Aquatic Center Master Plan

Boulder City Project

No. 17-1013-MC(1)

sca design

Company Data

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541410 Interior Design Services
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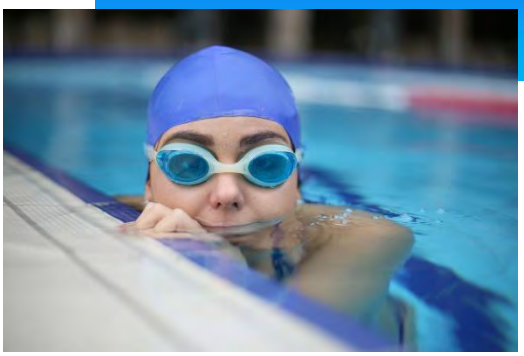


INTRODUCTION

In March 2020, The City of Boulder City issued a Request for Qualifications, RFQ 2020-01 Aquatic Center Master Plan Design. The intent of the solicitation was to provide investigation, cost estimating and a final report on the existing Aquatic Center Facility of what improvements would be required to bring the existing facility up to current Building and Health Department Codes.

In April of 2020, the project was put on hold due to budget reductions with the possibility of the project moving forward in 2021.

In fall of 2020, SCA Design was notified, the firm was a well-qualified, low bidder and invited to interview for the project. After initial interviews, additional information was provided, the scope was expanded to include provisions for a cost estimate to construct a new Aquatic Center facility located in Boulder City, Nevada 89005. (Considerations have been made to make it a high priority, but not required, to keep the existing pool functioning while constructing the new pool.)

SCA Design was notified the City wanted to move forward with. On January 4, 2021, a contract was signed to provided services outlined as Task1with Subtasks 1-3 and 4: 1-4. (with a 2-month turnaround time) and Task 2 (with a 3-month turnaround time) (See Scope of Work). This report will cover Task 1.

This report provides professional opinions and suggestions for required facility improvements and upgrades to the existing Boulder City Aquatic Center, otherwise known as, Boulder City Pool & Racquetball Courts located at 861 Avenue B, Boulder City, Nevada 89005. The existing facility is approximately 7,550 sf. This includes all areas under roof. The outdoor pool areas consist of 3 pools, approximately 6,252 sf. of surface area, 16,623 sf. recreational space.

Professional options have been compiled by licensed architects, engineers, pool consultant professionals and cost estimators under the direction of Boulder City by SCA Design.

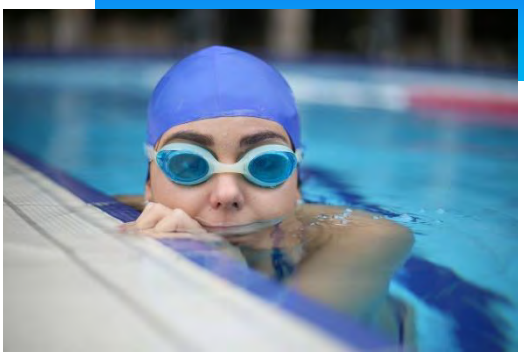
Architectural Firm: SCA Design

Mechanical, Plumbing and Electrical Engineering Firm: Engineering Partners

Pool Consultant: Aquatic Design Group

Cost Estimator: RLB- Rider Levett Bucknall

SCA Design is please to present findings and professional opinions to bring the existing facility up to current Building and Health Department Codes and provide a cost estimate to construct a new Aquatic Center facility.



SCOPE OF WORK

TASK 1

Scope of work Task 1, for RFQ 2020-01 Aquatic Center Master Plan Design.

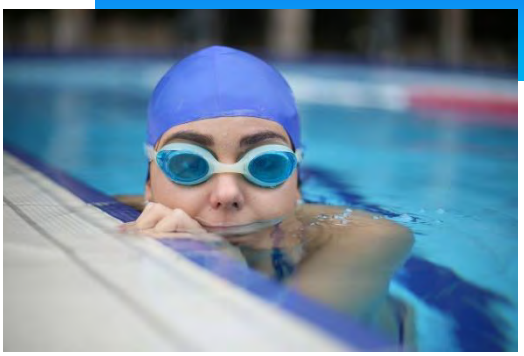
- Task 1: Review Historical Data - Review historical data from the City regarding plans and concepts that have been completed to date. Available information will be provided by the City to supplement a field investigation.
- Task 2: Existing Facility Condition Assessment – Utilizing available data to rate the overall facility condition, remaining life, and likelihood and consequence of failure for the three existing pools, pool mechanical equipment, and office building, which includes four sports courts. Determine what improvements are needed to the existing facilities to meet current building and health department codes.
- Task 3: Cost Estimate – Utilizing available data to provide a cost estimate on repairing and remodeling the existing aquatic facility to meet current building and health department codes. The cost estimate shall be broken down sufficiently and organized to be used to plan for portions of the improvements to be completed separately as funding becomes available.
- Task 4: Final Report – The consultant shall provide complete copies of all information obtained in both digital and hard copy format and assist the City to develop procedures for implementation of the assessment and cost estimate findings. The final report, at a minimum, shall include:

  1. An Executive Summary of the project reviewing findings, conclusions, recommendations, and costs for bringing the facility up to current Building and Health Department codes.

  2. A summary of the review of historical data and the field investigation findings, detailing the condition assessment of the entire facility and associated equipment and appurtenances. This must include the anticipated life expectancy of the existing facility without any improvements.

  3. Conclusions and recommendations for improvements to the existing facilities to bring them into compliance with current Building and Health Department codes. This must include the anticipated life expectancy of the improved facilities.

  4. A detailed cost estimate of improvements necessary to repair and remodel the existing facilities, organized to allow the improvements to be completed in phases as funding becomes available.



SCOPE OF WORK

TASK 2

Scope of work Task 2, for RFQ 2020-01 Aquatic Center Master Plan Design.

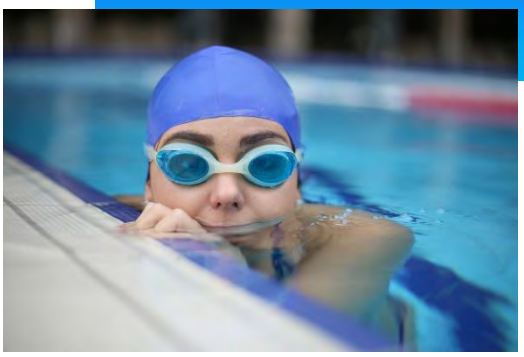
A rough cost estimate to construct a new facility based on the attached conceptual design and as discussed with Keegan Littrell by email on 11/5/2020. The scope of this estimate will be broad as the plans are purely conceptual and the inclusion of details have not been provided for the proposed facility.

The facility will have the look and feel of The Boulder Dam Hotel on Arizona Street, per phone call with Keegan Littrell on 12/7/2020.

Please allow for 3 months from issue of PO to complete this scope of work.

Reference attached documents:

1. Proposed Building Overlay (11/5/2020)
2. Adhoc Opt-2 (11/20/2020)
3. Adhoc Opt-3 (11/20/2020)
4. Design Features and Elements (11/20/2020)



TASK 1- HISTORICAL REVIEW OF DATA AND CONCEPTS, EXISTING FACILITY

Task 1: Review Historical Data - Review historical data from the City regarding plans and concepts that have been completed to date. Available information will be provided by the City to supplement a field investigation.

The following exhibits have been provided by the City for review and use in this report.

Historical data from the City was reviewed showing Main Pool Plan and Sections, Diving Pool Plan and Details, Site Plan Proposed Conditions, and a Bathhouse Floor Plan dated October 27, 1980, and February 11, 1981. A combined set of architectural plans (42 pages) were reviewed showing (as-built) history. The 40+ year-old documents were in poor condition, typical because of the age and quality of the documents of the time.

ADA Improvement plans were provided and dated February 13, 2014 to include new handrails for the competition pool (main pool) and fencing, and improvements in and around the wading pool.

The City provided photo documentation of the site, facility, pools, and bathhouse dated 2017. The pictures revealed an aging building in need of repair, and with accessibility issues. Cracks and drains showed needed repairs and possible trip/fall hazards. The temporary bubble showed deterioration and structural concern. Pools and equipment showed to be in poor condition and past useful life in many cases.

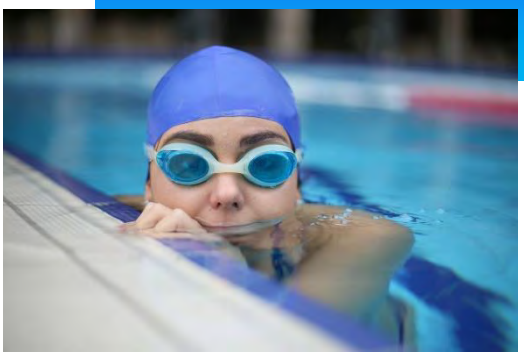
March 25, 2020 The City of Boulder City issued a RFQ 2020-01 Aquatic Center Master Plan Design. Addendum No. 1 was issued April 8, 2020, which included site and floor plans for the facility, the main, wading, and diving pool sections and 2017 photos of the existing conditions of the facility. (Exhibit 1).

Concept plans were provided November 5, 2020. (Exhibit 2- proposed building overlay)

November 20, 2020, additional documentation provided. (Exhibit 3- AdHoc Opt-2, AdHoc Opt-3, Design Features and Elements).

January 5, 2021, a combined set of architectural plans (42 pages) were provided and dated February 11, 1981.

January 6, 2021 the City provided the Community Preferred Option (SH Architecture / Councilman Hunsaker Aquatics for Life) with a floor plan of Community Preference Option 2, dated March 26, 2018. The document showed an estimated building square footage of 43,875 and a preliminary construction pricing of $27,359,940. (Exhibit 4).



February 24, 2021, the City provided historical document, containing reference to Asbestos report from February 2004. Showing asbestos was not a concern at the time.

Task 2: Existing Facility Condition Assessment – Utilizing available data to rate the overall facility condition, remaining life, and likelihood and consequence of failure for the three existing pools, pool mechanical equipment, and office building, which includes four sports courts. Determine what improvements are needed to the existing facilities to meet current building and health department codes.

To determine existing facility conditions, remaining life, and consequence of failure to the three existing pools, pool mechanical equipment, and office building with sports courts, multiple site visits were conducted with expert professionals from their respective fields. Informal interviews with staff were conducted to get a general feel of daily operations and facility use.

Field investigation/site walk November 2, 2020

Field investigation/ site walk January 10, 2021

Field investigation/ site walk February 16, 2021

Professionals contributing to the data review and reports include:

Architectural Firm: SCA Design

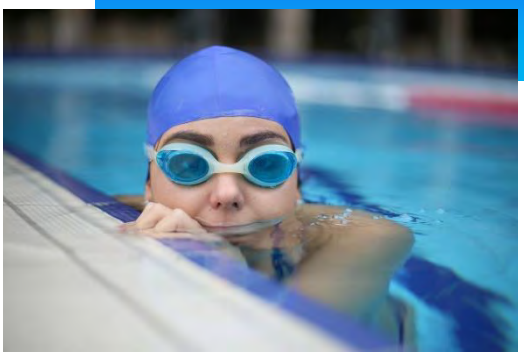
Mechanical, Plumbing and Electrical Engineering Firm: Engineering Partners

Pool Consultant: Aquatic Design Group

Cost Estimator: RLB- Rider Levett Bucknall

Existing facility condition assessments were based on visual assessments, provided historical data, exhibits and field investigations. Current conditions are typical for a 40+ year old facility with little/differed maintenance. Many code violations were noted and could be subject to a grandfathered clause.

The likelihood of failure of the three existing pools, pump, and mechanical equipment is high and currently failing in cases, as much is generally beyond the life expectancy cycle. Verbal reports of excessive water leakage in the past, also raise concern for environmental awareness needing future corrective action. Without immediate corrections, safety of staff and patrons are of concern.



Site access, office building, and sports courts are typical for their age. They lack improvements that would make the facility ADA accessible.

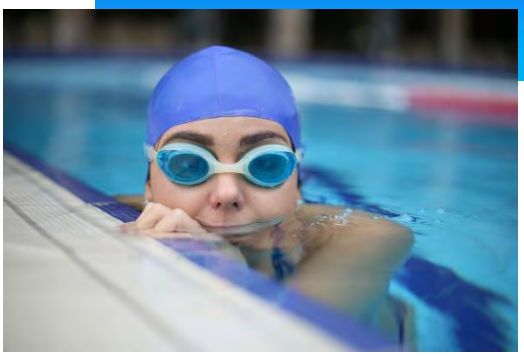
Current Life Expectancy: Generally, beyond useful life.

Recommended Improvements: Should be weighed by cost and life expectancy verses construction of new. Recommendations are specified for each relative area in the corresponding report sections.

Task 3: Cost Estimate – Utilizing available data to provide a cost estimate on repairing and remodeling the existing aquatic facility to meet current building and health department codes. The cost estimate shall be broken down sufficiently and organized to be used to plan for portions of the improvements to be completed separately as funding becomes available.

While the attached Assessment Estimate report shows a location summary with reference to areas A-H and K, it should be noted that completing repairs/ upgrades from a specific section does not rule out the need for repairs/upgrades from a different area. When planning for funding, it should be noted that some repairs/ upgrades will trigger the need for additional upgrades to the site, pool, and facility to also be brough up to ADA Accessibility standards as outlined in the respective areas. Design and permitting fees have been excluded from this report and should be added when scope is determined.

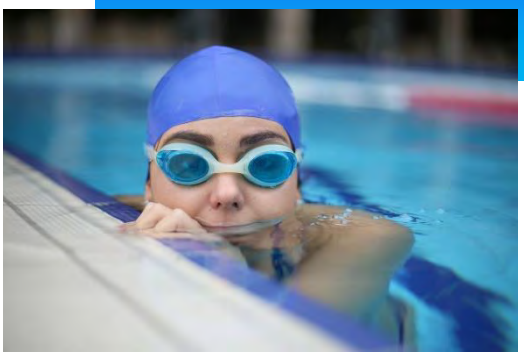
LOCATION SUMMARY
A Family Washroom
B Locker Rooms
C Pool Vestibules
D Racquetball / Gym
E Existing Electrical Room / Storage
H General Building Upgrades
F New Pool Pump Room
G Swimming Pools
J Site ADA Accessibility
K Future Maintenance Items



A cost estimate of $6,690,613.00 (Six-million, six-hundred and ninety-thousand, six-hundred and thirteen dollars) has been provided to repair and remodel the existing aquatic facility/pools to meet current building and health department codes with suggested future maintenance items included. Most of the maintenance items listed get resolved by going with new equipment, but should new equipment not be in the budget, these items need to be considered. The provided cost estimate is broken down in a way that some improvements can be completed as funding becomes available, while others need immediate attention for health/ life/safety purposes.

Task 4: Final Report – The consultant shall provide complete copies of all information obtained in both digital and hard copy format and assist the City to develop procedures for implementation of the assessment and cost estimate findings. The final report, at a minimum, shall include:

1. **An Executive Summary of the project reviewing findings, conclusions, recommendations, and costs for bringing the facility up to current Building and Health Department codes.**
2. **A summary of the review of historical data and the field investigation findings, detailing the condition assessment of the entire facility and associated equipment and appurtenances. This must include the anticipated life expectancy of the existing facility without any improvements.**
3. **Conclusions and recommendations for improvements to the existing facilities to bring them into compliance with current Building and Health Department codes. This must include the anticipated life expectancy of the improved facilities.**
4. **A detailed cost estimate of improvements necessary to repair and remodel the existing facilities, organized to allow the improvements to be completed in phases as funding becomes available.**



FINAL REPORT

Executive Summary

Findings. Recommendations. Conclusions. Costs.

The Boulder City Aquatic Center located at 861 Avenue B, Boulder City, Nevada 89005 was constructed in the late 1970's- to early 1980's. The building and many components are 40+ years old and past their intended life expectancy.

Visual inspections were made, and unknown conditions could be present. Due to the age of the facility, it is probable there are underlying issues that have gone unnoticed, reported or are not visible by the naked eye without further investigation, including demolition. Our observations are based strictly on conditions we could observe, provided through as-build drawings and information provided by staff and public works departments. This report should be considered in its entirely with no exceptions as a full recommendation based on findings and has been prepared exclusively for The City of Boulder City for the Boulder City Aquatics Center. No liability is accepted for any use of or reliance on the report by third parties.

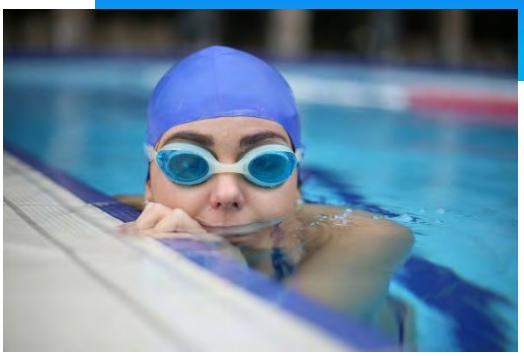
The report is broken down into three sections, highlighting the findings and recommendations for each.

1.) Architectural

2.) Mechanical, Electrical, Plumbing

3.) Pools

A total budget of $6,690,613.00 is estimated as needed to bring the facility up to code and make needed maintenance repairs.



SUMMARY OF HISTORICAL DATA AND FIELD INVESTIGATIONS: ARCHITECTURAL

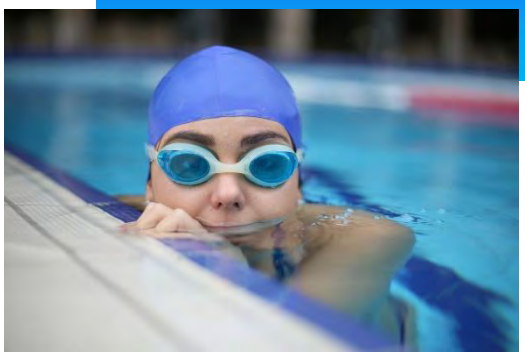
The architectural overview is intended to provide recommendations based on building, life health and safety codes and life expectancy of the current facility. The intent is to provide recommendations for the safety of staff, patrons, and occupant usage and in compliance with the required building codes. Maintenance items are also included. This report is based on historical data, site investigation, and current codes. Data has been provided by The City of Boulder City representatives, informal staff interviews, and independent consultants hired to evaluate the facility.

Our team has completed a detailed review of the facility's existing buildings, pools and equipment, heating, cooling and ventilation systems and assessed their replacement criteria by conducting several methods of investigation which include field investigation and system testing, cost estimation, as-built documentation research and architectural/engineering assessment.

The report provides a cost estimate on repairing and remodeling the existing aquatic facility to meet current building and health department codes. The cost estimate is broken down sufficiently and organized with the intent to be used to plan for portions of the improvements to be completed separately as funding becomes available. Cost estimate for architecture and engineering design costs or project soft costs are not included and should be evaluated at a later date based on scope or phases as funds become available. Costs for structural analysis of building, mechanical rooms, pools, and spaces may require destructive testing which is not included.

Building Codes

This report is intended to identify code violations that were found by visual inspection. Certain violations may be due to deterioration and material failures in which the code requires that these violations be rectified immediately, or the facility is to be shut down. If a facility is in violation of the current code, the liability exposure may warrant the remedy of the violation. Because of the liability of any health and safety risks to the public, these violations are suggested to be corrected immediately. Other violations may be due to modifications to the code over the years. The facility/pools may be operating with a grandfathered exemption that may legally operate in non-compliance of current standards. Some grandfathered conditions can exist until such time as when the facility is having work done in which the scope of the work will allow for the violation to be remedied. If such work is to take place, then the codes would demand that the violations be brought into code compliance. Given the subjective nature of the interpretation of the code, violations that may be deemed a grandfathered violation at one point may not be allowed at another time or by a different inspector. It is recommended that code issues should be reviewed on an individual basis to determine the disposition and possible remedies for each violation.



Building and safety standards are in place to safeguard life or limb, health, property, and public welfare by regulating and controlling the design, construction, location and maintenance of all buildings and structures and certain specifically regulated equipment within the city.

(1* https://www.bcnv.org/163/Building-and-Safety-Division).

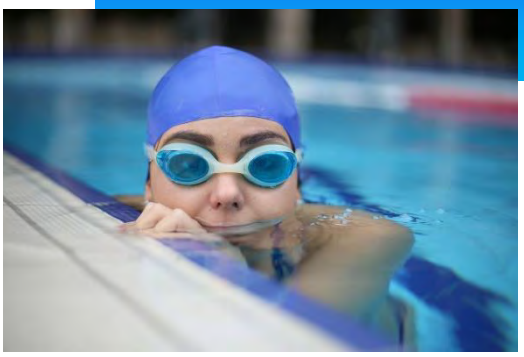
As of July 14, 2020, the City has adopted national and local codes. Permit applications for all projects submitted on or after January 14, 2021, must be designed in accordance with the newly adopted codes listed below.

The following codes are applicable to the facility as codes that have been adopted by the City

2020 Building and Safety Division Administrative Code
2018 International Building Code
2018 International Existing Building Code
2018 Uniform Mechanical Code
2018 Uniform Plumbing Code
2017 National Electrical Code
2018 International Swimming Pool and Spa Code
2018 International Energy Conservation Code
2018 International Fire Code
Southern Nevada Amendments
2018 Southern Nevada Health District -The Aquatic Facility Regulations went into effect on July 1, 2019. (*https://www.southernnevadahealthdistrict.org/permits-and-regulations/aquatic-health-program/regulations/) (as applicable)

Additionally, “The Boulder City Public Works Department is committed to compliance with Title VI of the Civil Rights Act of 1964 and subsequent related regulations and directives. Public Works assures that no person shall on the grounds of race, color, national origin, gender, age, or disability be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any service, program or activity.” (*2 https://www.bcnv.org/221/Public-Works)

ADA Accessibility Standards
“Accessibility standards issued under the Americans with Disabilities Act (ADA) apply to places of public accommodation, commercial facilities, and state and local government facilities in new construction, alterations, and additions. The ADA Standards are based on minimum guidelines set by the Access Board.” (*3 https://www.access-board.gov/ada/#about-the-ada-accessibility-standards)



Findings

The facility was viewed during public open hours and closed hours by a licensed architect, project manager and architectural team staff, as well as engineers and project consultants.

In field investigations, the overall facility seemed dated, aged and many areas seemed aged past useful life. In speaking to staff and making observations, health and safety concerns should be noted.

The current parking and access to the front of the building along Avenue B shows needed upgrades for ADA accessibility.

The facility showed areas inaccessible to guests/staff with ADA accessible requirements. Temporary laundry/ waste baskets, benches and other obstructions caused areas of the facility, including the ADA lift to be inaccessible, as well as problems for ingress/egress and possible hazards in an emergency. Restrooms in this area are not ADA accessible. A baby changing station was absent in the facility.

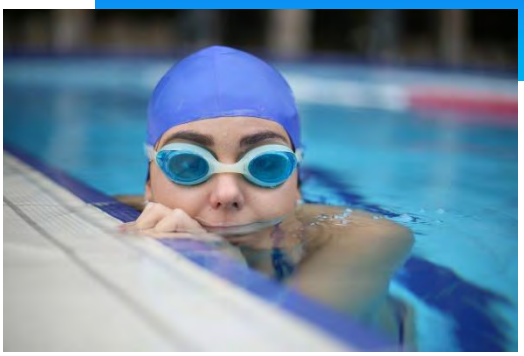
Access to the locker room facility on the men's side has ADA accessibility issues. Ambulatory and ADA toilet stalls, showers, and lavatories are in need of repair/replacement for accessibility in both the men and women's locker rooms.

Vestibules from the locker rooms to the temporary bubble were not tightly sealed and excessive humidity and chemical odors were observed and felt throughout the building.

The gym and racquetball court doors are not ADA accessible. The emergency exit at this level is a concrete stairwell, and not passable in a wheelchair.

The main pool was covered with a temporary structure, reported by staff to be more permanent than temporary, as the cover (referred by staff as the bubble) is only removed during summer months. There was not an ADA compliant exit from the locker rooms to the bubble and access from the vestibules were not ADA compliant/passable. With the current bubble in place, ADA compliant accessibility would be difficult on the exterior of the bubble as the structure that supports the exits made it hard/impossible to maneuver around the exterior of the bubble. Due to the nature of the temporary cover, for purposes of this report, the bubble/ temporary structure is excluded from estimate and recommendations. The plaster in the main swimming pool displayed cracks and could generally cause structural integrity issues of surrounding area and building due to possible water intrusion. The 2 outside pools (wading and diving) were covered for the season but showed notable debris on the covering. Accessibility issues to these areas are noted in the report addressing pools and decks.

As most of the building is built of CMU, although unseen, it is possible there could be mold onsite and should be noted during any demolition/ construction and budget and time allowances should be allotted as appropriate. (This is excluded from any estimate as condition is unknown.)



The bathhouse (mechanical/ pump/ chemical rooms) showed deterioration, chemical build up, in equipment, fixtures, pipes, and systems. Electrical/ mechanical/ pump room showed equipment dating from the 1980s in well need of repair/ replacement. Staff reported having to go swimming in the pit when repairs were needed as the accessibility for repairs was not possible at the ground level. Safety equipment was inaccessible and aged. Chemicals were stored improperly, causing possible safety hazards.

A new pump room would be required to house new pool equipment sufficient to bring the pools to code. Approximate size: pump room 30’ x66’

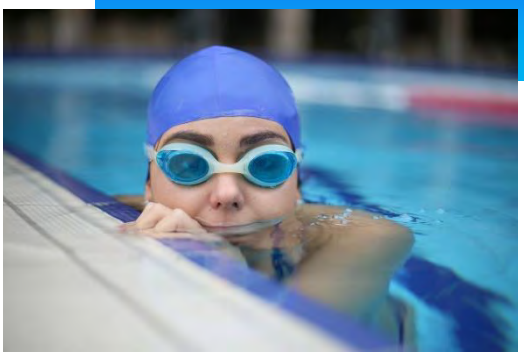
Recommendations

Repairs/ Upgrades to the reference areas as indicated in the location summary and on the attached site and floor plans:
A Family Washroom
B Locker Rooms
C Pool Vestibules
D Racquetball / Gym
E Existing Electrical Room / Storage
H General Building Upgrades
F New Pool Pump Room
G Swimming Pools
J Site ADA Accessibility
K Future Maintenance Items

Conclusions

ADA requirements include the following items when making building upgrades:

Accessible routes, walking services, doors, doorways and gates, ramps, curbs, parking spaces, passenger loading zones, stairways, and handrails. Drinking fountains, toilet and bathing rooms, water closets and toilet compartments, urinals, lavatories and sinks, shower compartments, grab bars, seats, fire alarm systems, signs, communications systems, wheelchair space, companion seats, designated aisle seats, dining and work surfaces, service counters, play areas, transfer systems, sloped entries, transfer walls, pool stairs, grab bars.



Area A: Family Washroom

Combine current male/ female restroom to a family restroom with ADA compliance. New ADA accessible lavatory
Remove plumbing fixtures TYP; replace with new ADA accessible toilet & accessories; install new baby changing station
Remove existing door; replace with new 3070 wood door
Remove existing wall

Areas B: Women's locker room

Remove existing CMU wall (2)
Remove existing toilets and stalls; install new ADA accessible toilet stall, new ambulatory toilet stall
Remove existing showers and stalls; install new ADA accessible shower, new ADA accessible lavatory
Remove existing screen CMU wall and door; install new screen CMU wall & door
Slip resistant floors

Area B: Men's locker room

Remove existing CMU wall; install new CMU wall
Remove existing door; install new door
Remove existing toilets and stalls; install new ambulatory toilet stall; new ADA accessible toilet stall
Remove existing showers; install new ADA accessible shower
Remove existing CMU walls; install new CMU wall and door
Slip resistant floors

Area C: Pool Vestibules

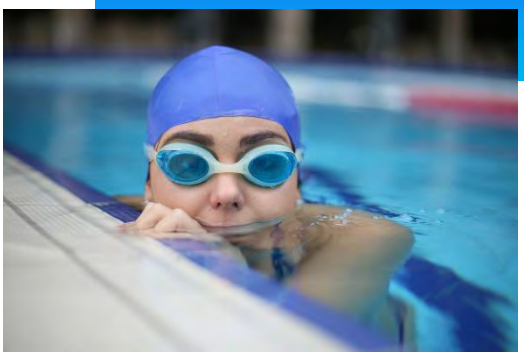
Remove existing concrete steps and wall; construct new 42" high concrete wall, install new steel handrail, new ADA accessible concrete ramp
Construct new vestibule with CMU walls, 10'8-" x 6'-4" (2)
New 3070 metal door on shelf closer (2)

Area D: Racquetball / Gym

Remove doors and cut walls open for new door (4); replace with new 3070 wood door (4)

Area E: Existing Electrical Room / Storage

Remove existing pump equipment and pit; new CMU wall; new in-fill with concrete slab where pit was removed (approx. 8 feet in depth); new door



Area G: Swimming Pools

Scope of 102'-0" x94'-6" pool dome/ temporary bubble is excluded from report, estimates, and recommendations.

AREA F: New Pool Pump Room

Construct new 66' x30' pump room; new 3070 hollow metal doors- typ.
Install new 5'-0" wide concrete access walkway.

Area J: Site ADA Accessibility

New "zero" curb for accessibility
New ADA accessible concrete walkway
New ADA Parking to include 4 standard stalls, plus 1 van accessible stall
New ADA accessible concrete ramp from parking to building entrance

K Future Maintenance Items

Maintenance items not replaced, should be considered, and evaluated for repair.

Further Investigation with Remodel/Repairs

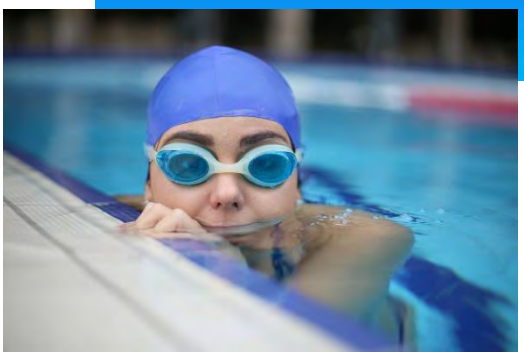
The possibility of mold and the need for remediation could be necessary as there is excessive building humidity, likely from the temporary bubble structure covering the main pool; humidity is infiltrating the building.

Verbal reports from staff indicate an excessive amount of water that has leaked in the past or is currently leaking, likely from pools, into surrounding landscape. Unknown structural conditions could be affected by water damage from leaking. It is recommended that water usage/ water waste reports be obtained and evaluated for further discovery of possible conditions that could affect the structural integrity of the facility, pools and surrounding amenities and water waste.

A temporary bubble has been constructed around the main pool. The temporary structure is more permanent than temporary as it is only removed during peak summer months and otherwise installed year-round. Bubble and exists are not ADA compliant. Exits are trip hazards causing safety concerns.

Temporary bubble is excluded from this report, recommendations, and estimates.

Pressurized tunnels to/from locker rooms are not ADA compliant and cause a safety hazards and fire exit noncompliance issues.



Structural integrity of swimming pool shell and appurtenances and ADA accessibility to pool and adjacent building could be a problem should the bubble not be properly powered to support the cover.

Fire exists must be clearly marked and accessible by all.

