



SEPTEMBER 27, 2022
REGULAR MEETING - 6:00 P.M. - AMENDED
MASKS ARE HIGHLY RECOMMENDED

**City Council Chambers
217 East Center Street
Moab, Utah 84532**

1. Regular City Council Meeting - 6:00 p.m.

1.1. Call to Order and Pledge of Allegiance

2. Workshop

2.1. Outdoor Lighting Code Amendment: Dark Sky Code Update

Documents:

*outdoor lighting code amendments agenda summary
092722.pdf
exhibit 1 redline draft_outdoor lighting code amendment
090822.pdf*

3. Citizens to Be Heard

If you do not plan to attend in person but would still like to submit written comments for the Citizens to Be Heard portion of the meeting, please fill out the form found here: <https://bit.ly/citizenstobeheard>. You must submit your comments by 6:00 PM on the date of the meeting. Please limit your comments to 400 words.

4. Department Head Update

4.1. Police Department Update

4.2. Sustainability Update

5. Consent Agenda

5.1. Approval of Minutes

**August 23, 2022, Regular Meeting
September 13, 2022, Regular Meeting
September 19, 2022, Special Meeting**

Documents:

*min-cc-2022-08-23 draft.pdf
min-cc-2022-09-13 draft.pdf
min-cc-2022-09-19 draft.pdf*

5.2. Approval of Bills Against the City of Moab in the Amount of \$1,603,814.85

Documents:

council consent 09-15-22.pdf

council consent 09-21-22.pdf

6. New Business

6.1. Pool Filter Purchase for the Moab Recreation and Aquatic Center

Documents:

mrac filter agenda summary.docx

filter quote 1151.pdf

filter payback calculator - moab.pdf

6.2. RAP Technical Advisory Committee (TAC) Appointments

7. City Manager Updates

8. Mayor and Council Reports

9. Adjournment

Special Accommodations:

In compliance with the Americans with Disabilities Act, individuals needing special accommodations during this meeting should notify the Recorder's Office at 217 East Center Street, Moab, Utah 84532; or phone (435) 259-5121 at least three (3) working days prior to the meeting.

Check our website for updates at: www.moabcity.org

Moab City Council Agenda Item
Outdoor Lighting Code Amendment: Dark Sky Code Update
Meeting Date: September 27, 2022

Title: Briefing and Discussion on possible Outdoor Lighting Code Amendments, Update to Dark Sky Code.

Disposition: Workshop

Staff Presenter: Cory P. Shurtleff, Planning Director

Attachment(s):

Exhibit 1: Draft Amendments to Outdoor Lighting Code

Background:

Moab City Ordinance No. 2019-03, establishing Outdoor Lighting and Sign Illumination Standards, was approved August 13, 2019. These “Dark Sky” illumination standards were enacted as a part of the City of Moab’s application for International Dark Sky Association (IDA) certification. Efforts to complete the application criteria have continued with the City’s Sustainability and Planning Staff. While pending certification approval, the checklist criteria for City IDA certification has updated since 2019. The proposed amendments sufficiently address the updated checklist criteria, as well as resolve existing issues and discrepancies within the code. In the years since the original ordinance approval, component provision of the code have been identified for adjustment to better align with the intent of the code and feasibility of approval and enforceability. The proposed amendments have been reviewed and preliminarily approved by the IDA Associate coordinating certification approval.

Process: Zoning Map Amendments and Text Amendments

Section 17.04.010 of the Moab Municipal Code (MMC) regulates the Zoning Text Amendments. Subsections 17.04.040, 17.04.070, 17.04.080, 17.04.090, and 17.04.100, additionally regulated submittal, review, and approval procedures for text amendments to the Land Use Code.

17.04.020

Zoning text amendments.

A. Purpose. The zoning text amendment process allows for amendment to the use requirements within zoning districts to allow particular uses which are not otherwise permitted within a specified zone, provided that proposed uses are substantially similar to, and compatible with, the objectives and characteristics of the zone.

B. Uses Not Specified. Uses not specified as authorized within any particular zoning district are prohibited, unless authorized pursuant to the other provisions of this Land Use Code.

C. Similar Use Determination Repealed. Text amendments pursuant to this chapter encompass and shall supersede similar use determinations as previously allowed by various sections of this Land Use Code, all of which are hereby repealed. (Ord. 08-03 (part), 2008)

17.04.040

Application for zoning map amendment or text amendment.

A. Any person having a proprietary interest in any real property within the corporate limits of the City may request a map amendment or text amendment by filing three copies of the application for such change or amendment with the Zoning Administrator. The application shall, at a minimum, include the following information:

- 1. The name, address, and telephone number of the applicant;*
- 2. A description of the requested change or amendment and a description of the property to be affected by such request by a metes and bounds legal description;*
- 3. A title certificate or report from a licensed title company or attorney listing the name of the property owner(s) and all liens, easements, judgments, and encumbrances of record that affect the title to the subject property;*
- 4. A statement from the county treasurer showing payment in full of all real property taxes due on such parcel;*
- 5. A boundary survey of the land area to be rezoned, which shall include a depiction of existing zoning district boundaries, real property boundaries, existing structures, and public roads existing within three hundred feet in all directions of the subject property boundary;*
- 6. A list of surrounding property owners and their legal mailing addresses for all properties within three hundred feet of the exterior boundary of the parcel proposed for a zoning map amendment;*
- 7. A statement by the applicant explaining the rationale for the zoning request relative to the standards imposed by this chapter;*
- 8. A filing fee in accordance with the fee schedule adopted by resolution of the City Council; and*
- 9. A narrative or concept plan describing why this property is suited for the intended purposes and stating what development and/or construction is planned by the applicant.*

B. Pre-Application Conference. Prior to the filing of an application for a map amendment or zoning text amendment, the applicant shall meet with the planning department to discuss the proposed application. At the pre-application meeting the application contents, review procedures, use and area standards, and the general character of the development may be discussed. At the pre-application conference, the applicant may be represented by a land planner, engineer or surveyor. Applicants are encouraged to submit a conceptual site plan at the pre-application stage.

C. Modifications of Submittals. City staff shall be authorized to waive or modify application submittal requirements as reasonable necessary to address the attributes of a specific application. (Ord. 08-03 (part), 2008)

17.04.070

Text amendment approval criteria.

It is the burden of the applicant to provide "good cause" to support a proposed text amendment. For the purpose of establishing and maintaining sound, stable and desirable development within the City of Moab, amendments to the Land Use Code are committed to the sound discretion of the City Council based upon the following nonexclusive list of criteria:

A. Is the proposed use substantially similar to other authorized uses permitted within the subject zoning district?

B. Is the proposed use a relatively new use type or development concept that was not anticipated at the time of the adoption of the City's General Plan?

C. Is the amendment consistent with the policies and goals of the General Plan?

D. Will the amendment create significant adverse impacts upon neighboring properties within or adjacent to the zoning districts which would be affected by the change?

E. Is it in the public interest to approve the proposed amendment?

F. Is the amendment likely to lead to a positive redevelopment of a specific area or zone?

G. Will the amendment provide a variety of options for residents in terms of economic development, affordable housing, or other benefits?

H. Is the amendment appropriate considering the existing conditions in the zoning district, the established relationships between zoning districts, existing land uses and densities, and the scale of both existing and proposed development? (Ord. 08-03 (part), 2008)

17.04.080

Public hearing required.

- A. Upon receipt of a complete application under this chapter city staff shall promptly schedule a public hearing before the Planning Commission.*
- B. Within thirty days following the closing of the public hearing, the Planning Commission shall either recommend approval, approval with modifications, or disapproval of the application to the City Council. The recommendation of the Planning Commission shall be transmitted to the City Council and to the applicant within ten days of the recommendation.*
- C. City staff may provide a staff report, which shall be provided to the applicant no later than three days prior to the public hearing or public meeting before City Council. (Ord. 08-03 (part), 2008)*

17.04.090

Notification requirements for Planning Commission public hearing.

A. The City shall provide notice with respect to the Planning Commission public hearing describing the real property subject to the application order under this chapter; the present and proposed zoning; and the time, date, and location of the hearing as follows:

- 1. By publication in a newspaper of general circulation within the City at least fifteen days prior to the hearing;*
- 2. By mailing to the applicant, affected entities, and real property owners abutting or located within three hundred feet of the subject property at least ten days prior to the hearing; and*
- 3. By posting on the City's official website and in at least one public place within the City, which notice shall also include a map showing the land area proposed for rezoning.*

B. Property Posting. In addition to the notifications by the City, the applicant shall post signs, in a form acceptable to the City, noticing the public hearing in at least one location every five hundred feet along the perimeter of the land area proposed for map amendment at least three days prior to the hearing. Such notice shall include the present and proposed rezoning; the time, date, and place of the public hearing; and contact information for the Zoning Administrator.

C. Exception for General Amendments. When a zoning map amendment or text amendment is incidental to, or part of a general revision of the official zoning map or the text of this Land Use Code, whether such revision is made by repeal of the existing zoning and/or land use regulations and enactment of a new zoning and/or land use regulations, or otherwise, posting notice on the land area subject to the amendment or mailing to affected property owners or adjoining property owners is not required. (Ord. 08-03 (part), 2008)

17.04.100

Action by City Council.

A. The City Council may authorize any zoning map amendment or text amendment by ordinance adopted at a public meeting, which shall be held promptly following receipt of the Planning Commission recommendation.

B. Notice of the public meeting shall be given to the applicant and by posting in at least one place within the City and by posting on the City's official website at least twenty-four hours prior to the meeting.

C. In its discretion, the Council may elect to receive testimony or evidence from the applicant, city staff, and the public prior to taking final action on the ordinance.

D. The approval of a zoning map amendment or text amendment is a legislative decision, which is committed to the discretion and judgment of the City Council. (Ord. 08-03 (part), 2008)

17.04.110

Appeals.

A. Any person adversely affected by the final decision of the City Council pursuant to this chapter may appeal that decision to the Grand County district court.

B. An appeal or any other judicial action arising from, or seeking review of, a decision by the City Council under this chapter must be filed no later than thirty days from the date of the final decision or action that is the subject of the action or legal claim. Any action commenced beyond that time is barred and shall be subject to summary dismissal.

