If you all are available at any time, I would love to get your thoughts. Some questions I have are:
- Is a water management plan appropriate even for those buildings that don't meet ASHRAE building guidance criteria?
- Is a water management plan needed for only places that don't disinfect? I know that water management plans are used by many systems in which chlorine is used, but in this case, in which we don't have any evidence of Legionella growth in the hot spring water, I don't think we can or should point to hot spring water as a particular Legionella risk -- the risk in my mind is just from the fact that it is not disinfected.
- Should any of the water management plans include legionella testing? I think the Quapaw might consider this -- but then what would be the guidance if they get positive results?

I am including Allison, the new EIS officer for Arkansas on the thread. Dirk Haselow is no longer with the state health department.

Thanks for any thoughts on this. Hope you guys are well.
Maria

--
Maria Said, MD, MHS | CDR, U.S. Public Health Service
Epidemiology Branch Chief | Office of Public Health | National Park Service
Address: 1849 C. Street, NW, Room 2543, Mailstop 2560 | Washington, DC 20240
Office Tel: 202-513-7151 | Email: maria_said@nps.gov
Website (public): https://www.nps.gov/orgs/1878/index.htm
Website (internal): https://sites.google.com/a/nps.gov/in2-protect-and-promote-health/home/disease-surveillance-response

--
Maria Said, MD, MHS | CDR, U.S. Public Health Service
Epidemiology Branch Chief | Office of Public Health | National Park Service
Address: 1849 C. Street, NW, Room 2543, Mailstop 2560 | Washington, DC 20240
Office Tel: 202-513-7151 | Email: maria_said@nps.gov
Website (public): https://www.nps.gov/orgs/1878/index.htm
Website (internal): https://sites.google.com/a/nps.gov/in2-protect-and-promote-health/home/disease-surveillance-response

From: Ritter, Troy (CDC/ONDIEH/NCEH)
Sent: 24 Aug 2018 14:33:40 +0000
To: Kesteloot, Kurt
Subject: RE: Legionella Discussion

Hi Kurt,

I'm in meetings until about 4 today. I can speak any time after that or on Monday. My cell is (b)(6)

Troy

Troy Ritter, PhD, MPH, REHS, DAAS
Commander, US Public Health Service
Centers for Disease Control and Prevention
Food, Water & Environmental Health Services Branch
Phone: (907) 242-6695
Email: tir4@cdc.gov

From: Kesteloot, Kurt <kurt_kesteloot@nps.gov>
Sent: Friday, August 24, 2018 10:31 AM
To: Ritter, Troy (CDC/ONDIEH/NCEH) <tir4@cdc.gov>
Subject: Legionella Discussion

Good Morning Troy,

I received your information from Adam Kramer. Is there a good time to call you today to talk about Legionella a bit?

Thank You and Very Respectfully,

Kurt

CDR Kurt Kesteloot, PE, BCEE, USPHS
Supervisory Public Health Consultant, Midwest Region
National Park Service, Office of Public Health (OPH),
601 Riverfront Drive
Omaha, NE 68102
Office Phone: 1-402-661-1718
Office Fax: 1-402-661-1719
Cell Phone: 1-202-641-0055
Email: Kurt_Kesteloot@nps.gov

Attention Federal Employees Only: Please let us know how we are doing by completing a survey found at: https://www.surveymonkey.com/s/NPS-OPH-CustServ

"The NPS One Health Network: promoting and protecting the health of all species and the parks that we share."

From: Ritter, Troy (CDC/DDNID/NCEH/DEHSP)
Sent: 9 Aug 2019 12:12:43 +0000
To: Kesteloot, Kurt
Subject: RE: NSF CPHC Member

Hey Kurt,

It's great to hear you're on the CPHC! I was just recently nominated and am still learning about the group. I'm looking forward to working with you on the committee!

(b)(5)

Troy

From: Kesteloot, Kurt <kurt_kesteloot@nps.gov>
Sent: Thursday, August 8, 2019 10:06 PM
To: Ritter, Troy (CDC/DDNID/NCEH/DEHSP) <tir4@cdc.gov>
Subject: NSF CPHC Member

Hi Troy,

I just noticed your name on a vote. I am on the CPHC committee and will be in Ann Arbor in September for our meeting.

I hope all is well. Did you hear about the legionella test results?