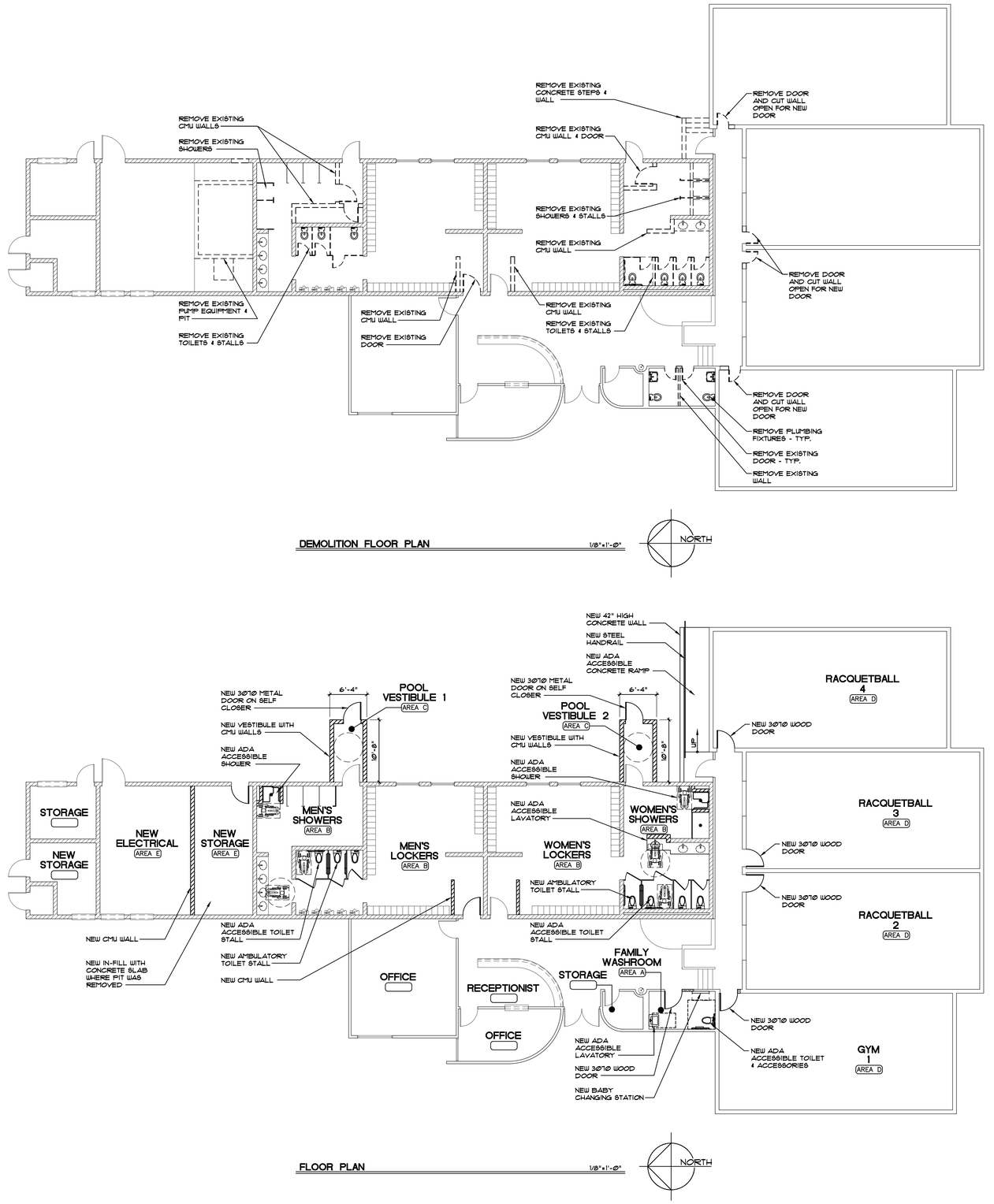
Summary:

Floorplan and site plans indicate recommendations and necessary modifications. See pages to follow.

Review photographs as attached for reference.

FLOOR PLAN

SCALE: 1/8"=1'-0"
2.26.2021
20114



DEMOLITION FLOOR PLAN 1/8"=1'-0"

FLOOR PLAN 1/8"=1'-0"

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HENDERSON, NEVADA 89052
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BOULDER CITY AQUATIC CENTER

APN: 186-09-210-148

A1

SITE PLAN

SCALE: 1"=20'-0"
2.26.2021
20114

FIFTH ST.

AVENUE B

EAGLES DR.

SIXTH ST.

NEW "ZERO" CURB

NEW ADA ACCESSIBLE CONCRETE WALKWAY

NEW ADA PARKING

NEW ADA ACCESSIBLE CONCRETE RAMP

30'-0"

NEW 36"Ø HOLLOW METAL DOOR - TYP.

NEW 5'-0" WIDE CONCRETE WALKWAY

66'-0"

NEW PUMP RM.
AREA F

WADING POOL
AREA G

DIVING POOL
AREA G

102'-0"

MAIN POOL
AREA G

94'-6"

NEW POOL 'AIR DOME'

EXISTING BUILDING

UP

EXISTING RESTROOMS

EXISTING TENNIS COURTS

EXISTING TENNIS COURTS

EXISTING BUILDING

EXISTING BUILDING

NORTH

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BOULDER CITY AQUATIC CENTER

APN: 186-09-210-148

AS1

Aquatic Center Master Plan
Boulder City Project
No. 17-1013-MC(1)
Facility Photographs

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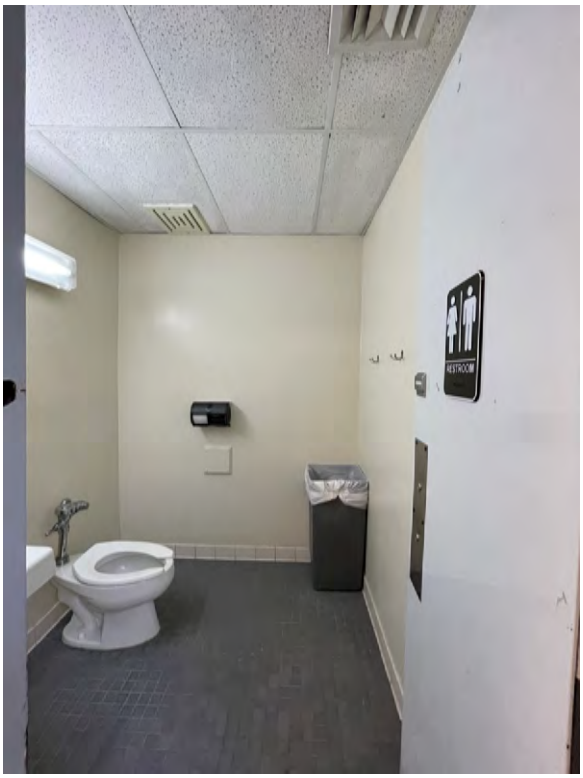
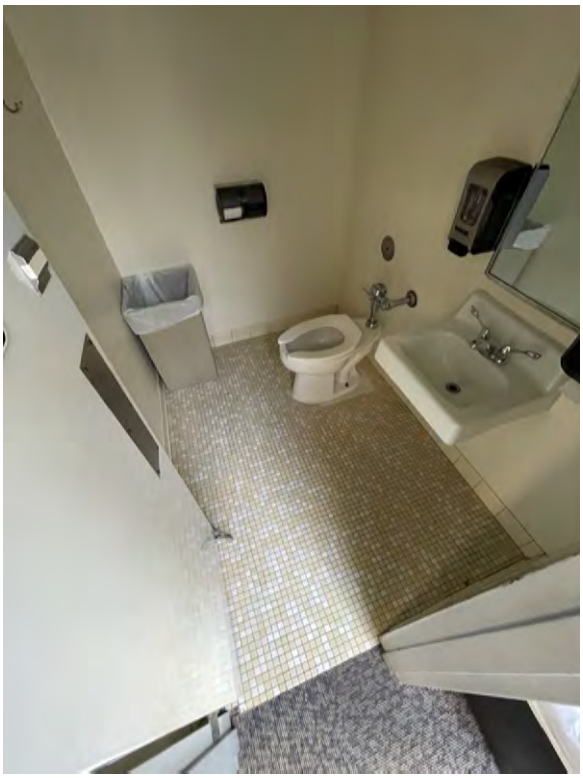
Area A: Family Washroom





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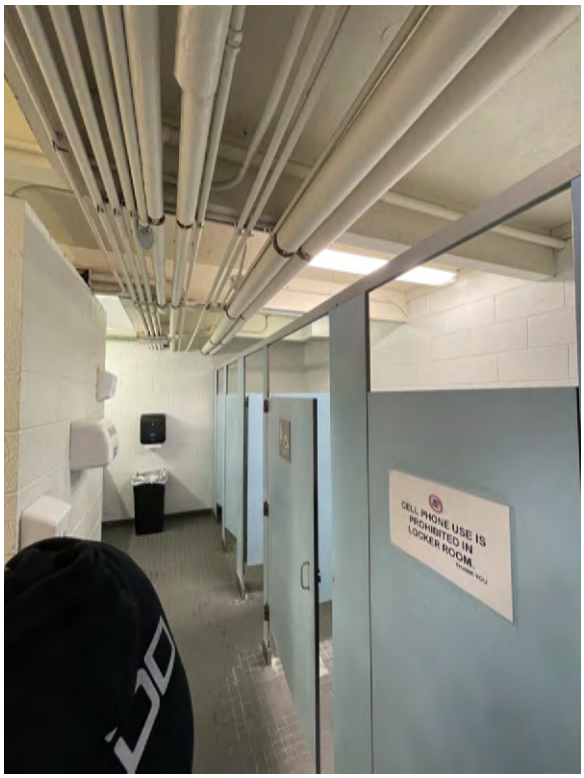
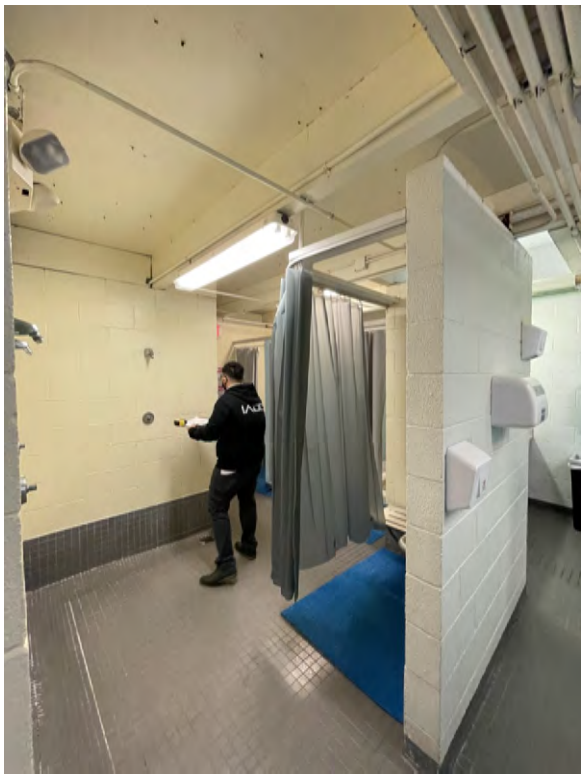
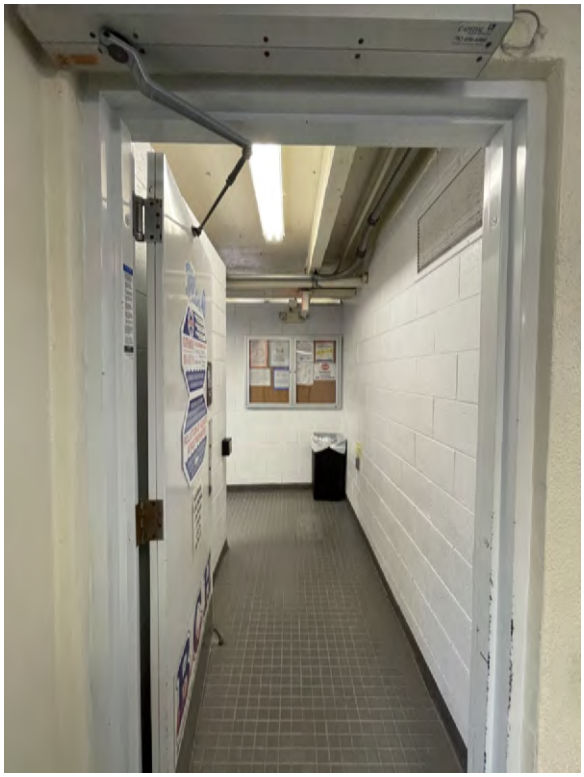
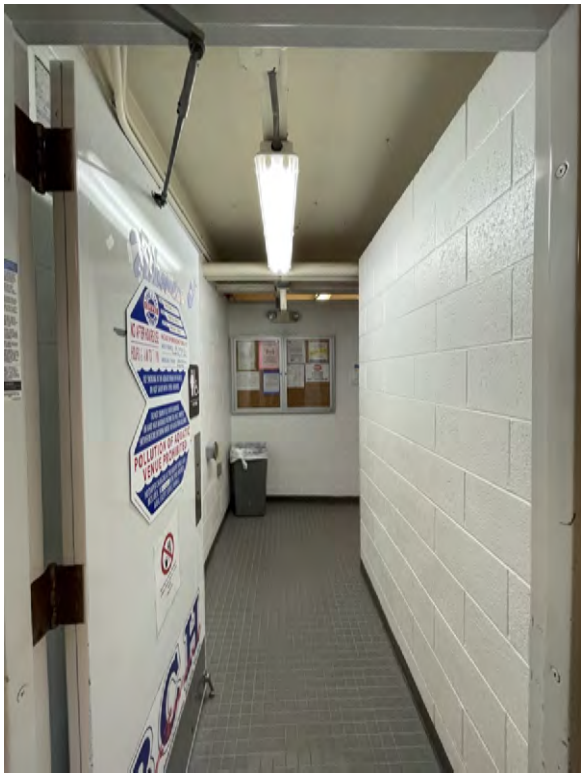
Area B: Locker Rooms









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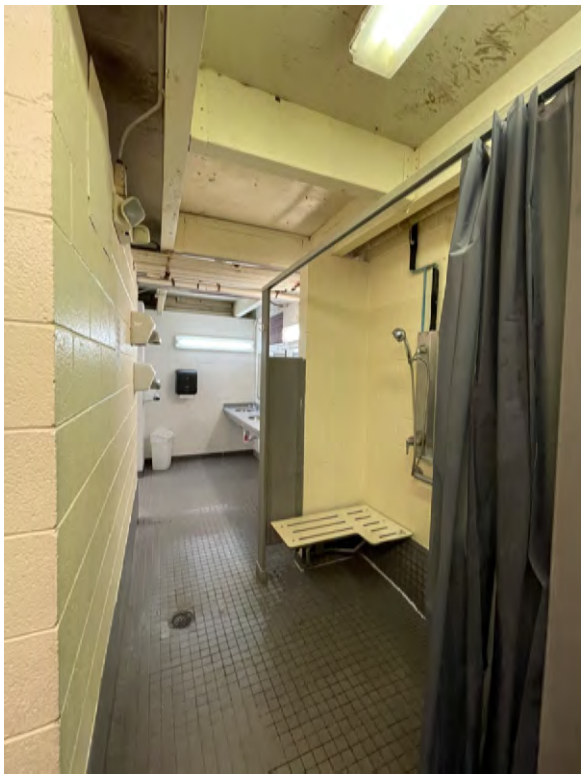
Area B: Locker Rooms



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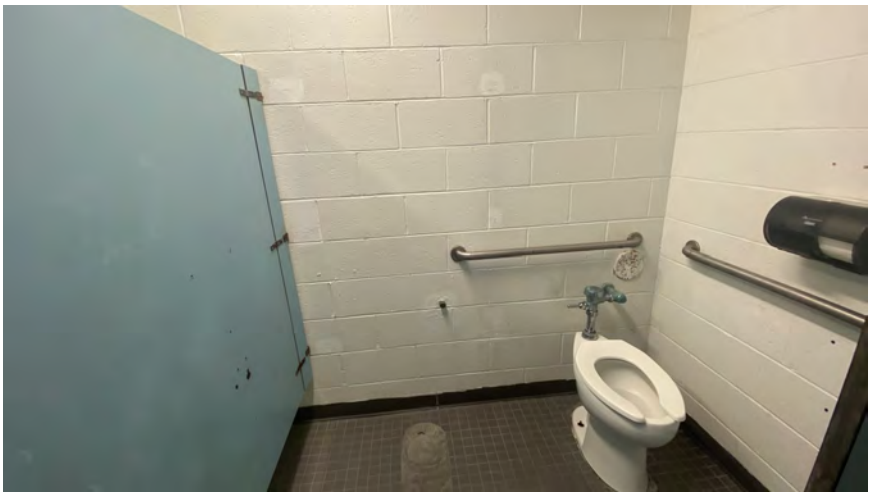
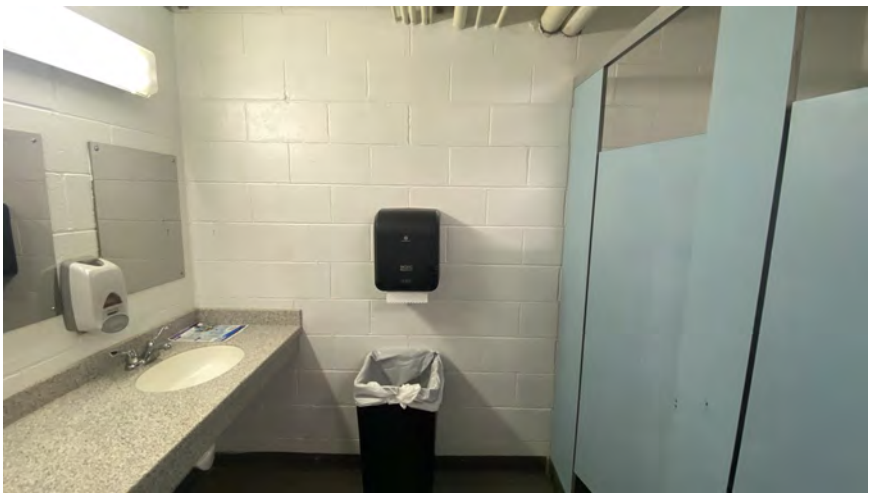
Area B: Locker Rooms





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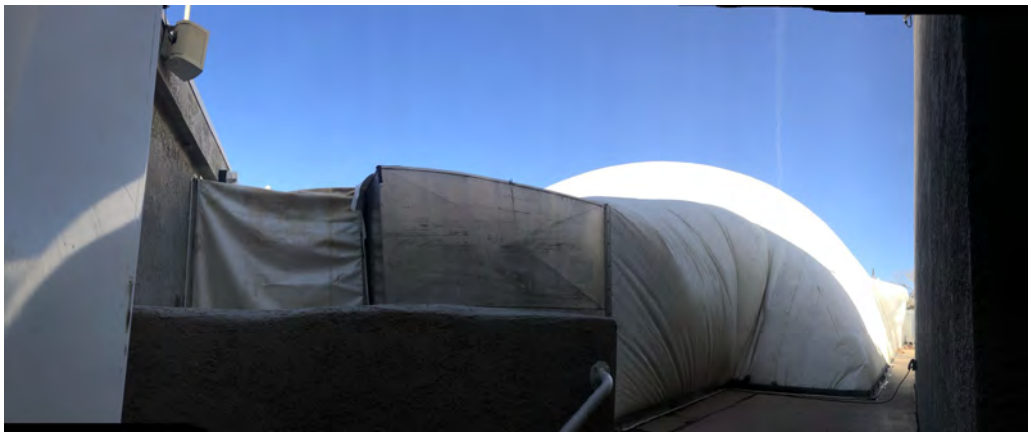
Area C: Pool Vestibules



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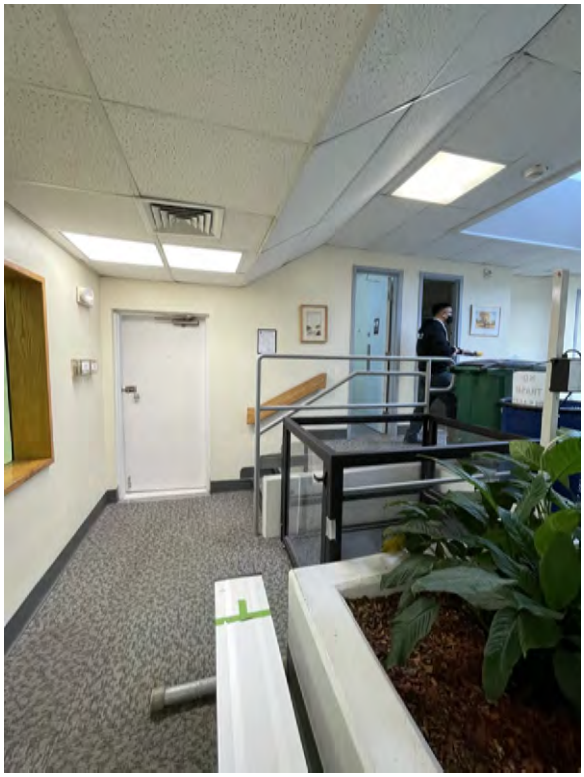
Area D: Racquetball/Gym



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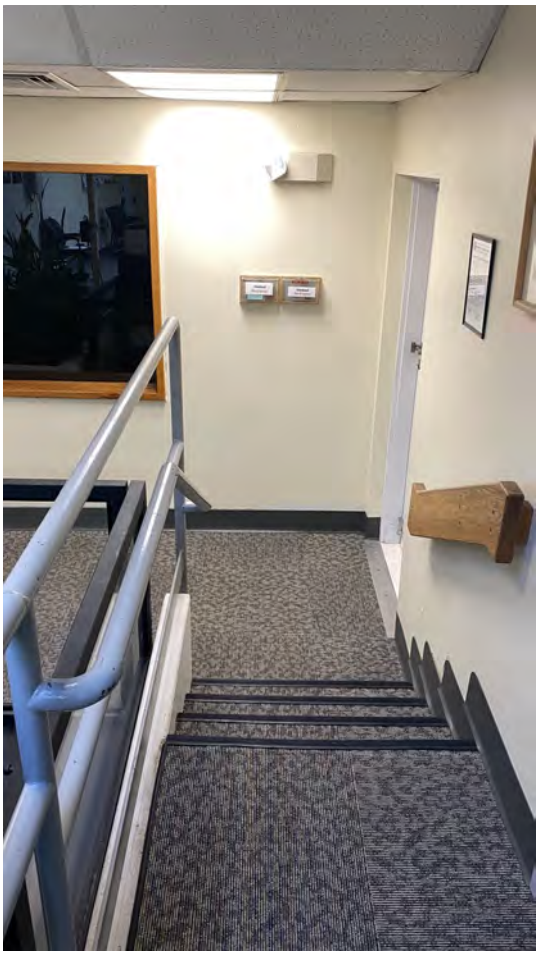
Area D: Racquetball/Gym



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Area D: Racquetball/Gym

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Area D: Racquetball/Gym

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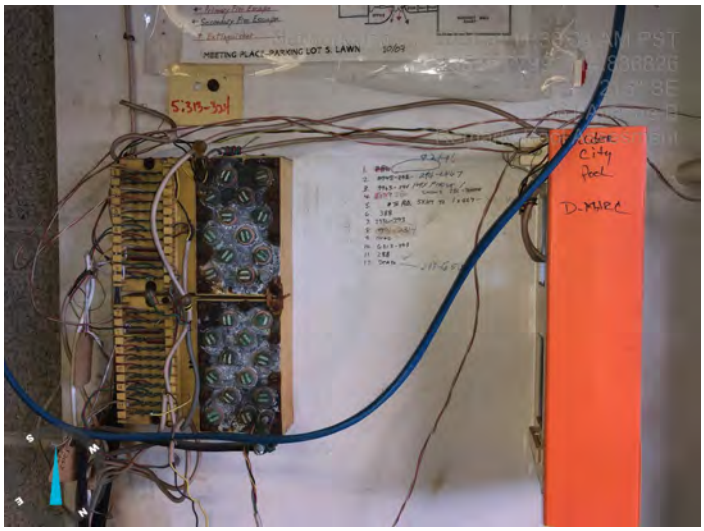
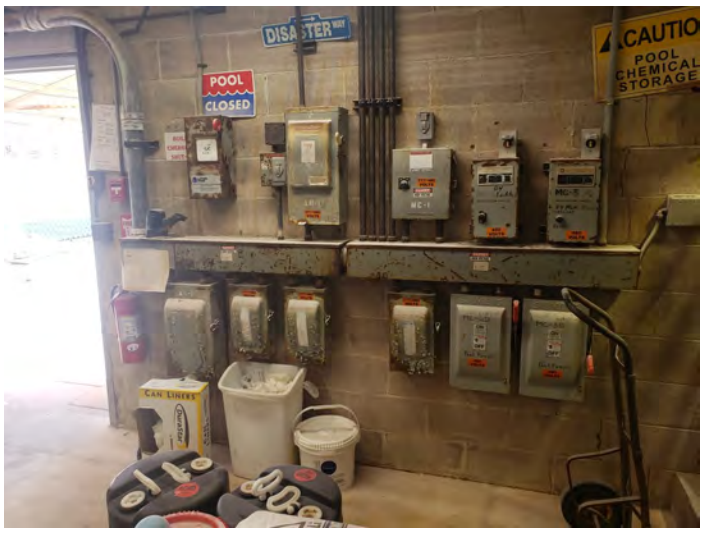
Area E: Existing Electrical– Pump Room/Storage





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Area E: Existing Electrical– Pump Room/Storage

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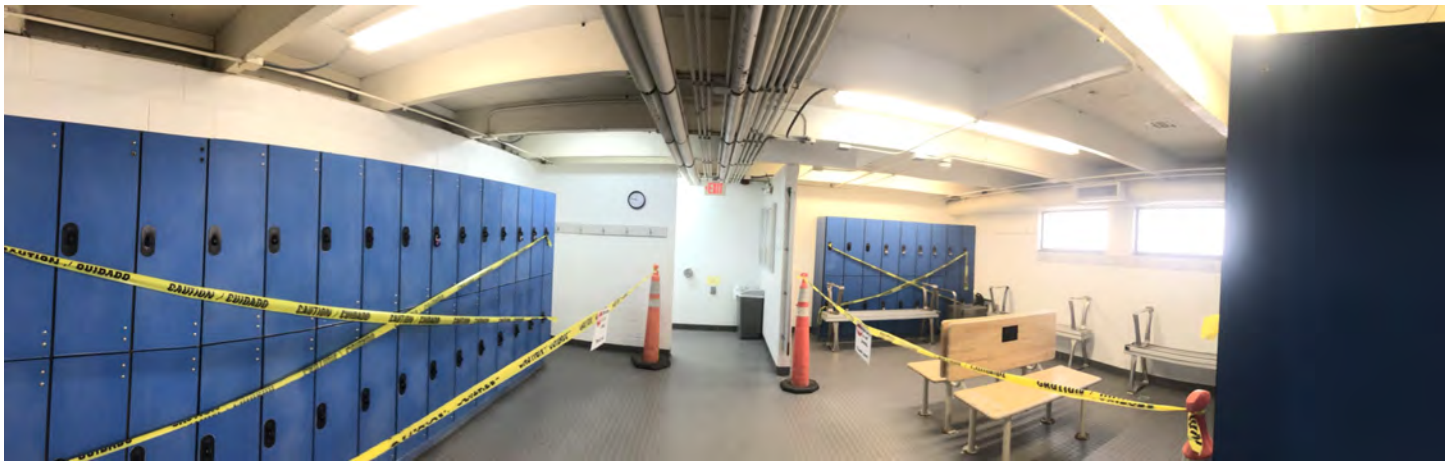
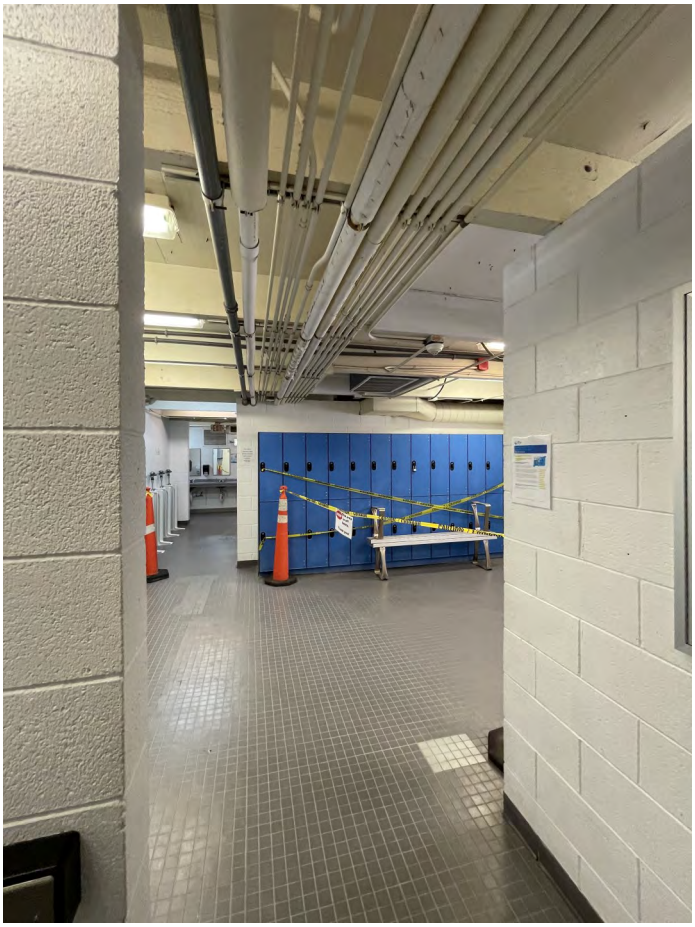
Area H: General Building Upgrades





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Area G: Swimming Pools

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Area G: Swimming Pools

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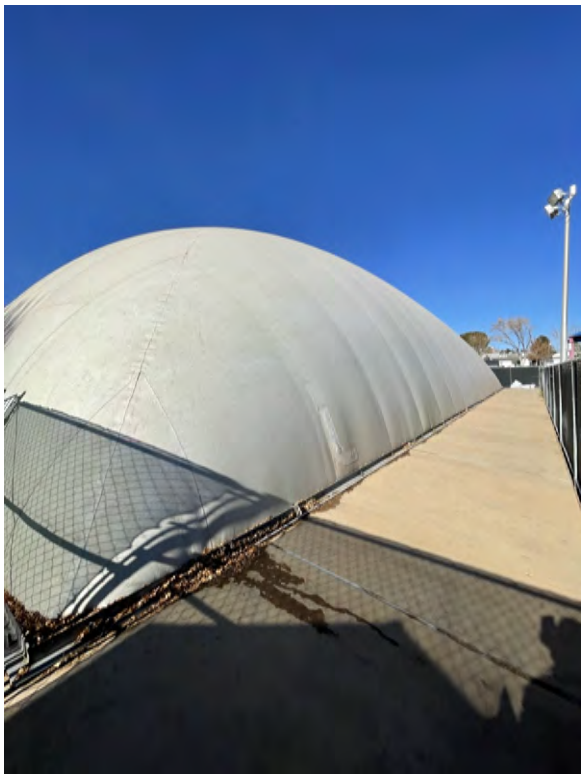

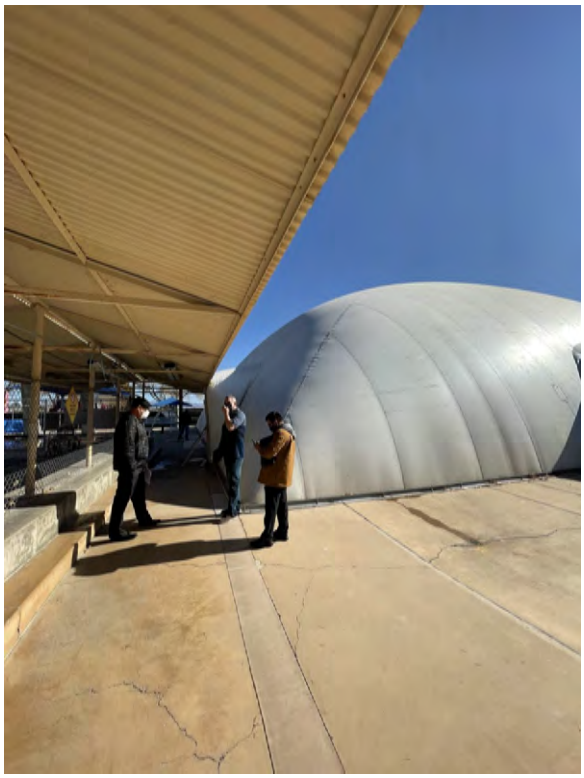

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Area J: Site ADA Accessibility