C. Review of any zoning map amendment or text amendment application shall be based upon the record of proceedings before the City Council. Upon the commencement of a judicial appeal challenging any decision under this chapter, the City shall transmit to the district court true and correct copies of all submittals, testimony, orders, and file documents comprising the record pertaining to the application, including any transcript or tape recordings of proceedings. (Ord. 08-03 (part), 2008)

17.04.120 Processing matrix.



This matrix shall be amended to delete review procedures for "similar use" review and to include the following:

Application	Advisory Body	Land Use Auth.	Appeal Body	Pub. Hearing
Map amend.	Planning Comm.	City Council	Dist. Ct.	Yes, P.C.
Text amend.	Planning Comm.	City Council	Dist. Ct.	Yes, P.C.

(Ord. 08-03 (part), 2008)

Section 1. Amendments to MMC Chapter 17.09 Supplementary Requirements

17.09.060 Outdoor lighting – Scope and applicability.

Modifying:

- A. Directed illumination shall be confined within the property boundaries of the source. All lighting should be purpose driven.
- C. All otherwise lawful existing outdoor lighting that does not meet the requirements of this chapter and is not otherwise exempted shall be considered a legal, nonconforming use or part of a legal, nonconforming structure subject to an amortization schedule outlined in Section 17.09.069.

New Section: 17.09.061 Outdoor lighting - Exemptions

Adding:

- A. The following shall be fully exempt from all regulations unless otherwise stated:

Relocating or reworking from 17.09.063:

- 4. Pathway lights less than eighteen inches in height ~~are exempted from the fully shielded fixture requirement~~, if the total light output from each pathway light is less than three hundred lumens. The fixture shall have a top that is completely opaque such that no light is directed upwards.
- 5. Holiday lighting. Low-voltage holiday decorations may remain on all night from October 15th to January 15th. The following are examples of appropriate low-voltage decorative lighting.



~~Temporary exterior lighting intended as holiday or seasonal decorations displayed between November 15th and the following January 15th; provided, that individual lamps do not exceed seventy lumens and neither cause light trespass nor interfere with the reasonable use and enjoyment of any other property.~~

6. Traffic control signals and traffic safety devices.

7. Emergency and Safety Lighting by Emergency Services. Searchlights, floodlights, laser source lights, strobe or flashing lights, or any similar high intensity lights are permitted when used in emergencies by police, fire, medical, and/or utility personnel or at their direction. Temporary emergency lighting in use by law enforcement or government agencies or at their direction.

Adding:

Temporary lighting, unless fully shielded, shall adhere to the lighting hours stated in 17.09.065.

17.09.062 Outdoor lighting – Definitions.

Reworking or removing:

“Directed illumination” means the intentional illumination emanating from a fixture represented by the maximum intensity cone of light. “Direct illumination” means illumination resulting from light emitted directly from a bulb, luminary, or reflector. This does not include light reflected from other surfaces such as the ground or building faces.

Brightness in Lumens	220+	400+	700+	900+	1300+
Standard	25W	40W	60W	75W	100W
Halogen	18W	28W	42W	53W	70W
CFL	6W	9W	12W	15W	20W
LED	4W	6W	10W	13W	18W

Adding:

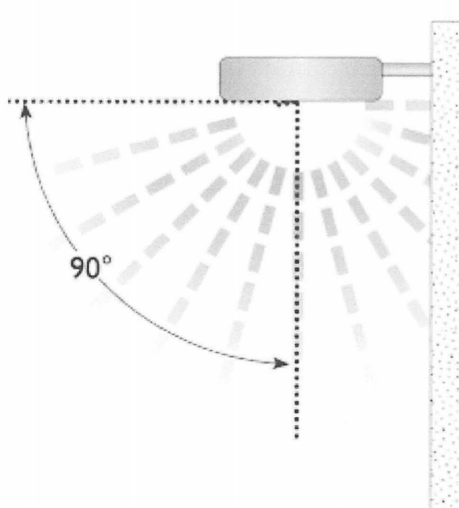
“Nondirected illumination” refers to the excess light emitted from a fixture not contained in the intentional directed illumination.

“Safety lighting” means any lighting required by the Building Official or Zoning Administrator for the purpose of safety. Examples include lighting for doorways, pathways, and driveways.

“Temporary lighting” means lighting that plugs into an outlet and is not hard wired.

17.09.063 Outdoor lighting – Fully shielded fixture requirements.

Add Image:



Adding:

C. All light fixtures, including motion sensors and security lighting, shall be aimed and shielded so that the directed illumination shall be confined to the property boundaries of the source. Nondirected illumination is allowed to cross property lines if the fixture is fully shielded and angled straight down. Directed illumination shall be determined as follows:

1. Directed illumination is controlled and focused by the structure of the fixture.
2. Directed illumination is aimed by the angle of the fixture.
3. The Zoning Administrator shall determine compliance.

D. Lights controlled by motion sensors shall not be triggered by movement or activity located off the property on which the fixture is located.

Removing or relocating:

~~C. Fixtures must not be placed at a location, angle, or height that directs illumination outside the property boundaries where the light fixtures are located.~~

~~D. Notwithstanding the exemptions in subsection (E) of this section, all residential and commercial luminaires shall be fully shielded when installed within twenty-five feet of adjacent residential property lines.~~

~~E. Exemptions to fully shielded fixture requirements:~~

~~1. All lights exempted by this section shall be included in the calculation of total light output.~~

~~2. Fixtures having a total light output less than one thousand lumens are exempted from the fully shielded requirement provided the following criteria are met:~~

~~a. The fixture has a top that is completely opaque such that no light is directed upwards;~~

~~b. The fixture has sides that completely cover the light source and are made of opaque or semi-opaque material. Fixtures with opaque sides may have incidental decorative perforations that emit small amounts of light. Semi-opaque material such as dark tinted glass or translucent plastic may be used if the light source is not discernable behind the material. Completely transparent materials, such as clear or lightly tinted colored glass, are not allowed.~~

~~c. The light source must not be visible from any point outside the property on which the fixture is located.~~

~~3. Spotlights controlled by motion sensors having a light output less than one thousand lumens per lamp are exempted from the fully shielded requirement provided:~~

~~a. The fixture is a spotlight or other type of directed light that shall be directed straight down;~~

~~b. The fixture must not be placed in such a manner that results in illumination being directed outside the property boundaries where the light fixtures are located; and~~

~~c. Lights controlled by motion sensors shall not be triggered by movement or activity located off the property on which the light is located.~~

~~4. Pathway lights less than eighteen inches in height are exempted from the fully shielded fixture requirement, if the total light output from each pathway light is less than three hundred lumens.~~

~~5. Temporary exterior lighting intended as holiday or seasonal decorations displayed between November 15th and the following January 15th; provided, that individual lamps do not exceed seventy lumens and neither cause light trespass nor interfere with the reasonable use and enjoyment of any other property.~~

~~6. Traffic control signals and traffic safety devices.~~

- ~~7. Temporary emergency lighting in use by law enforcement or government agencies or at their direction.~~
- ~~8. The lighting of Federal or State flags; provided, that the light is a top-down and narrow beam aimed and shielded to illuminate only the flag.~~
- ~~9. An applicant requesting approval for lighting that does not conform to these standards shall follow the procedures and findings requirements set forth in Chapter 17.72 Administration and Enforcement. (Ord. 19-03 Att. 1 (part), 2019)~~

17.09.064 Outdoor lighting – Total light output.

Adding:

- A. Required safety lighting shall be exempt from total light output, so long as the fixture is fully shielded, color temperature is compliant, and directed illumination is confined within the property boundaries of the source. Safety lighting that is legal, nonconforming shall be subject to the partially and unshielded lumen cap stated in this section 17.09.064, and the lighting hours stated in 17.09.065.

17.09.065 Outdoor lighting – Lighting hours.

Modifying:

- A. Commercial establishments shall turn off all outdoor lighting, except ~~those that~~ listed below, by ten p.m. and remain off until business open:
1. Businesses open to the public after ten p.m. may leave all compliant outdoor lighting on until one hour after the close of business and the lighting shall remain off until business open.
 2. Compliant lighting to illuminate the entrance to the commercial establishment.
 3. Compliant parking lot and pathway lighting required for the safety of guests or customers.

Adding:

- C. All legal, nonconforming lighting on residential properties shall be turned off by ten p.m. unless included in the exemptions listed in 17.09.061.
- D. Commercial establishments shall turn off all illuminated signage by ten p.m., or one hour after close of business, and remain off until business open.

***Potential modification** discussed with the Planning Commission to require all commercial establishments to turn off all outdoor lighting at business close, except for those located in zones [], which can leave outdoor lighting on until ten p.m.

A. Commercial establishments shall turn off all outdoor lighting, except those listed below, one hour after business close and remain off until business open:

1. Commercial establishments located in zones C3, C4 and RC may leave all compliant outdoor lighting on until ten p.m. or until one hour after the close of business, and the lighting shall remain off until business open.
2. All Businesses open to the public after ten p.m. may leave all compliant outdoor lighting on until one hour after the close of business and the lighting shall remain off until business open.
3. Compliant lighting to illuminate the entrance to the commercial establishment.
4. Compliant parking lot and pathway lighting required for the safety of guests or customers.

D. Commercial establishments located in zones C3, C4 and RC shall turn off all illuminated signage by ten p.m., or one hour after close of business, and remain off until business open. All other commercial establishments shall turn off all illuminated signage one hour after business close, and remain off until business open.