Thank You and Very Respectfully,

Kurt

CDR Kurt Kesteloot, PE, BCEE, USPHS
Supervisory Public Health Consultant, Midwest Region
National Park Service,Office of Public Health (OPH),
601 Riverfront Drive
Omaha, NE 68102
Office Phone: 1-402-661-1718
Office Fax: 1-402-661-1719
Cell Phone: 1-202-641-0055
Email: Kurt_Kesteloot@nps.gov

"The NPS One Health Network: promoting and protecting the health of all species and the parks that we share." GREEN DOT

From: Google Calendar on behalf of maria_said@nps.gov
Sent: 17 Jul 2019 15:02:33 +0000
To: Ritter, Troy (CDC/DDNID/NCEH/DEHSP);terry.paul@arkansas.gov;Smith, Jessica (CDC/DDID/NCIRD/DBD);Haselow, Dirk (CDC arkansas.gov);kurt_kesteloot@nps.gov;Cooley, Laura A. (CDC/DDID/NCIRD/DBD);catherine.waters@arkansas.gov;laura_a_miller@nps.gov;alexandra_picavet@nps.gov
Subject: Updated invitation with note: Quapaw Legionella Update @ Wed Jul 17, 2019 11am - 12pm (EDT) (tir4@cdc.gov)
Attachments: invite.ics

This event has been changed with this note:
"Call in number is 1-866-723-8146 PC 7713400"

more details »

Quapaw Legionella Update

Wed Jul 17, 2019 11am – 12pm

Changed: Tel 1-866-723-8146 PC 7713400 (map)

https://hangouts.google.com/hangouts/ /doi.gov/maria-said

tir4@cdc.gov

- maria_said@nps.gov
- tir4@cdc.gov
- terry.paul@arkansas.gov
- lyd7@cdc.gov
- dirk.haselow@arkansas.gov
- kurt_kesteloot@nps.gov
- whz3@cdc.gov
- catherine.waters@arkansas.gov
- laura_a_miller@nps.gov
- alexandra_picavet@nps.gov

Changed: Sorry! The call in number is 1-866-723-8146 PC 7713400

Yes - **Maybe** - **No** more options »

Google Calendar

Learn More

From: Kesteloot, Kurt
Sent: 21 Jan 2019 10:28:49 -0600
To: Ritter, Troy (CDC/DDNID/NCEH/DEHSP)
Subject: Fwd: [EXTERNAL] Checking in re: Hot Springs

Good Morning Troy,

Thanks again for the help with this. The Legionella test results were negative and we have advised that the facility can return to normal operations.

Thank You and Very Respectfully,

Kurt

CDR Kurt Kesteloot, PE, BCEE, USPHS
Supervisory Public Health Consultant, Midwest Region
National Park Service,Office of Public Health (OPH),
601 Riverfront Drive
Omaha, NE 68102
Office Phone: 1-402-661-1718
Office Fax: 1-402-661-1719
Cell Phone: 1-202-641-0055
Email: Kurt_Kesteloot@nps.gov

Attention Federal Employees Only: Please let us know how we are doing by completing a survey found at: https://www.surveymonkey.com/s/NPS-OPH-CustServ

"The NPS One Health Network: promoting and protecting the health of all species and the parks that we share." GREEN DOT

---------- Forwarded message ---------
From: **Said, Maria** <maria_said@nps.gov>
Date: Mon, Jan 21, 2019 at 10:16 AM
Subject: Re: [EXTERNAL] Checking in re: Hot Springs
To: Smith, Jessica (CDC/DDID/NCIRD/DBD) <lyd7@cdc.gov>
Cc: Haselow, Dirk (CDC arkansas.gov) <dirk.haselow@arkansas.gov>, Kurt Kesteloot <kurt_kesteloot@nps.gov>, Lee, Sooji (CDC/DDID/NCIRD/DBD) (CTR) <npf3@cdc.gov>

Hi Jessica,

We've received results that are all negative for Legionella. We have told the Quapaw they can resume normal operations.
Thanks very much for your help with this - it is much appreciated.
And we will be in touch if there are any new developments.

Best,
Maria

On Fri, Jan 18, 2019 at 3:00 PM Said, Maria <maria_said@nps.gov> wrote:

Hi Jessica,

During the assessment, a group collected 6 liter samples (one at the cooling tower, one at the cold water pumping/gravity station, and 4 at the bathhouse) and 9 swabs. Results are still pending.

I'm very grateful for your offer to assist and will let you know when we learn more.

