine and steps in the Library to allow for a larger space.
- Fill in the existing opening in the 2nd floor slab for additional useable square footage.
- Remove the existing set of two interior stairs; incorporate the floor space into the new layout.
- Remove existing non-bearing walls throughout the building and provide new metal studs partitions with water resistant drywall and provide new select wall finishes (paint, ceramic tile, etc.) appropriate for each use.
- Remove existing plumbing fixtures and provide new.
- Remove existing drywall ceilings and drop ceilings, and provide new.

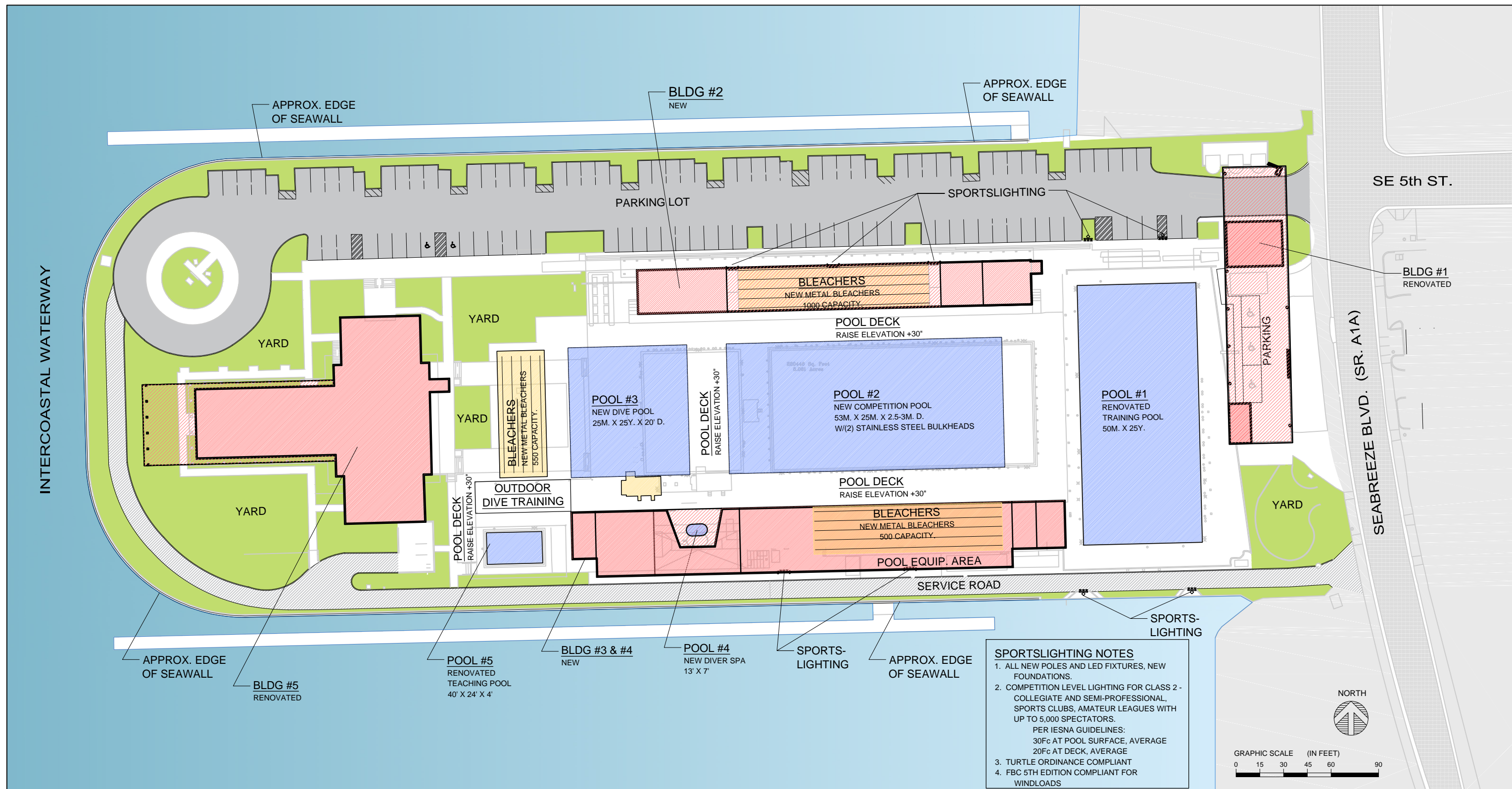
3. Proposed exterior improvements to include:

- Build a new second floor room above both of the existing north-side and south-side single-story wings.
 - Build a new second floor room above the existing west-side single-story wing that currently houses the banquet room. Extend the room westward approximately 25 feet towards the Intracoastal Waterway to provide a large covered terrace area off the 1st floor banquet room. Extend the room out on the north and south sides by 10 feet or so to provide wider covered arcades off the 1st floor banquet room.
 - Replace existing windows and doors with new impact-rated thermally efficient tinted aluminum units.
 - Patch and repair existing stucco finishes.
 - Repaint entire building.
 - Reroof entire building, including all new trims, flashings, and copings.
 - Provide new roof drains, and aluminum gutters and downspouts.
 - Provide two new code-compliant egress stair towers and new elevator.
4. Proposed system upgrades to include:
- Replace mechanical units with new in new location that is accessible and meets code requirements
 - Replace and repair broken or missing parts, correct code violations, install additional fixtures as required
 - Replace existing plumbing fixtures with new more efficient fixtures that meet current standards

- D. Pool No. 1 Renovate Training pool with new surfacing and gutters. See pool assessment in section E above for details.
- E. Pool No. 2 Remove existing competition pool. Provide new expanded fully FINA compliant standard competition pool with (2) moveable stainless steel bulkheads.
- F. Pool No. 3 Remove existing Diving pool and underground observation room. Provide new fully FINA compliant expanded Diving pool with a five platform (1m, 3m, 5m, 7.5m, 10m) dive tower, and 1m and 3m springboards. Provide concrete slab on grade with metal bleachers for +/-550 spectators on the west side of the pool.
- G. Pool No. 4 Remove existing Dive spa. Provide new covered spa, close to original location of the existing one with open access to the pool deck area.
- H. Pool No. 5 Renovate Instructional pool with new surfacing.
- I. Pool Deck Raise existing pool deck approximately +30 inches to allow for increased pool depths needed for competition-level use. Ramp and step transitions will be required to maintain access to the other buildings on site.

- J. General Replace all non-functioning mechanical, electrical, plumbing and pool piping and equipment.

Note that Option 2 will provide the city a facility that is compliant with most current FINA regulations for swimming and diving competitions. It can also serve as a training and recreational facility for swimming and diving.