17.09.067 Outdoor lighting – Specialized outdoor lighting conditions and standards.

Removing:

~~A. Gas station canopies may be illuminated; provided, that all light fixtures are mounted on the undersurface of the canopy and all light fixtures are fully shielded. Merely placing the fixtures on the underside of the canopy does not qualify as fully shielding the light fixture.~~

Modifying:

- B. Roadway and streetlights are prohibited unless recommended by the City Engineer or required by UDOT to provide for the safety of the public. ~~When deemed necessary, streetlights shall utilize lamp types that are fully shielded luminaires that minimize skyglow, light trespass, and other unintended impacts of artificial lighting.~~ All streetlights shall utilize the lowest illuminance levels acceptable to the City Engineer and/or UDOT.
- C. Parking lots may not utilize spot or flood lighting whether mounted on a post or exterior building wall. The overall height of any light post or tower used to illuminate parking lots in commercial or residential zones shall not exceed twenty-five feet. ~~All post mounted parking lot lights shall be set back from~~

~~property lines a distance equal to two and one-half times the height of the pole unless an internal or external shield prevents the fixture being visible from outside the property boundaries. The overall height of any light post used to illuminate parking lots in residential zones shall not exceed twenty-five feet. All parking lot lighting shall use fully shielded downward directed fixtures. Internal or external shields shall prevent the fixture being visible from outside the parking lots.~~

D. Outdoor recreation areas or athletic fields at publicly owned facilities may use illumination to light the surface of play, ~~and~~ viewing stands and pathways for the safety of the public. The following standards shall apply to outdoor recreation area or athletic field lighting:

7. The lowest appropriate luminance level shall be utilized based on the task (e.g., active play vs. field maintenance).

E. Outdoor ~~event facilities~~amphitheaters may use illumination to light the event area~~performance area of the amphitheater~~ and pathways for the safety of the public. The following standards apply to all ~~event~~amphitheater lighting:

1. Lighting used to illuminate ~~at~~the performance area must be either directed spotlighting or fully shielded lighting. If directed spotlighting, the light source must be located and designed such that the directed illumination is confined within the boundaries of the event.~~it is not visible beyond the property boundaries.~~
2. Lighting used to illuminate the ~~event~~performance area may only be turned on during ~~events~~performances or rehearsals.
3. Lighting used to illuminate the seating areas, pathways, and other areas of the ~~event~~amphitheater must meet all standards of this chapter.

Adding (relocating) and the *potential modification for allowing ground mounted lighting for flags. Mixed support in the Planning Commission.

F. The lighting of federal or state flags, provided that the light is a top-down and narrow beam aimed and shielded to illuminate only the flag, may remain on all night and will not be included in the calculation of total light output.

17.09.068 Outdoor lighting – Application and review procedures.

Adding (relocating)/removing:

B. Approval Procedure.

2. An applicant requesting approval for lighting that does not conform to these standards shall follow the procedures and findings requirements set forth in Chapter 17.72 – Administration and Enforcement.

~~2. A certificate of occupancy shall not be issued until such time as the property is subject to a post-installation nighttime inspection by the City's Zoning Administrator. (Ord. 19-03 Att. 1 (part), 2019)~~

17.09.069 Outdoor lighting – Amortization of nonconforming outdoor lighting.

Modifying/adding/removing:

- ~~A. Any existing outdoor lighting which is being used in a manner or for a purpose which is otherwise lawful, but does not comply with the provisions of this Chapter, shall be deemed legal, non-conforming, pursuant to Chapter 17.12, General provisions. A. The City shall require the termination of use of all nonconforming outdoor lighting fixtures, structures, lamps, bulbs or other devices that emit or generate light which are not otherwise exempted by this chapter, pursuant to the amortization schedule contained in this section.~~
- B. ~~All outdoor lighting legally existing and installed prior to the effective date of this chapter and which is not exempted shall be considered Legal, nonconforming lighting and shall be brought into compliance by the property owner as follows:~~
- ~~3. All outdoor lighting not previously scheduled for amortization or otherwise exempted shall be deemed legal, nonconforming brought into conformance with this chapter within five years from the effective date of this chapter.~~
 - ~~4. Legal, nonconforming fixtures must be brought into compliance if they violate Moab Municipal Code Special provisions as determined by the Zoning Administrator.~~
 - ~~5. Whenever a nonconforming use, structure, or lot is abandoned for a period of one year and then changed to a new use according to the requirements of Chapter 17.12.060, all existing outdoor lighting shall be reviewed and brought into compliance as necessary for the entire building, structure, or premises.~~
- ~~C. The City shall perform two audits of all outdoor lighting in the City. The first shall be two years and the other four years after the effective date hereof. These audits will identify all lighting that does not conform to the standards of this chapter. The results of these audits will be made available to the public.~~
- ~~D. Violation and enforcement shall be processed as outlined in Chapter 17.78. The [abatement] of the [nuisance] shall be attempted first through non-costly means, such as redirection. New fixtures shall be purchased, if the [nuisance] can't be [abated].~~

Section 2. Amendments to MMC Section 17.93.075 Signs - Permitted Illumination

Modifying:

Signs may be unlighted, lighted externally, lighted internally, or backlit. All sign lighting must be designed, directed, and shielded in such a manner that the light source is not visible beyond the property boundaries where the sign is located. Lighting for signs must be directed such that only the sign face is illuminated. All lighted signs must have stationary and constant lighting. All sign lighting is included in the calculation of total light output for a property. All illuminated signs must conform to the lighting hours detailed in section 17.09.065.

***Potential modifications** in need of Planning Commission/City Council input: the removal of the allowance of ground mounted lighting for monument style signs. The reduction of maximum allowable lumens per sign fixture.

A. Standards for Externally Illuminated Signs:

2. Lighting for externally illuminated signs must be mounted at the top of the sign (or within 2 feet of the top of a wall mounted sign), ~~except for freestanding monument style signs which may be illuminated by ground mounted lighting.~~
3. Lighting shall consist of no more than four (4) individual fixtures (or lamps) per sign face and produce a maximum of **40,000 lumens per fixture.**

Section 3. Amendments to MMC Sections 17.20.040, 17.21.040, 17.24.040 and 17.27.040 Special Provisions

Modifying:

- B. No dust, odor, smoke, vibration, directed illumination or intermittent glare or noise shall be emitted which is discernible beyond the premises, except for normal traffic movements.

Section 4. Addition to MMC Sections 17.30.040, 17.31.040, 17.32.040, 17.35.060, 17.36.070, 17.42.060, 17.45.060, 17.48.060, 17.51.060 and 17.54.070 Special Provisions

Adding:

B. No dust, odor, smoke, vibration, directed illumination or intermittent glare or noise shall be emitted which is discernible beyond the premises, except for normal traffic movements.

MOAB CITY COUNCIL MINUTES--DRAFT
REGULAR MEETING
August 23, 2022

Moab City Council held its Regular Meeting on the above date in Council Chambers. Archived Audio is at www.utah.gov/pmn and video is at www.youtube.com/watch?v=KGszuNXb1ZE.

Attendance and Call to Order:

Mayor Joette Langianese called the meeting to order at 6:03 p.m. and asked Joyce Victor to lead the Pledge of Allegiance. Councilmembers Luke Wojciechowski, Rani Derasary, Jason Taylor and Kalen Jones attended and Tawny Knuteson-Boyd was absent. Also in attendance were Engineer Chuck Williams, City Manager Carly Castle, Finance Director and Acting Deputy Manager Ben Billingsley, Public Works Director Levi Jones, Arts, Recreation and Trails Director Annie McVay, Police Chief Jared Garcia, Attorney Nathan Bracken, Building Inspector Barry Ellison, Planner Cory Shurtleff, Deputy Recorder/Communication Director Lisa Church and four members of the public.

Citizens to Be Heard: There were no Citizens to be Heard.

Department Head Update:

Engineer Williams and Public Works Director Jones briefed Council on the ongoing recovery from the August 20 flood. Williams estimated Mill Creek flowed at more than 5,000 cubic feet per second (cfs), and may have set a record. He described the event as a 100-year flood. Williams conveyed his concern that spectators were dangerously standing on bridges that could have been overwhelmed by the floodwaters. He said the bridges on 400 East and Main Street were from circa 1975 and noted the Utah Department of Transportation (UDOT) had sent engineers to deem them safe after the flood event. He suggested to Council that a level of storm protection to withstand 10, 50 or 100-year floods be established, or Council could seek to return to the existing pre-flood condition. Discussion ensued about the heavily damaged Mill Creek Parkway pedestrian and bike path. Williams brought up non-structural considerations including riparian habitat. Councilmember Taylor expressed appreciation for the hard work of the public works crew in responding to the flooding. Councilmember Derasary asked if there were Public Works needs that could benefit from outside help since the City is receiving offers from other communities. Williams noted local contractors provided dump trucks and are helping to install the water line. Public Works Director Jones noted his crews were using law enforcement and UDOT contractors to eliminate liability. Councilmember Derasary brought up the need for a real time flood warning system and inquired about the welfare of the exhausted staff. She also asked if there were any compromises to the Wastewater Treatment Facility (WTF). Mayor Langianese mentioned a visit to witness the damage by Congressman John Curtis as well as the Lieutenant Governor. She said that local efforts resulted in Governor Cox declaring a state of emergency, which will result in federal disaster relief funds becoming available. Councilmember Derasary reiterated the need for a functioning emergency response system. City Manager Castle explained that residents seeking aid for damages should email flood@moabcity.org within 15 days from the flood to document damage. She asked citizens to provide information and to call the City.

Consent Agenda—Approved

Councilmember Derasary moved to approve the Consent Agenda, as follows: Comment Letter to the Manti-La Sal National Forest Regarding Hydrologic Function Rehabilitation and Restoration; Approval of Minutes for the July 26, 2022, Regular Meeting and the August 3, 2022 Special Meeting; and approval of bills against the City of Moab in the Amount of \$1,391,506.83. Councilmember Taylor seconded the motion. It was noted the Comment Letter narrative conforms to the new Forest Plan, and Councilmember Derasary stated she sent corrections to the minutes to the Recorder. The motion passed 4-0 aye with Councilmembers

Jones, Derasary, Taylor and Wojciechowski voting aye.

Public Hearing for Master Fee Schedule:

Mayor Langianese opened a public hearing on Proposed **Ordinance 2022-13**: an ordinance amending the Moab Municipal Master Fee Schedule at 7:10 p.m. Parks, Recreation and Trails Director McVay presented proposed changes to the Moab Recreation and Aquatics Center (MRAC) fee schedule. She cited a financial analysis conducted by a consultant and noted the MRAC was operating well on a very lean budget. She acknowledged it was not possible to operate the MRAC solely with fees and stated there would need to be up to a 65 percent increase in fees to offset costs. McVay presented two scenarios, including a ten percent increase or a 20 percent increase, with no increase in day passes for local residents or for swim lessons. She said a ten percent increase would garner \$30,000 more in revenue and 20 percent would increase revenues by \$60,000.