Best,

Maria

On Fri, Jan 18, 2019 at 2:54 PM Smith, Jessica (CDC/DDID/NCIRD/DBD) <lyd7@cdc.gov> wrote:

Hi Maria, Dirk and Kurt,

I wanted to check in this week about how the on-site assessment went in Hot Springs and whether the environmental results have come back or not. I don't mean to add to anyone's plate… we were just curious to hear if there are any updates. And of course we remain standing by if there's anything we can do to be of assistance.

Thanks and hope you all have a good weekend,

Jessica

–

Jessica C. Smith, MPH

Epidemiologist | Centers for Disease Control and Prevention

NCIRD/DBD/Respiratory Diseases Branch

404.718.5205 | lyd7@cdc.gov

--

Maria Said, MD, MHS | CDR, U.S. Public Health Service
Epidemiology Branch Chief | Office of Public Health | National Park Service
Address: 1849 C. Street, NW, Room 2543, Mailstop 2560 Washington, DC 20240
Office Tel: 202-513-7151 | Email: maria_said@nps.gov
Website (public): https://www.nps.gov/orgs/1878/index.htm
Website (internal): https://sites.google.com/a/nps.gov/in2-protect-and-promote-health/home/disease-surveillance-response

--

Maria Said, MD, MHS | CDR, U.S. Public Health Service
Epidemiology Branch Chief | Office of Public Health | National Park Service
Address: 1849 C. Street, NW, Room 2543, Mailstop 2560 Washington, DC 20240
Office Tel: 202-513-7151 | Email: maria_said@nps.gov
Website (public): https://www.nps.gov/orgs/1878/index.htm
Website (internal): https://sites.google.com/a/nps.gov/in2-protect-and-promote-health/home/disease-surveillance-response

From: Said, Maria
Sent: 22 Jan 2019 22:31:50 -0500
To: Smith, Jessica (CDC/DDID/NCIRD/DBD)
Cc: Haselow, Dirk (CDC arkansas.gov);Kurt Kesteloot;Lee, Sooji (CDC/DDID/NCIRD/DBD) (CTR);Ritter, Troy (CDC/DDNID/NCEH/DEHSP);Kunz, Jasen M. (CDC/DDNID/NCEH/DEHSP);Terry Paul
Subject: Re: [EXTERNAL] Checking in re: Hot Springs

Thanks Jessica.

I'll defer to Kurt and am also including Terry Paul from the Arkansas Dept of Health, as they can speak much better than I about the environmental assessment and how to optimize conditions moving forward.

And from me -- another thank you to Arkansas for all your assistance with the assessment and testing. It is very much appreciated.

Best,
Maria

On Tue, Jan 22, 2019 at 5:13 PM Smith, Jessica (CDC/DDID/NCIRD/DBD) <lyd7@cdc.gov> wrote:

Thanks so much for the update, Maria! That is certainly reassuring.

I chatted with Jasen and Troy about this on the EH side, and we were wondering (b)(5) (b)(5) (b)(5) If so, were there any recommendations (b)(5)

Depending (b)(5) (b)(5)

Happy to discuss further anytime if needed.

Thanks again,
Jessica

From: Said, Maria <maria_said@nps.gov>
Sent: Monday, January 21, 2019 11:16 AM
To: Smith, Jessica (CDC/DDID/NCIRD/DBD) <lyd7@cdc.gov>
Cc: Haselow, Dirk (CDC arkansas.gov) <dirk.haselow@arkansas.gov>; Kurt Kesteloot <kurt_kesteloot@nps.gov>; Lee, Sooji (CDC/DDID/NCIRD/DBD) (CTR) <npf3@cdc.gov>
Subject: Re: [EXTERNAL] Checking in re: Hot Springs

Hi Jessica,

We've received results that are all negative for Legionella. We have told the Quapaw they can resume normal operations.

Thanks very much for your help with this - it is much appreciated.

And we will be in touch if there are any new developments.

Best,

Maria

On Fri, Jan 18, 2019 at 3:00 PM Said, Maria <maria_said@nps.gov> wrote:

> Hi Jessica,
>
> During the assessment, a group collected 6 liter samples (one at the cooling tower, one at the cold water pumping/gravity station, and 4 at the bathhouse) and 9 swabs. Results are still pending.
>
> I'm very grateful for your offer to assist and will let you know when we learn more.
>
> Best,
>
> Maria

On Fri, Jan 18, 2019 at 2:54 PM Smith, Jessica (CDC/DDID/NCIRD/DBD) <lyd7@cdc.gov> wrote:

Hi Maria, Dirk and Kurt,

I wanted to check in this week about how the on-site assessment went in Hot Springs and whether the environmental results have come back or not. I don't mean to add to anyone's plate… we were just curious to hear if there are any updates. And of course we remain standing by if there's anything we can do to be of assistance.