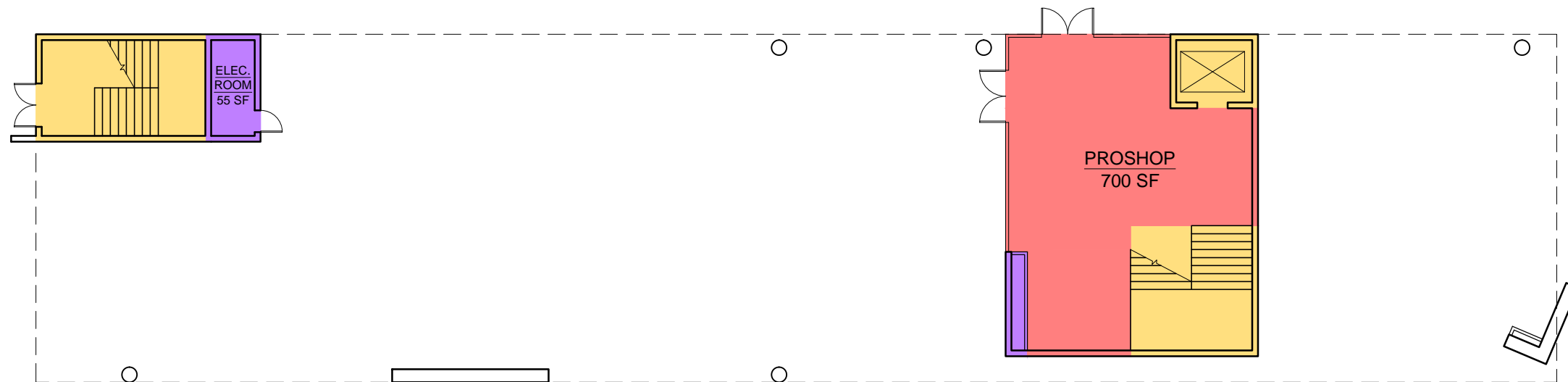


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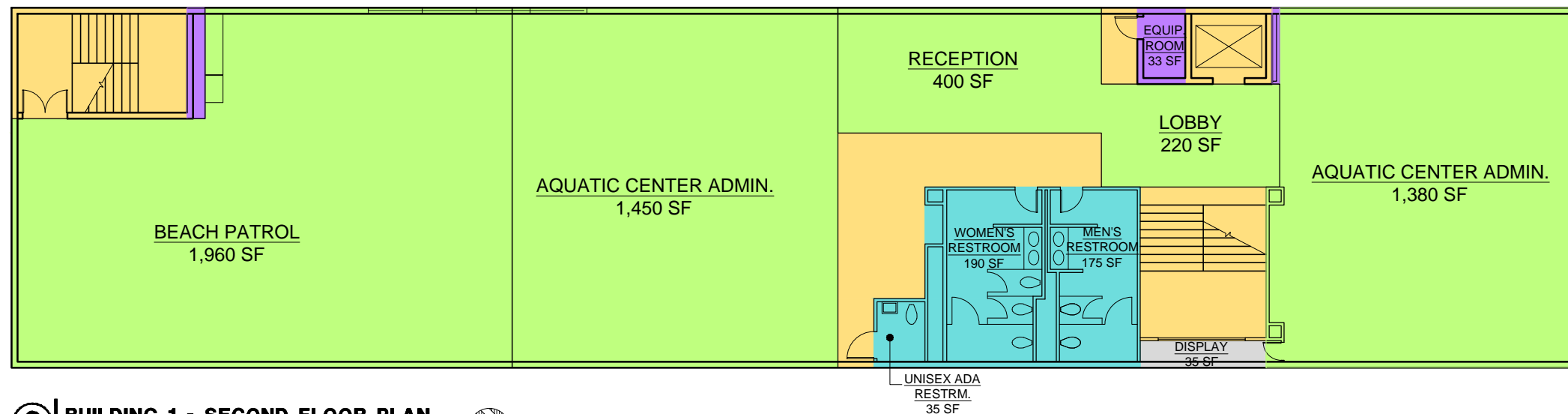
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CITY OF FORT LAUDERDALE AQUATIC CENTER OPTION 2, ARCHITECTURAL CONCEPT SITE PLAN

MARCH 28, 2016



1 BUILDING 1 - FIRST FLOOR PLAN
SCALE: 1/16" = 1'-0"



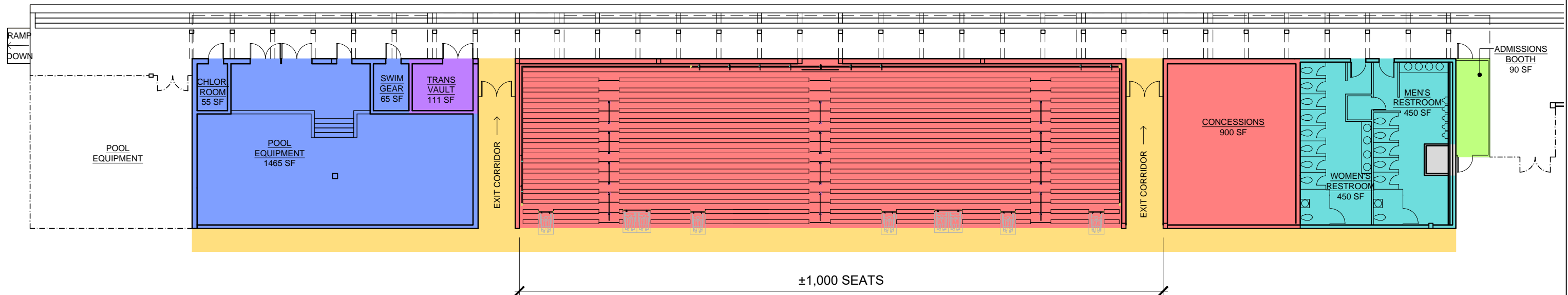
2 BUILDING 1 - SECOND FLOOR PLAN
SCALE: 1/16" = 1'-0"

AREA CALCULATIONS	
FIRST FLOOR:	1,392 SF
SECOND FLOOR:	7,000 SF
LEGEND	
■	<u>PUBLIC ACCESS</u>
■	<u>STAFF/OFFICES</u>
■	<u>TEAM ACTIVITIES</u>
■	<u>POOL TREATMENT/MAINTENANCE</u>
■	<u>SUPPORT/MEP</u>
■	<u>RESTROOMS/LOCKERS</u>
■	<u>STORAGE</u>
■	<u>CIRCULATION</u>



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CITY OF FORT LAUDERDALE AQUATIC CENTER
OPTION 2, BUILDING 1, CONCEPTUAL FLOOR PLAN
MARCH 28, 2016



1 BUILDING 2 - FLOOR PLAN

SCALE: N.T.S.



AREA CALCULATIONS

FIRST FLOOR:	3,050 SF
BLEACHERS/OBSERV.:	6,558 SF

LEGEND

■	<u>PUBLIC ACCESS</u>
■	<u>STAFF/OFFICES</u>
■	<u>TEAM ACTIVITIES</u>
■	<u>POOL TREATMENT/MAINTENANCE</u>
■	<u>SUPPORT/MEP</u>
■	<u>RESTROOMS/LOCKERS</u>
■	<u>STORAGE</u>
■	<u>CIRCULATION</u>

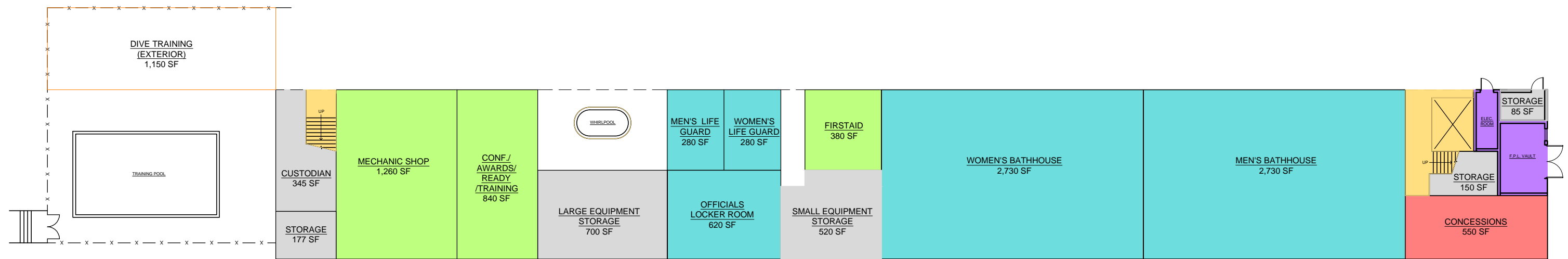


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CITY OF FORT LAUDERDALE AQUATIC CENTER
OPTION 2, BUILDING 2, CONCEPTUAL FLOOR PLAN

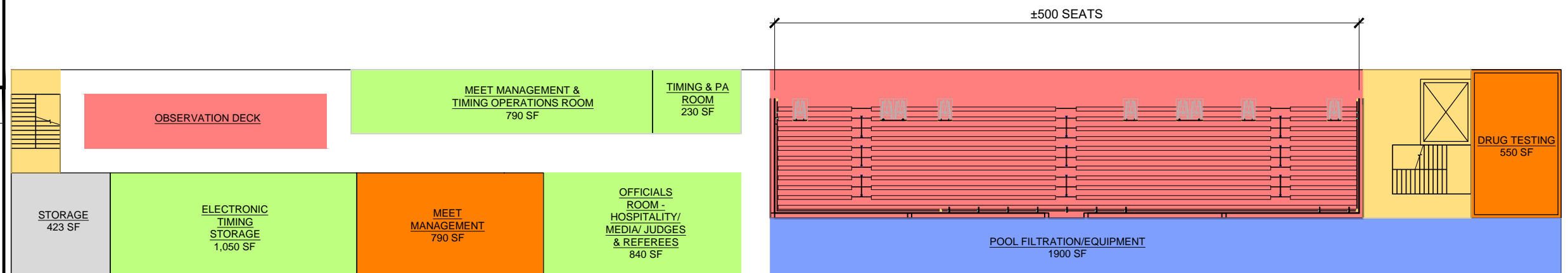
MARCH 28, 2016



1 BUILDINGS 3 & 4 - FIRST FLOOR PLAN
SCALE: N.T.S.

AREA CALCULATIONS	
FIRST FLOOR:	12,612 SF
SECOND FLOOR:	6,776 SF
OBSERVATION DECK:	6,478 SF

LEGEND	
■	PUBLIC ACCESS
■	STAFF/OFFICES
■	TEAM ACTIVITIES
■	POOL TREATMENT/MAINTENANCE
■	SUPPORT/MEP
■	RESTROOMS/LOCKERS
■	STORAGE
■	CIRCULATION