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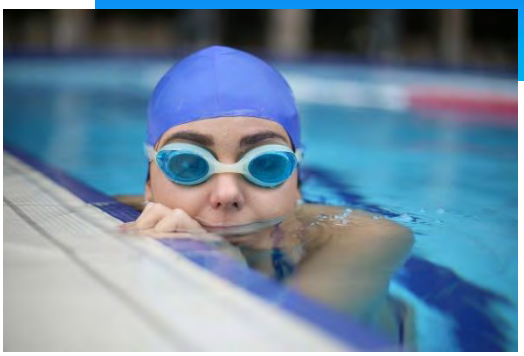
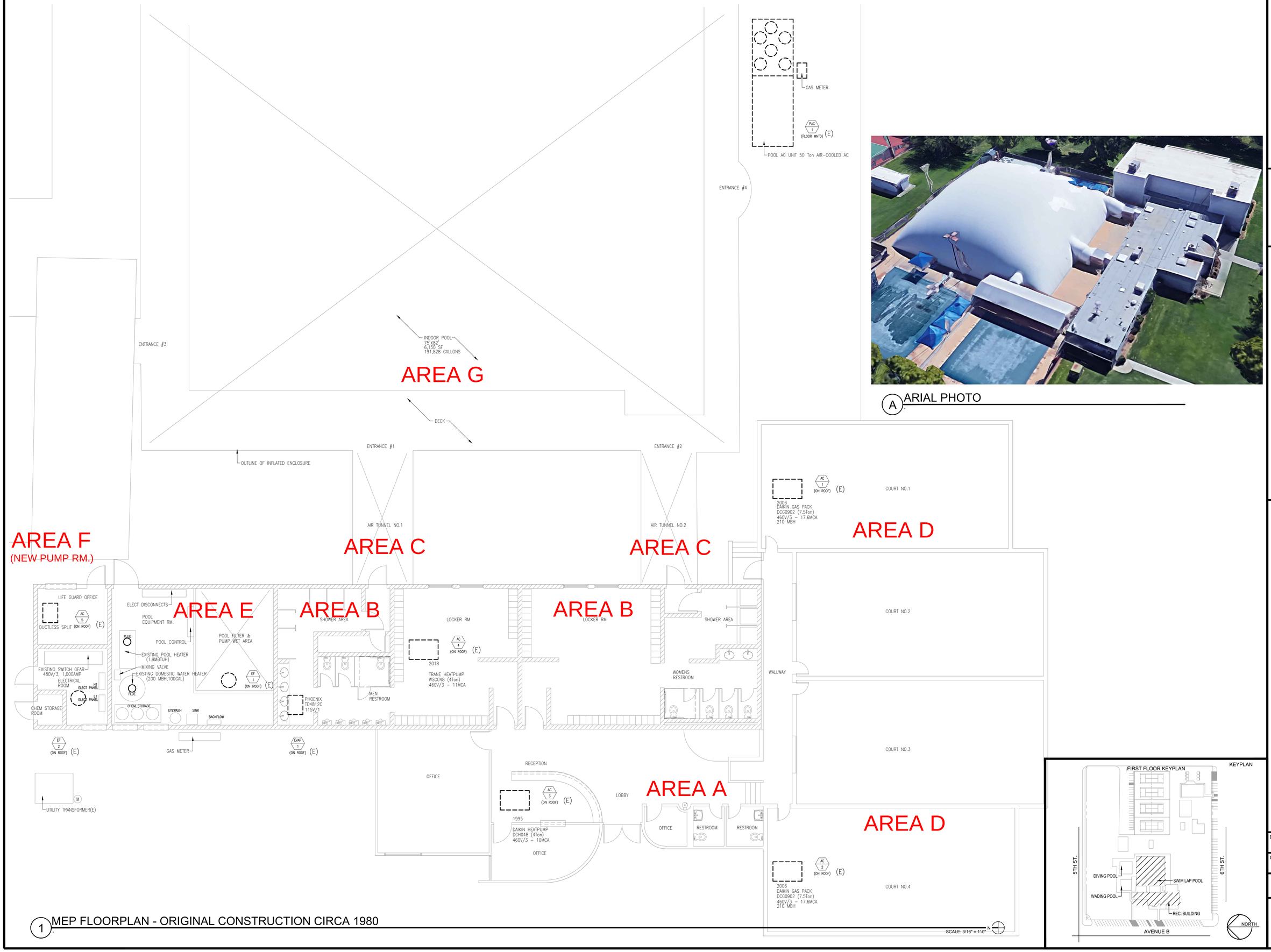


SUMMARY OF HISTORICAL DATA AND FIELD INVESTIGATIONS : MECHANICAL, ELECTRICAL, PLUMBING



A ARIAL PHOTO

1 MEP FLOORPLAN - ORIGINAL CONSTRUCTION CIRCA 1980

KEYPLAN

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4775 W. Teco Ave., Ste. 255
Las Vegas, NV 89118
(702) 931-3000
www.epinc.pro
Hawaii | Las Vegas

PRELIMINARY NOT FOR CONSTRUCTION

PRINT DATE: 2021-02-02

MEP OVERALL PLAN

DATE: February, 2021
REV.
REV.
REV.
REV.
REV.

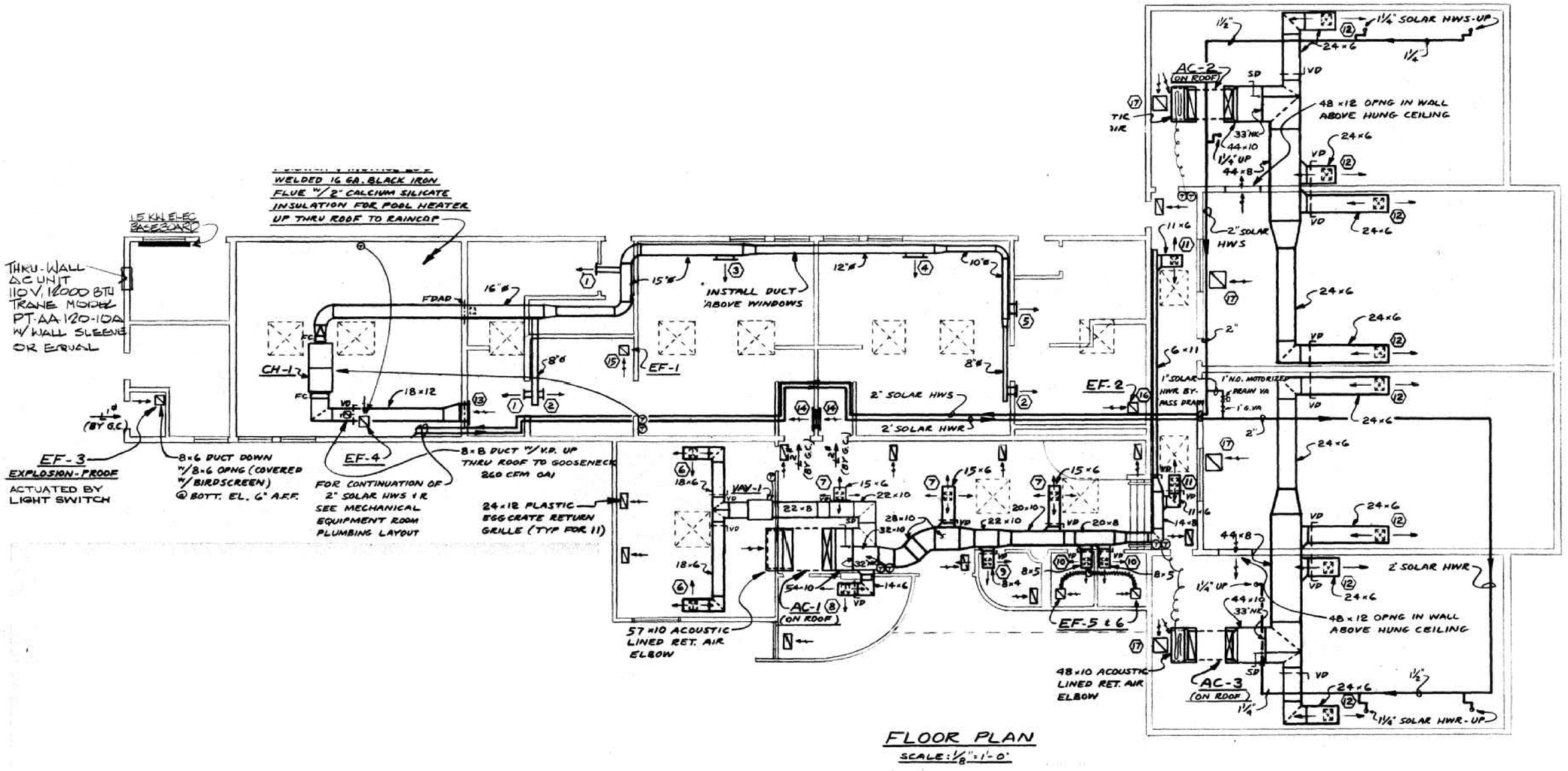
BOULDER CITY AQUATICS - EXISTING BUILDING
861 AVENUE B,
BOULDER CITY, NV 89005

DRAWN BY: MFG	DESIGNED BY: MFG
CHECKED BY: MFG	QC'D BY: MFG

JOB NO. 25069-21-01

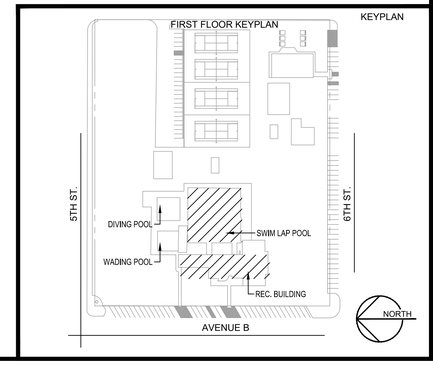
DWG. NO. MEP-01

SHEET NO.



FLOOR PLAN
SCALE: 1/8" = 1'-0"

A MECHANICAL EXSTING (SHOWN FOR REFERENCE)
NO SCALE



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PRINT DATE: 2021-02-03

EXISTING MECHANICAL PLAN

DATE: February, 2021
REV.
REV.
REV.

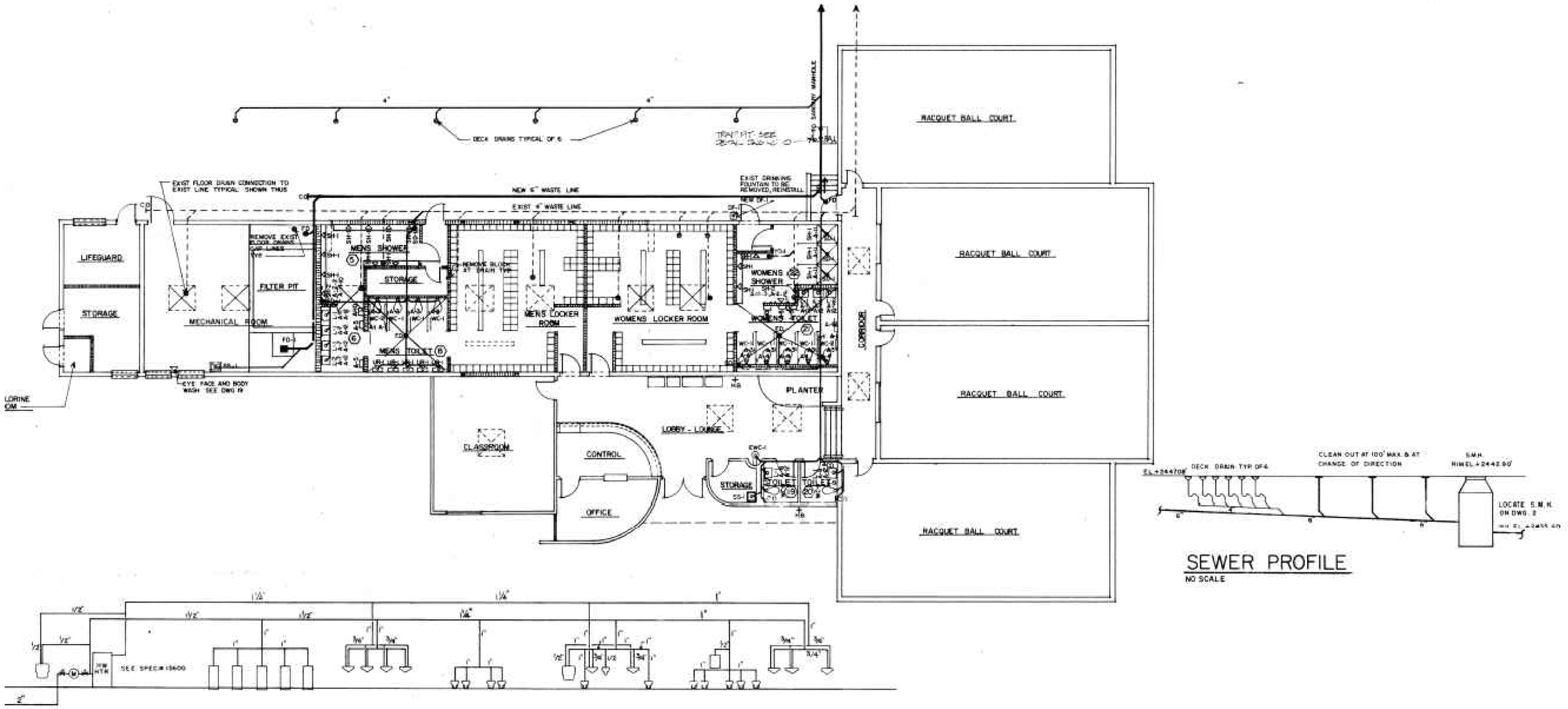
BOULDER CITY AQUATICS - EXISTING BUILDING
861 AVENUE B,
BOULDER CITY, NV 89005

DRAWN BY:	DESIGNED BY:
MFG	MFG
CHECKED BY:	QC'D BY:
MFG	MFG

JOB NO.
25069-21-01

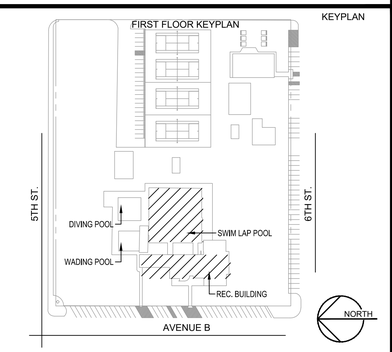
DWG. NO.
MEP-02

SHEET NO.



A PLUMBING EXSTING (SHOWN FOR REFERENCE)
NO SCALE

KEYPLAN



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PRINT DATE: 2021-02-03

EXISTING PLUMBING PLAN

DATE: February, 2021
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REV.
REV.
REV.

BOULDER CITY AQUATICS - EXISTING BUILDING
861 AVENUE B,
BOULDER CITY, NV 89005

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CHECKED BY:	QC'D BY:
MFG	MFG

JOB NO.
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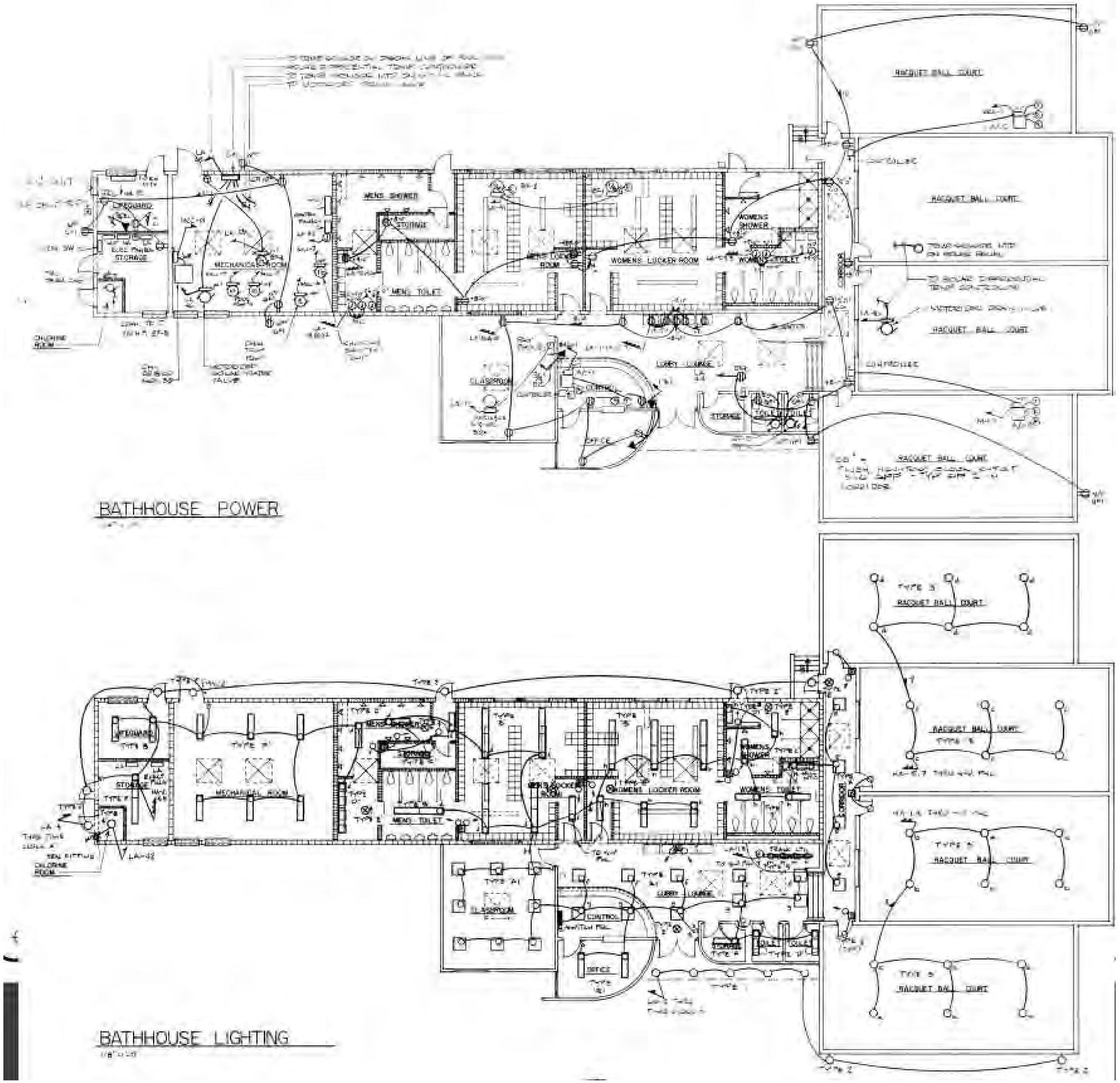
DWG. NO.
MEP-03
SHEET NO.

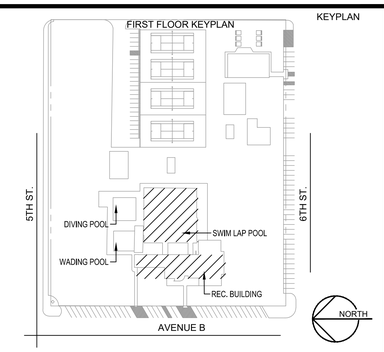


BATHHOUSE POWER

BATHHOUSE LIGHTING

A ELECTRICAL EXSTING (SHOWN FOR REFERENCE)
NO SCALE

KEYPLAN



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PRELIMINARY
NOT FOR CONSTRUCTION

PRINT DATE: 2021-02-03

EXISTING ELECTRICAL PLAN

DATE: February, 2021
REV.
REV.
REV.

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861 AVENUE B,
BOULDER CITY, NV 89005

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CHECKED BY:	QC'D BY:
MFG	MFG

JOB NO.
25069-21-01

DWG. NO.
MEP-04
SHEET NO.

Boulder City Aquatics
861 Avenue B
Boulder City, NV 89005

MEP Systems Assessment

March 3, 2021

Prepared for:
SCA Design
2580 St. Rose Parkway, Suite 305
Henderson, NV 89074

Presented by:

Engineering Partners.
4775 West Teco Ave, Suite 255
Las Vegas, NV 89118

Contents

Executive Summary

This report provides professional engineering opinion and direction for required improvements and equipment replacement associated with the HVAC, Plumbing and Electrical systems serving the existing Aquatics recreational building and supporting pool systems. The focus of this report is to provide recommendations to replace the components within the building to ensure that when constructed the new systems operate as efficiently as possible, safe for occupant usage and in compliance with the required Building Codes.

This is an overview of the existing heating, ventilation and air conditioning building systems and their current operating condition and the requirements for upgrading the system to meet current industry standard efficiencies and life expectancy. Our team has completed a detailed review of the campus's existing heating, cooling and ventilation systems and assessed their replacement criteria by conducting field investigation and as-built documentation research and engineering assessment.

A total budget is being estimated for the MEP systems and entire project which includes the replacement of the following major equipment and components;

- Packaged Air Conditioning Units
- Exhaust Fans
- Evaporative cooler.
- Piping for water and gas for new Pool Boiler
- HVAC Controls
- Domestic Water Heater
- Domestic Water Mixing Valve
- All new plumbing pipe systems and fixtures for new Pool Equipment Room
- All new plumbing piping and fixtures for restrooms
- All new Electrical gear and system components exposed to corrosive environment.
- New main electrical gear and panels.

Introduction

The objective of this report is to provide a comprehensive assessment of the existing heating, cooling and ventilation systems, plumbing systems and electrical systems for the subject project. Within the report the following items will be provided:

1. Description of the existing MEP system.
2. Current building deficiencies associate with the MEP systems.
3. Recommendations for corrective measures. Recommendations to reduce initial cost and improve energy efficiency in existing system design.
4. Order of magnitude of cost impact for replacement and upgrades.
5. Site investigation summary and photos of existing conditions.

Completion of all recommendations will minimize maintenance costs and provide a building where the energy efficiency meets modern energy code requirements. The new building systems are expected to provide a 15-year service life span. The engineering assessment has also considered modern maintenance personnel and the ability of maintaining the system for the expected life span of 15 years.

Assumptions

- It is expected that portions of the building will be accessible for the duration of construction.
- Phasing will be required to complete all of the improvements outlined in this assessment.

The project has the following criteria;

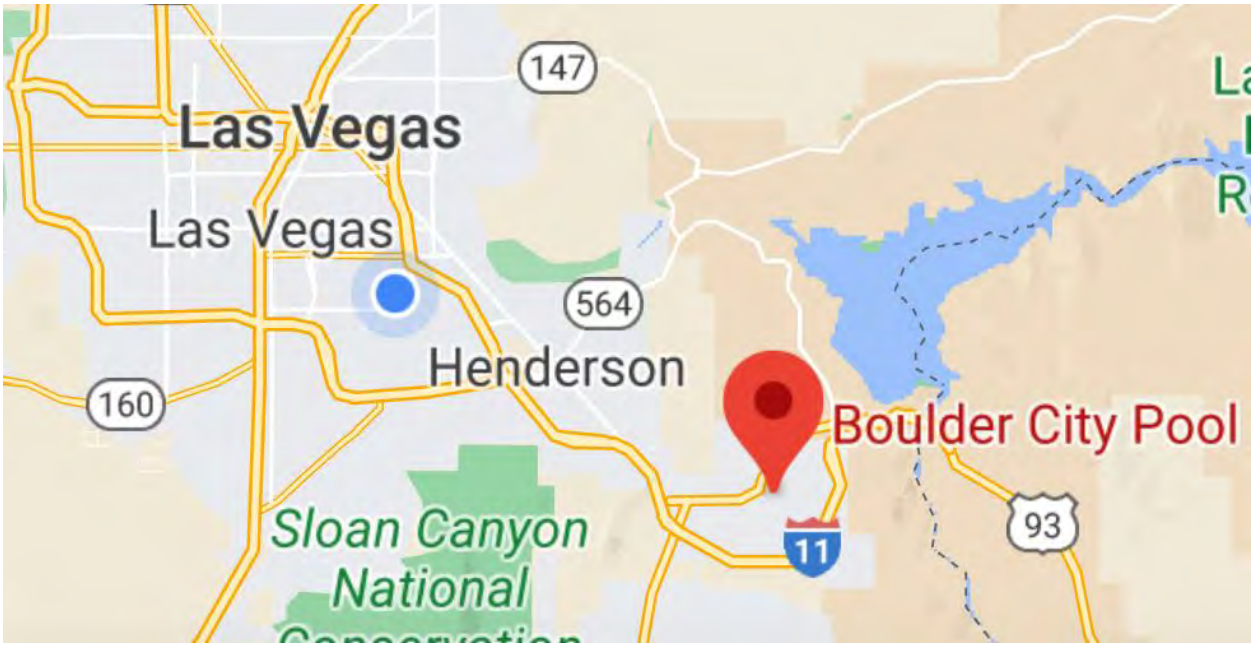
1. Compliance with applicable building codes
    a. 2018 Uniform Mechanical Code (UMC)
    b. 2018 Uniform Plumbing Code (UPC)
    c. 2018 International Energy Efficiency Code (IECC)
    d. 2017 NEC Electrical Code
    e. Clark County & Boulder City local building code amendments

2. Maintainability of equipment by facility staff.

3. Project completion within allocated budget.

Project Location:

The building is located in Boulder City and constructed in 1980.



Area Map - Overall

Project Area View:

The building is centrally located near the center of the city.
Exhibit and the photo below describe the overall campus building layout.

Area Map - Enlarged

MEP Systems Description

Existing HVAC, Electrical, Plumbing System Descriptions

The single story recreational building and associated pools consist of the following areas:

1. Area A&D: Main entry lobby, office area and racket ball courts.
2. Area B: Restroom, locker room and shower rooms for men and women.
3. Area E: Supporting equipment rooms for pool equipment system and building MEP systems.
4. Area C: Two (2) connecting temporary tunnels used during winter months for connecting the recreational building's shower/locker room area to the main lap pool which during winter months has a temporary inflatable enclosure.
5. Area G: Main lap pool including inflatable seasonal/temporary enclosure.
6. Area F: This area is not existing and is proposed new for the housing of the new pool pump room required. This room would be constructed new and located north of Area E as indicated in the Architectural documents.

Area D. (3,600 SF)
The four (4) racket ball courts and surrounding areas are served by (2) packaged rooftop gas-fired AC units. The unit capacity is 7.5 Ton, 200 MBH, 480V/3phase power and have a manufactured date of 2001.There is ductwork and associated diffusers throughout as shown on existing plans. The entry and office areas are served by (1) packaged rooftop heatpump with a unit capacity of 5 Ton, 300 MBH heating, 208V/3phase power and have a manufactured dated of 1995. The (2) single restrooms have individual in-line exhaust fans. There is ductwork and associated diffusers throughout as shown on existing plans.
There are general receptacles and lighting throughout that appear to be in working condition but require electrician verification to confirm if corrosion exist. All electrical panels serving area are located in area E. The (2) single restrooms are provided with general plumbing. The domestic water is copper and waste/vent piping is cast iron.

Area A&B. (3,000 SF)
This area is served by (1) packaged rooftop heatpump with a unit capacity of 4Ton, 260 MBH heating, 208V/3 power. There is a roof mounted exhaust fan serving entire area. There is ductwork and associated diffusers throughout as shown on existing plans.
There are general receptacles and lighting throughout that appear to be in working condition but require electrician verification to confirm if corrosion exist. All electrical panels serving area are located in area E. The restroom/shower area is provided with general plumbing. The domestic water is copper and waste/vent piping is cast iron. The piping system and fixtures require replacement.

MEP Systems Description (continued)

Existing HVAC, Electrical, Plumbing System Descriptions

Area E. (840 SF)
This area is served by (1) rooftop Evaporative cooler and exhaust fan. The pool boiler and domestic water heater have the corresponding flues extending up thru the roof. The life guard office has a 1.5Ton ductless split. The electrical main ger room has no AC or ventilation. There are general receptacles and lighting throughout that need to be replace in entirety. All electrical panels and main gear appear to have significant amount of corrosion due to the environment present. The chemicals used by the pool water system have created the corrosion that is present. The electrical gear is open to the pool chemicals used. The domestic water is copper and waste/vent piping is cast iron. The cast iron piping appears to be damaged due to corrosion.

Area C.
The two (2) pressurized tunnels and corresponding doors need to be replaced with new. The existing conditions have significant leakage that allows moisture latent air to infiltrate the building. This existing operation has created a damaging space condition to the building. The moisture air that is introduced to the conditioned building adds a load on the hvac system and creates a very humid environment for occupants.

Area G. (9,700 SF)
The fabric type inflatable enclosure used for the pool is damaged and leakage is visual at multiple locations. This creates a significant amount of energy loss and the corresponding associated operating costs are important to outline. The HVAC unit that maintains the positive pressure is a fan blower unit interlocked with a 50Ton air-cooled unit. This unit installed recently appears to be in good condition.

MEP System Recommendations

Replace all existing AC units with new, clean and disinfect all existing ductwork systems. Provide new air balance and replace temperature control thermostats with new programable and wifi capable type.

Replace all exhaust fans with new and disinfect or replace as necessary all existing ductwork exhaust system. Provide new air balance.

Remove all existing abandoned hot water piping no longer in use.

Replace existing evaporative cooler with new of same capacity.

Replace ductless split serving lifeguard with new of same capacity.

Replace all main electrical gear serving building and relocate to new room (old pump room)

Replace all electrical systems serving pool equipment systems.

Replace all exterior pool area lighting with new LED and for compliance with latest Health District Code light levels.

Replace all below grade cast-iron waste and vent piping inside building and exterior main.

Replace new all insulation on domestic hot water piping.

New Pool Pump Room:

- Install new 7.5Ton rooftop unit for service to new pool pump room. Provide all associated ductwork, diffusers and piping. Systems to be coated/material for high humidity and corrosion air streams.
- Install exhaust and intake ventilation systems.
- Install new plumbing systems for support of pool equipment system design. Drainage/Vent, water, gas and roof drain pipe systems will be required.
- Provide all new electrical systems to support the new pool equipment rated for high humidity and corrosion environment.