Thanks and hope you all have a good weekend,

Jessica

—

Jessica C. Smith, MPH

Epidemiologist | Centers for Disease Control and Prevention

NCIRD/DBD/Respiratory Diseases Branch

404.718.5205 lyd7@cdc.gov

--

Maria Said, MD, MHS | CDR, U.S. Public Health Service
Epidemiology Branch Chief | Office of Public Health | National Park Service
Address: 1849 C. Street, NW, Room 2543, Mailstop 2560 | Washington, DC 20240

Office Tel: 202-513-7151 | Email: maria_said@nps.gov

Website (public): https://www.nps.gov/orgs/1878/index.htm

Website (internal): https://sites.google.com/a/nps.gov/in2-protect-and-promote-health/home/disease-surveillance-response

--

Maria Said, MD, MHS | CDR, U.S. Public Health Service
Epidemiology Branch Chief | Office of Public Health | National Park Service
Address: 1849 C. Street, NW, Room 2543, Mailstop 2560 Washington, DC 20240

Office Tel: 202-513-7151 | Email: maria_said@nps.gov

Website (public): https://www.nps.gov/orgs/1878/index.htm

Website (internal): https://sites.google.com/a/nps.gov/in2-protect-and-promote-health/home/disease-surveillance-response

--
Maria Said, MD, MHS | CDR, U.S. Public Health Service
Epidemiology Branch Chief | Office of Public Health | National Park Service
Address: 1849 C. Street, NW, Room 2543, Mailstop 2560 Washington, DC 20240
Office Tel: 202-513-7151 | Email: maria_said@nps.gov
Website (public): https://www.nps.gov/orgs/1878/index.htm
Website (internal): https://sites.google.com/a/nps.gov/in2-protect-and-promote-health/home/disease-surveillance-response

From: Smith, Jessica (CDC/DDID/NCIRD/DBD)
Sent: 22 Jan 2019 17:12:55 -0500
To: Said, Maria
Cc: Haselow, Dirk (CDC arkansas.gov);Kurt Kesteloot;Lee, Sooji (CDC/DDID/NCIRD/DBD) (CTR);Ritter, Troy (CDC/DDNID/NCEH/DEHSP);Kunz, Jasen M. (CDC/DDNID/NCEH/DEHSP)
Subject: RE: [EXTERNAL] Checking in re: Hot Springs

Thanks so much for the update, Maria! That is certainly reassuring.

I chatted with Jasen and Troy about this on the EH side, and we were wondering in general whether (b)(5) (b)(5) If so, were there any recommendations (b)(5) (b)(5)

Depending (b)(5) (b)(5) (b)(5) Happy to discuss further anytime if needed.

Thanks again,
Jessica

From: Said, Maria <maria_said@nps.gov>
Sent: Monday, January 21, 2019 11:16 AM
To: Smith, Jessica (CDC/DDID/NCIRD/DBD) <lyd7@cdc.gov>
Cc: Haselow, Dirk (CDC arkansas.gov) <dirk.haselow@arkansas.gov>; Kurt Kesteloot <kurt_kesteloot@nps.gov>; Lee, Sooji (CDC/DDID/NCIRD/DBD) (CTR) <npf3@cdc.gov>
Subject: Re: [EXTERNAL] Checking in re: Hot Springs

Hi Jessica,

We've received results that are all negative for Legionella. We have told the Quapaw they can resume normal operations.
Thanks very much for your help with this - it is much appreciated.
And we will be in touch if there are any new developments.

Best,
Maria

On Fri, Jan 18, 2019 at 3:00 PM Said, Maria <maria_said@nps.gov> wrote:

Hi Jessica,

During the assessment, a group collected 6 liter samples (one at the cooling tower, one at the cold water pumping/gravity station, and 4 at the bathhouse) and 9 swabs. Results are still pending.
I'm very grateful for your offer to assist and will let you know when we learn more.