Joyce Victor spoke at length about the swimming pool and stated her disappointment in the timing of the proposed rate changes for the swimming pool.

Councilmember Wojciechowski asked about a provision to provide discounts to local residents based on a means-tested formula. Councilmember Derasary brought up an older model used to determine fees based on income. Councilmember Taylor suggested shower fees are low and suggested \$10 for nonresidents. Councilmember Derasary proposed that a day use fee in lieu of showers could be assessed for non-residents. McVay stated there were more than 9,000 non-resident showers purchased last year. Derasary also brought up inflation and use of Recreation, Arts and Parks (RAP) tax to offset MRAC expenses. Councilmember Taylor suggested a blend of an increase of 20 percent for non-resident fees and ten percent for resident fees.

Councilmember Wojciechowski said he was open to an increase in fees for showers with a caveat for vouchers supplied to local nonprofits for homeless individuals or others in need; McVay stated the voucher program was already in place. Mayor Langianese closed the public hearing at 7:24 p.m.

New Business:

Master Fee Schedule for the Recreation and Aquatic Center—Approved

Discussion: Mayor Langianese opened the discussion regarding Proposed **Ordinance 2022-13**: an ordinance amending Moab Municipal Code Chapter 3.50, Master Fee Schedule for the Recreation and Aquatic Center. Councilmember Jones suggested completing a more thorough study over the year and suggested raising the visitor shower fee above \$10 while educating visitors about how tourist use of the facility benefits the community.

Motions: Councilmember Taylor moved to approve Proposed **Ordinance 2022-13**: an ordinance amending Moab Municipal Code Chapter 3.50, Master Fee Schedule for the Recreation and Aquatic Center with an increase to the shower fees for non-residents by initiating a day-use fee in lieu of a shower fee, with fees not increased otherwise. The motion failed for lack of a second. Councilmember Wojciechowski moved to approve Proposed **Ordinance 2022-13**: an ordinance amending Moab Municipal Code Chapter 3.50, Master Fee Schedule for the Recreation and Aquatic Center with a ten percent increase in fees along with a day-pass fee for non-residents in lieu of a shower fee, along with a means testing provision for local residents. Councilmember Derasary seconded the motion.

Discussion: Councilmember Derasary asked about instituting a higher fee for non-residents if means testing is under consideration. Attorney Bracken and City Manager Castle noted means testing provisions have not been developed and would need to be proposed at a later time or the ordinance would need to be tabled and then revised to include means testing provisions for the Council to consider as a whole. Councilmember Wojciechowski suggested a fee increase for local residents who can afford it is acceptable and added he is hesitant to impose a fee increase without consideration of underprivileged residents. He stated his support for tabling to revise.

Councilmember Jones stated his support for the increase in general but noted he is concerned about passing the means testing provision. He suggested making the effective date for the increase in two months after advertising the increase to give residents time to purchase passes at the current price. He added this would staff time to develop means testing. He brought up the need to pass a fee increase to ensure MRAC revenues are viable.

Amended Motion and Vote: Councilmember Wojciechowski moved to amend his former motion to remove means testing and to include a two-month effective date with instructions to staff to develop means testing provisions. Councilmember Derasary accepted and seconded the amendment. The amended motion passed 3-1 aye with Councilmembers Jones, Derasary and Wojciechowski voting aye and Councilmember Taylor voting nay.

Waiver of Building Fees for Flood Damage Recovery—Approved

Presentation: It was explained that Proposed **Resolution 24-2022** to waive building permit fees for flood damage would have a fiscal impact of approximately \$5,000 and Building Inspector Ellison would administer the fee waivers.

Motion and Vote: Councilmember Derasary moved to adopt **Resolution 24-2022**, a resolution waiving building permit fees for properties impacted by the flooding within the City of Moab. Councilmember Taylor seconded the motion. The motion passed 4-0 aye with Councilmembers Jones, Derasary, Taylor and Wojciechowski voting aye.

Old Business:

Protection Strip Dedication Extension—Approved

Presentation and Discussion: City Manager Castle explained that the purpose for the extension was to allow the original developer to recoup costs of infrastructure from adjacent landowners when they develop. She noted such agreements are outdated because of current code but this existing agreement includes an extension provision. She said the money the original developer could recoup is significant and because of increased property values, an adjacent developer would likely not portion the entire strip. Castle said if the extension was not granted, the land would pass to the City and the City would then need to negotiate. She said if the City wants to allow the developer to recoup some of the costs, an extension would be appropriate. Councilmember Jones asked if the agreement could be modified and Attorney Bracken answered it would need to be done in writing by both parties.

Motions and Votes: Councilmember Taylor moved to approve **Resolution 2022-23** adopting the extension of a protection strip dedication for 12 years. Councilmember Wojciechowski seconded the motion. Councilmember Jones made a substitute motion to table to allow for discussion in Executive Session. Councilmember Derasary seconded the motion. The motion to table failed with Councilmembers Jones and Derasary voting aye and Councilmembers Taylor and Wojciechowski voting nay. Mayor Langianese cast a tie-breaking nay vote and the motion to table failed. Mayor Langianese called for the vote on the original motion, which passed 3-1 aye with Councilmembers Jones, Taylor and Wojciechowski voting aye and Councilmember Derasary voting nay. Derasary stated she was not opposed to the motion but rather wished to honor Councilmember Jones' request for more time to consider the matter.

City Manager Updates:

City Manager Castle reported there would be an interagency speeding enforcement blitz on Labor Day weekend. She also reviewed the statewide state of emergency and credited the City's lobbyist, the media and the Mayor. She added that residents recovering from the flood would not pay tipping fees at the landfill, showers were free at the MRAC for residents without water and City crews would pick up downed trees and debris. She noted more rain was in the forecast. She mentioned contaminated water mains and noted a small segment of town including 20 homes and businesses were without water and some outside water infiltrated the system, resulting in a need to boil water in some parts of town. She concluded by stating a water truck would deliver water to homes, and portable toilets would be made available. Castle said she

would conduct an internal evaluation of the City's response. Councilmember Derasary asked how the Council could participate.

Mayor and Council Reports:

Councilmember Taylor reported on an airport board meeting and stated bids would be needed for a terminal expansion to accommodate an x-ray machine. He also reported on a travel council meeting and said he helped with the cleanup and gave interviews with the media. He reported on a meeting of the Emergency Medical Services Special Service District. He said their audit was good and the sales tax revenues were not yet equal to the Canyonlands Health Care Special Service District due to the debt obligation. He said there was a discussion regarding the lack of a central command. He said calls were up from 2021 with a significant number of resident calls. He concluded by saying the ambulances are aging and replacement costs and wait times are up.

Councilmember Derasary reported on a meeting of the Grand Water and Sewer Service Agency (GWSSA), which made an offer to purchase 76 acre-feet of water rights. She mentioned that 30 percent of the flow at the Wastewater Treatment Facility was from GWSSA and San Juan Valley combined. She mentioned a communication system employed by GWSSA to notify customers of billing and service matters as well as emergency outages. Derasary noted a discussion regarding County efforts to provide temporary workforce housing options including camp parks and tiny homes. She also mentioned County water workshops. She thanked everyone who helped with the flood.

Councilmember Wojciechowski attended a homeless committee meeting and said the homeless numbers are up. He said the state had passed an eviction expungement law as well as a conviction expungement law, which could create more opportunities for housing assistance. He said the outdoor living project was very popular and more donations of camping gear is needed. He said Seekhaven is working with the local faith-based coalition to find individual congregants who can provide short or long-term housing for homeless individuals. He reported the Moab Area Land Trust is in the process of producing 12 twin homes for individuals earning up to 120 percent of the AMI. Wojciechowski also reported on projects of Trail Mix and the continuing need for trail ambassadors. He reported on the activities of the Planning Commission and commented the planning department is now fully staffed. He said he participated in two of the visioning focus groups and thanked the community members who attended. He said there is a perception within the community that it is pointless to reach out to local elected officials because of a belief that there are only a few individuals within the community that officials will actually hear. He said he would like to challenge that and noted while there are people with a potentially outsized voice, they might be the only ones speaking up. He stated he wants many perspectives so that well-rounded and well-informed decisions can be made. He asked citizens to speak up, reach out, and allow Council to prove that input is wanted from as many people as possible. He concluded by stating that he participated in the flood cleanup and noted the heavy impact of the flood on the Youth Garden Project. He thanked community members and staff who came out to help.

Councilmember Jones reported on a meeting of the community renewable energy agency board and noted he attended one of the visioning focus groups. He said there was enthusiastic participation from a small group of citizens and the consultants did a great job of managing. Jones mentioned a meeting of the Moab Area Housing Task Force at which much of the discussion focused on better community engagement. He reported on a Travel Council meeting and briefly described hotel occupancy rates. He said advertising and grants were also discussed.

Mayor Langianese stated she attended a Moab Regional Hospital focus group and said she met with the new executive director of the Friends of Arches and Canyonlands Parks and Richard Lory, the VISTA employee from the Sustainability Department regarding Dark Skies. She note

she looked forward to getting the community in compliance with the dark sky initiatives. She said she met with Chris Baird and the solid waste special service district to discuss recycling and she met with staff to discuss updated policies and procedures. She said she also met with healthcare specialists from the Canyonlands Healthcare Special Service District. She noted an upcoming presentation to the County Commission on rural sales tax allocation on September 6 that she would not be able to attend.

Executive (Closed) Session:

Councilmember Wojciechowski moved to enter an Executive Session to discuss reasonably imminent and/or pending litigation. Councilmember Taylor seconded the motion. The motion passed 4-0 aye with Councilmembers Jones, Derasary, Taylor and Wojciechowski voting aye. Mayor Langianese convened the Executive Session at 8:28 p.m. Councilmember Jones left the meeting. Councilmember Wojciechowski moved to end the Executive Session. Councilmember Taylor seconded the motion. The vote was unanimous and Mayor Langianese ended the Executive Session at 9:11 p.m.

Adjournment: Councilmember Derasary moved to adjourn. Councilmember Wojciechowski seconded the motion. The vote was unanimous and Mayor Langianese adjourned the meeting at 9:12 p.m.