Exhibits and Supporting Documents

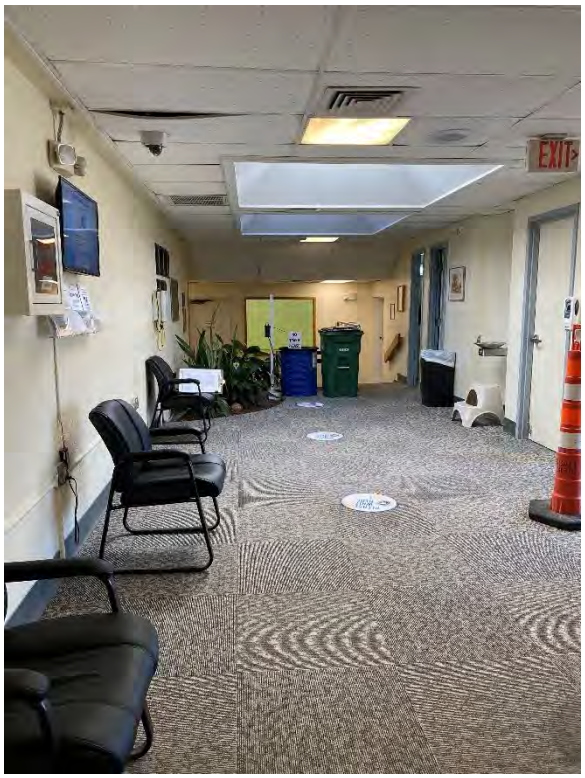
1. Building Photos
2. Floorplan and existing MEP system plans

Exhibits and Supporting Documents

Entrance Photos

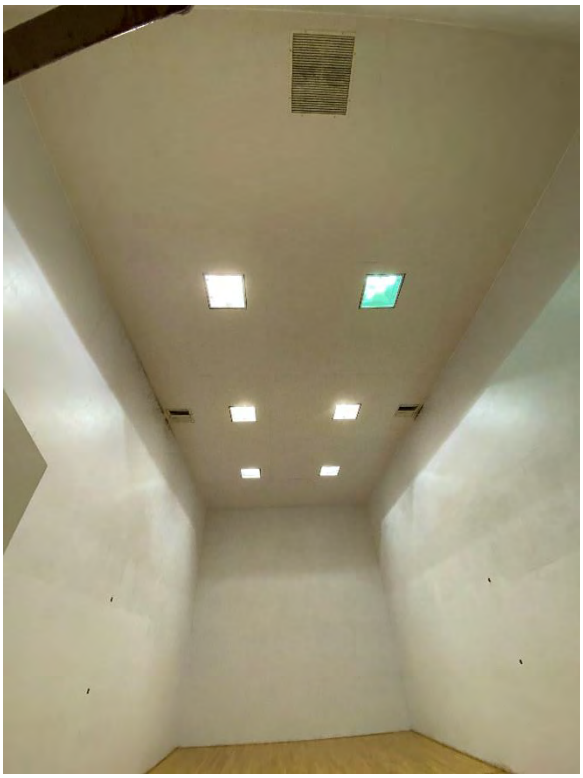
Exhibits and Supporting Documents

Area A Photos



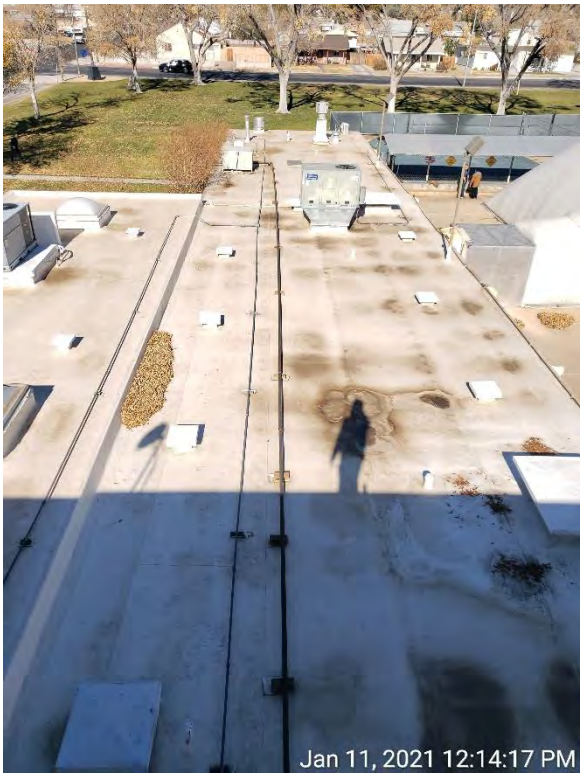
Exhibits and Supporting Documents

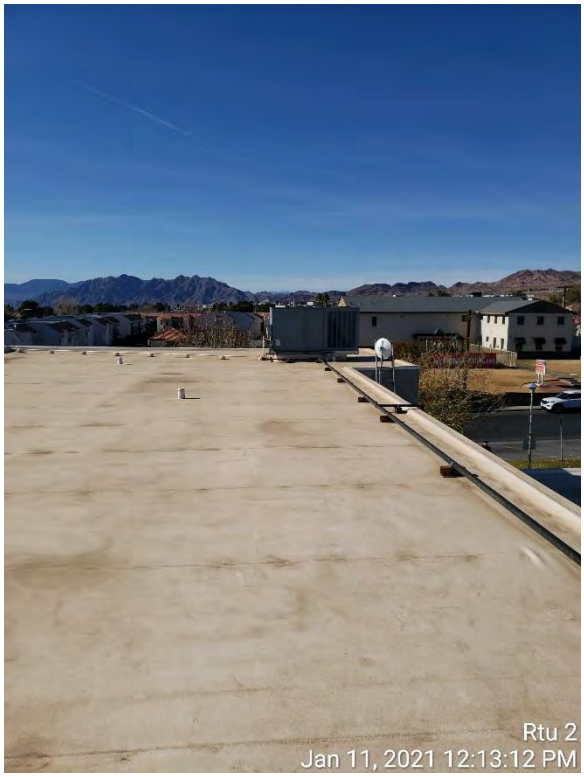
Area D Photos



Exhibits and Supporting Documents

Area A&B Photos



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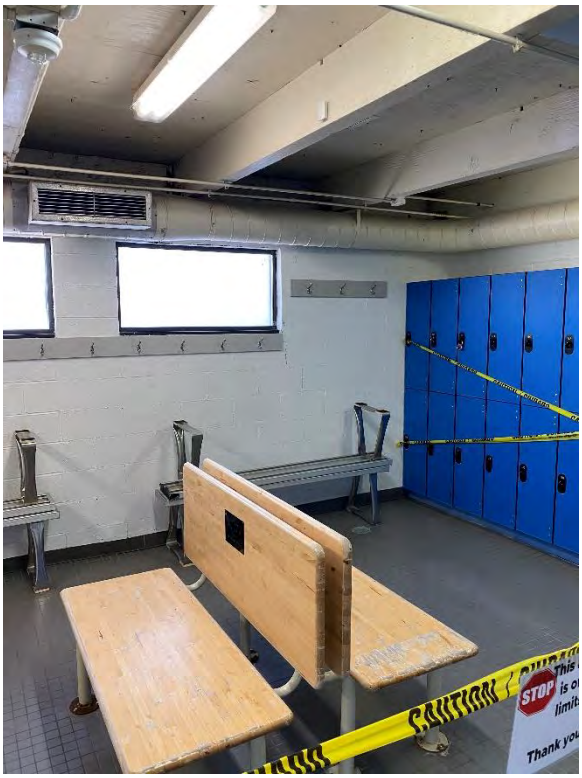
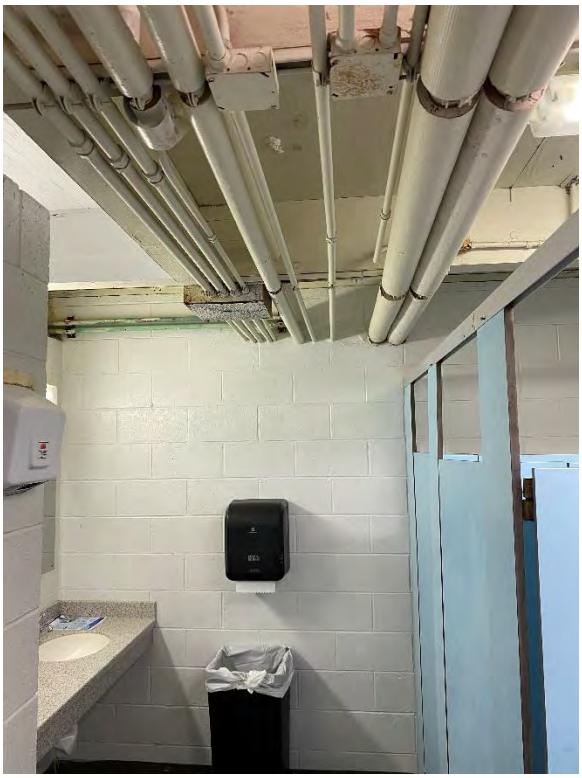
Exhibits and Supporting Documents

Area B Photos





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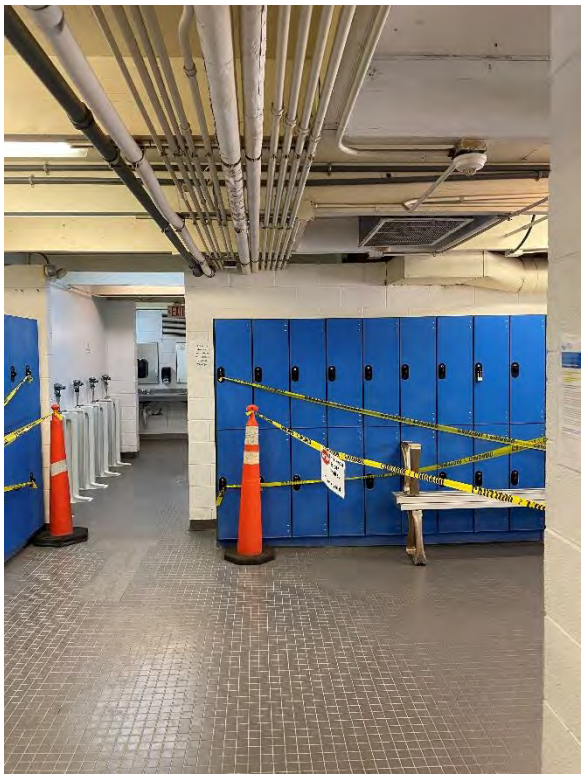

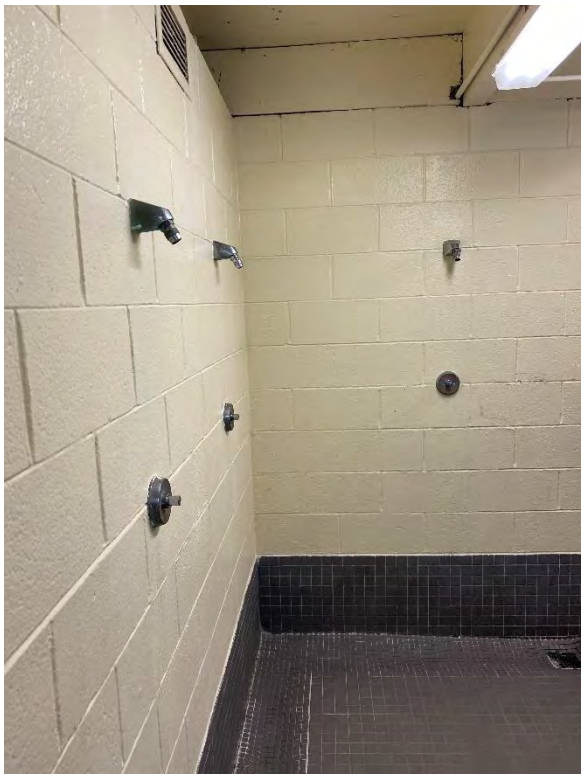

Exhibits and Supporting Documents

Area B Photos

Exhibits and Supporting Documents

Area B Photos

Exhibits and Supporting Documents

Area E Photos

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Area E Photos

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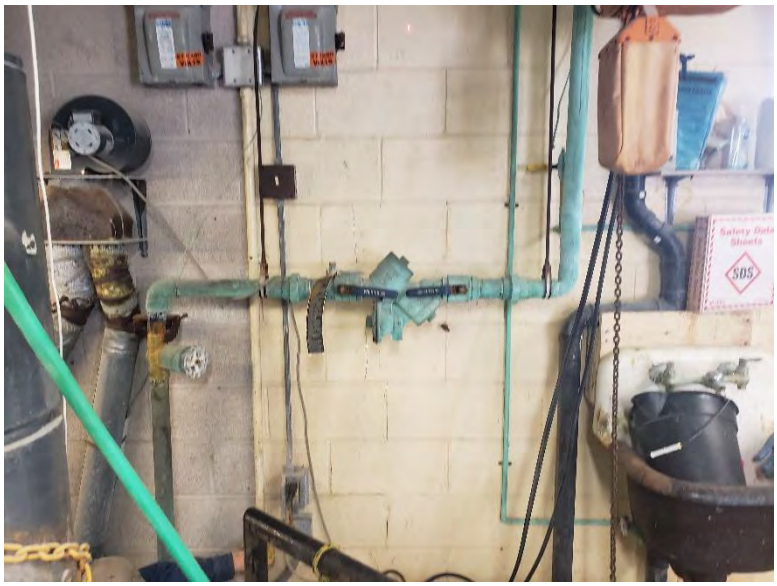

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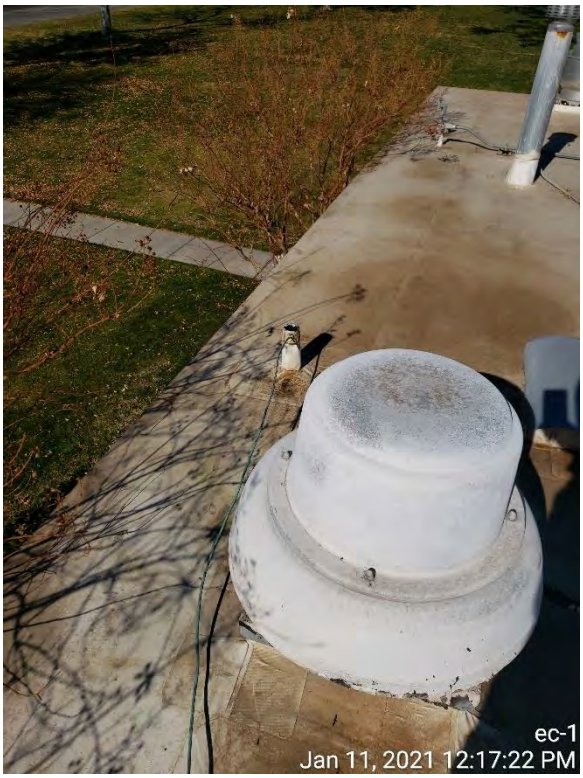

Exhibits and Supporting Documents

Area E Photos

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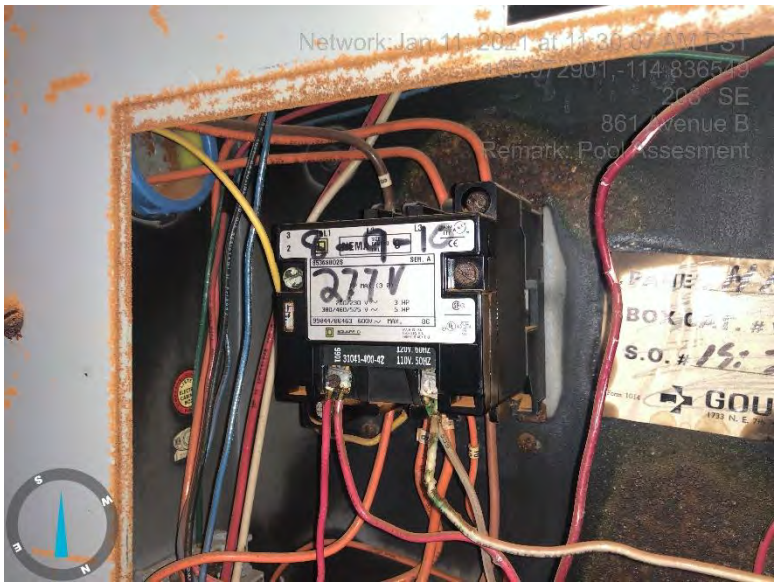
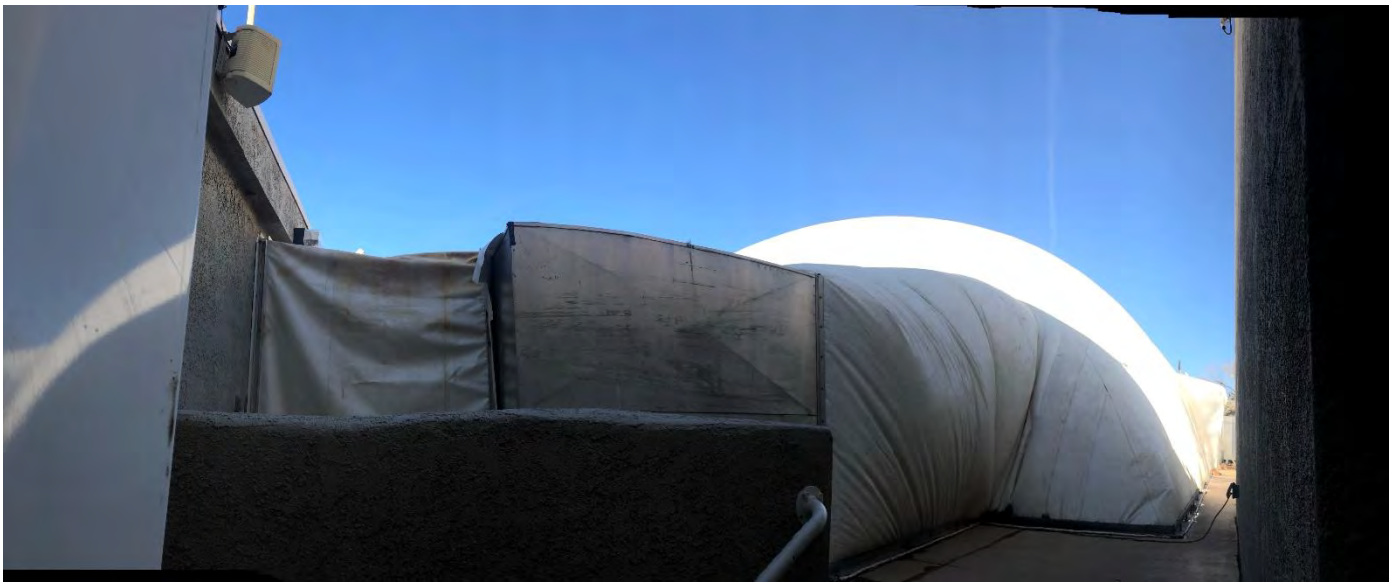


Exhibits and Supporting Documents

Area C Photos

Exhibits and Supporting Documents

Area C Photos



Exhibits and Supporting Documents

Area G Photos

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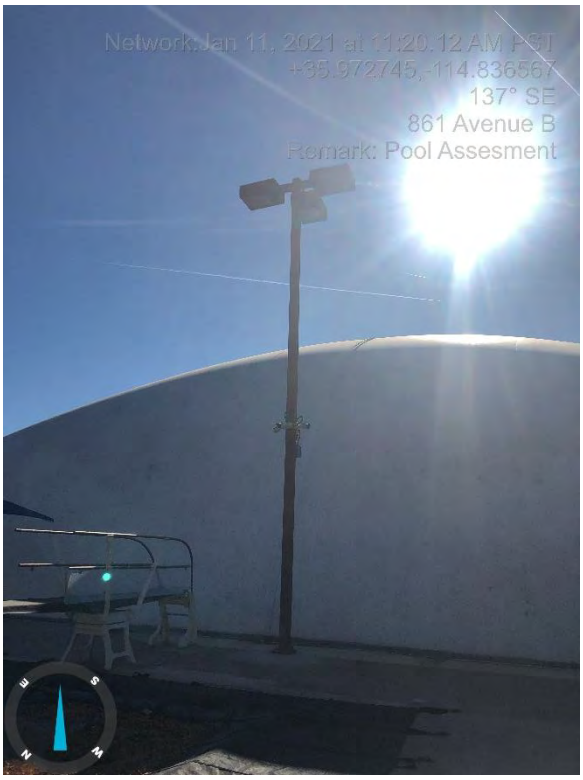

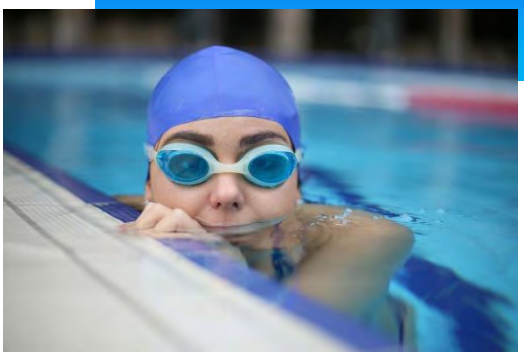

SUMMARY OF HISTORICAL DATA AND FIELD INVESTIGATIONS: POOL & EQUIPMENT

BOULDER CITY AQUATIC CENTER STUDY:

Boulder City,
Nevada

February 2021

Submitted By:

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TABLE OF CONTENTS

A. SCOPE

Aquatic Design Group (ADG) in conjunction with SCA Design and their other consultants visited the Boulder City Aquatic Center located in Boulder City, Nevada on January 11, 2021 to perform an assessment of the swimming pools, as well as their systems and equipment. One of three swimming pools was open for use during ADG's site visit. The Boulder City Aquatic Center consists of three swimming pools with the following dimensions:

- 8-lane indoor lap pool
- Outdoor wading pool with accessible ramp
- Outdoor diving pool with 1-meter springboard diving board and two (2) climbing walls

Staff representing the Boulder City Aquatic Center met with ADG during the site visit. The following report includes a summary of the existing conditions, code violations, deficiencies and proposed improvements for rehabilitation of the Boulder City Aquatic Center swimming pools and their equipment. The scope of this report includes the swimming pools, pool deck areas, and pool mechanical equipment. It excludes the structural integrity of the swimming pool shells and appurtenances, and handicap accessibility in path of travel to the swimming pool area and within the adjacent buildings which will be covered by SCA Design or others in this project. It is not improbable that a facility of this age could have underlying issues that have gone unnoticed by staff and are not apparent to a visual inspection; therefore, this report attempts to provide an accurate and realistic assessment of existing conditions. Our observations are based upon the conditions we could observe, provided as-built drawings and information provided by staff. This report should be read in full with no excerpts to be fully representative of the findings and has been prepared exclusively for the Boulder City Aquatic Center. No liability is accepted for any use of or reliance on the report by third parties.

This report identifies any violations of codes that were found. Some of these violations may currently be operating on a grandfathered exemption. It is important to note that though some grandfatherable exemptions by the Southern Nevada Health District or State Inspector may allow the swimming pools to legally operate in non-compliance of current standards, the liability of any health and safety risks to the public may still remain. We therefore recommend that these issues should be reviewed on an individual basis to determine the disposition and possible remedies for each violation.

Certain violations of the State Administrative Code may be due to deterioration and material failures in which the code requires that these violations be rectified immediately or the facility is to be shut down. Other violations may be due to modifications to the code over the years. Providing that the violation is not deemed an immediate health or safety risk the Southern Nevada Health District or State Inspector may allow the violation to exist as a "grandfatherable condition". These grandfathered conditions are normally allowed to exist until such time as when the facility is having work done in which the scope of the work will allow for the violation to be remedied. If such work were going to take place, then the County Environmental Health Services Department or State Inspector would demand that the violations be brought into compliance.

In addition to the code violations being of concern to the SNHD, they may be of concern to the City's Risk Manager as well. If a facility is in violation of the current code, the liability exposure alone may warrant the remedy of the violation. Given the subjective nature of the interpretation of the code, violations that may be deemed a grandfatherable violation at one point may not be allowed at another time or by a different inspector.

Not included in this report, but an important area to be reviewed, is the requirement for the entire facility to meet the American Disabilities Act (ADA). This includes access to the facility and restrooms, in addition to the swimming pools and deck. To comply, every swimming pool must have a primary means of handicap access into the water. This can include a wheelchair ramp or an accessible lift. The scope of this report is for the swimming pools and pool deck. Therefore, access from the street or parking areas to the Boulder City Aquatic Center swimming pools and the adjacent buildings are to be covered by others in this report.

The estimated opinion of probable costs identified in the itemized sections of "F" thru "G" of this report includes materials and labor for the repair, but does not include architectural or engineering design costs or complete project soft costs that may occur. Structural analysis of the swimming pool structures, swimming pool mechanical spaces, or other spaces will require destructive testing which is not included in the scope of this report.

B. CODES

For the purpose of this report the facility's compliance with current codes will be examined. The current codes that apply are:

- 2018 Uniform Building Code (UBC)
- 2018 Uniform Mechanical Code (UMC)
- 2018 International Fire Code (IFC)
- 2018 Southern Nevada Health District (SNHD)
- 2018 Nevada Administrative Code (NAC)
- 2018 Model Aquatic Health Code (MAHC)
- Federal Virginia Graeme Baker Pool and Spa Safety Act (VGBA)
- Americans with Disabilities Act (ADA)
- Americans with Disabilities Act Accessibility Guidelines (ADAAG)
- Occupational Safety and Health Administration (OSHA)

C. SWIMMING POOLS DATA

The Boulder City Aquatic Center swimming pool plans are dated 1979 and have undergone minor facility updates over the years. As-built drawings for the Boulder City Aquatic Center swimming pools were provided to ADG. The data compiled in this section of the report is influenced by information from Boulder City Aquatic Center staff, as-built drawings and observations made during the site visit. The following facility updates for the swimming pools include:

Year	Scope of Work	Life
	Swimming Pool main drain renovation	6-12 years
	Alterations to Swimming Pool tile lane markings	15-20 years
	Addition of climbing walls on the Diving Pool	15-20 years
	Gutter renovations for all pools	na
	Removal of anchored lifeguard stands from the Swimming Pool	na
	Removal of one diving board from the Diving Pool	na
2010	Swimming Pool replastered	12-20 years
2014	Addition of an accessible ramp on the Wading Pool	12-20 years
2020	Installation of a stainless steel filter tank leaf bracket	8-10 years

Swimming Pool:

- Dimensions: 75'-0" long x 82'-1¼" wide (per as-built drawings)
- Perimeter: 314 linear feet (per as-built drawings)
- Surface Area: 6,150 square feet (per as-built drawings)
- Volume: Approximately 191,828 gallons
- Eight (8) 25-yard lanes (per as-built drawings)
- Depths range from 3'-9" to 5'-0" (per as-built drawings) and existing depth markers.
- Plaster and tile finish
- Perimeter deck level gutter system
- Five (5) sets of grabrails with recessed steps
- Two (2) 18" x 36" main drains for pool bottom recirculation
- Twenty (20) floor inlets
- Two (2) wall inlets in stairs
- One (1) accessible chair lift
- One (1) set of drop-in stairs
- Max occupancy: 615 persons (per as-built drawings and calculations)
- Flow Rate: 245 Gallons Per Minute (observed during site visit)

The pool deck is a natural color concrete with a medium broom finish that slopes and drains to the swimming pool gutter. The deck appears to have slopes greater than 2%, which is the maximum allowed for ADA access.

Wading Pool:

- Dimensions: 30'-0" long x 30'-0" wide (per as-built drawings)
- Perimeter: 120 linear feet (per as-built drawings)
- Surface Area: 900 square feet (per as-built drawings)
- Volume: Approximately 5,779 gallons
- Depths range from 10-inch to 12-inch (per plans and depth markers observed during site visit)
- Plaster and tile finish
- Perimeter deck level gutter system
- Main Drains (unable to observe due to pool covers)
- Eight (8) wall inlets (per as-built drawings, unable to observe due to pool covers)
- One (1) accessible ramp
- Max occupancy: 90 persons (per as-built drawings and calculations)
- Flow Rate: unknown (system off during site visit)

The pool deck is a natural color concrete with a medium broom finish that slopes and drains to the wading pool gutter. The deck appears to have slopes greater than 2%, which is the maximum allowed for ADA access.

Diving Pool:

- Dimensions: 40'-0" long x 40'-0" wide (per as-built drawings)
- Perimeter: 160 linear feet (per as-built drawings)
- Surface Area: 1,600 square feet (per as-built drawings)
- Volume: Approximately 145,650 gallons
- Depths range from 12'-0" to 12'-6"
- Plaster and tile finish
- Perimeter deck level gutter system
- Sets of grabrails with recessed steps as means of ingress and egress (assumption - unable to observe due to pool covers)
- Main Drains (unable to observe due to pool covers)
- Twelve (12) wall inlets (per as-built drawings, unable to observe due to pool covers)
- One (1) portable accessible lift (not installed)
- One (1) 1-meter springboard diving board
- Two (2) climbing walls
- Underwater Lighting (unable to observe due to pool covers)
- Max occupancy: 80 persons (per as-built drawings and calculations)
- Flow Rate: unknown (system off during site visit)

The pool deck is a natural color concrete with a medium broom finish that slopes and drains to the diving pool gutter. The deck appears to have slopes greater than 2%, which is the maximum allowed for ADA access.

The three pools are treated as a single body of water (comingled) with a single set of mechanical equipment. The wading pool gutter captures overflow and splash water and drains it to the diving pool. The diving pool gutter captures overflow and splash water and drains it to the swimming pool. The swimming pool gutter is connected to the recirculation system draining water to the filter pit.

Mechanical and Chemical Systems:

- Atmospheric vacuum diatomaceous earth (D.E.) filter tank with 1,134 ft² of filter surface area
    - D.E. hand fed
    - D.E.: 2 Gallons Per Minute / ft² maximum flow rate
- Filter flow rate capacity: 2,268 Gallons Per Minute (based on calculated filter surface area)
- Vacuum pump and motor (unable to observe make and model information)
- Two (2) Baldor 20 horsepower motors
- Two (2) Paco circulation pumps (unable to observe pump plate for more information and one pump removed for repair)
- Lochinvar Copper-Fin² natural gas heater
    - 1.9 million BTU input
    - 1,759,500 million BTU output
- BECSys 3 chemical control monitor
- Dry chemical stored in mechanical room: sodium bicarbonate
- Sanitation: Liquid chlorine (Sodium Hypochlorite) mini bulk tank and automated feed system
    - 200 gallon mini bulk tank
    - Dual head Stenner peristaltic pumps
        - Either 100 or 170 Gallons Per Day
- Additional Sanitation: Tri-chlor Pentair HC 3340 chlorinators Two (2) quantity
    - 40 pound capacity each (used during summer months)
- pH Control: Liquid Muriatic Acid carboys and automated feed system
    - 15 gallon carboys
    - Stenner peristaltic pump
    - Double containment storage pallet

D. PROGRAMMING

ADG interviewed Boulder City Aquatic Center staff to determine current and desired programming needs for the Boulder City Aquatic Center swimming pools. The following programs were identified for service to the Boulder City community:

- Lap Swim
- Recreational Swim
- Aquatic Fitness
- Club Swimming
- High School Swimming and Diving
- Dryland Training Program
- Learn-to-Swim Programs
- Rentals: Birthday Parties, Black Hawk Pilot Training
- American Red Cross Training Classes

Desired programming for the future includes:

- Regulation Water Polo Programming
- Competitive Swim Meets
- Competitive Diving
- Water Safety Classes Held in One Pool

The Boulder City Aquatic Center provides aquatic opportunities to people of all ages and varied abilities. To better accommodate the desired programming for the future the aquatic center needs an updated configuration. Although the main pool is 25-meters by 25-yards the pool is 3'-9" deep at all four sides, which is too shallow to support safe diving starts for the sport of swimming and too shallow to support the sport of water polo. With an updated configuration that can satisfy USA Swimming and the National Federation of State High School Swimming and Water Polo standards, the aquatic center could support more water polo and swimming programs. The diving pool while it is deep enough to support competitive programs, is not large enough to support them. A new pool that is a minimum of 30-meters (98.4') by 25-yards will need to be constructed to support competitive swimming and water polo. Such an updated pool can be built with a minimum depth of 13-feet to support a 1-meter springboard diving board and / or a 3-meter springboard diving board and would allow for competitive diving programs.

The three pools are comingled as a single body of water which means that if a toddler has a fecal accident the contaminants from this accident will carry into both the dive pool and swimming pool. In cases where bacterial and pathogen contamination is a concern, this will result in a closure.

E. CODE VIOLATIONS

ADG has determined that the following twelve items do not comply with current code standards. For each item within the report a description of the condition is given along with a reference to the code that applies. An opinion of probable cost is given for most items. The itemized estimates do not include general conditions and other soft costs that are typically added to any project for a complete construction project cost. In the proforma section of this report the itemized costs are totaled to give an example of a complete project cost.