Best,
Maria

On Fri, Jan 18, 2019 at 2:54 PM Smith, Jessica (CDC/DDID/NCIRD/DBD) <lyd7@cdc.gov> wrote:

Hi Maria, Dirk and Kurt,

I wanted to check in this week about how the on-site assessment went in Hot Springs and whether the environmental results have come back or not. I don't mean to add to anyone's plate… we were just curious to hear if there are any updates. And of course we remain standing by if there's anything we can do to be of assistance.

Thanks and hope you all have a good weekend,
Jessica

—
Jessica C. Smith, MPH
Epidemiologist | Centers for Disease Control and Prevention
NCIRD/DBD/Respiratory Diseases Branch
404.718.5205 | lyd7@cdc.gov

--
Maria Said, MD, MHS | CDR, U.S. Public Health Service
Epidemiology Branch Chief | Office of Public Health | National Park Service
Address: 1849 C. Street, NW, Room 2543, Mailstop 2560 Washington, DC 20240
Office Tel: 202-513-7151 | Email: maria_said@nps.gov
Website (public): https://www.nps.gov/orgs/1878/index.htm
Website (internal): https://sites.google.com/a/nps.gov/in2-protect-and-promote-health/home/disease-surveillance-response

--
Maria Said, MD, MHS | CDR, U.S. Public Health Service
Epidemiology Branch Chief | Office of Public Health | National Park Service
Address: 1849 C. Street, NW, Room 2543, Mailstop 2560 | Washington, DC 20240

Office Tel: 202-513-7151 | Email: maria_said@nps.gov
Website (public): https://www.nps.gov/orgs/1878/index.htm
Website (internal): https://sites.google.com/a/nps.gov/in2-protect-and-promote-health/home/disease-surveillance-response

From: Kunz, Jasen M. (CDC/DDNID/NCEH/DEHSP)
Sent: 22 Jan 2019 09:15:49 -0500
To: Ritter, Troy (CDC/DDNID/NCEH/DEHSP);Smith, Jessica (CDC/DDID/NCIRD/DBD)
Subject: RE: [EXTERNAL] Checking in re: Hot Springs

Hi Jess,

I am around today and the calendar is up to date. We also need to chat about the MO consult.

Jasen

From: Ritter, Troy (CDC/DDNID/NCEH/DEHSP) <tir4@cdc.gov>
Sent: Monday, January 21, 2019 8:11 PM
To: Smith, Jessica (CDC/DDID/NCIRD/DBD) <lyd7@cdc.gov>; Kunz, Jasen M. (CDC/DDNID/NCEH/DEHSP) <izk0@cdc.gov>
Subject: RE: [EXTERNAL] Checking in re: Hot Springs

Hi Jess,

I do think it (b)(5) (b)(5) I don't need to be involved if you want to check with NPS. I just didn't want to drop the ball. Have a good week!

Troy

From: Smith, Jessica (CDC/DDID/NCIRD/DBD) <lyd7@cdc.gov>
Date: January 21, 2019 at 9:24:50 PM GMT-2
To: Ritter, Troy (CDC/DDNID/NCEH/DEHSP) <tir4@cdc.gov>, Kunz, Jasen M. (CDC/DDNID/NCEH/DEHSP) <izk0@cdc.gov>
Subject: RE: [EXTERNAL] Checking in re: Hot Springs

Hey Troy – yeah, I'm curious what the assessment revealed. (b)(5)

(b)(5)

I know you're supposed to be on vacation so please enjoy it! I'll chat with Jasen about it if he has time tomorrow... I'm happy to follow up on this to ask about the findings and provide some advice if needed.

Thanks!
Jess

From: Ritter, Troy (CDC/DDNID/NCEH/DEHSP) <tir4@cdc.gov>
Sent: Monday, January 21, 2019 11:35 AM
To: Kunz, Jasen M. (CDC/DDNID/NCEH/DEHSP) <izk0@cdc.gov>; Smith, Jessica (CDC/DDID/NCIRD/DBD)

<lyd7@cdc.gov>
Subject: Fwd: [EXTERNAL] Checking in re: Hot Springs

Hey guys, see note below from Kurt. Do you think (b)(5)

(b)(5)

Troy

From: Kesteloot, Kurt <kurt_kesteloot@nps.gov>
Date: January 21, 2019 at 2:31:43 PM GMT-2
To: Ritter, Troy (CDC/DDNID/NCEH/DEHSP) <tir4@cdc.gov>
Subject: Fwd: [EXTERNAL] Checking in re: Hot Springs

Good Morning Troy,

Thanks again for the help with this. The Legionella test results were negative and we have advised that the facility can return to normal operations.