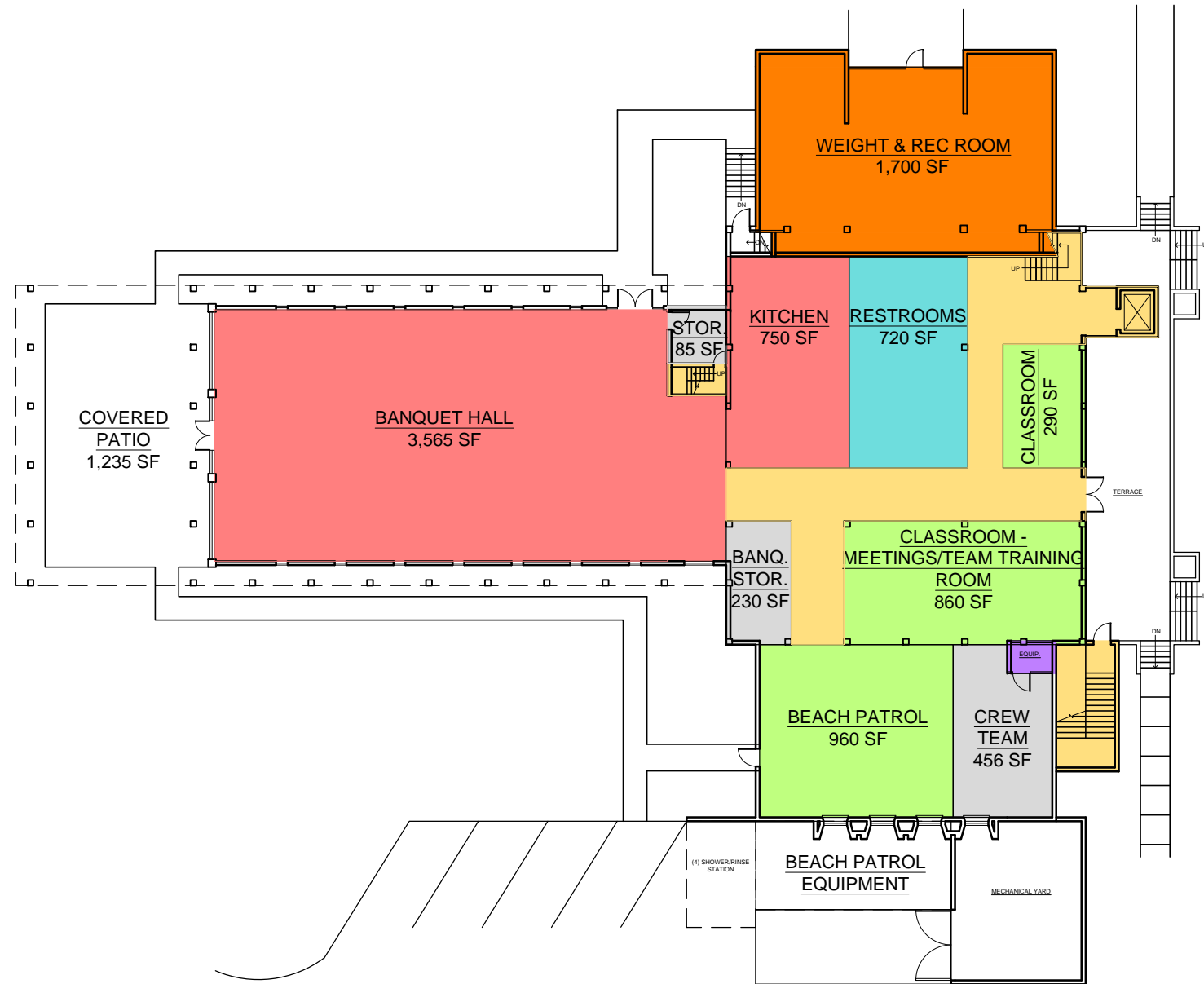
2 BUILDING 3 & 4 - SECOND FLOOR PLAN
SCALE: N.T.S.



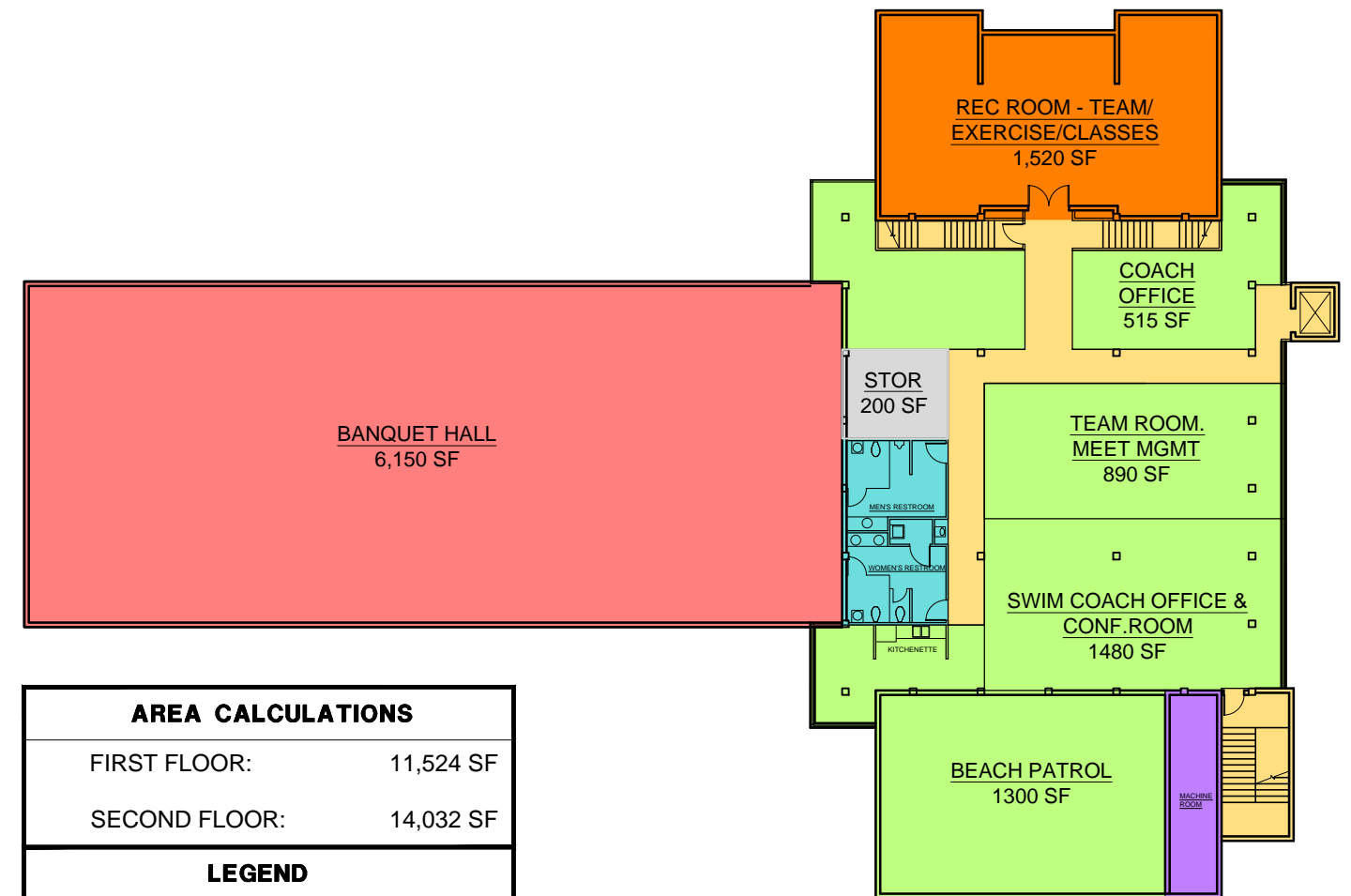
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CITY OF FORT LAUDERDALE AQUATIC CENTER
OPTION 2, BUILDINGS 3&4, CONCEPTUAL FLOOR PLAN

MARCH 28, 2016



1 BUILDING 5 - FIRST FLOOR PLAN
SCALE: N.T.S.



2 BUILDING 5 - SECOND FLOOR PLAN
SCALE: N.T.S.

AREA CALCULATIONS	
FIRST FLOOR:	11,524 SF
SECOND FLOOR:	14,032 SF
LEGEND	
■	PUBLIC ACCESS
■	STAFF/OFFICES
■	TEAM ACTIVITIES
■	POOL TREATMENT/MAINTENANCE
■	SUPPORT/MEP
■	RESTROOMS
■	STORAGE
■	CIRCULATION



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CITY OF FORT LAUDERDALE AQUATIC CENTER
OPTION 2, BUILDING 5, CONCEPTUAL FLOOR PLAN
MARCH 28, 2016

OPTION 3:

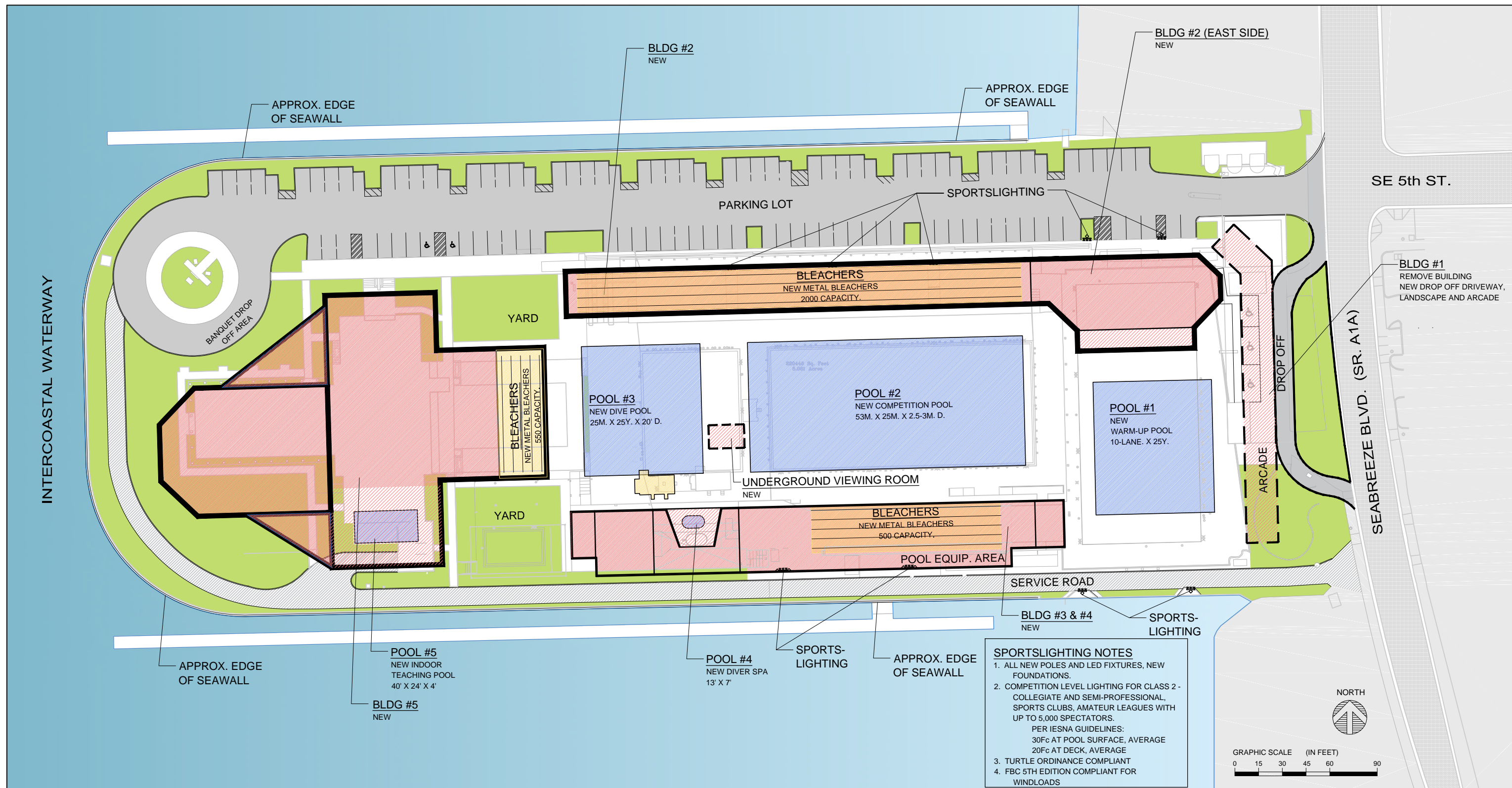
Provide a premium competition Aquatic Center by improving the existing facility as follows:

- A. Building No. 1 Remove the existing building and associated site work. Provide an expanded vehicle drop-off drive area with lush landscaping to restore connectivity to the community. An open arcade element running north-south along the front edge of the site will harken back to the original design of the Aquatic Center and provide both a covered waiting area for visitors and a secure separation between the street and the facility.
- B. Building No. 2 Remove the existing condemned building. Provide a completely new 2-story building, long and linear, along the north edge of the existing parking lot.
1. Proposed building features to include:
 - The east end of the building is a 2-story structure that will anchor the NE corner of the site and provide a clear landmark for the Aquatic Center, and be easily visible from the surrounding streets.
 - 1st floor functions include a formal main entrance to the facility accessible from both the parking lot and the street, and has a reception desk and ticket booth, a large Proshop, public restrooms, large conference room, and a concession area with an exterior covered eating area adjacent to the new Warm-up pool located just outside.
 - Display space for Aquatic Center memorabilia can be located on the 1st floor as well if desired by the city.
 - 2nd floor functions include all Aquatic Center administrative offices, conference rooms, staff break area, restrooms, etc. The height and location of this area on the site will provide staff with clear views across the entire facility.
 - The west end of the building is to be very similar in size and location as the original condemned building – beach patrol, restrooms, maintenance room, storage rooms, existing FPL vault and pool filtration room on the 1st floor with stepped concrete bleachers for +/- 1,000 spectators above.
 - ADA elevator and two stairs provide vertical circulation.
- C. Building No. 3 & 4 Remove existing building. Provide new bathhouse building on the 1st floor with concrete bleachers and light poles above; existing ground-level FPL equipment to remain as part of the new building. Provide +/-1,000 capacity bleachers for athletes.
- D. Building No. 5 Remove existing building. Provide a new multi-story building housing an indoor 2-story dive dryland training facility, an indoor/outdoor Instructional pool, full administrative offices and swim support spaces, and a premium banquet facility with large and small conference rooms and an ample catering kitchen.

- E. Pool No. 1 Remove Training pool. Provide new 25m x 10-lane Warm-up pool on south side of site. This pool can potentially be used for party or event rental since it is adjacent to a new concession area and covered seating area in building No.2 – see above.
- F. Pool No. 2 Remove existing Competition pool; provide new expanded Competition pool with 2 moveable stainless steel bulkheads.
- G. Pool No. 3 Remove existing Diving pool; provide new expanded competition-compliant 20 foot deep Diving pool with a 10-meter high diving platform, 1-meter and 3-meter springboards, and provisions for a 27m. high temporary diving platform for extreme diving events. Provide bleachers on the west side for 550 spectators. Provide an underground viewing room for judging and broadcasting use.
- H. Pool No. 4 Provide new Diver Spa, 12 person capacity.
- I. Pool No. 5 Remove existing Instructional pool. Provide a new indoor/outdoor Instructional pool incorporated into new Building No.5 – see above.
- J. General Provide new mechanical, electrical, plumbing and pool equipment for all new buildings and pools.

Note that Option 3 will provide the city with a facility that is compliant with all current swimming and diving competition regulations. It can also serve as a training and recreational facility for swimming and diving.

Also note that only an Architectural Concept Site Plan is provided for this Option No.3. No individual building floor plans have been provided as part of this report.



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**CITY OF FORT LAUDERDALE AQUATIC CENTER
OPTION 3, ARCHITECTURAL CONCEPT SITE PLAN**

MARCH 28, 2016

GENERAL SITE IMPROVEMENTS:

The following improvements represent scope of work that can be applied to any of the 3 options. These may be selected by the city as required or as budget allows:

- A. Improvement No. 1 Raise the seawall approximately +14” to +18” to meet new code requirements.
- B. Improvement No. 2 Upgrade to an on-site chlorine generator system (Nex-Gen or similar) for water treatment.
- C. Improvement No. 3 Provide general site improvements, including the following:
- Resurface the asphalt parking lot
 - Resurface the asphalt driveway
 - Repair or replace the stamped concrete driveway areas
 - Restripe parking lot
 - Repair broken curbs.
 - Replace broken car stops
 - Repair or replace sign posts and signs,
 - Replace pedestrian light poles and fixtures.
 - Refresh all Landscaping.
 - Repair irrigation system.
- D. Improvement No. 4 Provide new sports-lighting for pool and pool deck areas.
- Provide all new light poles, foundations and LED fixtures.
 - Provide average light levels to meet competition level lighting for Class 2 – collegiate and semi-professional, sports clubs, amateur leagues with up to 5,000 spectators per IESNA guidelines as follows:
 - 30 Fc at pool surface
 - 20 Fc at pool deck
 - Fixtures to be Sea Turtle Protection Ordinance compliant.
 - Lightpoles and fixtures to be FBC 5th edition compliant for windloads.



**CITY OF FORT LAUDERDALE
AQUATIC CENTER**

**PROGRAMMING SPREADSHEET
AND
COST ESTIMATES**

City of Fort Lauderdale Aquatic Center - Space Summaries, March 28, 2016

	SPACE DESCRIPTION	CITY PROGRAM (SF)	CURRENT FACILITY (SF)	PROPOSED FACILITY OPTION 1	PROPOSED FACILITY OPTION 2	PROPOSED FACILITY OPTION 3	CITY PROGRAM REMARKS
01 - AQUATIC CENTER ADMINISTRATION							
	Entrance						
	Reception/Lobby	1,500	-	-	-	3,000	Counter Customer Service Area
	Men's and Women's Restroom (public use)	120	-	-	-		For guest and general public use
	Clerical Office	175	-	-	-		Room with a Safe; Desk Work Area
	Pro Shop	600	700	700	700		w/ storage and dressing room
	Subtotal	2,395	700	700	700	3,000	
	Pool Offices						
	Management Staff Offices	360	-	2,830	2,830	4,500	3 Private Offices; Door Closure
	Cubicles	650	719				Staff
Copy/File Room	200	Copy Machine					
Kitchen/Break Room	200	Kitchenette					
Storage	150	23	Office Supplies				
Manager Office	150	191	Private Office ; Door Closure				
Equipment Storage	250	-	620	620	Uniforms; Training/Rescue AEDs and Manikins; Medical Supplies		
Reception Area - Clerk	300	-				620	620
Restrooms - Staff	100	1 M, 1 W	400	400		1 men; 1 women	
Subtotal	2,360	933	3,850	3,850	4,500		
Sub-total:		4,755	1,633	4,550	4,550	7,500	
Factorial - circulation, walls, mechanical space (30%)		1,427	490	1,365	1,365	2,250	
Total Space Required - Aquatic Center (GSF)		6,182	2,123	5,915	5,915	9,750	