ITEM	DESCRIPTION
1.1	Comingled Bodies of Water
1.2	Deck for All Pools
1.3	Depth Markers for All Pools
1.4	Gutters for All Pools
1.5	Wading Pool Leaks
1.6	ADA Compliant Swimming Pool Access
1.7	Diving Pool Means of Ingress and Egress
1.8	Wading Pool Secondary Disinfection
1.9	Diving Pool Floor Inlets
1.10	Muriatic Acid in Mechanical Room
1.11	Main Drain Compliance
1.12	Chemical Equipment Flow and Feed Rate Compliance

1.1 Comingled Bodies of Water

All three pools operate on the same recirculation system despite being separate bodies of water. There is an independent return pipe for each pool with a flow meter for each body of water to measure the flow rate in gallons per minute. The swimming pool flow meter read 245 gallons per minute during the site visit. The flow meters for the diving and wading pools were not on during the site visit (as they were closed for the season). The recirculation system operates such that the wading pool gutter drains to the diving pool and the diving pool drains to the swimming pool. When all pools operate on the same recirculation system there is no way to achieve proper turnover for each pool. In addition, if the water should become contaminated by feces, vomit or blood all bodies of water become contaminated and all bodies of water go out of commission until decontamination occurs. This creates a major impact to programming and is inconvenient for patrons.

Two of the pools (swimming and diving) should achieve a minimum 6-hour turnover rate to be code-compliant and safe for bathers. Nevada Administrative Code states the following:

444.152 System for recirculation. 1. Except as otherwise provided in NAC 444.198 to 444.1995, inclusive, and 444.202, a recirculation system, consisting of pumps, filters, water conditioning, disinfection equipment and other accessory equipment, must be provided at each public bathing or swimming

facility which will recirculate, clarify and disinfect the volume of water used in the facility every 6 hours or less.

Based on calculations made by ADG (influenced by as-built drawings and observations made during the site visit) the swimming pool would need to flow at 535 gallons per minute and the diving pool at 405 gallons per minute to comply with the 6-hour turnover rate. The swimming pool flow meter read 245 gallons per minute during the site visit. It would take over 26 hours for the swimming pool to complete a turnover at a flow of 245 gallons per minute.

A wading pool should achieve a turnover rate of 30 minutes but Nevada Administrative Code requires that of wading pools constructed after November 1, 1988. Nevada Administrative Code states the following:

444.202 Wading pools: Construction. 2. A wading pool constructed after November 1, 1988, must have a maximum turnover cycle of 30 minutes. All wading pools must have a separate system for circulation. Equipment which is used to recirculate and disinfect the water and which meets the applicable requirements of NAC 444.108 to 444.204, inclusive, must be installed and operated at wading pools which cannot maintain satisfactory water quality by using the equipment from an adjacent public bathing or swimming facility.

Despite the turnover rate change for wading pools constructed after November 1, 1988, the code states that wading pools need a separate system for circulation. The current wading pool is in violation as it does not have a separate system for circulation.

In addition, the pools receive tri-clor chlorine tablets for additional disinfection in the summertime. Tri-chlor chlorine contains cyanuric acid, which provides disinfection stability for outdoor pools. Cyanuric acid is an unacceptable and unsafe disinfection method in indoor pools and wading pools. Cyanuric acid is not consumed and remains in the water until it is drained to waste. Unless the swimming pool has a water leak the swimming pool will have cyanuric acid in it when it is covered and operated as an indoor pool. If the pools each had their own circulation system this could be controlled.

Separating the pools requires installing new piping and corresponding mechanical equipment to operate each individual pool. To accommodate two additional sets of mechanical equipment in the mechanical room will have to be enlarged or replaced. During this process existing mechanical equipment that is dated could be, and in some cases would have to be, replaced. Additionally, this process would require draining of the pools as well as demolition of the decks. The pool decks will have to be removed to provide access for the underground piping and mechanical equipment, the decks would have to be reconstructed and the pools refilled with water. The following estimate is for two (2) sets of mechanical equipment and new surge tanks. It excludes the cost of underground piping, pool deck removal and replacement, new plaster finish, and new main drains; which would be required to complete this scope but are reported elsewhere in this report. To accommodate new surge tanks for perimeter deck level gutter systems locations will have to be identified that are

18 inches above pool water level. Ideally, three sets of piping, mechanical equipment and surge tanks would be prioritized to separate each body of water.

(Estimated Cost- $500,000.00)

1.2 Deck for All Pools

The deck around all three swimming pools slopes and drains into the pool gutters and appears to have slopes greater than 2%. The current deck conditions are in violation of the Southern Nevada Health District Code:

2-601.3 DECKS shall be sloped away from the AQUATIC VENUE.

(A) The slope of all DECK areas shall be in accordance with the law. (2) Drainage shall remove AQUATIC VENUE water that splashes outside of the AQUATIC VENUE and beyond a PERIMETER GUTTER SYSTEM, DECK cleaning water, and rainwater without leaving standing water.

Nevada Administrative Code states the following:

444.134.3. The surface of the paved deck must not drain into the pool or the Overflow gutter. Drainage must be conducted from the deck in a manner that will not create muddy, hazardous or objectionable conditions. Decks must slope on a minimum slope of 1/4 inch per foot (2 percent) to the drains to points at which the water will have a free, unobstructed flow to points of disposal at all times. If deck drains are provided, they must be spaced or arranged so that not more than 400 square feet (37.2 square meters) of area is tributary to each drain and drains must not be more than 25 feet (7.6 meters) apart. Drainage from the decks must not be returned to the recirculation system.

In addition, the deck space behind the one-meter springboard diving board at the diving pool is very narrow with the winter bubble structure in place over the swimming pool. It may be that when the bubble is not in use the number of feet of deck behind the diving board provides adequate clearance. The clearance requirement is a minimum of four (4) feet. Southern Nevada Health District Code states the following:

2-601.5 (c) An unobstructed DECK area four (4) feet minimum in width shall be provided for access around:

(4) Diving boards

Nevada Administrative Code states the following:

444.134 2. The paved area of the deck must extend not less than 4 feet from both sides and rear of any diving board or its appurtenances.

To rectify drainage and slope concerns the deck would need to be reconstructed. Reconstructing the deck requires demolition of the current deck. A new drain system would be installed and a new deck would be poured to complete the project. The following estimate is for materials and labor for a new

deck and drainage system. A deck replacement project would need to be carefully planned out to occur after any new piping is run for mechanical upgrades.

(Estimated Cost- $750,000.00)

1.3 Depth Markers for All Pools

All deck depth markers for the swimming pool display a depth of 3'-9". As built drawings show the swimming pool to also have a depth of 5'-0" in certain sections of the swimming pool. If the swimming pool does achieve a depth of 5'-0", there should be deck depth markers to indicate that. Nevada Administrative Code states the following:

444.118 The depth of the water in a pool must be plainly marked in units of feet at or above the water surface on the vertical pool wall at maximum and minimum points and at the points of break between the deep and shallow portions and at intermediate increments of depth, spaced at not more than 25-foot intervals.

Southern Nevada Health District Code states the following:

2-3018.1 (A) AQUATIC VENUE water depths shall be clearly and permanently marked at the following locations: (1) Minimum depth; (2) Maximum depth; (B) Depth markers shall be located on the vertical AQUATIC VENUE wall and positioned to be read from within the AQUATIC VENUE. (D) Depth markers shall also be located on the horizontal AQUATIC VENUE coping or DECK within 18 inches of the AQUATIC VENUE structural wall or perimeter gutter.

In addition to the missing deck depth markers for the swimming pools 5'-0" depth, the walls of the swimming pool lack depth markers. The lack of depth markers on the pool walls is in violation of Nevada Administrative Code and the Southern Nevada Health District Code. During the site visit all depth markers for the diving and wading pools were unable to be observed due to pool covers. A few of the deck depth markers were visible at the diving pool during the site visit. Unfortunately, they have symbols for feet and inches rather than abbreviations. Southern Nevada Health District Code states the following:

2-3018.2 (2) Symbols for feet (') and inches (") shall not be permitted on water depth signs.

In addition, the deck depth markers at the swimming pool are in poor condition. Many have visible cracks in the tile and are not flush with the surrounding pool deck. New deck depth markers should be added to indicate the 5'-0" depth for the swimming pool and any deck depth markers in poor condition should be replaced. In-pool wall depth markers should be installed in the swimming pool during a pool finish replacement project.

Lastly, the Southern Nevada Health District Code lists absence of or improper depth markings as an IMMINENT HEALTH HAZARD. The code states the following:

5-601 Any of the following violations are IMMINENT HEALTH HAZARDS that require immediate correction or closure of the AQUATIC VENUE until the condition is corrected: 5-601.13 Total absence of or improper depth markings at an AQUATIC VENUE.

The following estimate is an allowance for in-pool and on-deck depth marker additions and replacements for the swimming pool. Further investigation into the state of the depth markers for the other two pools is required to estimate costs to include those pools as well. Deck depth markers are best replaced during a deck replacement project.

(Allowance- $10,000.00)

1.4 Gutters for All Pools

The gutters for all three swimming pools provide minimal capture of pool water overflow by nature of small slot design. During the site visit, the gutters for the diving and wading pools were not operating because the pools were offline for the winter. The swimming pool was, however, in operation during the site visit and the gutter for that pool was active. Unfortunately, the gutter is underdesigned at every pool to achieve effective capture of pool water overflow. Pool water overflows the gutter onto the pool deck. Nevada Administrative Code states the following:

444.166.9 The gutter must be capable of removing 50 percent or more of the recirculated water and returning it to the recirculation system.

In addition, the gutters should have grating that is easily removable. The existing stone gutter grating is caulked in place and not easily removable. Southern Nevada Health District Code states the following:

2-502.3 (F) Gutters shall be equipped with removable grating to allow for ready inspection, cleaning, and repair.

To rectify gutter concerns the gutters would need to be replaced. Reconstructing the gutters requires demolition of the current gutters and installation of concrete gutters with plastic grates adequate in size to effectively capture pool water overflow. A gutter replacement project however, would only make sense to complete if the pools were no longer comingled and had their own mechanical equipment and surge tanks. Without a major overhaul of the system, the wading pool will still drain to the diving pool and the diving pool to the swimming pool. This configuration contributes to the underdesigned gutter situation. In addition, due to the nature of the construction work this project would also best be done during a deck replacement project and the demolition portion of a pool finish replacement project. The following estimate is for materials and labor for new gutters with plastic grates but excludes the cost of separating the pool systems, adding surge tanks and other projects ideally completed simultaneously.

(Swimming Pool Estimated Cost- $314,000.00)
(Diving Pool Estimated Cost- $160,000.00)
(Wading Pool Estimated Cost- $120,000.00)

1.5 Pool Water Overflow Leaks

During the site visit it was observed that the wading pool is elevated above both the diving pool and swimming pool. Since the pools all operate on the same circulation system and the wading pool drains to the diving pool and swimming pool, staff reports this causes an overflow when the circulation system is turned off. The Southern Nevada Health District states the following:

2-201.4 AQUATIC VENUES shall be designed in such a way to maintain their ability to retain the desired amount of water.

To rectify this concern the wading pool can acquire its own recirculation system via its own piping, mechanical equipment and surge tank (see item 1.1).

1.6 ADA Compliant Swimming Pool Access

The swimming pool has a water-powered accessible chair lift; however, it is not ADA compliant. The hose providing water to the chair lift runs across the deck. This hose is a hindrance to access. The hose also sits on the outside of a deck bracing arm for the chair lift. This deck bracing arm makes it impossible for a wheelchair to sit close to the chair lift and achieve a safe transfer. ADA and ADAAG Guidelines state the following:

Clear deck space must be provided to enable a person to get close enough to the pool lift seat to easily transfer from a wheelchair or mobility device. This clear deck space will ensure an unobstructed area for transfers between a mobility device and the seat. The clear deck space must be a minimum of 36 inches wide and extend forward a minimum of 48 inches from a line located 12 inches behind the rear edge of the seat. This space must be located on the side of the seat opposite the water. The slope of the clear deck space must not be greater than 1:48 (2%). This virtually flat area will make the transfer easier and safer, while still allowing water to drain away from the deck.

The swimming pool has more than 300 linear feet of pool wall. As a result, the swimming pool must have two accessible means of entry. The lift can serve as a primary accessible means of entry, but not when it is not ADA compliant. A battery-powered ADA compliant accessible lift should be installed on the swimming pool. Such a lift would rectify the concerns the existing lift poses.

The secondary accessible means of entry can be accessible pool stairs. While there are stairs in the pool, they are not ADA compliant. The distance between the stair handrails is 42 inches. ADA and ADAAG Guidelines state the following:

Pool stairs must have handrails with a minimum width between the rails of 20 inches and a maximum of 24 inches. The 20- to 24-inch width for the accessible

pool stairs is intended to provide support for individuals with disabilities who are ambulatory. Handrail extensions are required on the top landing of the stairs but are not required at the bottom landing. Handrails on pool stairs must comply with ADAAG provisions.

A set of portable walk-in stairs was observed on the deck of the swimming pool during the site visit. It may be that the Boulder City Aquatic Center is using this set of stairs as an ADA compliant accessible means of entry but to truly be compliant they should have been in the pool because the pool was open for use. An ADA compliant accessible means of entry should be installed and readily available anytime the pool is open for use and capable of operation by a patron without the help of staff. Verification of the distance between the handrails for the portable stairs should also take place to determine if those stairs are ADA compliant.

An estimated cost for a battery-powered ADA compliant accessible chair lift and deck installation for the swimming pool is included.

(Estimated Cost- $12,000.00)

1.7 Diving Pool Means of Ingress and Egress

The diving pool is 40’ long x 40’ wide. Due to its dimensions, there should be at least one means of ingress and egress at each side of the pool and one means of ingress and egress for every 75 feet of perimeter. Nevada Administrative Code states the following:

444.128 Ladders and stairs. (NRS 439.200, 444.070) 1. Stairs or ladders must be provided at the deep portion of the pool. If the pool is over 30 feet (9.1 meters) wide, such stairs or ladders must be provided at each side of the deep portion of the pool. 2. A minimum of one ladder must be provided for each 75 feet (22.3 meters) of perimeter and not less than two ladders must be provided at any pool.

The diving pool was covered during the site visit and recessed steps could not be verified. With winterization of the diving pool, it is likely that grabrails were removed and recessed steps do exist within the pool, however as-built drawings do not indicate such means of ingress and egress. A battery-powered ADA compliant chair lift was observed on the deck at the diving pool for an accessible means of entry. Only one accessible means of entry is required for that pool as it contains under 300 linear feet of pool wall. It does however need to be anchored securely to the pool deck anytime the pool is open for use for the chair lift to truly be ADA compliant.

The diving pool has 160 linear feet of pool wall and is over 30 feet wide. Based on these dimensions and the Nevada Administrative Code the diving pool should have three (3) sets of recessed steps with grabrails to satisfy the ladder and means of ingress and egress requirement. The plans dated1979 called for the pool ladders to be removed and replaced with recessed steps and grabrails.

The following allowance provides for a minimum of three in pool ladders if they are needed.

(Estimated Cost- $24,000.00)

1.8 Wading Pool Secondary Disinfection

Secondary disinfection is required for wading pools that have been altered per the Southern Nevada Health District:

2-504.3 Secondary Disinfection Systems (A) The new construction or SUBSTANTIAL ALTERATION of the following INCREASED RISK AQUATIC VENUES shall be required to use a SECONDARY DISINFECTION SYSTEM after adoption of these Regulations: (1) AQUATIC VENUES designed primarily for children under 5 years old; such as: (a) WADING POOLS.

The Southern Nevada Health District defines SUBSTANTIAL ALTERATION as the alteration, modification, or renovation of an AQUATIC VENUE or INDOOR AQUATIC FACILITY that involves the alteration or replacement of the shell, replacement of the complete plumbing system or a complete rebuild. According to as-built drawings in 2014 an accessible ramp was added to the wading pool. This renovation would qualify as a SUBSTANTIAL ALTERATION as the pool shell was altered and replaced. Based on this information and the wading pool being an INCREASED RISK AQUATIC VENUE the wading pool should have secondary disinfection.

The Southern Nevada Health District defines an INCREASED RISK AQUATIC VENUE as an AQUATIC VENUE which due to its intrinsic characteristics and intended use has a greater likelihood of affecting the BATHERS of that venue by being at increased risk for microbial contamination (e.g., by children less than five (5) years old). Examples of INCREASED RISK AQUATIC VENUES include spray pads, WADING POOLS…

A secondary disinfection system should be installed on the wading pool when the pool receives its own piping, mechanical equipment and surge tank. Installation of a secondary disinfection system ahead of such work can be done if Boulder City is ok with secondary disinfection occurring on all bodies of water because of a singular system.

Options for secondary disinfection include ozone and ultraviolet light. Both types of systems help remove chloramines during every system turnover and improve both air and water quality (air quality improvement is beneficial in the winter for the swimming pool). In addition, both systems destroy cryptosporidium and other pathogens on contact. Benefits to air quality for the swimming pool during the winter from secondary disinfection include reduced load on the HVAC system, ultimately increasing the lifespan of the bubble structure and pool equipment.

Secondary disinfection systems should be installed for the swimming pool and wading pool. Such a project is best done during a mechanical room renovation

(see item 1.1). An estimated cost for the materials and labor for a UV disinfection system for a single pool is included below and excludes the cost of mechanical room upgrades to accommodate the work.

(Swimming Pool Estimated Cost- $80,000.00)
(Wading Pool Estimated Cost- $50,000.00)

1.9 Diving Pool Floor Inlets

The diving pool is 40' long x 40' wide. According to as-built drawings the diving pool has twelve (12) wall inlets but does not contain any floor inlets. Southern Nevada Health District states the following:

2-502.2 (D) For AQUATIC VENUES greater than 35 feet wide, floor INLETS shall be required.

Nevada Administrative Code states the following:

We assume the more stringent of the two codes prevails and the floor inlets will be required if the pool undergoes a major renovation. Should the diving pool be resurfaced or re-piped in a renovation project, floor inlets can be installed. New floor inlets should be installed.

(Estimated Cost- $200,000.00)

1.10 Muriatic Acid in Mechanical Room

Muriatic acid is stored and fed into the circulation system in the mechanical room. 15 gallon carboys of muriatic acid sit on an elevated secondary containment pallet and muriatic acid is fed to the pools by way of Stenner peristaltic pumps. The muriatic acid setup is separated from the rest of the room by a plastic curtain. Even with best efforts to minimize the release of muriatic acid vapors, some muriatic acid does release into the mechanical room atmosphere and is a concern for both staff safety and maintenance.

Muriatic acid is a corrosive substance and will, even in small amounts, corrode mechanical equipment. Such corrosion decreases the lifespan of equipment. The Southern Nevada Health District states the following:

2-701.7 Separation from CHEMICAL STORAGE SPACES (A) Combustion equipment, air-handling equipment, and electrical equipment shall not be exposed to air contaminated with corrosive chemical vapors.

The mechanical room contains such equipment. Furthermore, simply storing muriatic acid carboys in the mechanical room provides an opportunity for corrosion and safety concerns should a carboy not be sealed properly or leak. While the actively used carboys are located on a secondary containment pallet, the extra and previously used carboys are not. An alternative location for both the storage and active use of muriatic acid is needed. An allowance for new in-

kind equipment replacement and associated labor costs is quantified in the estimate below. Renovation to the building to accommodate the alternative location is excluded.

In addition, exchanging carboys involves frequent handling of a corrosive chemical by staff. Reducing chemical handling by staff is encouraged. If a new muriatic acid system were to be installed a mini bulk tank would be ideal. A carbon dioxide system could also be added to complement the muriatic acid system. The system allows a facility to use less muriatic acid and sodium bicarbonate by regulating the water's pH more effectively. The carbon dioxide system can be installed in the mechanical room. Also included below is an estimate for a carbon dioxide delivery system and a muriatic acid bulk tank and delivery system. Renovation to the building to accommodate the mini bulk tank system is excluded.

(Mini Bulk Tank and Carbon Dioxide System Estimated Cost- $20,000.00)

1.11 Main Drain Compliance

As-built drawings provided had minimal information about the main drains for the pools. Main drains must comply with Nevada Administrative Code, Southern Nevada Health District Code and the Virginia Graeme Baker Act and main drain covers have expirations ranging from 6-12 years depending on the manufacturer. Further investigation would be required to identify issues and possible resolutions.

To rectify any main drain concerns, pools would have to be drained and new drains and new drain piping would have to be installed to complete this repair. Piping would have to be configured to ensure suction outlets are hydraulically balanced and not exceeding maximum pipe velocity. This scope of work requires the replacement of the plaster finishes and surrounding pool decks. Should main drain repairs be required, the project would best be completed during a mechanical system renovation (see item 1.1.). Item 1.1 also requires plaster finish and deck replacements. The following is an allowance for the replacement of the main drain frames and grates for all three pools.

(Allowance Estimated Cost- $18,000.00)

1.12 Chemical Equipment Compliance

The chemical equipment for the Boulder City Aquatic Center consists of a sodium hypochlorite mini bulk tank and automated feed system (located in its own room or closet), a tri-chlor tablet erosion feeder (located in the pool equipment mechanical room), and a muriatic acid carboy and automated feed system (located in the pool equipment mechanical room). The muriatic acid and sodium hypochlorite feed systems appeared to be connected to the chemical control monitor and the circulation pump and motor. The tri-chlor feed system appeared to not be connected to either and is in violation of Southern Nevada Health District:

All chemical feeders shall be provided with an automatic means to be disabled through an electrical interlock with at least two of the following: (1) Recirculation pump power; (2) Flow meter/flow switch in the return line; and/or (3) Chemical control power and paddle wheel or flow cell on the chemical controller if a safety test confirms feed systems are disabled through the controller when the pump is turned off, loses prime, or filters are backwashed.

The tri-chlor feed system is used seasonally to help keep up disinfection levels during the summer. Despite its seasonal use, it should be code-compliant. Furthermore, it is also recommended that the feed system meet NSF standards. It currently does not as it lacks a flow indicating device and an adjustment valve with a minimum four (4) feed levels. The Tri-chlor feed system should be interconnected to the chemical control monitor, circulation pump and motor, and meet NSF standards. System upgrades can be made and electrical work may be required. The estimate below includes materials to complete the upgrade. A separate allowance is included for related electrical work.

While tri-chlor aids in the pool water degradation of free chlorine (hypochlorous acid) in high UV conditions, the existence of its use indicates that the pool system has trouble keeping up disinfection during high bather loads. To increase disinfection ability, chemical systems can be enlarged or each pool can have its own chemical feed line and chemical control monitor. The current singular system is not an accurate way of feeding chemicals or maintaining consistent disinfection levels. During a mechanical room renovation (item 1.1) where the pools receive their own systems, capacity upgrades, new feed lines, new feed pumps, and new chemical control monitors can be installed. Significant changes to the mechanical room layout would be required and additional chemical rooms would need to be constructed.

(New Chlorine Feed System for All 3 Pools Cost- $12,000.00)

F. FUTURE MAINTENANCE ITEMS

The following eight items are suggested improvements for maintenance and operations at the Boulder City Aquatic Center swimming pools. An opinion of probable cost is given for each item. The itemized estimates do not include general conditions costs that are typically added to any construction project. In the proforma section of this report the itemized costs are totaled.

ITEM	DESCRIPTION
2.1	Filter Tank Valve Access
2.2	Fill System
2.3	Plaster Pool Finish for all Three Pools
2.4	Disinfection System Upgrade
2.5	Replace Corroded Pool System Valves and Piping
2.6	Electrical Conduit Corrosion
2.7	Chemical Control Monitor Upgrade
2.8	Vent Removal

2.1 Filter Tank Valve Access

Valves for the filter tank are extremely difficult to access. Access is required on a frequent basis for routine maintenance associated with the filter tank. Rectifying this concern is most ideal during a mechanical room renovation (see item 1.1). When the layout of the room gets reconfigured safer, easier access can be designed and incorporated. The costs for these valves are included in the new mechanical equipment estimate in Section 1.1 of this report.

2.2. Fill System

According to staff, the auto-fill system at the Boulder City Aquatic Center has failed and been taken offline. As a result, staff must stay very attentive to the water level and manually add water when needed. This is problematic for deck level gutters that are intended to always have the same level of water in the pool. If the water level is too low the pool will not skim water as required by health code. If the water level is too high, it will overflow onto the pool decks. This process is time consuming and should staff be absent or forget, the proper water level for the gutters, filter tank and pools is not achieved. An estimated cost for a new auto-fill system is included below.

(Estimated Cost- $10,000.00)

2.3 Swimming Pool Finish

The surface of the swimming pool is showing signs of age. Staff report the surface was last replaced around 2010. The National Plasterers Association states that swimming pool plaster should be expected to last between 12-15 years under normal conditions. Staining and a visible crack that was repaired at some point were observed during the site visit. In addition, tile is missing in

some places. According to staff, during the last pool replastering project plaster was placed over the existing plaster. The current plaster condition may create a condition where water is closer to the underlying structure of the pool shell and could result in further oxidation and deterioration of the steel rebar which can increase leaks and structural failure. The plaster finish on the swimming pool should be replaced. The industry standard is to use a quartz-based plaster and tile to finish the pool. The following estimate includes removal of all existing previous pool finish to bare concrete and the installation of a new plaster and tile finish. This estimate also assumes repair for the existing crack. In addition, the tile lane markings for the swimming pool were not built to industry standard and what was observed during the site visit differs from what is on the as-built drawings. It is possible that during the last replaster project the contractor did not install industry standard tile lane markings. The failure for the existing tile lane markings is that the widths are too short. Tile lane markings that are not wide enough could have an impact on patron safety for those that swim laps. Rectifying this concern is easiest during a pool finish replacement project. Further investigation into the state of the surfaces of the other two pools is required to estimate costs to include those pools as well. Based on renovation plans provided for the wading pool it is likely that the plaster and tile in the wading pool is only about six (6) years old and not necessarily in need of repair unless a scope of work noted in the sections above will require it to be replaced. If the pool decks and other work are conducted around the wading pool it is likely the existing plaster finish will be damaged and require replacement. The following assumes all three pools are re-plastered at the same time.

(Swimming Pool Plaster and Tile Finish Estimated Cost- $260,000.00)
(Diving Pool Plaster and Tile Finish Estimated Cost- $85,000.00)
(Wading Pool Plaster and Tile Finish Estimated Cost- $40,000.00)

2.4 Disinfection System Upgrade

The sodium hypochlorite tank for the Boulder City Aquatic Center has a 200-gallon capacity. During high temperatures in the late Spring, Summer and early Fall the tank cannot keep up with demand. UV from the sun eats away at the sodium hypochlorite in the water. To aid in this problem Tri-chlor is distributed to the pools through a tablet erosion feed system. Tri-chlor provides disinfection properties like sodium hypochlorite but also contains cyanuric acid, which stabilizes chlorine in UV light. The combination of these two systems aims to achieve proper disinfection for the pools.

One concern that could either encourage abandoning the use of Tri-chlor or ensuring each pool has its own system is the fact that cyanuric acid should not be used in indoor pools. There is at least a certain length of time that cyanuric acid is in the water for the swimming pool since all the pools run on the same system. Whether Tri-chlor remains at the Boulder City Aquatic Center or not, the sodium hypochlorite tank should be replaced with a larger capacity tank. 500 gallons would be an ideal size of tank. The larger tank would help the facility keep up with demand.

An estimated cost for a new sodium hypochlorite tank and feed system is included below.

(Estimated Cost- $30,000.00)

2.5 Replace Corroded Pool System Valves and Piping:

Pool system valves and piping in the mechanical room have unknown ages but many are corroded and well beyond their useful lifecycle. During an overhaul of major systems all corroded pool system valves and piping can be replaced. The following estimate is an allowance for new pool system valves and piping. New underground piping will also be required to separate the three pools.

(Allowance- $140,000.00)

2.6 Electrical Conduit Corrosion

Electrical conduit for the pools located in the mechanical room is corroding and failing. New conduits need to be installed where corrosion is present. The following allowance is for new wiring and conduit where needed. Further investigation by an electrical engineer would be required to determine an estimated cost and estimated costs would increase should panel upgrades be required.

(Allowance- $50,000.00)

2.7 Chemical Control Monitor Upgrade:

The existing chemical control monitor, a BECSys 3, is not capable of supporting remote monitoring and is not interconnected to the tri-chlor feed system. Remote monitoring has become the industry standard for commercial pools. It enables digital data logging and enhanced safety features. If the recirculation system remains a singular system only one new chemical control monitor would be required. Should the recirculation system be redesigned to two or three systems a chemical control monitor per system would be required. Remote monitoring can be accomplished if ethernet is installed in the mechanical room. Installing a modern chemical control monitor is encouraged during a mechanical room renovation (see item 1.1) or any chemical system upgrade (see item 1.12 and 2.4). The following estimate is for three new chemical controllers for the pools.

(Estimated Cost- $60,000.00)

2.8 Vent Removal

Staff reported a corroded vent in the mechanical room during the site visit. It appeared to be a vent that connects to the men's locker room. Due to the corrosion of the vent and the potential chemical fume concerns for the men's locker room when the vent is functional, it should be removed and the wall patched. Further investigation would be required to determine if it can be taken

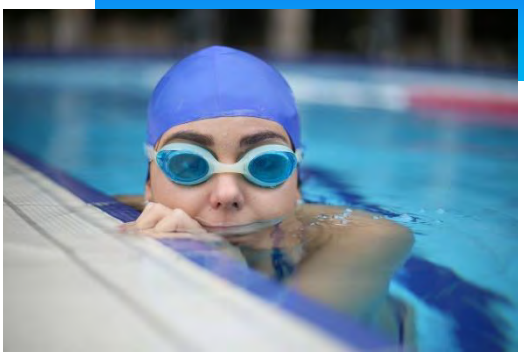
offline as it may be required either for the mechanical room or the men's locker room. An allowance is provided for removal of the vent and wall patchwork.

(Allowance- $1,000.00)

G. PROFORMA BUDGETS

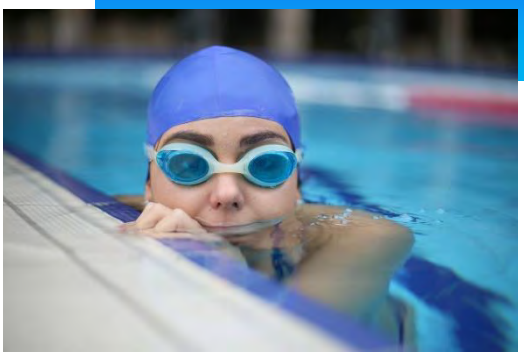
The following proforma budget of the Boulder City Aquatic Center provide estimated costs to help the City determine options for the longevity of the pools. In the "Repairs" budget / scenario, code and maintenance issues are the focus. Any repairs would be designed and constructed to current code standards. These costs must be added to the rest of the facility modernization costs for a complete project.