Thank You and Very Respectfully,

Kurt

CDR Kurt Kesteloot, PE, BCEE, USPHS
Supervisory Public Health Consultant, Midwest Region
National Park Service,Office of Public Health (OPH),
601 Riverfront Drive
Omaha, NE 68102
Office Phone: 1-402-661-1718
Office Fax: 1-402-661-1719
Cell Phone: 1-202-641-0055
Email: Kurt_Kesteloot@nps.gov

Attention Federal Employees Only: Please let us know how we are doing by completing a survey found at: https://www.surveymonkey.com/s/NPS-OPH-CustServ

"The NPS One Health Network: promoting and protecting the health of all species and the parks that we share." GREEN DOT

---------- Forwarded message ---------
From: **Said, Maria** <maria_said@nps.gov>
Date: Mon, Jan 21, 2019 at 10:16 AM
Subject: Re: [EXTERNAL] Checking in re: Hot Springs
To: Smith, Jessica (CDC/DDID/NCIRD/DBD) <lyd7@cdc.gov>
Cc: Haselow, Dirk (CDC arkansas.gov) <dirk.haselow@arkansas.gov>, Kurt Kesteloot <kurt_kesteloot@nps.gov>, Lee, Sooji (CDC/DDID/NCIRD/DBD) (CTR) <npf3@cdc.gov>

Hi Jessica,

We've received results that are all negative for Legionella. We have told the Quapaw they can resume normal operations.
Thanks very much for your help with this - it is much appreciated.
And we will be in touch if there are any new developments.

Best,
Maria

On Fri, Jan 18, 2019 at 3:00 PM Said, Maria <maria_said@nps.gov> wrote:

Hi Jessica,

During the assessment, a group collected 6 liter samples (one at the cooling tower, one at the cold water pumping/gravity station, and 4 at the bathhouse) and 9 swabs. Results are still pending.
I'm very grateful for your offer to assist and will let you know when we learn more.

Best,
Maria

On Fri, Jan 18, 2019 at 2:54 PM Smith, Jessica (CDC/DDID/NCIRD/DBD) <lyd7@cdc.gov> wrote:

Hi Maria, Dirk and Kurt,

I wanted to check in this week about how the on-site assessment went in Hot Springs and whether the environmental results have come back or not. I don't mean to add to anyone's plate… we were just curious to hear if there are any updates. And of course we remain standing by if there's anything we can do to be of assistance.

Thanks and hope you all have a good weekend,
Jessica

—
Jessica C. Smith, MPH
Epidemiologist Centers for Disease Control and Prevention

NCBD/DBD/Respiratory Diseases Branch
404.718.5205 | lyd7@cdc.gov

--

Maria Said, MD, MHS | CDR, U.S. Public Health Service
Epidemiology Branch Chief | Office of Public Health | National Park Service
Address: 1849 C. Street, NW, Room 2543, Mailstop 2560 Washington, DC 20240
Office Tel: 202-513-7151 | Email: maria_said@nps.gov
Website (public): https://www.nps.gov/orgs/1878/index.htm
Website (internal): https://sites.google.com/a/nps.gov/in2-protect-and-promote-health/home/disease-surveillance-response

--

Maria Said, MD, MHS | CDR, U.S. Public Health Service
Epidemiology Branch Chief | Office of Public Health | National Park Service
Address: 1849 C. Street, NW, Room 2543, Mailstop 2560 | Washington, DC 20240
Office Tel: 202-513-7151 | Email: maria_said@nps.gov
Website (public): https://www.nps.gov/orgs/1878/index.htm
Website (internal): https://sites.google.com/a/nps.gov/in2-protect-and-promote-health/home/disease-surveillance-response

From: Ritter, Troy (CDC/DDNID/NCEH/DEHSP)
Sent: 22 Jan 2019 01:11:17 +0000
To: Smith, Jessica (CDC/DDID/NCIRD/DBD);Kunz, Jasen M. (CDC/DDNID/NCEH/DEHSP)
Subject: RE: [EXTERNAL] Checking in re: Hot Springs

Hi Jess,

I do think it (b)(5) (b)(5) I don't need to be involved if you want to check with NPS. I just didn't want to drop the ball. Have a good week!