		CITY PROGRAM (SF)	CURRENT FACILITY (SF)	PROPOSED FACILITY OPTION 1	PROPOSED FACILITY OPTION 2	PROPOSED FACILITY OPTION 3	CITY PROGRAM REMARKS
02 - BEACH PATROL							
Indoor Equipment Storage	500	1,110	1,960	1,300	5,500	Medical Supplies; Uniforms; Equipment	
Locker Room - Men w/ 70 lockers	800					2 toilets; Urinal; sink	
Locker Room - Women w/ 20 lockers	400					2 toilets; sink	
Training & Conference Room w/ Kitchenette	800					Multipurpose Room for training sessions and meetings	
Office: Reception/Dispatch	700	existing	existing	5 spaces		Chief; Lieutenants; Reception/Dispatch	
Outdoor Parking - Rescue Vehicles						4 designated parking spaces (9x18) for Rescue Vehicles	
Outdoor Parking - 15 Staff						30 staff report to work daily; 15 cars remain on site all day	
Garage Storage	1,000					ATVs; JetSkis; Paddleboards; Equipment	
Outdoor Shower Area	4 showers	4 showers	4 showers	4 showers		Bank of 4 showers	
Outdoor Rinse Station	-	-	-	-		Area to rinse of equipment; hose off vehicles	
Subtotal	4,200	2,463	1,960	2,260	5,500		
Sub-total:	4,200	2,463	1,960	2,260	5,500		
Factorial - circulation, walls, mechanical space (30%)	1,260	739	588	678	1,650		
Total Space Required - Aquatic Center (GSF)	5,460	3,202	2,548	2,938	7,150		

SPACE DESCRIPTION	CITY PROGRAM (SF)	CURRENT FACILITY (SF)	PROPOSED FACILITY OPTION 1	PROPOSED FACILITY OPTION 2	PROPOSED FACILITY OPTION 3	CITY PROGRAM REMARKS
03 - FACILITY SUPPORT ROOMS						
Box Office - Swimming, Main Entrance; NE	100	50	90	90	16,800	Tickets - Events
Box Office - Diving	100	-	-	-		Tickets - Events
First Aid Room	400	112	260	380		Treatment Table; Toilet; Sink; Storage Cupboards
Custodian	250	-	-	345		
Class Room - Meetings/Team Training Room	1,000	245	610	860		Multi-Use Room; Kitchenette
Officials Room - Hospitality/Media/Judges & Referees	800	624	580	860		Multi-Use Room; Kitchenette
Rec Room - Teams/Exercise/Classes	1,600	-	-	1,520		800 SF Good; 1,000 SFBetter; 1,600 Best
Conference Room - Awards / Ready Room / Training Room	800	387	690	840		Multi-Use Room; Course Instruction; Event Room
Banquet Room w/ Full Kitchen	5,000	3,422	3,900	9,715		Capacity: 400 theatre style seating; Lobby/Pre-Function area would be nice
Mechanic Shop w/ HVAC	900	590	890	1,260		
Large Equipment Storage w/ HVAC	2,000	-	520	700	5,500	Pool Covers, Lane Line Reels, Water Polo Goals, Event Supplies
Small Equipment/Supply Storage w/HVAC	1,000	-	640	930		Pool Vacuum; Chairs, Tables, etc.
Electronic Timing System Storage w/ HVAC	1,000	-	520	1,050		Touchpads; Timing System Cables and Equipment
Chemical Storage	600	1,546	1,740	1,740		Pool Chemicals & Supplies
Subtotal	15,550	6,976	10,440	20,290	22,300	
Sub-total:	15,550	6,976	10,440	20,290	22,300	
Factorial - circulation, walls, mechanical space (30%)	4,665	2,093	3,132	6,087	6,690	
Total Space Required - Aquatic Center (GSF)	20,215	9,069	13,572	26,377	28,990	

SPACE DESCRIPTION	CITY PROGRAM (SF)	CURRENT FACILITY (SF)	PROPOSED FACILITY OPTION 1	PROPOSED FACILITY OPTION 2	PROPOSED FACILITY OPTION 3	CITY PROGRAM REMARKS
04 - LOCKER/CHANGING ROOMS						
Women	3,500	1,990	1,990	2,730	12,000	400 full lockers
Men	3,500	2,470	2,470	2,730		400 full lockers
Family Changing Room	400	-	-	-		Toilet, Sink, Shower Stall, Lockers
Officials Room	600	-	-	620		50 half lockers; 4 showers; 2 toilets
Pool Lifeguard - Men	300	-	-	280		15 lockers
Pool Lifeguard - Women	300	-	-	280		15 lockers
Events - Drug Testing	650	-	320	550		Seating for 10; adjacent to private men's & women's restroom
Subtotal	9,250	4,460	4,780	7,190	12,000	
Sub-total:	9,250	4,460	4,780	7,190	12,000	
Factorial - circulation, walls, mechanical space (30%)	2,775	1,338	1,434	2,157	3,600	
Total Space Required - Aquatic Center (GSF)	12,025	5,798	6,214	9,347	15,600	



	SPACE DESCRIPTION	CITY PROGRAM (SF)	CURRENT FACILITY (SF)	PROPOSED FACILITY OPTION 1	PROPOSED FACILITY OPTION 2	PROPOSED FACILITY OPTION 3	CITY PROGRAM REMARKS
05 - SWIMMING FACILITIES							
Swimming							
Swim Coach Offices w/ kitchenette	1000	521	1200	1480	2000	8 staff members	
Conference Room	200	-				Seating for 10 people	
Staff Restrooms	100	1 M, 1 W	1 M, 1 W	1 M, 1 W		1 Men; 1 Women Bathroom	
Equipment/Supply Storage	100	-		100		Team Gear; Rec Supplies; Support Items	
Main Competition Pool: 53M x 25M		165ft x 75ft	165ft x 75ft	53M x 25Y	53M x 25Y	Two s/s movable bulkheads; 2.5 - 3.0M deep	
Training Pool: 50M x 25Y		50M x 25M	50M x 25M	50M x 25Y	50M x 25Y	Option: Warm Up Pool: 10 lane x 25Y	
Diving							
Team Room / Meet Management w/ Kitchenette	750	662	620	790	2000	Refrigerator	
Coach Office	500	-	400	515		3 People; 1 Head Coach + 2 Assistants	
Staff Bathroom	50	1 unisex	1 M, 1 W	1 M, 1 W			
Storage	100	-	245	100		Team Gear; Rec Supplies; Support Items	
Dive Pool 25M x 25Y		60ft x 75ft	60ft x 75ft	25M X 25Y	25M X 25Y	20' Deep to accommodate high diving; shallow end 4' option for swimming	
Dive Tower - 1, 3, 5, 7.5 and 10M Platform Levels		8 bds, 5 plat	8 bds, 5 plat	8 bds, 5 plat	8 bds, 5 plat	Best: (4) 3M springboards; (4) 1M springboards, (5) platform levels	
Bubbler/Sparger System							
Spa w/ Gas Heater	8 person	8 person	8 person	8 person	12 person	12 person	
Instructional							
						Enclosed pool would be nice; Sliding doors	
Pool: 20 x 40'		24ft x 40ft	24ft x 40ft	24ft x 40ft	24ft x 40ft	Same design and size as current pool 20x40	
Event Operations							
Meet Management & Timing Operations Room (Main)	750	308	715	790	1400	Copy Machine; Computer; Internet; Telephone; Fiberoptic; Storage/Filing	
Timing & PA Room (Secondary)	200	102 & 100	100	230		100 SF Better; 200 SF Best; Timing + Audio/PA Operations	
Fitness / Training							
Weight Room	2000	970	1580	1700	5600	1,000 SF Good; 1,500 SF Better; 2,000 SF Best	
Diving Dryland Training Room	3500	1,226 (ext)	1,226 (ext)	1,150 (ext)		2,500 SF Good; 3,000 Better; 3,500 SF Best	
Miscellaneous Pool							
Pool Deck Area		19ft - 24ft	19ft - 24ft	20ft - 22 ft		Minimum: 20' on sides of main pool; 15' on all other sides	
Storage		-	-	423	3530	Need as much storage space as possible for pool equipment and supplies	
Athlete Seating - Pool Deck Level		500 occ.	500 occ.	500 occ.	-	1,500 athletes	
Subtotal	9,250	2,461	4,860	6,128	14,530		
Sub-total:	9,250	2,461	4,860	6,128	14,530		
Factorial - circulation, walls, mechanical space (30%)	2,775	738	1,458	1,838	4,359		
Total Space Required - Aquatic Center (GSF)	12,025	3,199	6,318	7,966	18,889		