ITEM	DESCRIPTION	UNIT	UNIT PRICE
1.0	CODE ISSUES		
1.1	Comingled Bodies of Water (*install mechanical equipment and surge tanks*)	Lump Sum	$ 500,000.00
1.2	Deck for All Pools (*install deck with in-deck drainage)*	Lump Sum	$ 750,000.00
1.3	Depth Markers for All Pools (*install depth markers*)	Lump Sum	$ 10,000.00
1.4	Gutters for All Pools *(install gutters*)	Lump Sum	$ 594,000.00
1.5	Pool Water Overflow Leaks (*install mechanical equipment and surge tanks, see item 1.1*)	Lump Sum	Incld.
1.6	ADA Compliant Swimming Pool Access (*install battery-powered ADA lift*)	Lump Sum	$ 12,000.00
1.7	Diving Pool Means of Ingress and Egress	Allowance	$ 24,000.00
1.8	Wading Pool & Swimming Pool Secondary Disinfection *(install UV disinfection system*)	Lump Sum	$ 130,000.00
1.9	Diving Pool Floor Inlets	Allowance	$ 200,000.00
1.10	Muriatic Acid in Mechanical Room (*replace and relocate equipment)*	Allowance	$ 20,000.00
1.11	Main Drain Compliance	Allowance	$ 18,000.00
1.12	Chemical Equipment Compliance (*upgrade equipment*)	Lump Sum	$ 12,000.00
1.13	**TOTAL CODE COSTS**		**$ 2,270,000.00**
2.0	MAINTENANCE ISSUES		
2.1	Filter Tank Valve Access *(rectify issue during item 1.1*)	Lump Sum	Incld.
2.2	Fill System (*install auto-fill system*)	Lump Sum	$ 10,000.00
2.3	Pool Finish All pools (*install plaster and tile finish*)	Lump Sum	$ 385,000.00
2.4	Disinfection System Upgrade (*install equipment*)	Lump Sum	$ 30,000.00
2.5	New Mechanical Room & Underground Piping Systems	Lump Sum	$ 140,000.00
2.6	Electrical Conduit Corrosion *(install wiring and conduit*)	Lump Sum	$ 50,000.00
2.7	Chemical Control Monitor Upgrade *(install equipment*) (All Pools)	Allowance	$ 60,000.00
2.8	Vent Removal (*remove vent and patch wall*)	Lump Sum	$ 1,000.00
2.9	**TOTAL MAINTENANCE COSTS**		**$ 676,000.00**
3.0	**TOTAL ESTIMATED COSTS**		**$ 2,946,000.00**



CONCLUSIONS AND RECOMMENDATIONS

The City of Boulder City to evaluate cost of repairs/ upgrades of existing Aquatic Center to newly constructed facility and pools and determine route to take in best interest of the community.



COST ESTIMATE

BOULDER CITY AQUATIC CENTER

Assessment Estimate

Prepared for:

SCA Design
2580 St. Rose Pkwy, Suite 305
Henderson, NV 89074

2-Mar-21

BOULDER CITY AQUATIC CENTER
ASSESSMENT ESTIMATE

PROJECT DETAILS

Basis of estimate

This Assessment Estimate has been prepared at the request of SCA Design to provide an estimate of the anticipated cost to carry out alterations to the Boulder City Aquatic Center to bring the building into compliance with current codes.

RLB were provided with drawings and narratives for the various design disciplines and from this information approximate quantities were measured and priced at rates considered applicable for the type of work being undertaken.

The scope of work allowed for is generally as follows:

- Family Washroom – convert existing washroom and storeroom into ADA compliant family washroom.
- Lockers – modify men's and women's locker rooms for ADA compliance. This work includes relocations of WC's and showers, and making good of all affected finishes.
- Pool Vestibules – construct new pool vestibules to form air lock between locker rooms and pool enclosure.
- Racquetball / Gym – enlarge doors into racquet ball courts and gym. Demolish exterior Exit stair and replace with ADA compliant ramp.
- Existing Electrical Room / Storage - remove existing pool equipment, install new CMU partition to form separate electrical and storerooms, relocate and install new electrical switchgear.
- General Building Upgrades – this covers work that affects the entire building and includes the removal and replacement of HVAC equipment, test and repair lighting, and the remove and replace sub-grade sanitary sewer pipework.
- New Pool Pump Room – construct a new building to accommodate the new pool mechanical equipment (pool equipment costs carried in separate estimate section).
- Swimming Pools – the costs in this section are provided by Aquatic Design group and include for new pool equipment, removal and replacement of pool decking, ADA compliant chair lift.
- Site ADA Accessibility – remove and replace concrete paving and curbs to allow ADA access, re-stripe parking lot.
- Future Maintenance – suggested improvements for the maintenance and operations of the swimming pools.

PROJECT DETAILS

The estimate allows for work only associated with work required to for code compliance. It does not allow to re-finish all floor, wall or ceiling surfaces, or to upgrade other items not being touched by the work, it only allows for those items affected by the work. The costs for the future maintenance items just cover the direct cost of the work, we do not believe there will be any impact to adjacent finishes.

The estimate in total allows for a complete scope of work. Should the City decide to do only selected portions of the work, the estimate will need to be re-visited to make sure the full scope of the selected work is covered. Noted that the margins and adjustments need to be added to the cost of work of each area of work.

It is assumed that the project will be competitively bid by four to six electrical contractors and that the awarded contractor will be required to pay prevailing wage rates.

Unit pricing is based on February 2021 costs. An estimating contingency of 10% has been included, as well and an allowance of 4% for escalation to cover a 12-month period until commencement of construction. The timing of this needs to be confirmed and the escalation re-visited should the duration extend beyond 12- month.

The estimate assumes that the building will be vacated for the durations of the and does not include for staff relocations or temporary accommodations.

Please note that the estimate includes for those additional costs arising from the typical on-site measures implemented to curb the transmission of the COVID-19 virus (such as daily temperature checks, health questionnaires, mask wearing, provision of hand sanitizer, procedures to maintain social distancing, etc), However, the estimate does not include any allowance for future cost impacts resulting from the evolution of the pandemic, such as those that may arise from disruptions to the supply chain or that may increase the cost of labor, materials, equipment, subcontractors, general conditions, etc.

Items specifically included

Please refer to estimate detail.

Items specifically excluded

- Hazardous materials abatement
- Utility tap fees and charges
- Work outside the site boundaries unless noted otherwise
- Special testing & inspections
- Staff relocations and temporary accommodations
- Owner's contingency
- Construction phase contingency
- Architectural, Engineering, and other professional fees
- Work outside of normal hours
- Items marked as "Excl." in the estimate

BOULDER CITY AQUATIC CENTER
ASSESSMENT ESTIMATE

PROJECT DETAILS

Documents
Please refer to basis of estimate.

BOULDER CITY AQUATIC CENTER
ASSESSMENT ESTIMATE

LOCATION SUMMARY

Rates Current At February 2021

Ref	Location	Total Cost $
A	Family Washroom	10,938
B	Locker Rooms	171,615
C	Pool Vestibules	60,743
D	Racquetball / Gym	40,874
E	Existing Electrical Room / Storage	203,172
H	General Building Upgrades	458,134
F	New Pool Pump Room	494,684
G	Swimming Pools	2,814,196
J	Site ADA Accessibilty	10,917
K	Future Maintenance Items	769,288
	ESTIMATED NET COST	**5,034,561**

MARGINS & ADJUSTMENTS		
Allowance for Permits and Fees	1.5 %	75,518
General Conditions	7.9 %	402,765
Insurance and Bonds	2.5 %	137,821
Overhead and Profit	3.5 %	197,773
Estimating Contingency	10.0 %	584,844
Escalation Allowance (12 months)	4.0 %	257,331
ESTIMATED TOTAL COST		**6,690,613**

LOCATION DIVISIONS/ELEMENTS ITEM

A Family Washroom

Rates Current At February 2021

Ref	Description	Unit	Qty	Rate $	Total Cost $
00	**PROCUREMENT AND CONTRACTING REQUIREMENTS**				
GR	**General Requirements**				
146	General Requirements - supervision, clean up, material handling etc.	Item			1,172
	General Requirements				**1,172**
	PROCUREMENT AND CONTRACTING REQUIREMENTS				**1,172**
02	**EXISTING CONDITIONS**				
F2010	**Building Elements Demolition**				
15	Remove doors and frames	EA	2	57.50	115
16	Demolish partition	LF	12	28.75	345
27	Remove tile floor	SF	74	2.88	213
	Building Elements Demolition				**673**
	EXISTING CONDITIONS				**673**
03	**CONCRETE**				
A1030	**Slab on Grade**				
28	Patch concrete floor where plumbing fixtures removed	LS	1	1,150.00	1,150
	Slab on Grade				**1,150**
	CONCRETE				**1,150**
08	**OPENINGS**				
C1020	**Interior Doors**				
25	Door, frame, hardware, and paint	EA	1	2,069.86	2,069
	Interior Doors				**2,069**
	OPENINGS				**2,069**
09	**FINISHINGS**				
C1010	**Partitions**				
17	Partitions	LF	6	143.83	863
	Partitions				**863**
C3010	**Wall Finishes**				
18	Patch and paint walls	SF	563	1.73	972
	Wall Finishes				**972**
C3020	**Floor Finishes**				
23	Remove and replace tile base	LF	36	11.50	414
24	Remove and replace rubber base	LF	14	5.79	81

LOCATION DIVISIONS/ELEMENTS ITEM

A Family Washroom (continued)

Rates Current At February 2021

Ref	Description	Unit	Qty	Rate $	Total Cost $
26	Tile floor	SF	74	20.69	1,531
	Floor Finishes				**2,026**
	FINISHINGS				**3,861**
10	**SPECIALTIES**				
C1030	**Fittings**				
21	Washroom accessories including baby change station	EA	1	1,150.00	1,150
	Fittings				**1,150**
	SPECIALTIES				**1,150**
26	**ELECTRICAL**				
D5020	**Lighting and Branch Wiring**				
133	Allowance for electrical at family washroom	LS	1	863.00	863
	Lighting and Branch Wiring				**863**
	ELECTRICAL				**863**
	FAMILY WASHROOM				**10,938**

LOCATION DIVISIONS/ELEMENTS ITEM

B Locker Rooms

Rates Current At February 2021

Ref	Description	Unit	Qty	Rate $	Total Cost $
00	**PROCUREMENT AND CONTRACTING REQUIREMENTS**				
GR	**General Requirements**				
146	General Requirements - supervision, clean up, material handling etc.	Item			18,387
	General Requirements				**18,387**
	PROCUREMENT AND CONTRACTING REQUIREMENTS				**18,387**
02	**EXISTING CONDITIONS**				
F2010	**Building Elements Demolition**				
15	Remove doors and frames	EA	4	57.50	230
30	Demolish CMU walls	LF	53	51.75	2,743
31	Remove locker	EA	1	288.00	288
32	Remove toilet and shower partitions	EA	12	28.75	345
33	Remove vanity	LF	7	17.29	121
	Building Elements Demolition				**3,727**
	EXISTING CONDITIONS				**3,727**
03	**CONCRETE**				
A1030	**Slab on Grade**				
28	Patch concrete floor where plumbing fixtures removed	LS	4	1,150.00	4,600
39	Form depressed slab at showers	SF	34	4.03	137
38	Slab thickening / CMU wall footing	LF	32	143.75	4,600
85	Drill and grout rebar dowels into edge of existing concrete slab/wall	LF	439	40.25	17,669
	Slab on Grade				**27,006**
	CONCRETE				**27,006**
04	**MASONRY**				
C1010	**Partitions**				
40	CMU walls	SF	320	20.70	6,624
41	Drill and epoxy grout rebar dowels into existing CMU wall	LF	90	40.26	3,623
	Partitions				**10,247**
	MASONRY				**10,247**
06	**WOOD, PLASTICS, AND COMPOSITES**				
E2010	**Fixed Furnishings**				
52	Washroom vanity	LF	11	402.55	4,428
	Fixed Furnishings				**4,428**
	WOOD, PLASTICS, AND COMPOSITES				**4,428**

LOCATION DIVISIONS/ELEMENTS ITEM

B Locker Rooms (continued)

Rates Current At February 2021

Ref	Description	Unit	Qty	Rate $	Total Cost $
08	**OPENINGS**				
C1020	**Interior Doors**				
25	Door, frame, hardware, and paint	EA	1	2,069.86	2,070
	Interior Doors				**2,070**
	OPENINGS				**2,070**
09	**FINISHINGS**				
C3010	**Wall Finishes**				
48	Paint CMU walls	SF	4,389	1.44	6,309
	Wall Finishes				**6,309**
C3020	**Floor Finishes**				
49	Tile floor	SF	1,612	20.70	33,367
50	Tile base	LF	439	9.20	4,039
	Floor Finishes				**37,406**
C3030	**Ceiling Finishes**				
51	Paint exposed structure	SF	1,612	1.73	2,781
	Ceiling Finishes				**2,781**
	FINISHINGS				**46,496**
10	**SPECIALTIES**				
C1030	**Fittings**				
42	Shower stalls	EA	2	575.00	1,150
43	Toilet partitions ADA	EA	2	1,610.00	3,220
44	Toilet partitions standard	EA	5	1,437.60	7,188
45	Shower accessories ADA	EA	3	575.00	1,725
46	Shower accessories standard	EA	3	172.67	518
47	Washroom accessories	EA	7	920.00	6,440
	Fittings				**20,241**
	SPECIALTIES				**20,241**
22	**PLUMBING**				
D2010	**Plumbing Fixtures**				
53	New WC in new location c/w domestic water, drain and vent	EA	2	4,600.00	9,200
54	New WC in existing location c/w removal and disposal of existing	EA	5	1,955.00	9,775
55	New shower c/w domestic water, drain and vent	EA	4	3,679.75	14,719
	Plumbing Fixtures				**33,694**
F2010	**Building Elements Demolition**				
34	Remove WC's	EA	7	230.00	1,610

LOCATION DIVISIONS/ELEMENTS ITEM

B Locker Rooms (continued)

Rates Current At February 2021

Ref	Description	Unit	Qty	Rate $	Total Cost $
35	Remove shower head and cap pipe	EA	3	86.33	259
	Building Elements Demolition				**1,869**
	PLUMBING				**35,563**
26	**ELECTRICAL**				
D5020	**Lighting and Branch Wiring**				
134	Allowance for electrical at locker rooms	EA	2	1,725.00	3,450
	Lighting and Branch Wiring				**3,450**
	ELECTRICAL				**3,450**
	LOCKER ROOMS				**171,615**

LOCATION DIVISIONS/ELEMENTS ITEM

C Pool Vestibules

Rates Current At February 2021

Ref	Description	Unit	Qty	Rate $	Total Cost $
00	**PROCUREMENT AND CONTRACTING REQUIREMENTS**				
GR	**General Requirements**				
146	General Requirements - supervision, clean up, material handling etc.	Item			6,669
	General Requirements				**6,669**
	PROCUREMENT AND CONTRACTING REQUIREMENTS				**6,669**
02	**EXISTING CONDITIONS**				
F2010	**Building Elements Demolition**				
56	Remove existing inflatable link	EA	2	575.00	1,150
	Building Elements Demolition				**1,150**
	EXISTING CONDITIONS				**1,150**
03	**CONCRETE**				
A1030	**Slab on Grade**				
38	Slab thickening / CMU wall footing	LF	56	143.75	8,050
58	Concrete slab on grade at pool vestibules	SF	136	11.50	1,564
	Slab on Grade				**9,614**
	CONCRETE				**9,614**
04	**MASONRY**				
B2010	**Exterior Walls**				
59	CMU walls	SF	665	20.70	13,765
	Exterior Walls				**13,765**
	MASONRY				**13,765**
05	**METALS**				
B1020	**Roof Construction**				
62	Metal roof deck fixed to CMU wall	SF	136	5.75	782
	Roof Construction				**782**
	METALS				**782**
07	**THERMAL AND MOISTURE PROTECTION**				
B2010	**Exterior Walls**				
60	Drill and epoxy grout rebar dowels into existing CMU wall	LF	48	40.25	1,932
	Exterior Walls				**1,932**
B3010	**Roof Coverings**				
63	Membrane roof	SF	136	11.50	1,564
	Roof Coverings				**1,564**
	THERMAL AND MOISTURE PROTECTION				**3,496**

LOCATION DIVISIONS/ELEMENTS ITEM

C Pool Vestibules (continued)

Rates Current At February 2021

Ref	Description	Unit	Qty	Rate $	Total Cost $
08	**OPENINGS**				
B2030	**Exterior Doors**				
61	Door, frame, hardware, and paint	EA	2	2,070.00	4,140
	Exterior Doors				**4,140**
	OPENINGS				**4,140**
09	**FINISHINGS**				
B2010	**Exterior Walls**				
64	Paint exterior face of CMU	SF	665	1.44	956
	Exterior Walls				**956**
C3010	**Wall Finishes**				
65	Paint interior face of CMU wall	SF	816	1.44	1,173
	Wall Finishes				**1,173**
C3020	**Floor Finishes**				
66	Concrete sealer	SF	136	1.73	235
	Floor Finishes				**235**
C3030	**Ceiling Finishes**				
67	Paint underside of exposed structure	SF	136	1.73	235
	Ceiling Finishes				**235**
	FINISHINGS				**2,599**
13	**SPECIAL CONSTRUCTION**				
F1020	**Integrated Construction**				
70	Modify inflatable vestibule to suit new air lock vestibule	EA	2	5,000.00	10,000
	Integrated Construction				**10,000**
	SPECIAL CONSTRUCTION				**10,000**
26	**ELECTRICAL**				
D5020	**Lighting and Branch Wiring**				
69	Allowance for electrical / lighting at vestibules (light fixtures only)	EA	2	2,875.00	5,750
	Lighting and Branch Wiring				**5,750**
	ELECTRICAL				**5,750**
32	**EXTERIOR IMPROVEMENTS**				
G1010	**Site Clearing**				
57	Clear site, remove paving etc at existing link	SF	516	1.15	593
	Site Clearing				**593**

LOCATION DIVISIONS/ELEMENTS ITEM

C Pool Vestibules (continued)

Rates Current At February 2021

Ref	Description	Unit	Qty	Rate $	Total Cost $
G2040	**Site Development**				
71	Allowance to make good exterior finishes around new vestibules	SF	380	5.75	2,185
	Site Development				**2,185**
	EXTERIOR IMPROVEMENTS				**2,778**
	POOL VESTIBULES				**60,743**

LOCATION DIVISIONS/ELEMENTS ITEM

D Racquetball / Gym

Rates Current At February 2021

Ref	Description	Unit	Qty	Rate $	Total Cost $
00	**PROCUREMENT AND CONTRACTING REQUIREMENTS**				
GR	**General Requirements**				
146	General Requirements - supervision, clean up, material handling etc.	Item			4,379
	General Requirements				**4,379**
	PROCUREMENT AND CONTRACTING REQUIREMENTS				**4,379**
02	**EXISTING CONDITIONS**				
F2010	**Building Elements Demolition**				
15	Remove doors and frames	EA	4	57.50	230
74	Demolish existing exterior concrete stairs	EA	1	1,725.00	1,725
	Building Elements Demolition				**1,955**
	EXISTING CONDITIONS				**1,955**
03	**CONCRETE**				
G2040	**Site Development**				
75	Ramp retaining wall	LF	27	92.00	2,484
76	Ramp slab on compacted fill	SF	115	11.50	1,322
80	Drill and grout dowels into existing foundation wall	LF	27	40.26	1,087
	Site Development				**4,893**
	CONCRETE				**4,893**
05	**METALS**				
G2040	**Site Development**				
77	Painted metal ramp rail	LF	27	86.26	2,329
	Site Development				**2,329**
	METALS				**2,329**
08	**OPENINGS**				
C1020	**Interior Doors**				
25	Door, frame, hardware, and paint	EA	4	2,069.86	8,280
	Interior Doors				**8,280**
	OPENINGS				**8,280**
09	**FINISHINGS**				
C1010	**Partitions**				
72	Enlarge door opening in existing CMU wall	EA	4	2,875.25	11,501
	Partitions				**11,501**

LOCATION DIVISIONS/ELEMENTS ITEM

D Racquetball / Gym (continued)

Rates Current At February 2021

Ref	Description	Unit	Qty	Rate $	Total Cost $
C3010	**Wall Finishes**				
18	Patch and paint walls	SF	1,690	1.73	2,915
	Wall Finishes				**2,915**
C3020	**Floor Finishes**				
73	Patch and make good floor finish at new doors	EA	4	115.00	460
	Floor Finishes				**460**
	FINISHINGS				**14,876**
26	**ELECTRICAL**				
D5020	**Lighting and Branch Wiring**				
135	Allowance for electrical at gym / racquet ball	EA	4	575.00	2,300
	Lighting and Branch Wiring				**2,300**
	ELECTRICAL				**2,300**
32	**EXTERIOR IMPROVEMENTS**				
G1010	**Site Clearing**				
78	Clear site, remove paving etc at new ramp	SF	270	1.15	310
	Site Clearing				**310**
G2040	**Site Development**				
79	Allowance to make good exterior finishes around new ramp	SF	270	5.75	1,552
	Site Development				**1,552**
	EXTERIOR IMPROVEMENTS				**1,862**
	RACQUETBALL / GYM				**40,874**

LOCATION DIVISIONS/ELEMENTS ITEM

E Existing Electrical Room / Storage

Rates Current At February 2021

Ref	Description	Unit	Qty	Rate $	Total Cost $
00	**PROCUREMENT AND CONTRACTING REQUIREMENTS**				
GR	**General Requirements**				
146	General Requirements - supervision, clean up, material handling etc.	Item			21,768
	General Requirements				**21,768**
	PROCUREMENT AND CONTRACTING REQUIREMENTS				**21,768**
02	**EXISTING CONDITIONS**				
F2010	**Building Elements Demolition**				
81	Remove pool equipment and pipework	LS	1	2,875.00	2,875
82	Demolish concrete curb	LF	34	17.26	587
86	Saw cut and remove concrete slab for CMU footing	LF	23	17.26	397
89	Form opening in CMU wall for new door	EA	1	2,875.00	2,875
	Building Elements Demolition				**6,734**
	EXISTING CONDITIONS				**6,734**
03	**CONCRETE**				
A1030	**Slab on Grade**				
38	Slab thickening / CMU wall footing	LF	23	143.75	3,306
83	Compacted fill to pool pump pit (assume 8'-6" deep)	CY	36	63.25	2,277
84	Concrete slab on grade	SF	112	11.50	1,288
85	Drill and grout rebar dowels into edge of existing concrete slab/wall	LF	87	40.25	3,502
	Slab on Grade				**10,373**
	CONCRETE				**10,373**
04	**MASONRY**				
C1010	**Partitions**				
40	CMU walls	SF	221	20.70	4,575
	Partitions				**4,575**
	MASONRY				**4,575**
08	**OPENINGS**				
C1020	**Interior Doors**				
25	Door, frame, hardware, and paint	EA	1	2,069.86	2,070
	Interior Doors				**2,070**
	OPENINGS				**2,070**

LOCATION DIVISIONS/ELEMENTS ITEM

E Existing Electrical Room / Storage (continued)

Rates Current At February 2021

Ref	Description	Unit	Qty	Rate $	Total Cost $
09	**FINISHINGS**				
C3010	**Wall Finishes**				
48	Paint CMU walls	SF	1,394	1.44	2,004
	Wall Finishes				**2,004**
C3030	**Ceiling Finishes**				
136	Paint exposed ceiling at storeroom	SF	564	1.73	973
	Ceiling Finishes				**973**
	FINISHINGS				**2,977**
23	**HEATING, VENTILATING, AND AIR CONDITIONING**				
D3050	**Terminal & Package Units**				
5	Electrical Room /storage ventilation system	LS	1	11,500.00	11,500
	Terminal & Package Units				**11,500**
	HEATING, VENTILATING, AND AIR CONDITIONING				**11,500**
26	**ELECTRICAL**				
D5010	**Electrical Service & Distribution**				
142	Remove and install new electrical switch gear	SF	7,830	17.25	135,067
	Electrical Service & Distribution				**135,067**
D5020	**Lighting and Branch Wiring**				
137	Allowance for lighting and power alterations at existing electrical and storage rooms	SF	564	14.38	8,108
	Lighting and Branch Wiring				**8,108**
	ELECTRICAL				**143,175**
	EXISTING ELECTRICAL ROOM / STORAGE				**203,172**

LOCATION DIVISIONS/ELEMENTS ITEM

H General Building Upgrades

GFA: 7,830 SF Cost/SF: 58.51
Rates Current At February 2021

Ref	Description	Unit	Qty	Rate $	Total Cost $
00	**PROCUREMENT AND CONTRACTING REQUIREMENTS**				
GR	**General Requirements**				
146	General Requirements - supervision, clean up, material handling etc.	Item			49,084
	General Requirements			**6.27/SF**	**49,084**
	PROCUREMENT AND CONTRACTING REQUIREMENTS			**6.27/SF**	**49,084**
02	**EXISTING CONDITIONS**				
F2010	**Building Elements Demolition**				
29	Demolish concrete slab on grade including finish	SF	1,713	4.03	6,895
	Building Elements Demolition			**0.88/SF**	**6,895**
	EXISTING CONDITIONS			**0.88/SF**	**6,895**
03	**CONCRETE**				
A1030	**Slab on Grade**				
36	Concrete slab on grade at locker room	SF	1,713	11.50	19,700
37	Excavate and re-compact subgrade to slab on grade	SF	1,713	2.88	4,925
85	Drill and grout rebar dowels into edge of existing concrete slab/wall	LF	555	40.25	22,339
139	Remove and replace concrete slab on grade for below grade pipe replacement	SF	2,202	11.50	25,323
	Slab on Grade			**9.23/SF**	**72,287**
	CONCRETE			**9.23/SF**	**72,287**
09	**FINISHINGS**				
C3020	**Floor Finishes**				
144	Make good floor finish where below grade pipe work replaced	SF	2,202	5.75	12,662
	Floor Finishes			**1.62/SF**	**12,662**
	FINISHINGS			**1.62/SF**	**12,662**
22	**PLUMBING**				
D2020	**Domestic Water Distribution**				
99	Replace hot water distribution thermal insulation.	SF	7,830	2.30	18,009
	Domestic Water Distribution			**2.30/SF**	**18,009**
D2030	**Sanitary Waste**				
88	Replace below grade sanitary drainage and vent	LF	442	69.00	30,498
95	Decommission and disposal	LF	442	17.25	7,625
96	Floor drain and clean out replacement and other miscellaneous items.	SF	7,830	1.15	9,005

LOCATION DIVISIONS/ELEMENTS ITEM

H General Building Upgrades (continued)

GFA: 7,830 SF Cost/SF: 58.51
Rates Current At February 2021

Ref	Description	Unit	Qty	Rate $	Total Cost $
104	Floor scan, piping locates	SF	7,830	1.15	9,005
	Sanitary Waste			**7.17/SF**	**56,133**
D2090	**Other Plumbing Systems**				
14	Disconnect and reconnect natural gas serving rooftop units	No	3	402.67	1,208
	Other Plumbing Systems			**0.15/SF**	**1,208**
	PLUMBING			**9.62/SF**	**75,350**
23	**HEATING, VENTILATING, AND AIR CONDITIONING**				
D3020	**Heat Generating Systems**				
22	Decommision removal and disposal	SF	7,830	0.57	4,502
	Heat Generating Systems			**0.57/SF**	**4,502**
D3030	**Cooling Generating Systems**				
87	Replace existing evaporative cooler - 4800 cfm unit.	LS	1	8,625.00	8,625
	Cooling Generating Systems			**1.10/SF**	**8,625**
D3040	**Distribution Systems**				
10	Clean and disinfect existing ductwork systems and balance	SF	7,830	1.73	13,507
	Distribution Systems			**1.73/SF**	**13,507**
D3050	**Terminal & Package Units**				
1	7.5 ton packaged rooftop gas fired, DX cooled unit c/w curb adaptor	LS	2	14,950.00	29,900
2	4 ton packaged rooftop gas fired, DX cooled unit c/w curb adaptor	LS	1	8,050.00	8,050
3	1.5 ton ductless split c/w copper distribution etc.	LS	1	8,625.00	8,625
4	50 ton packaged rooftop gas fired, DX cooled unit c/w curb adaptor	LS	1	97,749.00	97,749
13	Replace exhaust fans (EF1 to 7)	No	7	575.00	4,025
	Terminal & Package Units			**18.95/SF**	**148,349**
D3060	**Controls & Instrumentations**				
6	Programmable wifi capable thermostats	No	1	863.00	863
	Controls & Instrumentations			**0.11/SF**	**863**
D3090	**Other HVAC Systems & Equipment**				
68	Allowance for HVAC at vestibules to maintain positive pressure	EA	2	5,750.00	11,500
	Other HVAC Systems & Equipment			**1.47/SF**	**11,500**
	HEATING, VENTILATING, AND AIR CONDITIONING			**23.93/SF**	**187,346**
26	**ELECTRICAL**				
D5010	**Electrical Service & Distribution**				
132	Disconnect and reconnect mechanical equipment	EA	11	862.55	9,488
	Electrical Service & Distribution			**1.21/SF**	**9,488**

LOCATION DIVISIONS/ELEMENTS ITEM

H General Building Upgrades (continued)

GFA: 7,830 SF Cost/SF: 58.51
Rates Current At February 2021

Ref	Description	Unit	Qty	Rate $	Total Cost $
D5020	**Lighting and Branch Wiring**				
143	Test and repair existing lighting as required	SF	7,830	5.75	45,022
	Lighting and Branch Wiring			**5.75/SF**	**45,022**
	ELECTRICAL			**6.96/SF**	**54,510**
	GENERAL BUILDING UPGRADES			**58.51/SF**	**458,134**

LOCATION DIVISIONS/ELEMENTS ITEM

F New Pool Pump Room

Rates Current At February 2021

Ref	Description	Unit	Qty	Rate $	Total Cost $
00	**PROCUREMENT AND CONTRACTING REQUIREMENTS**				
GR	**General Requirements**				
146	General Requirements - supervision, clean up, material handling etc.	Item			53,002
	General Requirements				**53,002**
	PROCUREMENT AND CONTRACTING REQUIREMENTS				**53,002**
03	**CONCRETE**				
A1030	**Slab on Grade**				
38	Slab thickening / CMU wall footing	LF	237	143.75	34,069
91	Concrete slab on grade at pump room	SF	1,980	7.48	14,801
	Slab on Grade				**48,870**
	CONCRETE				**48,870**
04	**MASONRY**				
B2010	**Exterior Walls**				
59	CMU walls	SF	2,304	20.70	47,693
	Exterior Walls				**47,693**
C1010	**Partitions**				
93	CMU walls	SF	537	20.70	11,116
	Partitions				**11,116**
	MASONRY				**58,809**
05	**METALS**				
B1020	**Roof Construction**				
62	Metal roof deck fixed to CMU wall	SF	1,980	5.75	11,385
92	Structural steel framing to pump room	T	9.90	5,750.00	56,925
	Roof Construction				**68,310**
	METALS				**68,310**
07	**THERMAL AND MOISTURE PROTECTION**				
B3010	**Roof Coverings**				
63	Membrane roof	SF	1,980	11.50	22,770
	Roof Coverings				**22,770**
	THERMAL AND MOISTURE PROTECTION				**22,770**

LOCATION DIVISIONS/ELEMENTS ITEM

F New Pool Pump Room (continued)

Rates Current At February 2021

Ref	Description	Unit	Qty	Rate $	Total Cost $
08	**OPENINGS**				
B2030	**Exterior Doors**				
61	Door, frame, hardware, and paint	EA	5	2,070.00	10,350
	Exterior Doors				**10,350**
	OPENINGS				**10,350**
09	**FINISHINGS**				
B2010	**Exterior Walls**				
64	Paint exterior face of CMU	SF	2,304	1.44	3,312
	Exterior Walls				**3,312**
C3010	**Wall Finishes**				
48	Paint CMU walls	SF	3,377	1.44	4,854
	Wall Finishes				**4,854**
C3020	**Floor Finishes**				
94	Epoxy floor finish with coved base	SF	1,980	20.70	40,986
	Floor Finishes				**40,986**
C3030	**Ceiling Finishes**				
51	Paint exposed structure	SF	1,980	1.73	3,416
	Ceiling Finishes				**3,416**
	FINISHINGS				**52,568**
21	**FIRE SUPPRESSION**				
D4010	**Sprinklers**				
100	Sprinklers to pump room excluded	SF	1,980		Excl.
	Sprinklers				**Excl.**
	FIRE SUPPRESSION				**Excl.**
22	**PLUMBING**				
D2090	**Other Plumbing Systems**				
97	Allowance for plumbing services to pump room	SF	1,980	23.00	45,540
	Other Plumbing Systems				**45,540**
	PLUMBING				**45,540**
23	**HEATING, VENTILATING, AND AIR CONDITIONING**				
D3090	**Other HVAC Systems & Equipment**				
98	Allowance for HVAC to pump room - 7.5 ton roof top unit gas fired. Include for gas supply to building	SF	1,980	20.70	40,986
	Other HVAC Systems & Equipment				**40,986**
	HEATING, VENTILATING, AND AIR CONDITIONING				**40,986**