Troy

From: Smith, Jessica (CDC/DDID/NCIRD/DBD) <lyd7@cdc.gov>
Date: January 21, 2019 at 9:24:50 PM GMT-2
To: Ritter, Troy (CDC/DDNID/NCEH/DEHSP) <tir4@cdc.gov>, Kunz, Jasen M. (CDC/DDNID/NCEH/DEHSP) <izk0@cdc.gov>
Subject: RE: [EXTERNAL] Checking in re: Hot Springs

Hey Troy – yeah, I'm curious what the assessment revealed. (b)(5) (b)(5)

I know you're supposed to be on vacation so please enjoy it! I'll chat with Jasen about it if he has time tomorrow… I'm happy to follow up on this to ask about the findings and provide some advice if needed.

Thanks!
Jess

From: Ritter, Troy (CDC/DDNID/NCEH/DEHSP) <tir4@cdc.gov>
Sent: Monday, January 21, 2019 11:35 AM
To: Kunz, Jasen M. (CDC/DDNID/NCEH/DEHSP) <izk0@cdc.gov>; Smith, Jessica (CDC/DDID/NCIRD/DBD) <lyd7@cdc.gov>
Subject: Fwd: [EXTERNAL] Checking in re: Hot Springs

Hey guys, see note below from Kurt. Do you think (b)(5) (b)(5)

Troy

From: Kesteloot, Kurt <kurt_kesteloot@nps.gov>
Date: January 21, 2019 at 2:31:43 PM GMT-2
To: Ritter, Troy (CDC/DDNID/NCEH/DEHSP) <tir4@cdc.gov>
Subject: Fwd: [EXTERNAL] Checking in re: Hot Springs

Good Morning Troy,

Thanks again for the help with this. The Legionella test results were negative and we have advised that the facility can return to normal operations.

Thank You and Very Respectfully,

Kurt

CDR Kurt Kesteloot, PE, BCEE, USPHS
Supervisory Public Health Consultant, Midwest Region
National Park Service,Office of Public Health (OPH),
601 Riverfront Drive
Omaha, NE 68102
Office Phone: 1-402-661-1718
Office Fax: 1-402-661-1719
Cell Phone: 1-202-641-0055
Email: Kurt_Kesteloot@nps.gov

Attention Federal Employees Only: Please let us know how we are doing by completing a survey found at: https://www.surveymonkey.com/s/NPS-OPH-CustServ

"The NPS One Health Network: promoting and protecting the health of all species and the parks that we share." GREEN DOT

---------- Forwarded message ---------
From: **Said, Maria** <maria_said@nps.gov>
Date: Mon, Jan 21, 2019 at 10:16 AM
Subject: Re: [EXTERNAL] Checking in re: Hot Springs
To: Smith, Jessica (CDC/DDID/NCIRD/DBD) <lyd7@cdc.gov>
Cc: Haselow, Dirk (CDC arkansas.gov) <dirk.haselow@arkansas.gov>, Kurt Kesteloot <kurt_kesteloot@nps.gov>, Lee, Sooji (CDC/DDID/NCIRD/DBD) (CTR) <npf3@cdc.gov>

Hi Jessica,

We've received results that are all negative for Legionella. We have told the Quapaw they can resume normal operations.
Thanks very much for your help with this - it is much appreciated.
And we will be in touch if there are any new developments.

Best,
Maria

On Fri, Jan 18, 2019 at 3:00 PM Said, Maria <maria_said@nps.gov> wrote:

> Hi Jessica,
>
> During the assessment, a group collected 6 liter samples (one at the cooling tower, one at the cold water pumping/gravity station, and 4 at the bathhouse) and 9 swabs.
> Results are still pending.
> I'm very grateful for your offer to assist and will let you know when we learn more.
>
> Best,
> Maria
>
>
> On Fri, Jan 18, 2019 at 2:54 PM Smith, Jessica (CDC/DDID/NCIRD/DBD) <lyd7@cdc.gov> wrote:
>
>> Hi Maria, Dirk and Kurt,
>>
>> I wanted to check in this week about how the on-site assessment went in Hot Springs and whether the environmental results have come back or not. I don't mean to add to anyone's plate… we were just curious to hear if there are any updates. And of course we remain standing by if there's anything we can do to be of assistance.
>>
>> Thanks and hope you all have a good weekend,
>> Jessica
>>
>> —
>> Jessica C. Smith, MPH
>> Epidemiologist | Centers for Disease Control and Prevention
>> NCIRD/DBD/Respiratory Diseases Branch
>> 404.718.5205 lyd7@cdc.gov