SPACE DESCRIPTION	CITY PROGRAM (SF)	CURRENT FACILITY (SF)	PROPOSED FACILITY OPTION 1	PROPOSED FACILITY OPTION 2	PROPOSED FACILITY OPTION 3	CITY PROGRAM REMARKS
06 - SPECTATOR FACILITIES						
Spectator Seating						
Elevated Grandstands - Main Completion Pool	2000 occ	2,000	1,000	1,000	2500	Seating: 2,000+ ; Accessible without having to enter the pool deck.
Elevated Grandstands - Drive Pool	550 occ	-	550	550	800	Seating: 550; Accessible without having to enter the pool deck.
Spectator Support						
Media/Broadcast Seating Area	1610	1,610	1,610	1,500	4600	Convertible space to allow for tables/chairs; south side pool
Concession Area(s)	500	-	900	1,450		Cooking; Ice Machine; Refrigeration/Freezer; located in each seating area
Male Restrooms	1200	563	900	900		Per Building Code
Female Restrooms	1200	500	-	-		Per Building Code
Family Restroom	60	-	-	-		Per Building Code
Subtotal	4,570	2,673	3,410	3,850	4,600	
Sub-total:	4,570	2,673	3,410	3,850	4,600	
Factorial - circulation, walls, mechanical space (30%)	1,371	802	1,023	1,155	1,380	
Total Space Required - Aquatic Center (GSF)	5,941	3,475	4,433	5,005	5,980	

06 - SPECTATOR FACILITIES						
SPACE DESCRIPTION	CITY PROGRAM (SF)	CURRENT FACILITY (SF)	PROPOSED FACILITY OPTION 1	PROPOSED FACILITY OPTION 2	PROPOSED FACILITY OPTION 3	CITY PROGRAM REMARKS
01 - AQUATIC CENTER ADMINISTRATION	6,182	2,123	5,915	5,915	9,750	
02 - BEACH PATROL	5,460	3,202	2,548	2,938	7,150	
03 - FACILITY SUPPORT ROOMS	20,215	9,069	13,572	26,377	28,990	
04 - LOCKER/CHANGING ROOMS	12,025	5,798	6,214	9,347	15,600	
05 - SWIMMING FACILITIES	12,025	3,199	6,318	7,966	18,889	
06 - SPECTATOR FACILITIES	5,941	3,475	4,433	5,005	5,980	
Building Totals	61,848	26,866	39,000	57,548	86,359	
BUILDING AREA GRAND TOTAL						



City of Fort Lauderdale - Aquatic Center
Facility Renovation Preliminary Budget Estimates

3/28/2016

OPTION 1			
	Building 1 (Renovation)		\$1,039,000.00
	Building 2 (Renovation)		\$1,610,000.00
	Building 3 + 4 (Renovation)		\$2,900,000.00
	Building 5 (Renovation)		\$3,155,000.00
	Pool 1 - Training (Rehab)		\$408,000.00
	Pool 2 - Competition (Rehab)		\$408,000.00
	Pool 3 - Dive Well (Rehab)		\$283,000.00
	Pool 4 - Spa (Rehab)		\$10,000.00
	Pool 5 - Teaching (Rehab)		\$20,000.00
	Pool Deck (Resurface)		\$340,000.00
	General Site Improvements		\$1,660,000.00
	Option 1 - Subtotal		\$11,833,000.00
	Owner's Contingency (20%)		\$2,366,600.00
	General Conditions (10%)		\$1,183,300.00
	Overhead and Profit (15%)		\$1,774,950.00
	Design Fees (20%)		\$2,366,600.00
	Permitting (5%)		\$591,650.00
	OPTION 1 - GRAND TOTAL		\$20,116,000.00

OPTION 2			
	Building 1 (Renovation)		\$1,039,000.00
	Building 2 (New)		\$1,610,000.00
	Building 3 + 4 (New)		\$6,118,000.00
	Building 5 (Renovation + New Addition)		\$4,599,000.00
	Pool 1 - Training (Rehab)		\$688,000.00
	Pool 2 - Competition (New)		\$2,950,000.00
	Pool 3 - Dive Well (New)		\$3,400,000.00
	Pool 4 - Spa (New)		\$50,000.00
	Pool 5 - Teaching (Rehab)		\$20,000.00
	Pool Deck - Raised Deck (New)		\$475,000.00
	General Site Improvements		\$1,660,000.00
	Option 2 - Subtotal		\$22,609,000.00
	Owner's Contingency (15%)		\$3,391,350.00
	General Conditions (10%)		\$2,260,900.00
	Overhead and Profit (15%)		\$3,391,350.00
	Design Fees (15%)		\$3,391,350.00
	Permitting (5%)		\$1,130,450.00
	OPTION 2 - GRAND TOTAL		\$36,174,000.00

OPTION 3			
	Building 1 (New)		\$600,000.00
	Building 2 (New)		\$6,940,000.00
	Building 3 + 4 (New)		\$6,118,000.00
	Building 5 (New)		\$12,735,000.00
	Pool 1 - Training (New)		\$1,400,000.00
	Pool 2 - Competition (New)		\$2,950,000.00
	Pool 3 - Dive Well (New)		\$3,400,000.00
	Pool 4 - Spa (New)		\$50,000.00
	Pool 5 - Teaching (New)		\$200,000.00
	Pool Deck (New)		\$340,000.00
	General Site Improvements		\$1,660,000.00
	Option 3 - Subtotal		\$36,393,000.00
	Owner's Contingency (10%)		\$3,639,300.00
	General Conditions (10%)		\$3,639,300.00
	Overhead and Profit (15%)		\$5,458,950.00
	Design Fees (10%)		\$3,639,300.00
	Permitting (5%)		\$1,819,650.00
	OPTION 3 - GRAND TOTAL		\$54,590,000.00





CITY OF FORT LAUDERDALE AQUATIC CENTER

APPENDIX

OPTION 2A:

Provide a semi-competitive mid-level Aquatic Center by improving the existing facility as follows:

[Note that Option 2A is the same as Option 2 with the exception of Building No.5 – see item D below.]

- A. Building No. 1 Similar as in Option 2 - Renovate the existing building.
1. Proposed building functions to include:
 - Proshop and restrooms on the 1st floor
 - Aquatic Center administrative offices and restrooms on the 2nd floor.
 2. Proposed interior improvements to include:
 - Remove existing finishes and provide new throughout the building.
 - Renovate existing restroom layouts to be code compliant.
 - Enclose existing open stair so it becomes a code compliant egress stair.
 3. Proposed exterior improvements to include:
 - Replace existing windows and doors with new impact-rated thermally efficient units.
 - Add new window openings on 2nd floor east and west façades for increased views to ocean and aquatic center.
 - Patch and repair existing stucco finish
 - Repaint entire building
 - Apply new waterproof roof surfacing
 4. Proposed system upgrades to include:
 - Provide access and maintenance to all mechanical units
 - Maintain existing electrical system and replace broken or missing parts
 - Replace existing plumbing fixtures with new more efficient fixtures that meet current standards
- B. Building No. 2 Same as in Option 2 – Remove the existing building, concrete bleachers and light poles (condemned in 2011). Provide two new stand-alone single-story buildings.
1. Proposed building functions to include:
 - East building for spectator restrooms and ticket office.
 - West building for the FPL vault and pool filtration equipment.
 2. Provide a new concrete slab-on-grade in between the two new buildings for a +/- 1,000 spectator capacity metal bleachers. Provide an ADA lift for accessibility distributed throughout the bleachers.
 3. Provide a covered walkway with a 8' deep metal canopy along the back edge of the bleaches to protect spectators as they leave the facility and wait for rides in the parking lot.
 4. Keep existing FPL vaults in the building and replace/repair structure around it. Provide new electrical service throughout remaining structure. Replace parts that are showing age and are worn.

C. Building No. 3&4 Same as in Option 2 – Remove existing building.
Provide new 2-story building.

1. Proposed building functions to include:

- Bathhouse with Lifeguard, Swimming & Diving offices, restrooms/showers/locker rooms, concession area, large pool storage and equipment rooms, and other support functions on the 1st floor.
- Existing FPL vault and electrical room within a new enclosure on the 1st floor.
- Press room, timing room, media room, coach's observation room, VIP suite, conference room and spectator toilet-rooms on the 2nd floor.
- +/- 500 spectator capacity metal bleachers on the 1st floor open roof areas.
- 2 stairs and 1 elevator for vertical circulation.

D. Building No. 5 Demolish the existing building.

Provide a new multi-level Parking Garage with an enclosed building on the 1st floor.

1. Proposed building functions to incorporate:

- Beach Patrol suite with storage area and dedicated parking spaces on the 1st floor.
- Conference rooms, Awards room, various Swim Coaches offices, restrooms and Mechanics Shop on the 1st floor.
- Potential to house Crew/Rowing Team office and equipment on the 1st floor adjacent to the Beach Patrol suite.
- Surface parking lot for 35 cars on the 1st floor.
- Parking decks with 63 car capacity on each of the 2nd and 3rd floors.
- Potential to house Crew/Rowing Team office and equipment on the 1st floor adjacent to the Beach Patrol suite.