LOCATION DIVISIONS/ELEMENTS ITEM

F New Pool Pump Room (continued)

Rates Current At February 2021

Ref	Description	Unit	Qty	Rate $	Total Cost $
26	**ELECTRICAL**				
D5020	**Lighting and Branch Wiring**				
101	Allowance for electrical & low voltage systems to pump room	SF	1,980	40.25	79,694
	Lighting and Branch Wiring				**79,694**
	ELECTRICAL				**79,694**
32	**EXTERIOR IMPROVEMENTS**				
G1010	**Site Clearing**				
90	Clear site, remove paving etc at new pump room	SF	3,040	1.15	3,496
	Site Clearing				**3,496**
G2040	**Site Development**				
103	Concrete paving	SF	561	7.48	4,194
102	Allowance to make good exterior finishes around pump room ramp	SF	1,060	5.75	6,095
	Site Development				**10,289**
	EXTERIOR IMPROVEMENTS				**13,785**
	NEW POOL PUMP ROOM				**494,684**

LOCATION DIVISIONS/ELEMENTS ITEM

G Swimming Pools

Rates Current At February 2021

Ref	Description	Unit	Qty	Rate $	Total Cost $
00	**PROCUREMENT AND CONTRACTING REQUIREMENTS**				
GR	**General Requirements**				
146	General Requirements - supervision, clean up, material handling etc.	Item			340,446
	General Requirements				**340,446**
	PROCUREMENT AND CONTRACTING REQUIREMENTS				**340,446**
13	**SPECIAL CONSTRUCTION**				
G2040	**Site Development**				
112	Remove and replace pool equipment in new pool pump building	LS	1	500,000.00	500,000
113	Modify below grade pool piping to separate pool water	LS	1	150,000.00	150,000
114	Remove and replace pool deck to all pools. Includes drainage system	SF	14,601	51.37	750,000
115	Depth markers for pools	LS	1	10,000.00	10,000
116	Remove and reconstruct gutters to pools (assumes work done in conjunction with pool pump equipment and deck replacement)	LS	1	594,000.00	594,000
117	Pool water overflow leaks. Costs for rectification included with pool equipment replacement	LS	1		Incl.
118	Provide ADA compliant chair lift	EA	1	12,000.00	12,000
131	Diving pool means of ingress and egress	LS	1	24,000.00	24,000
147	Install existing ADA compliant chair lift, include new mounting kit	EA	1	2,000.00	2,000
119	Wading pool secondary disinfection system	LS	1	130,000.00	130,000
120	Diving pool floor inlets	LS	1	200,000.00	200,000
121	Muriatic acid mini bulk tank and carbon dioxide system	LS	1	20,000.00	20,000
122	Main drain compliance	LS	1	18,000.00	18,000
123	Chemical equipment flow and feed rate compliance	LS	1	12,000.00	12,000
124	Filter tank valve access. Included with mechanical equipment replacement	LS	1		Incl.
	Site Development				**2,422,000**
	SPECIAL CONSTRUCTION				**2,422,000**
26	**ELECTRICAL**				
D5020	**Lighting and Branch Wiring**				
138	Electrical hook up's for pool pump equipment	EA	3	17,250.00	51,750
	Lighting and Branch Wiring				**51,750**
	ELECTRICAL				**51,750**
	SWIMMING POOLS				**2,814,196**

BOULDER CITY AQUATIC CENTER
ASSESSMENT ESTIMATE

LOCATION DIVISIONS/ELEMENTS ITEM

J Site ADA Accessibilty

Rates Current At February 2021

Ref	Description	Unit	Qty	Rate $	Total Cost $
00	**PROCUREMENT AND CONTRACTING REQUIREMENTS**				
GR	**General Requirements**				
146	General Requirements - supervision, clean up, material handling etc.	Item			1,170
	General Requirements				**1,170**
	PROCUREMENT AND CONTRACTING REQUIREMENTS				**1,170**
32	**EXTERIOR IMPROVEMENTS**				
G2020	**Parking Lots**				
108	Remove existing curb and install zero curb	LF	96	23.00	2,208
109	Re-stripe parking stalls for ADA	SF	2,157	0.58	1,241
	Parking Lots				**3,449**
G2040	**Site Development**				
107	Remove landscaping and install concrete paving	SF	479	7.48	3,581
110	Remove existing concrete paving, re-grade for ADA, install new concrete paving	SF	189	14.38	2,717
	Site Development				**6,298**
	EXTERIOR IMPROVEMENTS				**9,747**
	SITE ADA ACCESSIBILTY				**10,917**

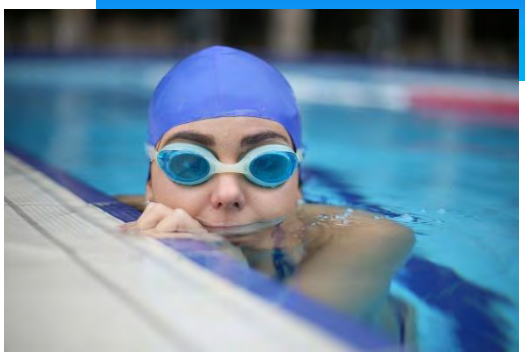
BOULDER CITY AQUATIC CENTER
ASSESSMENT ESTIMATE

LOCATION DIVISIONS/ELEMENTS ITEM

K Future Maintenance Items

Rates Current At February 2021

Ref	Description	Unit	Qty	Rate $	Total Cost $
00	**PROCUREMENT AND CONTRACTING REQUIREMENTS**				
GR	**General Requirements**				
146	General Requirements - supervision, clean up, material handling etc.	Item			93,288
	General Requirements				**93,288**
	PROCUREMENT AND CONTRACTING REQUIREMENTS				**93,288**
13	**SPECIAL CONSTRUCTION**				
G2040	**Site Development**				
125	Fill system - install autofill system	LS	1	10,000.00	10,000
126	Swimming pool replaster and tile finish - all pools	LS	1	385,000.00	385,000
127	Disinfection and pH control system upgrades	LS	1	30,000.00	30,000
148	Replace corroded pool system valves and piping	LS	1	140,000.00	140,000
129	Electrical conduit corrosion	LS	1	50,000.00	50,000
130	Chemical control monitor update	LS	1	60,000.00	60,000
149	Vent removal	LS	1	1,000.00	1,000
	Site Development				**676,000**
	SPECIAL CONSTRUCTION				**676,000**
	FUTURE MAINTENANCE ITEMS				**769,288**



EXHIBITS 1-4

Scope of Work
For
Aquatic Center Master Plan Boulder City Project No. 17-1013-MC(1)

Part 1 – Background

An Ad Hoc Pool Committee has been formed to review alternatives for the repair, construction, and financing of the current municipal pool or a replacement facility. One option that has been discussed and directed for action by the Committee and City Council is retaining a consultant to provide their professional opinion and cost estimate on repairing the existing aquatic facility. The City is requesting proposals from interested and qualified firms to provide professional services for the Aquatic Center Master Plan for the existing pool facility.

Part 2 – Scope of Services

Services are anticipated to include, but are not limited to, performance of the following tasks:

Task 1: Review Historical Data - Review historical data from the City regarding plans and concepts that have been completed to date. Available information will be provided by the City to supplement a field investigation.

Task 2: Existing Facility Condition Assessment – Utilizing available data to rate the overall facility condition, remaining life, and likelihood and consequence of failure for the three existing pools, pool mechanical equipment, and office building, which includes four sports courts. Determine what improvements are needed to the existing facilities to meet current building and health department codes.

Task 3: Cost Estimate – Utilizing available data to provide a cost estimate on repairing and remodeling the existing aquatic facility to meet current building and health department codes. The cost estimate shall be broken down sufficiently and organized to be used to plan for portions of the improvements to be completed separately as funding becomes available.

Task 4: Final Report – The consultant shall provide complete copies of all information obtained in both digital and hard copy format and assist the City to develop procedures for implementation of the assessment and cost estimate findings. The final report, at a minimum, shall include:

1. An Executive Summary of the project reviewing findings, conclusions, recommendations and costs for bringing the facility up to current Building and Health Department codes.
2. A summary of the review of historical data and the field investigation findings, detailing the condition assessment of the entire facility and associated equipment and appurtenances. This must include the anticipated life expectancy of the existing facility without any improvements.

3. Conclusions and recommendations for improvements to the existing facilities to bring them into compliance with current Building and Health Department codes. This must include the anticipated life expectancy of the improved facilities.
4. A detailed cost estimate of improvements necessary to repair and remodel the existing facilities, organized to allow the improvements to be completed in phases as funding becomes available.

CITY OF BOULDER CITY
401 California Avenue
Boulder City, NV 89005
www.bcnv.org

April 8, 2020

City of Boulder City
RFQ 2020-01 Aquatic Center Master Plan Design
Addendum No. 1

The deadline for questions for this Request for Quotes was 12:00 p.m., Wednesday, April 8, 2020. The following are the questions that we received and answers to those questions. A copy of this addendum must be signed and returned with your proposal.

Question 1. Is there a RFQ document stating the qualifications sought, showing the previous historical documents described in the scope of work, and outlining the procedures for submission? The only document available in the Attachments tab appears to be the Scope of Work. Can we include resumes and project experience? Are there page limitations? Can we submit electronically or hard copies? What format? *Answer: This project is to provide quotes to the City of Boulder City to provide investigation, cost estimating and a final report on the existing Aquatic Center Facility of what improvements would be required to bring the existing facility up to current building and Health Department codes. The City of Boulder City estimates the work for this report to be less than $35,000.00. No conceptual plans, designs or construction are being requested as part of this RFQ.*

Plans for the existing facility will be provided to the firm selected for the project. The existing facility is approximately 7,550 sf. This includes all areas under roof, but not the outdoor pool areas. We have not scheduled a tour of the facility at this time due to the facility being closed to the public. Attached for reference are copies of the site and floor plans for the facility, the Main, Wading and Diving pool sections and 2017 photos of the existing conditions at the facility.

Please limit submittals to a maximum of 10 – 8½" x 11" pages in PDF format. Otherwise, the format for submittals is open to the firm's discretion. All submissions must be made electronically in NGEM.

Paul Sikora
Purchasing Manager

By signing below, I indicate I have received Addendum No. 1 for Bid B1904, Municipal Pool Maintenance and I acknowledge all requirements of this addendum and will submit this signed page with my quote.

_____
LEGAL NAME OF FIRM

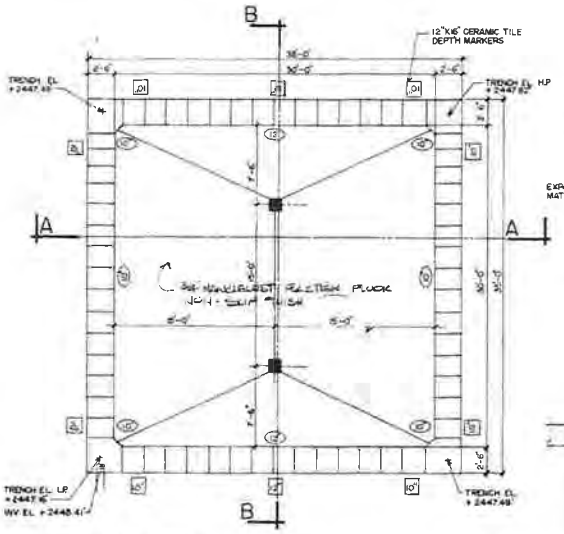
_____
AUTHORIZED SIGNATURE NAME (TYPE OR PRINT

_____ _____
AUTHORIZED SIGNATURE DATE

_____ _____
TITLE TELEPHONE NUMBER

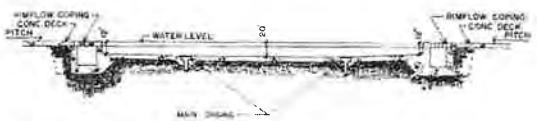
_____
ADDRESS OF FIRM, CITY, STATE, ZIP CODE

E-MAIL ADDRESS: _____

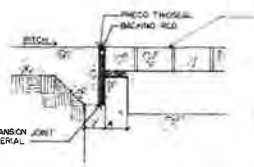


WADING POOL PLAN

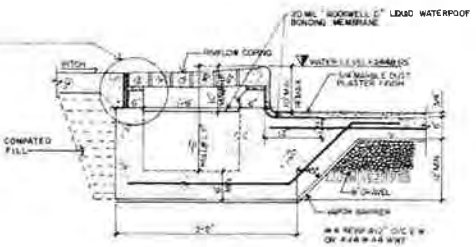
SECTION A-A



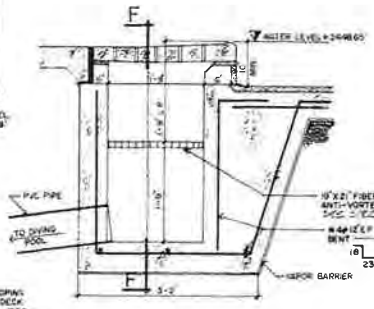
SECTION B-B



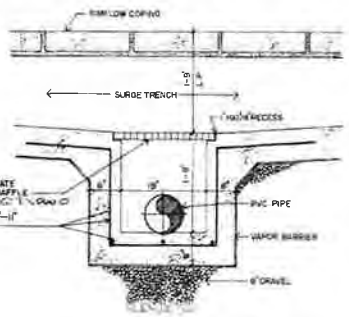
WADING POOL WALL DETAIL



TYPICAL WADING POOL WALL SECTION

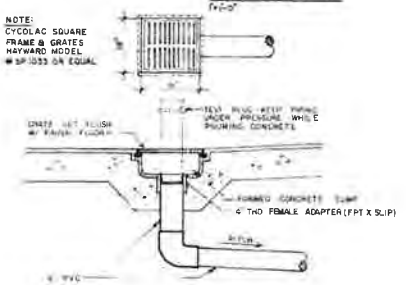


WADING POOL WALL SECTION AT L.P.



SECTION F-F

NOTE:
CYCLAC SQUARE FRAME & GRATES HAYWARD MODEL #SP1033 OR EQUAL



TYPICAL MAIN DRAIN DETAIL

NOTE: (10") INDICATES WATER DEPTH OF POOL

ISSUE @ FOR BID ONLY

BOULDER CITY

RECREATION & PARKS

BOULDER CITY NEVADA

SCALE AS SHOWN
DATE FEB 11 86
JOB NO 1026
DRAWN JLS
CHECKED HEG
REVISION

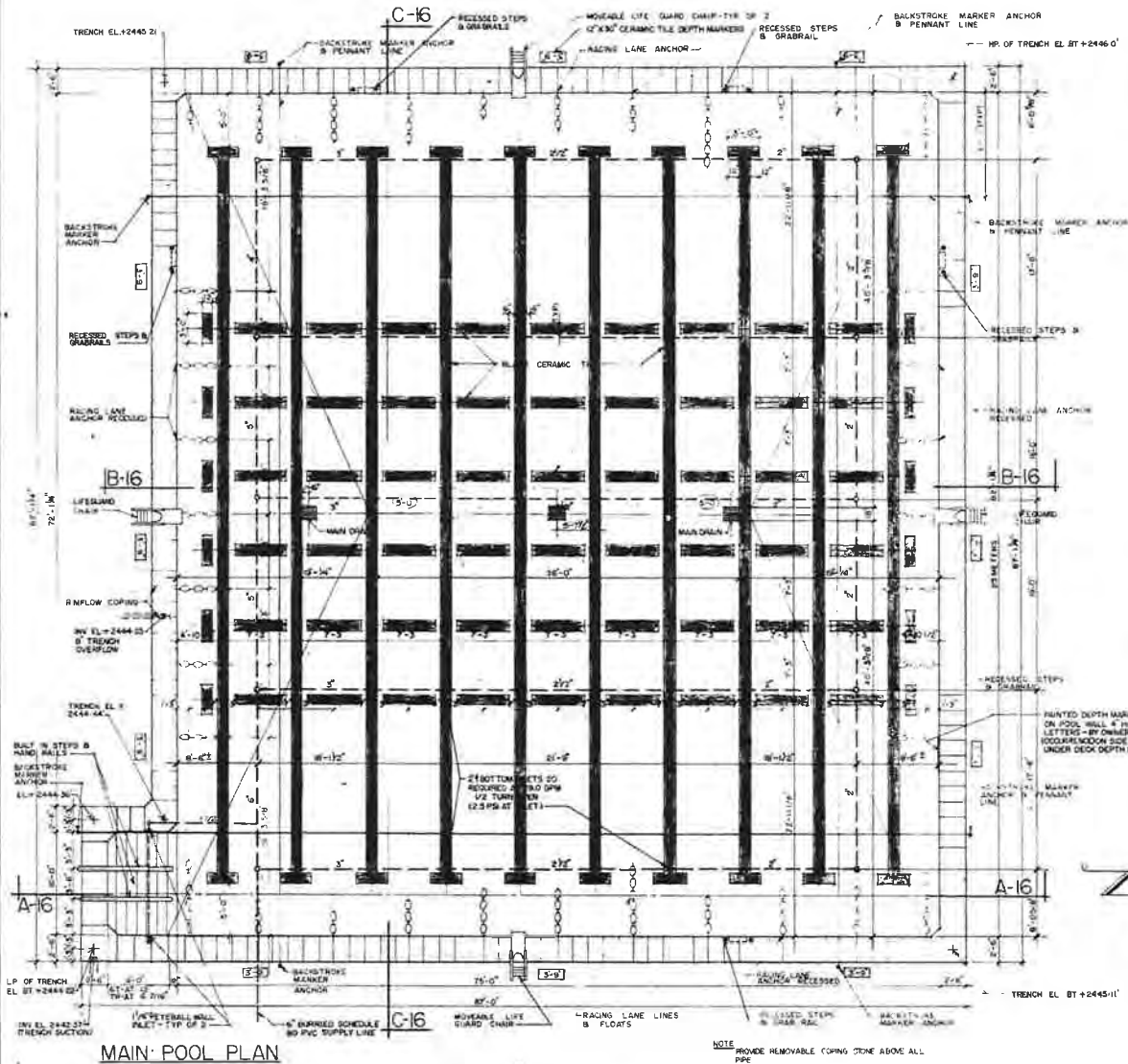
MILTON COSTELLO, P.E.
CONSULTING ENGINEERS
OLD LIBRARY (516) 691-1313 AMITYVILLE NY 11701

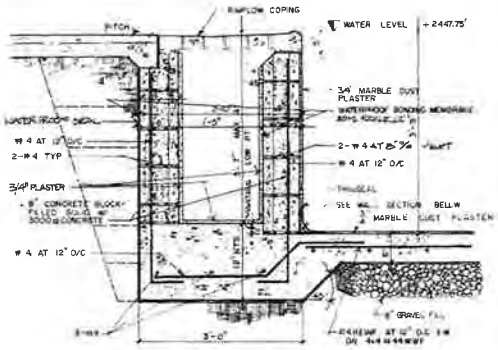
WADING POOL PLAN & SECTIONS

DRAWING 14

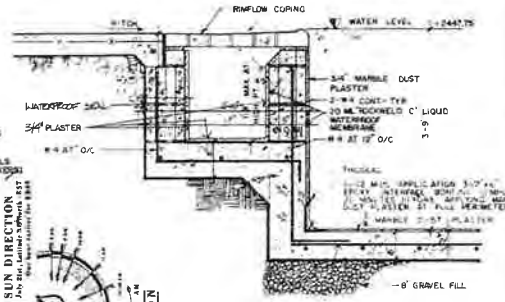
23-14

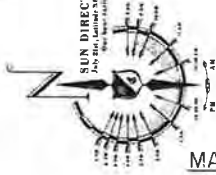
BC03883





MAIN POOL WALL SECTION
1"=1'-0"





MAIN POOL WALL SECTION

(30) INDICATES WATER DEPTH OF POOL

NOTE PROVIDE REMOVABLE COPING STONE ABOVE ALL PIPE

ISSUE (A) FOR BID ONLY
BOULDER CITY
RECREATION & PARKS
BOULDER CITY - NEVADA

SCALE
DATE
JOB NO 1026
DRAWN JPI
CHECKED M E G
REVISION

MILTON COSTELLO, P.E.
CONSULTING ENGINEER
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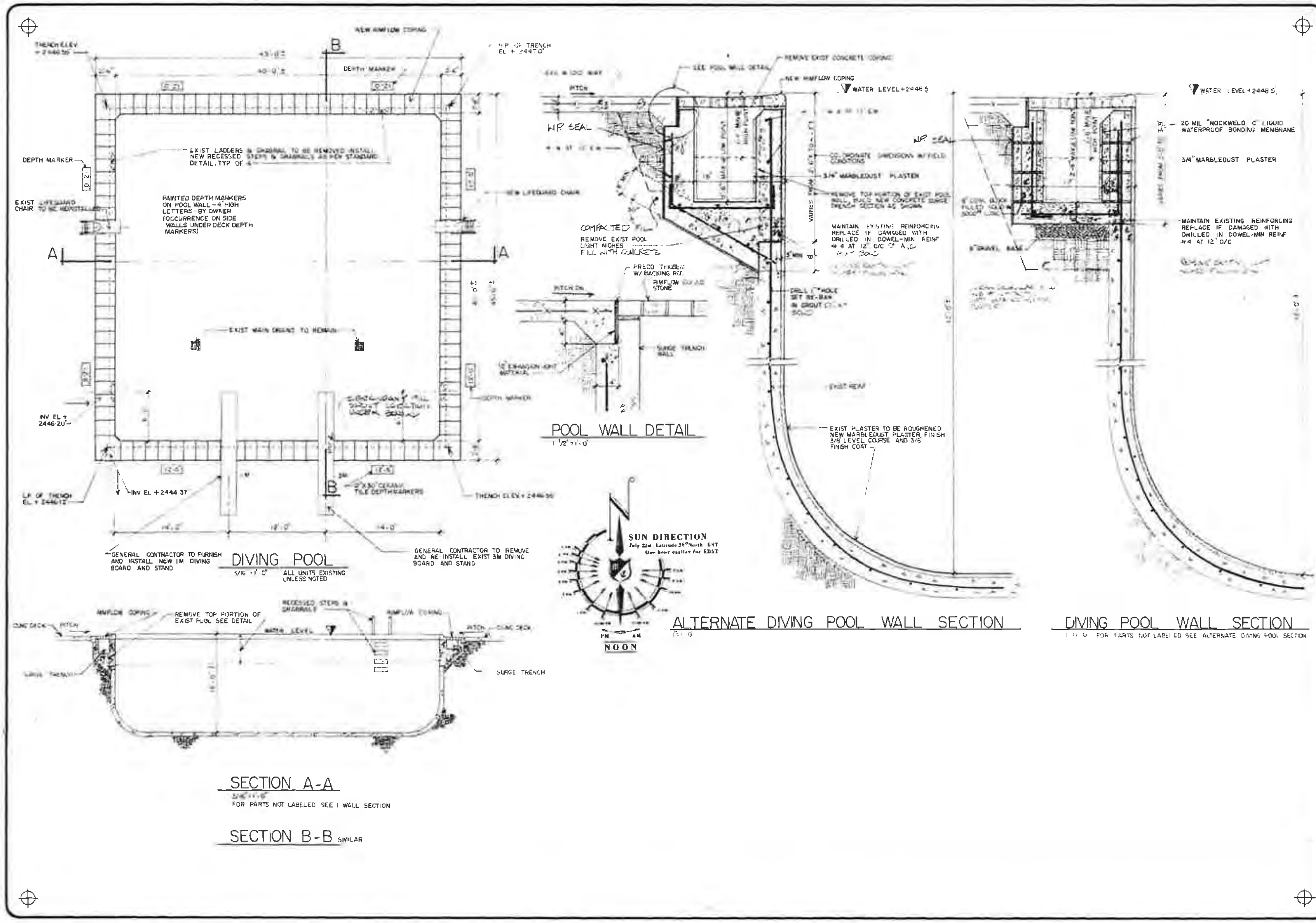
MAIN POOL PLAN AND SECTIONS

DRAWING 13

23-13



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BOULDER CITY NEVADA

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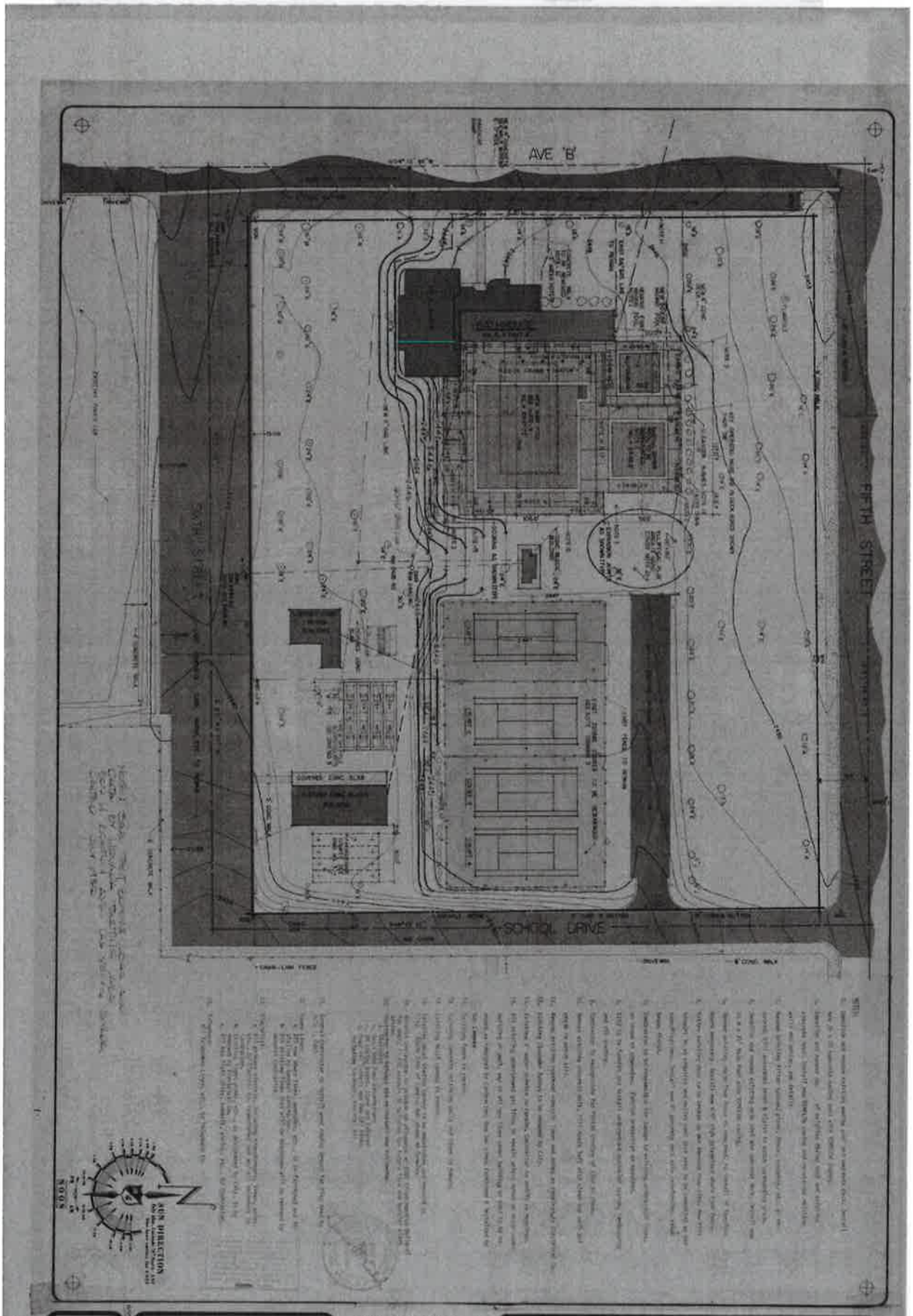
(516) 691 1313

DIVING POOL PLAN AND DETAILS

DRAWING
15

BC03884

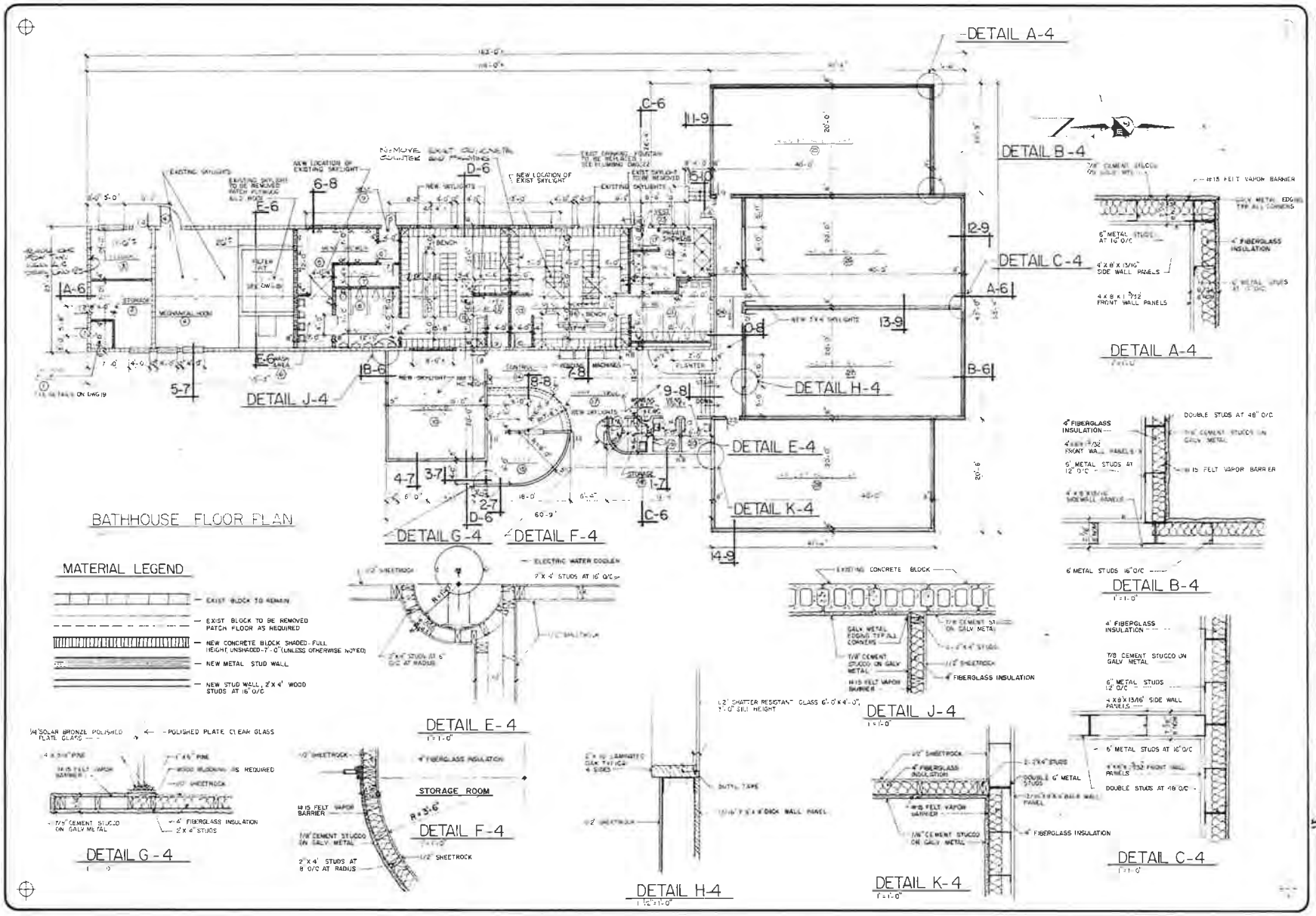


2
DRAWING

SITE PLAN
PROPOSED CONDITIONS

MILTON COSTELLO, P.E.