APPROVED: _____
Joette Langianese, Mayor

ATTEST: _____
Sommar Johnson, City Recorder

DRAFT

MOAB CITY COUNCIL MINUTES--DRAFT
REGULAR MEETING
September 13, 2022

Moab City Council held its Regular Meeting on the above date in Council Chambers. Archived Audio is at www.utah.gov/pmn and video is at www.youtube.com/watch?v=pP_WBP3CNDc.

Attendance and Call to Order:

Mayor Joette Langianese called the meeting to order at 6:02 p.m. and asked Kelley McInerney to lead the Pledge of Allegiance. Councilmembers Luke Wojciechowski, Rani Derasary, Tawny Knuteson-Boyd, Jason Taylor and Kalen Jones attended. Also in attendance were Engineer Chuck Williams, City Manager Carly Castle, Finance Director and Acting Deputy Manager Ben Billingsley, Public Works Director Levi Jones, Arts & Special Events Director Kelley McInerney, Arts, Recreation and Trails Director Annie McVay, Planner Cory Shurtleff, Recorder Sommar Johnson and one member of the public.

Citizens to Be Heard: There were no Citizens to be Heard.

Department Head Updates:

Arts and Special Events Director Kelley McInerney updated Council on the Moab Arts and Recreation Center (MARC). She described art exhibits, website information, public art, classes, and the Red Rock Arts Festival. Mayor Langianese asked about rental of MARC spaces.

Finance Director and Acting Deputy City Manager Ben Billingsley provided a quarterly financial report. He brought up the unpredictable nature of municipal finance in resort communities and briefed Council on preliminary estimates of flood damage costs. He summarized labor costs at more than \$138,000 to date and anticipated a request for a budget amendment in the future. He reported on tax revenues and explained the resort community tax was the best indicator of the City's revenue because it accounts for about one half of the City's income. He said the resort tax had experienced a growth rate of 2.5 times in the last decade and reviewed revenue growth compared to inflation and noted revenue outpaces inflation. He mentioned a dip in revenues experienced in July, which corrected in August. He concluded by discussing aspects of the City's fiscal solvency. He compared revenue per capita for Moab as compared to other Western resort communities and implications of intergovernmental dependence.

Flood Recovery—Presentation

City Engineer Williams and Public Works Director Jones briefed Council on the August 20 flood recovery. They described cleanup efforts including street sweeping and waterline repair and displayed photographs of the damage to a pedestrian bridge and noted citizens were vandalizing barriers and trespassing on compromised structures. Costs associated with the City's cleanup efforts were discussed as well as statistics on damaged residential and commercial properties. City Manager Castle explained local damage to homes and businesses did not meet the threshold for recovery reimbursement from the Federal Emergency Management Agency (FEMA) and stated that efforts were underway to secure funding from the state legislature. Councilmember Jones brought up the pedestrian and bicycle corridor and requested a temporary path be explored west of 100 West. Councilmember Derasary asked about drone footage, equipment needs and water pressure in neighborhoods. Mayor Langianese stated Moab's state representatives were willing to help secure legislative support. Councilmember Derasary asked if planned bulb-outs for downtown intersections might exacerbate flooding.

Consent Agenda—Amended and Approved

Councilmember Derasary moved to approve the Consent Agenda, as follows: Proposed

Resolution 26-2022: a resolution adopting Grand County's 2018 Hazard Mitigation Plan; approval of bills against the City of Moab in the Amount of \$810,985.35; acceptance of the City of Moab Fiscal Year 2022 Financial Report through June 30, 2022 for review; and tabling of approval of minutes for the August 23, 2022, Regular City Council Meeting. Councilmember Jones seconded the motion. The motion passed 5-0 aye with Councilmembers Jones, Derasary, Taylor, Knuteson-Boyd and Wojciechowski voting aye.

Proclamation:

Mayor Langianese presented a proclamation naming September 2022 as Suicide Prevention and Awareness Month.

Old Business:

Master Fee Schedule for the Recreation and Aquatic Center—Approved

Presentation and Discussion: Arts, Recreation and Trails Director McVay presented a version of Proposed **Ordinance 2022-15** with a provision for means testing for reduced rates based on income. Councilmember Taylor asked about the administrative burden for managing such a program. He also asked for clarification regarding budgetary offsets.

Motion and Vote: Councilmember Knuteson-Boyd moved to approve Proposed **Ordinance 2022-15**: an ordinance amending Moab Municipal Code Chapter 3.50, Master Fee Schedule for the Recreation and Aquatic Center to include a reduced fee program. Councilmember Wojciechowski seconded the motion. The motion passed 5-0 aye with Councilmembers Jones, Derasary, Taylor, Knuteson-Boyd and Wojciechowski voting aye.

Downtown Dispersed Parking 30 Percent Design—Approved

Presentation and Discussion: Engineer Williams provided an overview of the latest iteration of additional downtown dispersed parking spaces. Councilmember Derasary asked about accommodations for oversized vehicles, budgetary considerations and lighted bollards. Mayor Langianese suggested an “adopt-a-planting-bed” could be explored to control costs. Councilmember Jones asked about lighting, recycling receptacles, landscape planting specifications and infrastructure for future electric vehicle charging stations. Councilmember Derasary asked about light pole height, green infrastructure plans for East 100 South, Main Street bulb-outs and parking spaces to accommodate vehicles per the Americans with Disabilities Act (ADA). She also asked about sustainability considerations, and Engineer Williams described stormwater catchments, LED lighting, a drinking fountain and shade sails.

Motion and Vote: Councilmember Derasary moved to direct staff to proceed to Construction Documents in General Conformity with the 30 Percent Design Documents Presented and Reviewed Tonight. Councilmember Jones seconded the motion. The motion passed 5-0 aye with Councilmembers Jones, Derasary, Taylor, Knuteson-Boyd and Wojciechowski voting aye.

New Business:

Construction Contract for Emma Boulevard Parking Project—Approved

Presentation and Discussion: Engineer Williams explained the timeline for the project and stated that completion may not be until Spring due to winter asphalt limitations. Councilmember Jones asked about shifting saved-cost funds from the Emma Boulevard project to the dispersed parking project.

Motion and Vote: Councilmember Jones moved to award the Moab Dispersed Parking Project– Emma Blvd Project construction contract to Kilgore Companies in the amount of \$901,335 and authorize the Mayor to sign the Notice of Intent to Award. Councilmember Knuteson-Boyd seconded the motion. The motion passed 5-0 aye with Councilmembers Jones, Derasary, Taylor, Knuteson-Boyd and Wojciechowski voting aye.

Lawrence Minor Subdivision Extension—Approved

Presentation: Planning Director Shurtleff introduced the extension request for a minor

subdivision on Bowen Circle.

Motion and Vote: Councilmember Jones moved to approve Proposed **Resolution 25-2022:** A Resolution Approving the Extension of the Conditionally Approved Lawrence Minor Subdivision at 479 Bowen Circle, Moab, UT 84532. Councilmember Taylor seconded the motion. The motion passed 5-0 aye with Councilmembers Jones, Derasary, Taylor, Knuteson-Boyd and Wojciechowski voting aye.

City Manager Updates:

City Manager Castle reported on a meeting of the Colorado Association of Ski Towns (CAST). She mentioned upcoming visioning process sessions and announced the hiring of the new Sustainability Director. She reviewed the results of the Labor Day speeding enforcement blitz and expressed gratitude to citizens and staff who assisted with the flood cleanup.

Mayor and Council Reports:

Councilmember Taylor reported on meetings he attended, including with the responsible recreation board, Grand County for an economic development strategy session, the Utah Department of Tourism regarding timed entry at Arches National Park, and the Emergency Medical Services (EMS) Special Services District regarding budget and tax revenue share.

Councilmember Knuteson-Boyd reported on meetings she attended, including the housing authority, the Museum and Canyonlands Health Care Special Services District. She expressed a remembrance of longtime resident Victoria Fugit.

Councilmember Derasary reported on meetings she attended, including the legislative policy committee of the Utah League of Cities and Towns and noted a survey for officials regarding short-term rentals. She brought up an email alert system for residents regarding the Mosquito Abatement District (info@moabMAD.org) and mentioned that flood debris has been found to be infected with poison ivy. She announced an upcoming meeting with the Uranium Mill Tailings Remedial Action (UMTRA) Moab site staff and the National Park Service to discuss future uses of the tailings site.

Councilmember Jones reported on meetings he attended including CAST, where short-term rentals were discussed. He also reported on the housing task force, a community garden project, public meeting rooms at the middle school, the Community Renewable Energy board, Travel Council and a dinner hosted by the University of Utah.

Councilmember Wojciechowski reported on events and meetings he attended including a Mill Creek Parkway cleanup and TrailMix, and announced community goathead eradication efforts, a trail-building event on National Public Lands Day (September 24) and the Soup Bowl event hosted by the Moab Valley Multicultural Center.

Mayor Langianese reported on a meeting she attended regarding timed entry at Arches National Park, and recommended drafting a letter from Council to encourage a longer pilot period. She mentioned media coverage of the flood, negotiations with the governor's office regarding flood damage costs and a meeting with the Rotarians.

Adjournment: Councilmember Jones moved to adjourn. Councilmember Knuteson-Boyd seconded the motion. The vote was unanimous and Mayor Langianese adjourned the meeting at 8:45 p.m.

APPROVED: _____
Joette Langianese, Mayor

ATTEST: _____
Sommar Johnson, City Recorder

MOAB CITY COUNCIL MINUTES--DRAFT
SPECIAL MEETING
September 19, 2022

Moab City Council held a Special Meeting in Council Chambers on the above date. Archived audio is at www.utah.gov/pmn and video is at www.youtube.com/watch?v=jTCRCP2Ckls.

Special Meeting Attendance and Call to Order:

Mayor Joette Langianese called the meeting to order at 11:32 a.m. Councilmembers Luke Wojciechowski, Tawny Knuteson-Boyd and Jason Taylor attended. Councilmembers Rani Derasary and Kalen Jones were not present. Also in attendance were City Manager Carly Castle, Attorney Nathan Bracken, Communications and Engagement Manager Lisa Church, and Recorder Sommar Johnson.