2. Proposed interior features to include:

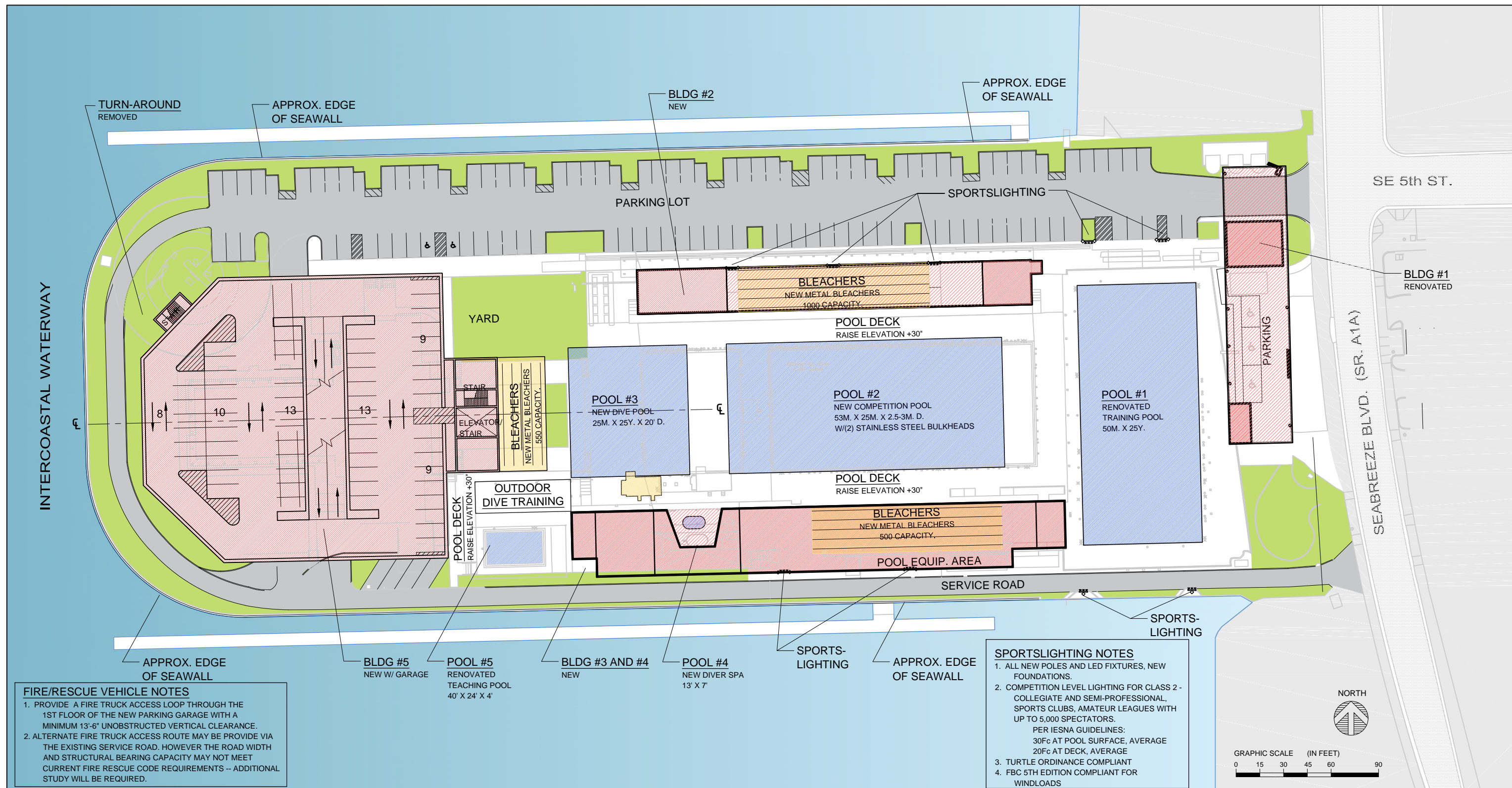
- New interior fit-out of the enclosed space will be fully code compliant.

3. Proposed exterior features to include:

- An architectural treatment “wrap” will be provided for the Parking Garage to help dress up the façade, screen the parked vehicles, and provide a pleasing design for the cityscape.
- The new east-side bleachers for the Dive Pool may be incorporated into the design of this building, with a viewing platform available on the 2nd level, just outside the elevator/stair tower. This will allow a sweeping view across the entire Aquatic Center.
- Provide two egress stair towers and one elevator.
- Modify the existing driveway turn-around to allow for the Parking Garage footprint to fit.

- E. Pool No. 1 Same as in Option 2 - Renovate Training pool with new surfacing and gutters. See pool assessment in section E above for details.
- F. Pool No. 2 Same as in Option 2 - Remove existing competition pool. Provide new expanded fully FINA compliant standard competition pool with (2) moveable stainless steel bulkheads.
- G. Pool No. 3 Same as in Option 2 - Remove existing Diving pool and underground observation room. Provide new fully FINA compliant expanded Diving pool with a five platform (1m, 3m, 5m, 7.5m, 10m) dive tower, and 1m and 3m springboards. Provide concrete slab on grade with metal bleachers for +/-550 spectators on the west side of the pool.
- H. Pool No. 4 Same as in Option 2 - Remove existing Dive spa. Provide new covered spa, close to original location of the existing one with open access to the pool deck area.
- I. Pool No. 5 Same as in Option 2 - Renovate Instructional pool with new surfacing.
- J. Pool Deck Same as in Option 2 - Raise existing pool deck approximately +30 inches to allow for increased pool depths needed for competition-level use. Ramp and step transitions will be required to maintain access to the other buildings on site.
- K. General Same as in Option 2 - Replace all non-functioning mechanical, electrical, plumbing and pool piping and equipment.

Note that Option 2A will provide the city a facility that is compliant with most current FINA regulations for swimming and diving competitions. It can also serve as a training and recreational facility for swimming and diving.