ISSUE 'A' FOR BID ONLY
BOULDER CITY
RECREATION & PARKS
BOULDER CITY NEVADA



ISSUE FOR BID ONLY

BOULDER CITY

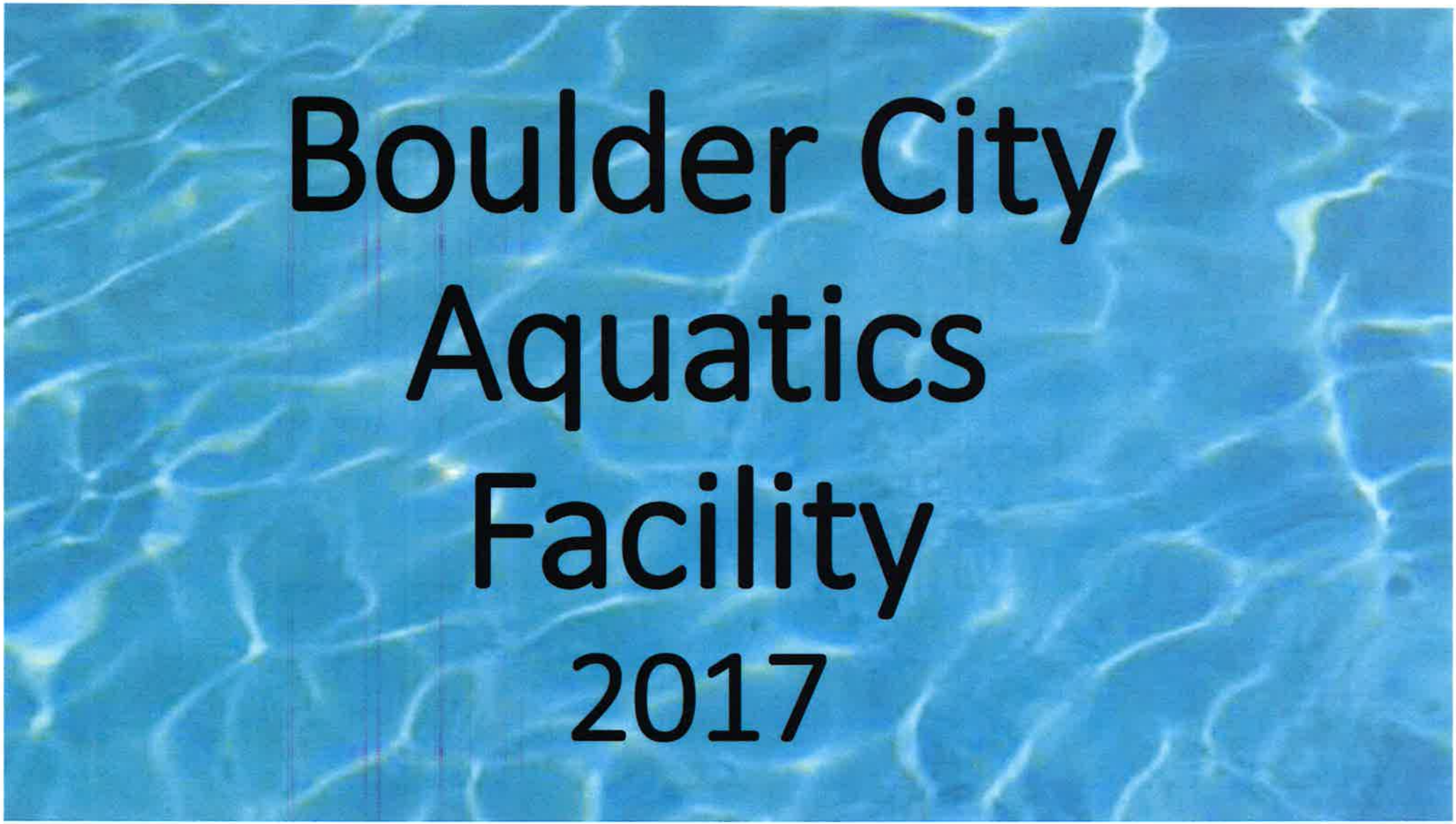
RECREATION & PARK

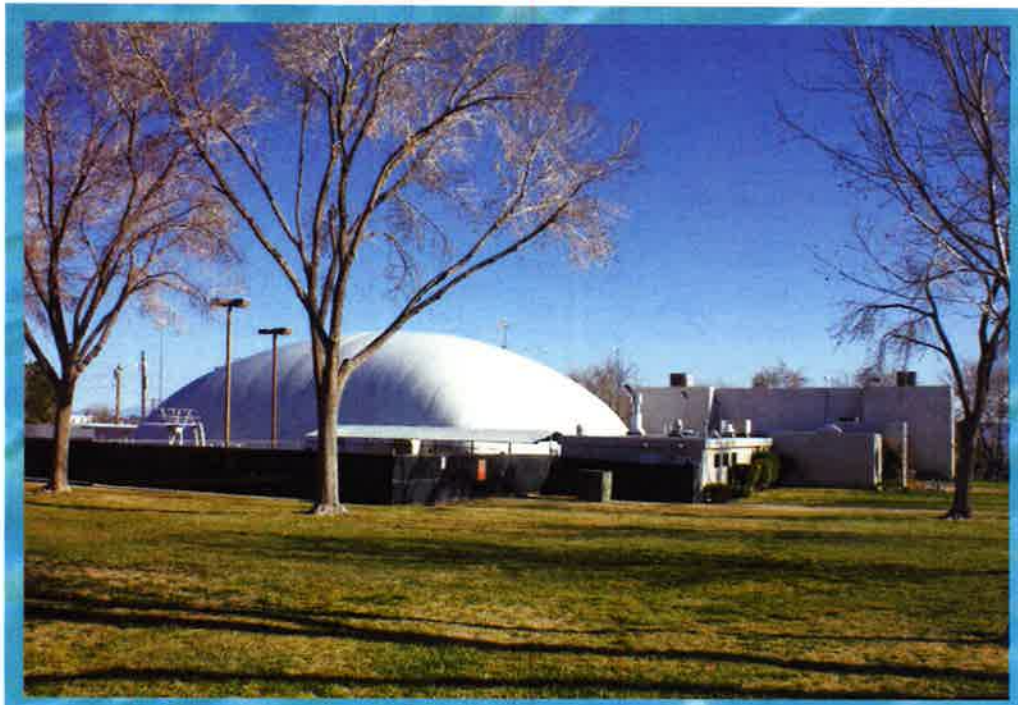
BOULDER CITY NEVADA

MILTON COSTELLO, P.E.

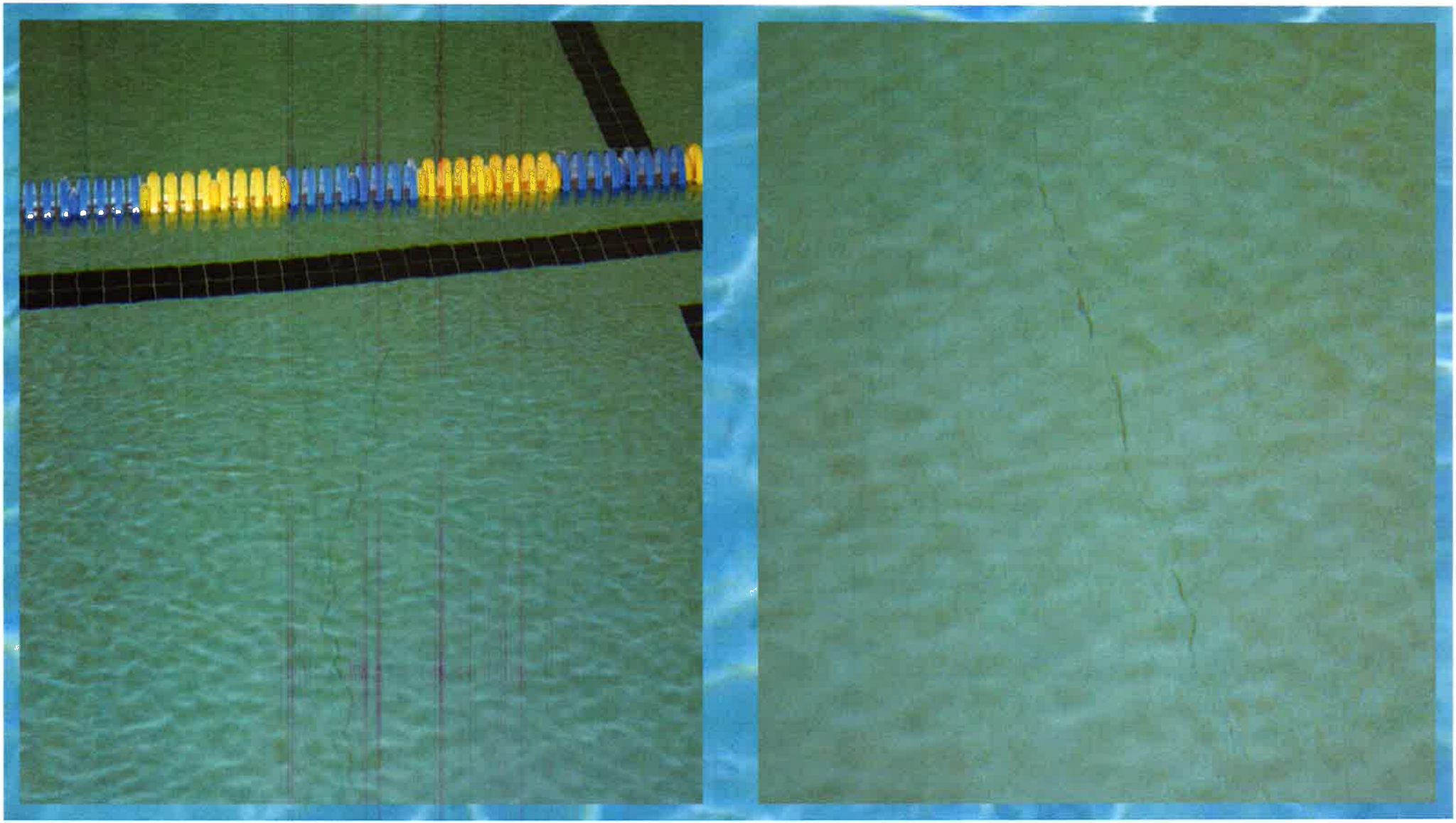
DRAWING 4

BC03873


Boulder City
Aquatics
Facility
2017




RACQUET BALL

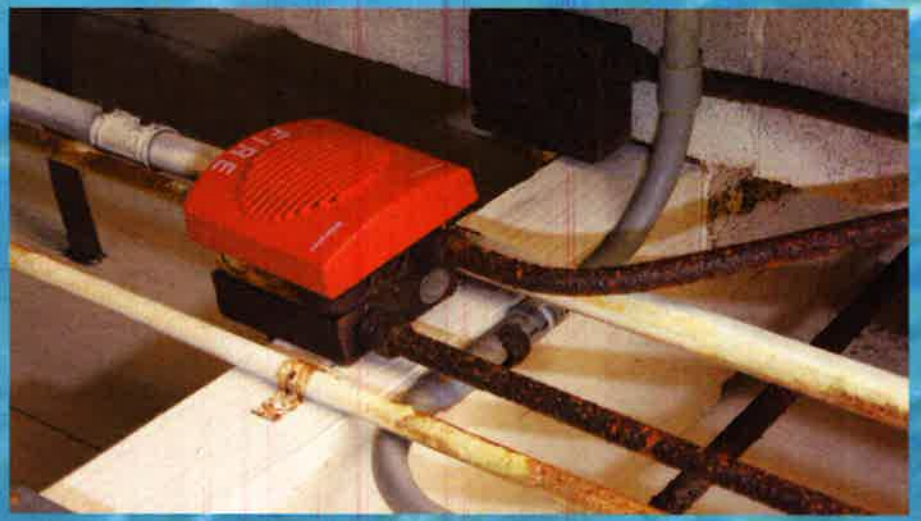



LAWYER
TRANE


MAIN POOL: Muriatic Acid 31%
DIVING POOL:
WADING POOL:


SEVERN TRENT SERVICES
COLMAR, PA. USA


CH
ST
Chemtrol




CHLORINE
CHLORINE


NOTICE


TRANE

CITY OF BOULDER CITY, NEVADA • DEPARTMENT OF PUBLIC WORKS • ENGINEERING DIVISION

THE PUBLIC WORKS DEPARTMENT MISSION IS TO IMPROVE THE LIVES OF BOULDER CITY CITIZENS THROUGH THE INFRASTRUCTURE WE PROVIDE AND MAINTAIN EACH DAY AND THE CAPITAL IMPROVEMENT PROJECTS THAT STRENGTHEN THE COMMUNITY INTO THE FUTURE

RECORD DRAWING

RECORD DRAWING BY: BOULDER CITY ENGINEERING DIVISION

RECOMMENDED BY:
RECORD DRAWING PROJECT ENGINEER: JIM KEANE

DATE REVISED:

APPROVED: NAME DATE

BROADBENT PARK / AQUATIC CENTER COMPLEX

PROPOSED BUILDING OVERLAY

ISSUE DATE: 2/20/20

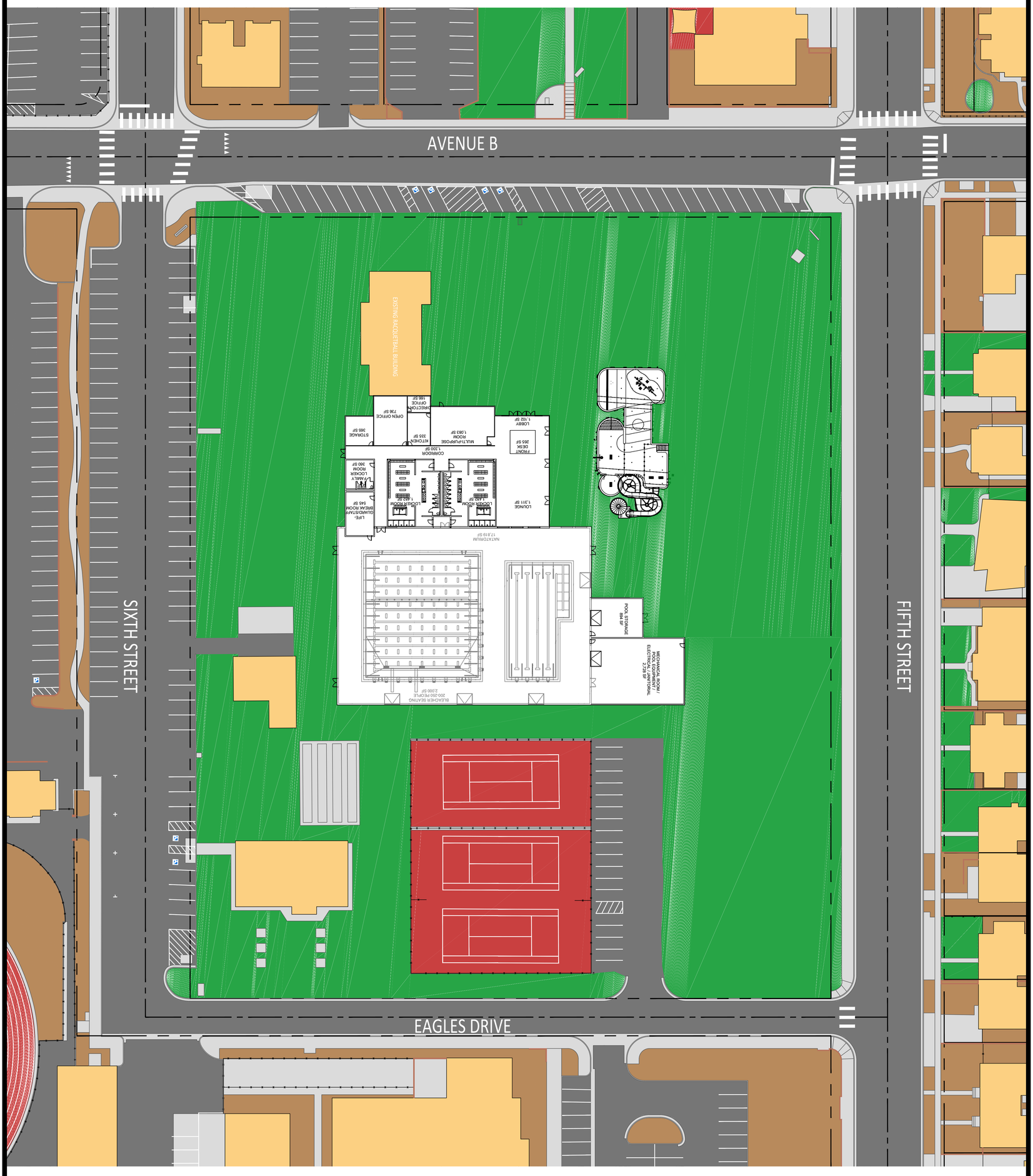
FILE NAME: Aquatic Center 2020.DWG

CREATED BY: M. GRIMES

ENGINEER'S SEAL

SHEET 2

2 OF 2



SCALE: 1" = 30'

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THE PUBLIC WORKS DEPARTMENT MISSION IS TO IMPROVE THE LIVES OF BOULDER CITY CITIZENS THROUGH THE INFRASTRUCTURE WE PROVIDE AND MAINTAIN EACH DAY AND THE CAPITAL IMPROVEMENT PROJECTS THAT STRENGTHEN THE COMMUNITY INTO THE FUTURE

SHEET: 1 OF 1

PRELIMINARY FOR REVIEW ONLY

ENGINEER'S SEAL

CREATED BY: M. GRIMES

FILE NAME: ADHoc Opt-2.DWG

ISSUE DATE: 11/10/20

MUNICIPAL POOL AD-HOC COMMITTEE
MEETING DATE: 11/17/20

SITE PLAN OPTION #2

RECORD DRAWING

RECORD DRAWING BY: BOULDER CITY ENGINEERING DIVISION

RECOMMENDED BY:

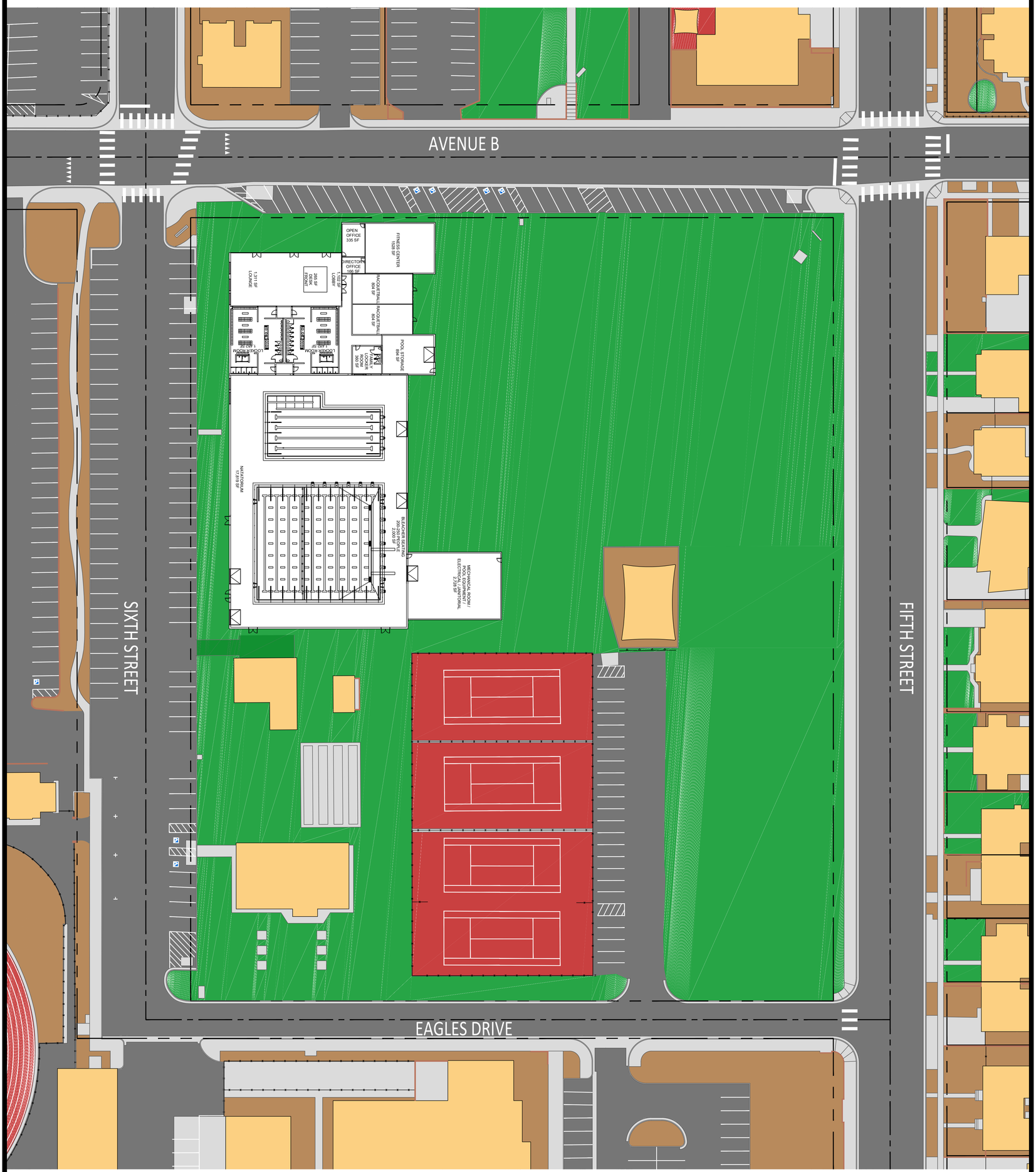
RECORD DRAWING PROJECT ENGINEER: JIM KEANE

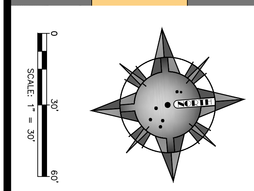
DATE REVISED:

APPROVED:

NAME DATE

BOULDER CITY NV PUBLIC WORKS DEPARTMENT





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THE PUBLIC WORKS DEPARTMENT MISSION IS TO IMPROVE THE LIVES OF BOULDER CITY CITIZENS THROUGH THE INFRASTRUCTURE WE PROVIDE AND MAINTAIN EACH DAY AND THE CAPITAL IMPROVEMENT PROJECTS THAT STRENGTHEN THE COMMUNITY INTO THE FUTURE

SHEET 1 OF 1

1

PRELIMINARY FOR REVIEW ONLY

ENGINEER'S SEAL

CREATED BY: M. GRIMES

FILE NAME: ADHoc Opt-3.DWG

ISSUE DATE: 11/10/20

MUNICIPAL POOL AD-HOC COMMITTEE
MEETING DATE: 11/17/20

SITE PLAN OPTION #3

RECORD DRAWING

RECORD DRAWING BY: BOULDER CITY ENGINEERING DIVISION

RECOMMENDED BY:

RECORD DRAWING PROJECT ENGINEER: JIM KEANE

DATE REVISED:

APPROVED:

NAME DATE

BOULDER CITY NV PUBLIC WORKS DEPARTMENT

Possible design features and elements:

- Two pools
    - 1 – 25m x 25yd
    - 1 - 4 lane warm up/programming pool
- Meeting / multi-purpose room
- Locker rooms
    - Male, female, and two family
- Storage room
- Break room
- Office
- Seating for ~250 people
- Analyze incorporating existing racquetball in new design
- Reposition new facility to incorporate other features of existing facility

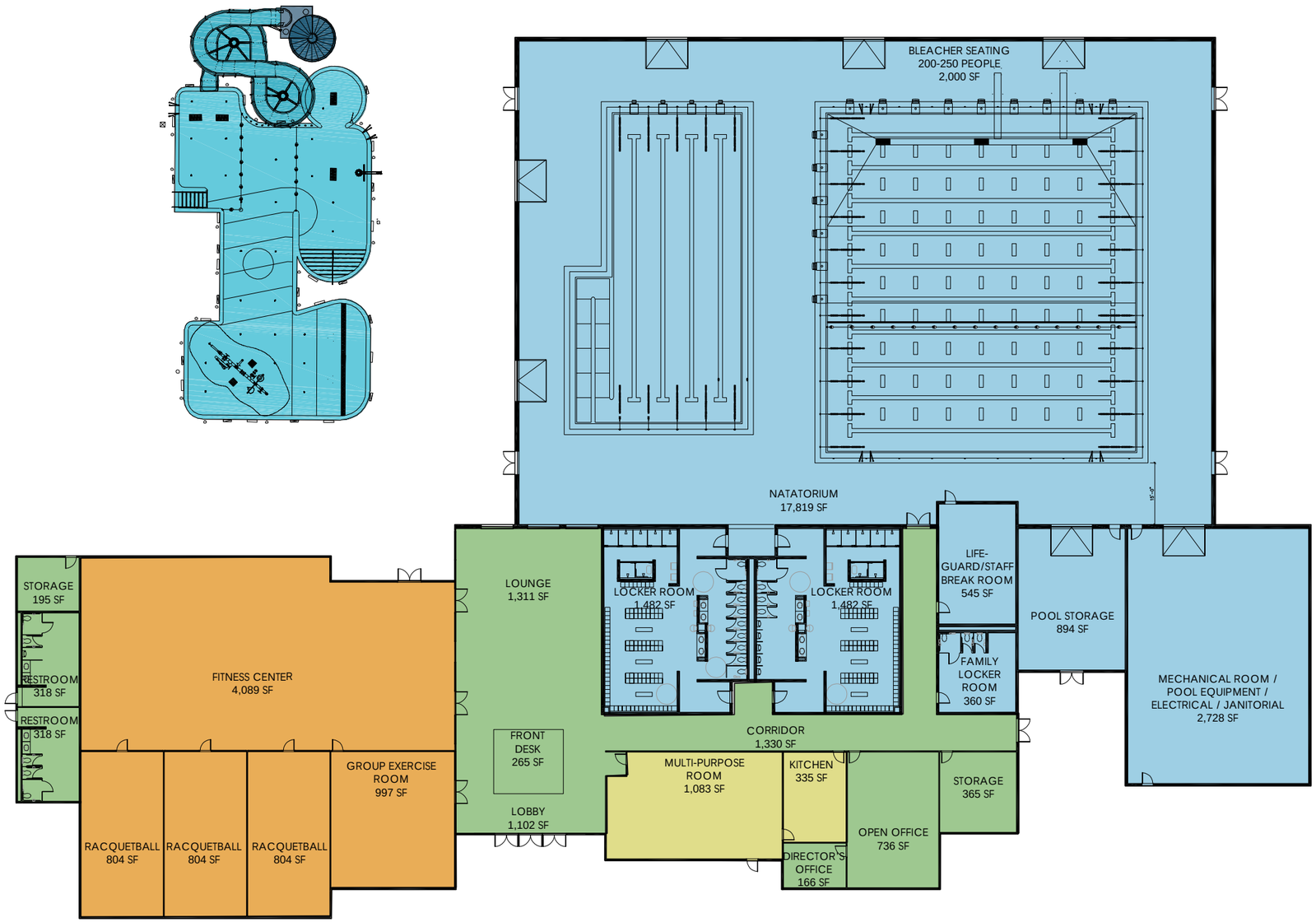
Other ideas to consider/include in RFP:

- Maximum budget
- Typical concrete pool vs. Myrtha (or similar) pool
- Air supported structure vs. block wall/truss roof
- Incorporating solar on roof and/or detached shade structures
- Splash pad

PRELIMINARY CONSTRUCTION PRICING

$27,359,940

BUILDING AREA: 43,875 SF



FLOOR PLAN: COMMUNITY PREFERENCE (OPTION 2)

0 32'

BOULDER CITY AQUATIC AND CULTURAL CENTER

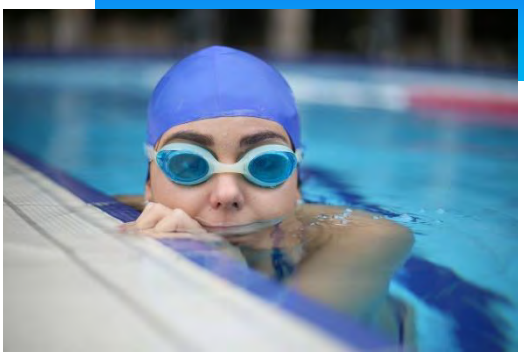
BOULDER CITY PUBLIC WORKS DEPARTMENT & PARKS AND REC DEPARTMENT

PROGRAMMING

DATE: 03.26.2018 SHEET: 13 OF (22) SH PROJECT NO.: 170113

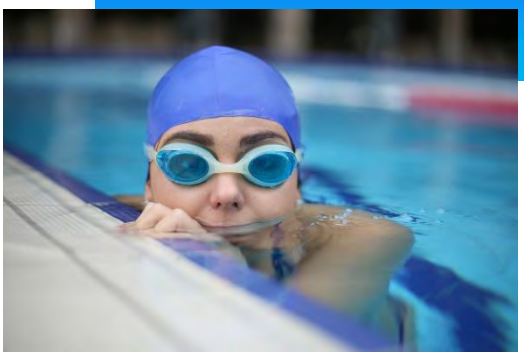
Counsilman · Hunsaker
AQUATICS FOR LIFE

SH ARCHITECTURE
7250 Peak Drive Suite 216 Las Vegas Nevada 89128
office 702.363.2222 www.sh-architecture.com



TASK 2- NEW FACILITY CONCEPT DESIGN

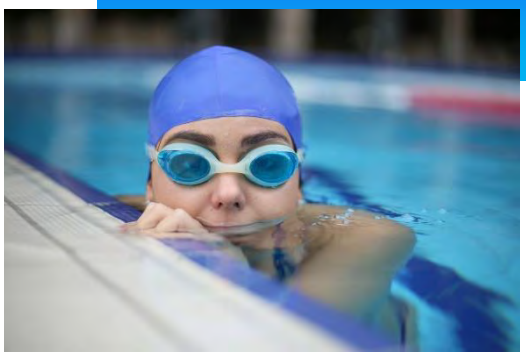
To be provided as Task 2 at a later date.

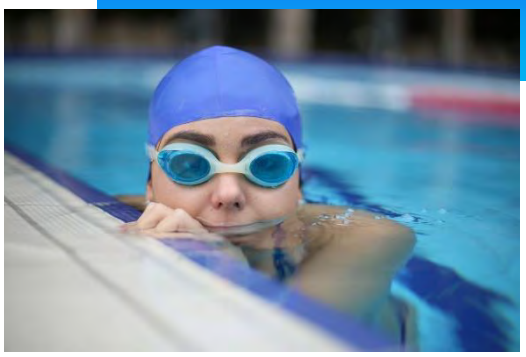


ROUGH COST ESTIMATE

This is not a detailed estimate as the plans a purely conceptual at this point and not sure what would or would not be included in the proposed facility.

To be provided as Task 2 at a later date.





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