Emergency Order Extension—Approved

Motion and Vote: Councilmember Knuteson-Boyd moved to approve Proposed **Resolution 27-2022**: a resolution extending Emergency Order 2022-01 regarding the severe flooding that occurred on August 20, 2022. Councilmember Wojciechowski seconded the motion. City Manager Castle explained the benefits associated with extending the Emergency Order during flood cleanup activities. Attorney Bracken clarified the length of the extension. The motion passed 3-0 aye with Councilmembers Taylor, Knuteson-Boyd and Wojciechowski voting aye.

Adjournment: Mayor Langianese adjourned the meeting at 11:35 a.m.

APPROVED: _____
Joette Langianese, Mayor

ATTEST: _____
Sommar Johnson, City Recorder

Payee	Check Issue Date	Check Number	Invoice Date	GL Period	Invoice Number	Check Amount
AARON P. WISE ATTORNEY AT LAW	09/15/2022	271462	09/01/2022	09/22	1123	2,000.00
AD-VERTISER	09/15/2022	271463	08/31/2022	09/22	Multiple	1,044.00
ALEXANDER WIEDERHOLD	09/15/2022	271464	08/07/2022	09/22	REFUND S/N DEPOSIT 08	50.00
AMAZON CAPITAL SERVICES	09/15/2022	271465	08/28/2022	09/22	Multiple	4,340.40
AMERICAN PUBLIC WORKS ASSOCIATION	09/15/2022	271466	06/02/2022	09/22	835702 - 06/02/22	615.00
AUSTIN SOLAR LLC	09/15/2022	271467	09/02/2022	09/22	1289	120.00
BIG HORN LODGE	09/15/2022	271468	08/23/2022	09/22	188 08/20 FLOOD	3,476.19
BLUE STAKES OF UTAH 811	09/15/2022	271469	08/31/2022	09/22	UT202202452	143.10
BOBCAT OF THE ROCKIES	09/15/2022	271470	09/01/2022	09/22	Multiple	626.71
BOWEN COLLINS & ASSOCIATES INC.	09/15/2022	271471	08/08/2022	09/22	29165	4,534.63
CANYONLANDS AUTO & MINING SUPPLY INC.	09/15/2022	271472	08/29/2022	09/22	Multiple	652.61
CARD SIGNS	09/15/2022	271473	08/25/2022	09/22	28171	1,650.00
CASELLE INC	09/15/2022	271474	09/01/2022	09/22	119179	3,863.00
CEM AQUATICS	09/15/2022	271475	09/01/2022	09/22	9481	4,581.50
CHEMTECH-FORD INC.	09/15/2022	271476	09/08/2022	09/22	Multiple	755.89
CREATE REEL CHANGE	09/15/2022	271477	08/31/2022	09/22	RRAF22 08/31/22	500.00
CRUMP REESE MOAB	09/15/2022	271478	08/08/2022	09/22	60028255	240.52
CURTIS BLUE LINE	09/15/2022	271479	08/11/2022	09/22	Multiple	1,017.30
DESERT SUN CERAMICS	09/15/2022	271480	09/01/2022	09/22	RRAF22 POTTERY	1,000.00
DESERT WEST OFFICE SUPPLY	09/15/2022	271481	09/01/2022	09/22	Multiple	114.41
DOUGLAS S. TOLMAN	09/15/2022	271482	09/01/2022	09/22	RRAF22 POPUP	400.00
DUFFORD,WALDECK, MILBURN & KROHN LLP	09/15/2022	271483	09/01/2022	09/22	33621	28.00
ERIN GROVES	09/15/2022	271484	09/06/2022	09/22	OCP DAMAGE DEPOSIT	300.00
GRAINGER	09/15/2022	271485	09/13/2022	09/22	9444185715	22.88
GRAND COUNTY SOLID WASTE SSD	09/15/2022	271486	07/13/2022	09/22	071322	2,000.00
GRAND TIRE PROS	09/15/2022	271487	08/23/2022	09/22	Multiple	1,397.98
HANSEN ALLEN & LUCE INC	09/15/2022	271488	08/23/2022	09/22	47395	19,020.90
HARRISON OILFIELD SERVICES	09/15/2022	271489	08/03/2022	09/22	Multiple	154,480.22
HOLY WRENCHES LLC	09/15/2022	271490	08/31/2022	09/22	71924	510.56
IWORQ SYSTEMS	09/15/2022	271491	09/01/2022	09/22	198469	7,500.00
JAY'S 24 HOUR LOCKSMITH	09/15/2022	271492	08/29/2022	09/22	156	616.55
JOHNSTONE SUPPLY	09/15/2022	271493	08/25/2022	09/22	9050676	1,571.46
JORDAN BRYANT	09/15/2022	271494	08/04/2022	09/22	BOOT REIM. 08/04/22	160.00
LAWSON PRODUCTS INC.	09/15/2022	271495	08/18/2022	09/22	9309852742	423.54
LEWIS YOUNG ROBERTSON & BURNINGHAM INC	09/15/2022	271496	08/31/2022	09/22	2022-0129A	6,212.50
LOVE COMMUNICATIONS	09/15/2022	271497	09/01/2022	09/22	062593	6,000.00
M.O.B., INC.	09/15/2022	271498	09/12/2022	09/22	RRAF22 LADY DENIM	500.00
MILL CREEK ANIMAL HOSPITAL	09/15/2022	271499	08/31/2022	09/22	Multiple	376.22
MOAB MAILING CENTER	09/15/2022	271500	08/06/2022	09/22	Multiple	100.31
MOAB PHOTO BOOTH CO LLC	09/15/2022	271501	09/01/2022	09/22	017	700.00
MOAB SUN NEWS	09/15/2022	271502	09/02/2022	09/22	Multiple	1,135.00

Payee	Check Issue Date	Check Number	Invoice Date	GL Period	Invoice Number	Check Amount
MOUNTAINLAND SUPPLY	09/15/2022	271503	08/30/2022	09/22	Multiple	4,035.36
ODP BUSINESS SOLUTIONS, LLC	09/15/2022	271504	09/08/2022	09/22	Multiple	80.43
OFFICE EQUIPMENT CO.	09/15/2022	271505	08/30/2022	09/22	487227	145.00
O'REILLY AUTO PARTS	09/15/2022	271506	08/12/2022	09/22	3792217511	19.99
PACKARD WHOLESAL	09/15/2022	271507	09/08/2022	09/22	Multiple	1,536.33
PELORUS METHODS INC	09/15/2022	271508	09/01/2022	09/22	221003	500.00
PETE APICELLA	09/15/2022	271509	09/01/2022	09/22	RRAF22 POPUP APICELL	500.00
PETERSON PLUMBING SUPPLY	09/15/2022	271510	08/29/2022	09/22	Multiple	66,911.52
PIPE DREAM LLC	09/15/2022	271511	09/01/2022	09/22	4605	956.25
PROFESSIONAL DOCUMENT SOLUTIONS INC	09/15/2022	271512	09/09/2022	09/22	AR59825	27.80
PSYCHOLOGICAL DIMENSIONS LLC	09/15/2022	271513	09/09/2022	09/22	3024	400.00
REVCO LEASING COMPANY LLC	09/15/2022	271514	08/26/2022	09/22	Multiple	1,626.42
RICK'S GLASS	09/15/2022	271515	09/06/2022	09/22	18611	1,642.00
RIVER CANYON WIRELESS	09/15/2022	271516	09/04/2022	09/22	88778	64.99
RMT EQUIPMENT	09/15/2022	271517	09/02/2022	09/22	Multiple	787.88
ROYCE'S ELECTRONICS INC.	09/15/2022	271518	09/07/2022	09/22	10339131	12.99
SADIE STOCKAMP	09/15/2022	271519	09/14/2022	09/22	RRAF22 POPUP STOCKA	600.00
SAMUEL CRANE	09/15/2022	271520	08/12/2022	09/22	LIONS PARK DEPOSIT 08	150.00
SEAN YEATES	09/15/2022	271521	09/12/2022	09/22	286730	120.00
SHARI ZOLLINGER	09/15/2022	271522	09/06/2022	09/22	RRAF22 POETRY	500.00
SKAGGS	09/15/2022	271523	08/22/2022	09/22	Multiple	515.34
SKYLER CURRIE	09/15/2022	271524	09/06/2022	09/22	INV0880	635.00
SMITH HARTVIGSEN PLLC	09/15/2022	271525	08/25/2022	09/22	Multiple	27,008.00
STANDARD PLUMBING SUPPLY CO.	09/15/2022	271526	09/08/2022	09/22	Multiple	215.01
SYNCB/AMAZON	09/15/2022	271527	06/17/2022	09/22	Multiple	1,535.95
TIMES-INDEPENDENT	09/15/2022	271528	08/25/2022	09/22	Multiple	2,975.50
TURNER LUMBER OF MOAB	09/15/2022	271529	08/30/2022	09/22	Multiple	353.00
USABLUEBOOK	09/15/2022	271530	09/07/2022	09/22	103028	172.64
UTAH DEPT OF GOVERNMENT OPERATIONS	09/15/2022	271531	09/15/2022	09/22	Multiple	1,146,108.00
UTAH LOCAL GOVERNMENTS TRUST	09/15/2022	271532	08/10/2022	09/22	Multiple	12,845.18
WALKER DRUG	09/15/2022	271533	09/08/2022	09/22	172096	31.97
WALKER'S TRUE VALUE HARDWARE	09/15/2022	271534	08/31/2022	09/22	Multiple	2,350.11
WESTERN IMPLEMENT CO INC	09/15/2022	271535	09/07/2022	09/22	Multiple	1,273.83
WHEELER MACHINERY CO	09/15/2022	271536	09/09/2022	09/22	PS001384875	8.78
WRIGHT EXPRESS FSC	09/15/2022	20220915	08/31/2022	09/22	83502941	20,384.30