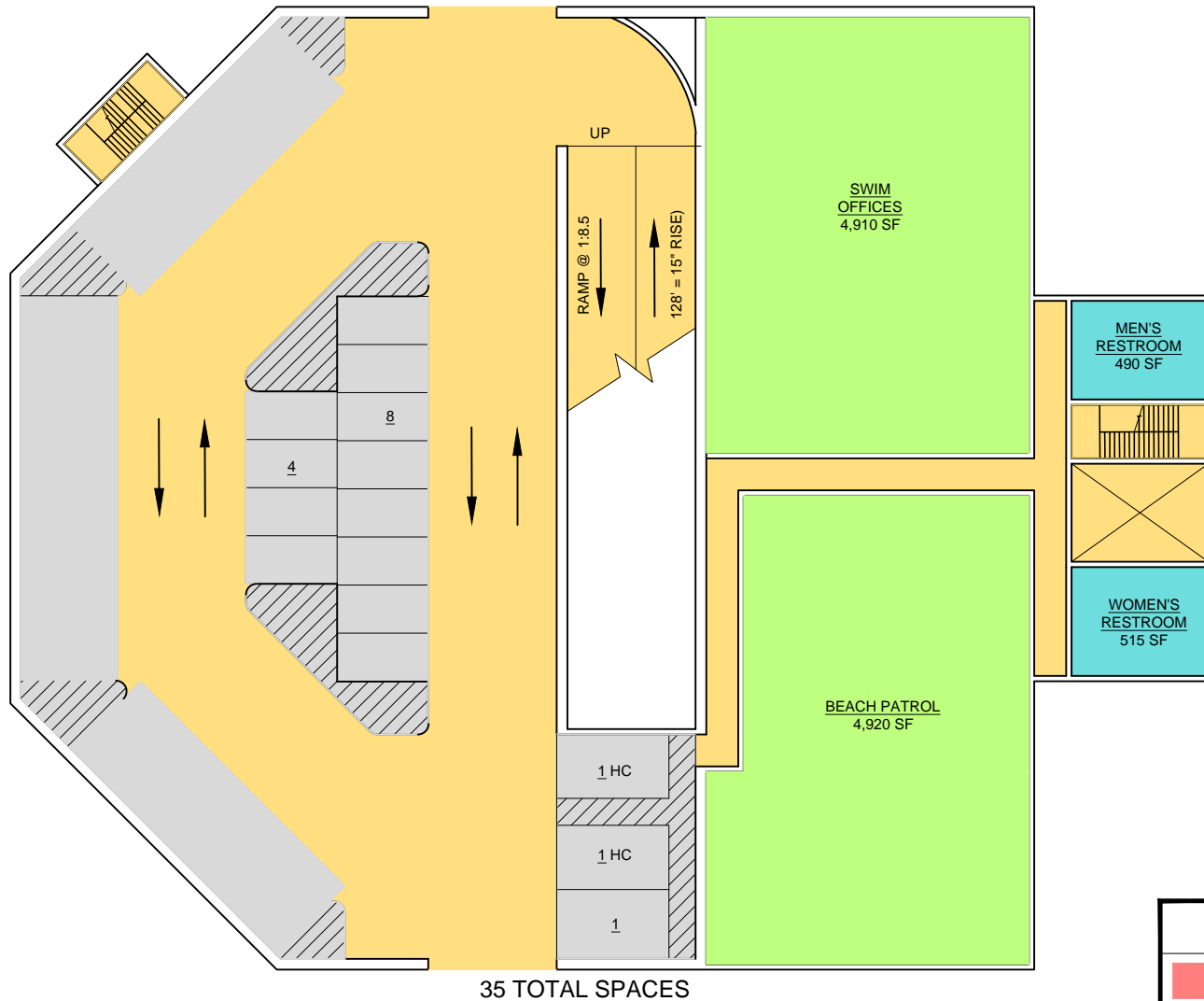


WALTERS•ZACKRIA ARCHITECTS

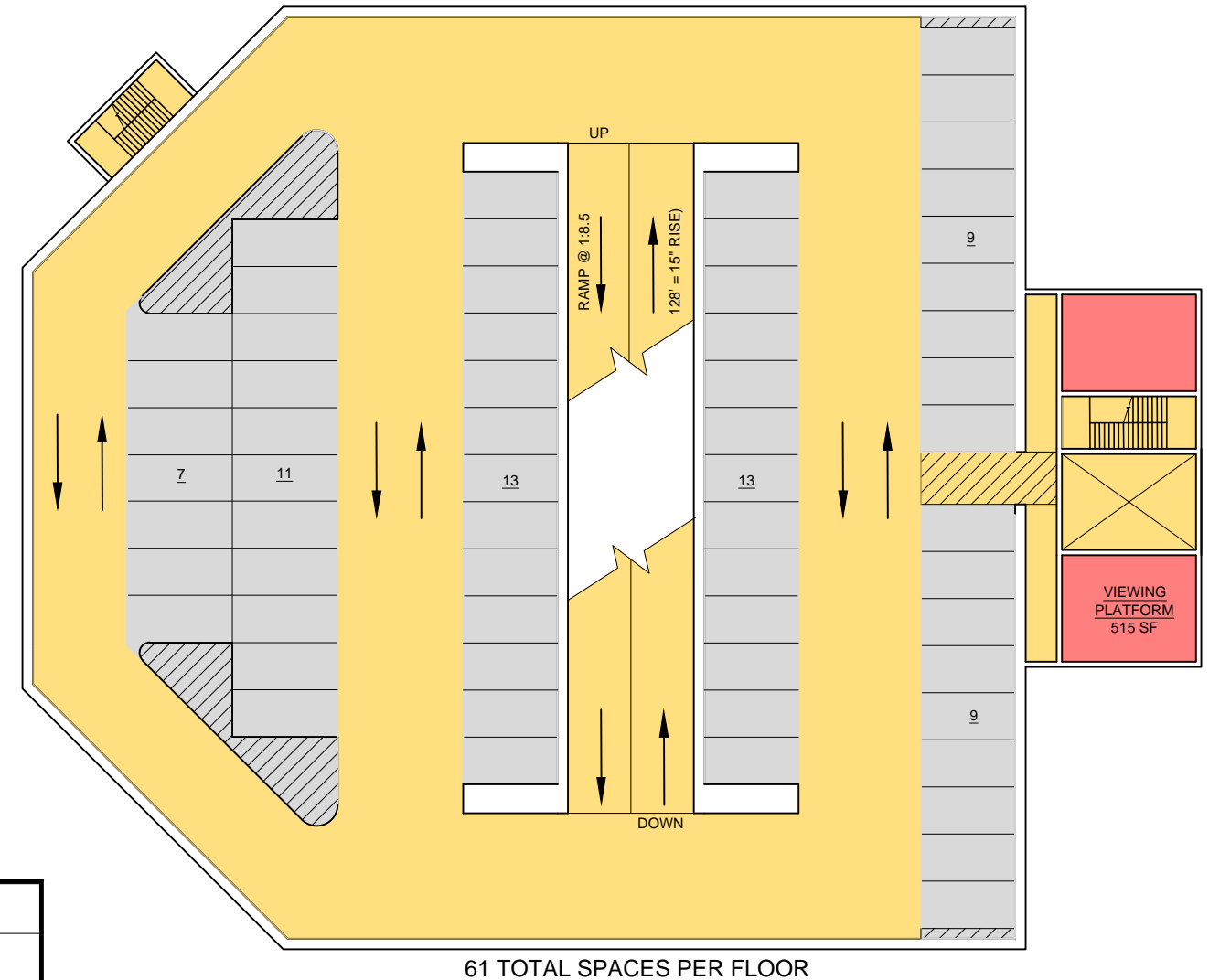
1500 W. Cypress Creek Rd., Suite 105, Fort Lauderdale, Florida 33309
Phone: 954-522-4123 Fax: 954-522-4128

CITY OF FORT LAUDERDALE AQUATIC CENTER
OPTION 2A, ARCHITECTURAL CONCEPTUAL SITE PLAN

MARCH 28, 2016



1 BUILDING 5 - FIRST FLOOR PLAN
SCALE: N.T.S. 



2 BUILDING 5 - SECOND FLOOR PLAN
SCALE: N.T.S. **[THIRD FLOOR PLAN SIMILAR]** 

LEGEND

- PUBLIC ACCESS
- STAFF/OFFICES
- TEAM ACTIVITIES
- POOL TREATMENT/MAINTENANCE
- SUPPORT/MEP
- RESTROOMS/LOCKERS
- PARKING
- CIRCULATION

AREA CALCULATIONS

FIRST FLOOR:	34,675 SF
SECOND FLOOR:	34,675 SF
THIRD FLOOR:	34,675 SF



WALTERS•ZACKRIA ARCHITECTS

1500 W. Cypress Creek Rd., Suite 105, Fort Lauderdale, Florida 33309
Phone: 954-522-4123 Fax: 954-522-4128

CITY OF FORT LAUDERDALE AQUATIC CENTER
OPTION 2A, BUILDING 5, CONCEPTUAL FLOOR PLAN

MARCH 28, 2016

OPTION 2A			
	Building 1 (Renovation)		\$1,039,000.00
	Building 2 (New)		\$1,610,000.00
	Building 3 + 4 (New)		\$6,118,000.00
	Building 5 (New - Parking Garage with 1st floor building, arch'l treatment)		\$5,955,000.00
	Pool 1 - Training (Rehab)		\$688,000.00
	Pool 2 - Competition (New)		\$2,950,000.00
	Pool 3 - Dive Well (New)		\$3,400,000.00
	Pool 4 - Spa (New)		\$50,000.00
	Pool 5 - Teaching (Rehab)		\$20,000.00
	Pool Deck - Raised Deck (New)		\$475,000.00
	General Site Improvements		\$1,660,000.00
	Option 2A - Subtotal		\$23,965,000.00
	Owner's Contingency (15%)		\$3,594,750.00
	General Conditions (10%)		\$2,396,500.00
	Overhead and Profit (15%)		\$3,594,750.00
	Design Fees (15%)		\$3,594,750.00
	Permitting (5%)		\$1,198,250.00
	OPTION 2A - GRAND TOTAL		\$38,344,000.00



GENERAL NOTES

1. The scope of this report was to document the existing conditions on a general level. This report is by no means intended to be documentation of every minor deficiency or to perform analysis below the surface using destructive methods.
2. No warranty is made that the conditions will not change before repairs are implemented to the buildings or that the hidden conditions will be the same as the visible conditions noted or as drawn in the construction documents analyzed.
3. No existing soil classification or bearing analysis was performed.
4. Destructive testing and analysis would be required to gather more definite structural information for each building component. Without this in-depth investigation, it is difficult to determine what exactly is causing cracks or to determine the condition of the structural elements.
5. Budget estimates are very preliminary and based on the evaluating team's experience with similar projects. Revised cost estimates will be required prior to project construction. Estimates are based on March 2016 pricing and inflation adjustments may be required to obtain accurate project budgets at that time. Since the budget estimates in this report are not derived from actual estimate take-off performed on accurate as-built construction documents, specifications and existing hidden conditions, they are not to be considered as absolute estimates, but rather planning guides and in relative terms.
6. Due to the intensive nature of the corrective work and current market conditions, the actual bid prices may vary greatly from the preliminary budget estimate provided in this report.
7. This report is copyrighted 2016 (all rights reserved) and not be reproduced in part or in total by any means without prior written permission from Walters Zackria Associates, PLLC, except for distribution by our client within the City and as required by law.
8. This report is accurate to the best of our knowledge, but is not a substitute either now or in the future for plans and specifications for use by the contractors to perform the corrections noted.
9. By distributing this report to unauthorized parties, the Client agrees to assume all liability for use of the contents of the report and to relieve Walters Zackria Associates, PLLC, from any liability associated with use by such parties.
10. The existing site Destructive testing and analysis would be required to gather more definite information for each building structural component. Without this in-depth investigation, it is difficult to determine what exactly is causing the cracks.
11. The site plans and floor plans shown in this report are conceptual in nature. As the project moves forward, design development will need to include items such as a full ADA compliance study, current Florida Building Code analysis, an in-depth analysis of existing structural



conditions for any building receiving additions or modifications, study of all existing site restrictions such as set-backs, utility easements and the like, and further refining of the spatial programming spreadsheet and functional adjacencies with FLAC staff input.

12. The following team members are responsible for the content of the this report:

Architectural:	Walters-Zackria Associates, PLLC 1500 W. Cypress Creek Road, Suite 105 Ft. Lauderdale, FL 33309 954-522-4123
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Pools:	Aquadynamics Design Group, Inc. 5000 SW 75 th Ave, Suite 103 Miami, FL 33155
Mechanical/Electrical/Plumbing:	Delta G Consulting Engineers 707 NE 3 rd Ave., Suite 200 Ft. Lauderdale, FL 33304