Payee	Check Issue Date	Check Number	Invoice Date	GL Period	Invoice Number	Check Amount
A & E ELECTRIC INC	09/21/2022	271564	07/13/2022	09/22	21208	3,600.00
AMAZON CAPITAL SERVICES	09/21/2022	271565	09/17/2022	09/22	Multiple	3,838.16
CANYONLANDS ADVERTISING	09/21/2022	271566	09/05/2022	09/22	MH2209003	80.00
CANYONLANDS AUTO & MINING SUPPLY INC.	09/21/2022	271567	09/12/2022	09/22	646148	39.99
CINDY MONTAGUE	09/21/2022	271568	09/19/2022	09/22	PER DIEM 09/28-09/29	312.28
DESERT WEST OFFICE SUPPLY	09/21/2022	271569	09/14/2022	09/22	Multiple	176.77
GRAND COUNTY SOLID WASTE SSD	09/21/2022	271570	08/31/2022	09/22	AUG22-KLF	7,071.80
JEREMY DREXLER	09/21/2022	271571	09/13/2022	09/22	PER DIEM 9/13/22 - 9/14/22	413.66
MOAB AUTO PARTS INC.	09/21/2022	271572	08/09/2022	09/22	14910-275281	18.40
MOAB MAILING CENTER	09/21/2022	271573	08/26/2022	09/22	27723	67.86
MOUNTAINLAND SUPPLY	09/21/2022	271574	09/14/2022	09/22	S104899388.003	439.41
PACKARD WHOLESALE	09/21/2022	271575	09/12/2022	09/22	Multiple	1,670.15
PITNEY BOWES - INK	09/21/2022	271576	09/16/2022	09/22	1021570048	161.49
REVCO LEASING COMPANY LLC	09/21/2022	271577	09/16/2022	09/22	647326	216.95
RIVER CANYON WIRELESS	09/21/2022	271578	09/11/2022	09/22	89359	10.83
ROCKY MOUNTAIN POWER	09/21/2022	271579	09/12/2022	09/22	58922956-001 8 09/2022	36,042.26
ROYCE'S ELECTRONICS SITE MANAGEMENT	09/21/2022	271580	09/10/2022	09/22	4278	200.00
SAFETY SUPPLY & SIGN CO. INC	09/21/2022	271581	08/15/2022	09/22	Multiple	12,466.18
SALT LAKE COMMUNITY COLLEGE	09/21/2022	271582	09/14/2022	09/22	2022.22.7	65.21
SASHA SCHERZINGER	09/21/2022	271583	09/16/2022	09/22	PER DIEM 09/16/22	13.00
SKAGGS	09/21/2022	271584	09/14/2022	09/22	450_A_141867_1	474.96
SNOW CHRISTENSEN & MARTINEAU	09/21/2022	271585	09/08/2022	09/22	Multiple	798.00
SOUTHEASTERN UTAH DISTRICT HEALTH DEPT	09/21/2022	271586	09/01/2022	09/22	Multiple	480.00
VERIZON WIRELESS	09/21/2022	271587	09/13/2022	09/22	9915747508	2,746.65
WALKER'S TRUE VALUE HARDWARE	09/21/2022	271588	09/15/2022	09/22	Multiple	364.82
WASH-IT EXPRESS	09/21/2022	271589	09/01/2022	09/22	2007 09-01-22	208.20
WHEELER MACHINERY CO	09/21/2022	271590	09/19/2022	09/22	RS0000220124	26.87

Moab City Council Agenda Item

Meeting Date: September 27, 2022

Title: Pool Filter Purchase for the Moab Recreation and Aquatic Center (MRAC)

Presenter: Levi Jones, Public Works Director; Annie McVay, Parks, Recreation and Trails Director

Attachment(s): Quote for Pool Filter, Payback Calculator for the Filter

Recommended Motion: I move to approve the purchase and installation of a pool filter through CEM, Aquatics in the amount of \$159,629.00.

Background/Summary: The MRAC was constructed in 2010 and reaching the age where infrastructure and equipment need repair and replacement. The pool filter has had recent failures and is in need of complete replacement. The existing filter utilizes the traditional sand filter system. Technology in pool filters has advanced significantly over the past decade. The filter could be replaced with a similar system but the new technology has some significant advantages:

- **Water savings:** The proposed filter has advanced to where backwashing is not required. The estimated water savings for this technology is estimated at about 275,000 gallons a year for the pool size.
 - This amount does not include the flushing that is required for the MRAC pool to remain below the 1,500 tds (total dissolved solids). It is estimated the pool is currently flushed an average of 7 times a week and replaced with fresh water, the new filter would reduce the flushing to 2 times a week, which totals 8,500 additional gallons of water/week.
 - The total estimated water savings per year is approximately 700,000 gallons.
- **Energy savings:** The estimated energy savings for the pool size is 43%.
- **Life span:** The materials used for the filter are patented and have an expected life of 25 years, all others use steel, steel corrodes faster with pool chemicals with an estimated lifetime of 15.
- **Installation:** The current filter is a large system which was installed during the construction, with most of the building constructed after installation. If a filter of the same size needed to be installed, an exterior wall of the MRAC would need to be taken down, left exposed for the duration of the installation and then rebuilt. The proposed filter can fit through existing access.

The City proposes contracting with CEM Aquatics, which is on state contract (Utah Division of Purchasing and General Services contract #MA3620). CEM is the company that designed the MRAC pool and has provided all major maintenance and has specific knowledge of the MRAC system. The proposed filter is proprietary technology, patented and manufactured by one company, CEM is the Utah representative.

Depending on the order date, delivery of the unit could be 6 – 12 weeks out. The installation would cause a pool closure for up to 2 weeks.

This equipment replacement was unanticipated, and not included as part of the Fiscal Year 2021-2022 budget process. If this transaction is approved, it will be included as part of the next budget amendment. The revenue source for the expenditure would be from the general fund balance.



PO Box 65351
Salt Lake City, UT 84165

(801) 485-6800

Quote

Quote No: 1151

TO

Moab City
374 North Park Avenue
Moab, UT 84532

QUOTE DATE	VALID THRU	FOR	PAGE
9/9/2022	12/16/2022	option 1 filter replac/Moab	1

Moab City
374 North Park Avenue
Moab, Utah 84532

ITEM NO	QUANTITY	DESCRIPTION	UNIT PRICE	TOTAL
COMMENT	1	Option 1	0.00	0.00
NON STOCK EQUIP	1	Aquify 900 sf ft filter complete: PMF-48-900-FRP (Regenerative Media Filter 900 sf) PMF-SUITE-C5 (PMF Suite C5) PMF-CMP-02 (Media Filter) TEE-080604-FRP (Tee 8x6x4) Freight	128729.00	128,729.00
SER-FLAT	1.00	Removal of existing filters	6800.00	6,800.00
NON STOCK EQUIP	1	Plumbing Parts and Misc	9300.00	9,300.00
SER-FLAT	1.00	Labor to install	14800.00	14,800.00
COMMENT	1	Exclusion: Any necessary electrical work. Removal of filter media in existing tanks	0.00	0.00

TOTAL AMOUNT 159,629.00

BY **JANUARY 31, 2023** ALL FEED SYSTEMS WILL NEED TO BE IN COMPLIANCE WITH R392-302 (two layers of interlock protection) PER YOUR LOCAL HEALTH DEPARTMENT.

Call or email for more information and pricing (801) [485-6800](tel:485-6800)/amy@cemaquatics.com

Effective April 1, 2022 there will be a delivery charge on ALL CEM Aquatics truck deliveries. (\$35 for order less than \$750; \$25 for orders more than \$750; any deliveries outside Northern Utah \$350-case/case)



PROJECT INFORMATION

PROJECT: Moab Aquatic Center
 LOCATION: Moab, UT, USA
 REFERENCE:

DATE: August 25, 2022

Pool Data

POOL DESCRIPTION	SUGGESTED FILTER	I/O	Flow (gpm)	POOL DESCRIPTION	SUGGESTED FILTER	I/O	Flow (gpm)
Pool-1 Indoor Competition Pool	PMF-48-900	I	1,000	Pool-11		I	
Pool-2		I		Pool-12		I	
Pool-3		O		Pool-13		I	
Pool-4		I		Pool-14		I	
Pool-5		I		Pool-15		I	
Pool-6		I		Pool-16		I	
Pool-7		I		Pool-17		I	
Pool-8		I		Pool-18			
Pool-9		I		Pool-19			
Pool-10		I		Pool-20			

Operative Cost Variables

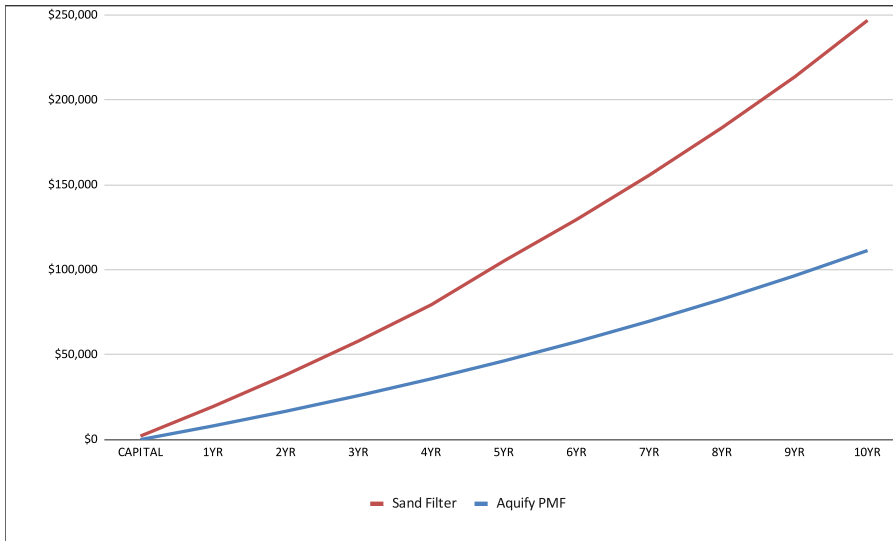
VARIABLES	FORMULAS & DEFINITIONS	VALUES	UNIT
MECHANICAL SPACE COST	Cost per ft ² to construct a room adequate to house filter equipment (indoor construction).	\$0.00	\$/ft ²
INSTALLATION LABOR VARIANCE	Sand filters require an installation labor variance @ historical average cost of 15% of the filter.	15%	\$
MEDIA LOADING: SAND FILTER	Average cost to load media based on historical averages for time and labor.	\$6.00	\$/bag
Media Cost: Sand Filter	Based on average market rate for #20 Silica Sand and 1/8 X 1/4 Pea Gravel. Weights drawn from corresponding filter data.	\$19.63	\$/100lb
BACKFLUSH RESIDUAL LOAD FACTOR	BRLF = 1.38 x pump Hp to overcome residual sand plaquing versus Aquify PMF which automatically reverts to n=1 each month of 15 year warranty because of regenerative nature of filter	1.38	factor
Media Cost: Aquify PMF	Based on average market rate for Perlite Filter Media. Annual PMF Filter Media Cost = Media weight in filter (from table) x PMF backwash frequency.	\$0.63	\$/lb
BACKWASH VOL: SAND (BVS)	BVS = Backwash Rate x Total Filter Surface Area x Backwash Duration x Backwash Frequency.	Rate	20 gpm/ft ²
		Surface Area From Table	ft ²
		Duration	5 minutes
BACKWASH VOL: Aquify Regenerative Media (BVA)	BVD = Total Tank Volume x 2 x Media Replacement Frequency.	Frequency	52 #/season
		Tank Volume From Table	gal
POTABLE WATER USAGE	Potable Water Usage fee includes a "Volume Charge" only and does not include the monthly meter charge. See "Backwash Volume" for water usage volume calculation.	Frequency	12 #/season
SANITARY SEWER FEE	Sanitary Sewer Fee = (Monthly Capacity Charge + Monthly Usage Charge) x annual sewerage volume.	\$4.00	\$/1000 gal
MAKE-UP WATER: CHEMICALS (MWC)	MWC Cost = Water savings in gallons x Average market \$cost/gal for pool chemicals.	\$5.00	\$/1000 gal
MAKE-UP WATER: HEAT (MWH)	Represents cost to reheat backwash makeup water by average temperature delta*. MWH Cost = Backwash Vol. x 8.33#/gal x Conversion Factor x Delta* x \$/therm.	Temp Delta	30° degrees F
		Cost/Therm	\$1.20 \$/therm
OPERATING DAYS PER SEASON	Average number of days of operation each year across all pools included in the project.	365	days
ELECTRICAL COSTS	Pump Motor HP x .746 Rating Conversion x \$Cost/Kw x 24 hrs x Average Operating Days.	Kw	\$/Kw
ANNUAL INCREASE	Average cumulative increase in labor, materials and maintenance costs (applies to both Sand and Aquify PMF installations).	7%	%



PROJECT NAME: Moab Aquatic Center
LOCATION: Moab, UT, USA
PREPARED FOR:
DATE: August 25, 2022

PREPARED BY:
OFFICE:
CELL:
WEBSITE: www.aquifysystems.com

10 Year Life-Cycle Cost Including Capital Investment



Water Savings

87%
Annual Water Savings

2,723,040
Gallons Saved Over 10 Years

Adj. ROI Payback

1 Month
@ 365 Operating Days /Yr

Electrical Savings

43%
Annual Electrical Savings

-728,448
kWh Saved Over 10 Years

	CAPITAL	1YR	2YR	3YR	4YR	5YR	6YR	7YR	8YR	9YR	10YR
Aquify PMF:	\$43	\$8,103	\$16,728	\$25,956	\$35,830	\$46,396	\$57,701	\$69,798	\$82,741	\$96,590	\$111,409
Sand Filter:	\$2,120	\$19,542	\$38,183	\$58,129	\$79,471	\$105,277	\$129,712	\$155,857	\$183,833	\$213,766	\$246,987

Aquify PMF 10 Year Savings Forecast:

\$135,578



Aquify PMF Cost Savings Analysis: Summary

INITIAL CAPITAL COSTS

Item / Description	Sand Filter Cost	Aquify PMF Cost	Cost Variance
FILTER PURCHASE PRICE	\$0	\$0	\$0
FILTER ROOM MECHANICAL SPACE	\$0	\$0	\$0
INSTALLATION LABOR VARIANCE	\$0	\$0	\$0
FILTER MEDIA	\$2,120	\$43	\$2,078
TOTAL CAPITAL COSTS:	\$2,120	\$43	2,078

ANNUAL OPERATING FEES & COSTS

Item / Description	Sand Filter Cost	Aquify PMF Cost	Cost Variance
ELECTRICAL COSTS	\$12,243	\$6,971	\$5,272
POTABLE WATER FEE	\$1,248	\$159	\$1,089
MAKE-UP: CHEMICALS	\$1,560	\$119	\$1,441
MAKE-UP: HEAT	\$1,123	\$143	\$980
SANITARY SEWER FEE	\$1,248	\$159	\$1,089
PERLITE MEDIA	\$0	\$510	(\$510)
Annual Operating Costs:	\$17,422	8,060	9,361

FILTER 10 YEAR SAVINGS FORECAST

Item / Description	Sand Filter Cost	Aquify PMF Cost	Cost Variance
CAPITAL COST	\$2,120	\$43	(\$2,078)
ELECTRICAL COSTS*	\$169,154	\$96,309	(\$72,845)
POTABLE WATER FEE*	\$17,243	\$2,194	(\$15,049)
MAKE-UP: CHEMICALS*	\$21,554	\$1,645	(\$19,908)
MAKE-UP: HEAT*	\$15,512	\$1,974	(\$13,539)
SANITARY SEWER FEE*	\$17,243	\$2,194	(\$15,049)
PERLITE MEDIA*	\$0	\$7,051	\$7,051
SAND MEDIA REPLACEMENT**	\$2,120	\$0	(\$2,120)
MEDIA REPLACEMENT (LABOR)***	\$2,041	\$0	(\$2,041)
GRAND TOTAL SAVINGS:			-135,578

RAW ROI PAYBACK PROJECTION	CAPITAL COST VARIANCE ÷	OPERATING COST VARIANCE =	PAYBACK PERIOD (MONTHS)
	\$2,078	\$9,361	-3

**COSTS INCLUDE ANNUAL INCREASE FOR LABOR, MATERIALS AND MAINTENANCE*
***SAND MEDIA REPLACEMENT AT 5 & 10 YEAR INTERVALS - PRICE BASED ON PROJECTED FUTURE COST*
****MEDIA REPLACEMENT LABOR BASED ON HISTORICAL AVERAGES FACTORED FOR ANNUAL COST INCREASES*

PROJECT NAME: Moab Aquatic Center
LOCATION: Moab, UT, USA
CONTACT NAME:
PREPARED BY:
DATE: August 25, 2022



Cost Savings Analysis: Detail

Sand Filter Capital & Operating Costs																						
POOL DATA		SAND FILTER DATA						CAPITAL COSTS						ANNUAL OPERATING COSTS * SAND FILTER								
Pool Description	Flow (gpm)	Qty	DIA x LENGTH	Filter Surface Area (sf)	Filtration Rate (gpm/sf)	B/W Rates @ 20 gpm/sf (gpm)	Total Media Wt (lb)	Equipment Purchase Price	MECHANICAL SPACE		Install Labor	Media Loading Cost	Sand Cost	FILTER BACKWASH					PUMP DATA			
									Footprint (sf)	Cost				Volume (gal)	Potable Water	Sanitary Sewer Fee	Make-up Water: Chem	Make-up Water: Heat	Brake HP Req'd @ 70TDP	Electrical Cost with VFD		
Indoor Competition Pool	1,000	3	Nemato Sand	60.0	16.7	1,200	10,800		112	\$0	\$0	\$648	\$2,120	312,000	\$1,248	\$1,248	\$1,560	\$1,123			30.49	\$12,243
					0.0	0				\$0	\$0	\$0	\$0	0	\$0	\$0	\$0	\$0			0.00	\$0
					0.0	0				\$0	\$0	\$0	\$0	0	\$0	\$0	\$0	\$0			0.00	\$0
					0.0	0				\$0	\$0	\$0	\$0	0	\$0	\$0	\$0	\$0			0.00	\$0
					0.0	0				\$0	\$0	\$0	\$0	0	\$0	\$0	\$0	\$0			0.00	\$0
			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			0.00	\$0
			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			0.00	\$0
			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			0.00	\$0
			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			0.00	\$0
			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			0.00	\$0
			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			0.00	\$0
			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			0.00	\$0
			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			0.00	\$0
			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			0.00	\$0
TOTALS	1,000	3	0	60	17	1,200	10,800	0	112	0	0	648	2,120	312,000	1,248	1,248	1,560	1,123	0	0	30	12,243

Aquify PMF Capital & Operating Costs																						
Pool Data		Aquify PMF Data						Capital Costs						ANNUAL OPERATING COSTS * Aquify PMF								
Pool Description	Flow (gpm)	Qty	Aquify PMF Model #	Filter Surface Area (sf)	Filtration Rate (gpm/sf)	Tank Volume (gal)	Total Media Wt (lb)	Equipment Purchase Price	MECHANICAL SPACE		Perlite Media Cost	FILTER BACKWASH					PERLITE		PUMP DATA			
									Footprint (sf)	Cost		Volume (gal) (NOTE 1)	Potable Water	Sewer Discharge	Make-up Water: Chem	Make-up Water: Heat	Total Filter Recarb (lb)	Total Perlite Cost (lb)	Brake HP Req'd @ 55TDP	Electrical Cost with VFD		
Indoor Competition Pool	1,000	1	PMF-48-900	900	1.1	354	68		9	\$0	\$43	39,696	\$159	\$159	\$119	\$143	\$10	\$510	17.36	\$6,971		
					0.0	0				\$0	\$0	0	\$0	\$0	\$0	\$0	\$0	\$0			0.00	\$0
					0.0	0				\$0	\$0	0	\$0	\$0	\$0	\$0	\$0	\$0			0.00	\$0
					0.0	0				\$0	\$0	0	\$0	\$0	\$0	\$0	\$0	\$0			0.00	\$0
					0.0	0				\$0	\$0	0	\$0	\$0	\$0	\$0	\$0	\$0			0.00	\$0
			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			0.00	\$0
			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			0.00	\$0
			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			0.00	\$0
			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			0.00	\$0
			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			0.00	\$0
			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			0.00	\$0
			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			0.00	\$0
			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			0.00	\$0
			#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A			0.00	\$0
TOTALS	1,000	1	0	900	1	354	68	0	9	0	0	43	39,696	159	159	119	143	\$10	\$510	17	6,971	

PROJECT NAME: Moab Aquatic Center
 LOCATION: Moab, UT, USA
 PREPARED FOR:
 DATE: August 25, 2022

PREPARED BY:
 OFFICE:
 CELL:
 WEBSITE: www.aquifysystems.com