--

Maria Said, MD, MHS | CDR, U.S. Public Health Service
Epidemiology Branch Chief | Office of Public Health | National Park Service
Address: 1849 C. Street, NW, Room 2543, Mailstop 2560 | Washington, DC 20240
Office Tel: 202-513-7151 | Email: maria_said@nps.gov
Website (public): https://www.nps.gov/orgs/1878/index.htm
Website (internal): https://sites.google.com/a/nps.gov/in2-protect-and-promote-health/home/disease-surveillance-response

--

Maria Said, MD, MHS | CDR, U.S. Public Health Service
Epidemiology Branch Chief | Office of Public Health | National Park Service
Address: 1849 C. Street, NW, Room 2543, Mailstop 2560 Washington, DC 20240
Office Tel: 202-513-7151 | Email: maria_said@nps.gov
Website (public): https://www.nps.gov/orgs/1878/index.htm
Website (internal): https://sites.google.com/a/nps.gov/in2-protect-and-promote-health/home/disease-surveillance-response

From: Smith, Jessica (CDC/DDID/NCIRD/DBD)
Sent: 21 Jan 2019 18:24:50 -0500
To: Ritter, Troy (CDC/DDNID/NCEH/DEHSP);Kunz, Jasen M. (CDC/DDNID/NCEH/DEHSP)
Subject: RE: [EXTERNAL] Checking in re: Hot Springs

Hey Troy – yeah, I'm curious what the assessment revealed. (b)(5)

(b)(5)

I know you're supposed to be on vacation so please enjoy it! I'll chat with Jasen about it if he has time tomorrow… I'm happy to follow up on this to ask about the findings and provide some advice if needed.

Thanks!
Jess

From: Ritter, Troy (CDC/DDNID/NCEH/DEHSP) <tir4@cdc.gov>
Sent: Monday, January 21, 2019 11:35 AM
To: Kunz, Jasen M. (CDC/DDNID/NCEH/DEHSP) <izk0@cdc.gov>; Smith, Jessica (CDC/DDID/NCIRD/DBD) <lyd7@cdc.gov>
Subject: Fwd: [EXTERNAL] Checking in re: Hot Springs

Hey guys, see note below from Kurt. Do you think (b)(5)

(b)(5)

Troy

From: Kesteloot, Kurt <kurt_kesteloot@nps.gov>
Date: January 21, 2019 at 2:31:43 PM GMT-2
To: Ritter, Troy (CDC/DDNID/NCEH/DEHSP) <tir4@cdc.gov>
Subject: Fwd: [EXTERNAL] Checking in re: Hot Springs

Good Morning Troy,

Thanks again for the help with this. The Legionella test results were negative and we have advised that the facility can return to normal operations.

Thank You and Very Respectfully,

Kurt

CDR Kurt Kesteloot, PE, BCEE, USPHS
Supervisory Public Health Consultant, Midwest Region
National Park Service,Office of Public Health (OPH),

601 Riverfront Drive
Omaha, NE 68102
Office Phone: 1-402-661-1718
Office Fax: 1-402-661-1719
Cell Phone: 1-202-641-0055
Email: Kurt_Kesteloot@nps.gov

Attention Federal Employees Only: Please let us know how we are doing by completing a survey found at: https://www.surveymonkey.com/s/NPS-OPH-CustServ

"The NPS One Health Network: promoting and protecting the health of all species and the parks that we share." GREEN DOT

---------- Forwarded message ---------
From: **Said, Maria** <maria_said@nps.gov>
Date: Mon, Jan 21, 2019 at 10:16 AM
Subject: Re: [EXTERNAL] Checking in re: Hot Springs
To: Smith, Jessica (CDC/DDID/NCIRD/DBD) <lyd7@cdc.gov>
Cc: Haselow, Dirk (CDC arkansas.gov) <dirk.haselow@arkansas.gov>, Kurt Kesteloot <kurt_kesteloot@nps.gov>, Lee, Sooji (CDC/DDID/NCIRD/DBD) (CTR) <npf3@cdc.gov>

Hi Jessica,

We've received results that are all negative for Legionella. We have told the Quapaw they can resume normal operations.
Thanks very much for your help with this - it is much appreciated.
And we will be in touch if there are any new developments.

Best,
Maria

On Fri, Jan 18, 2019 at 3:00 PM Said, Maria <maria_said@nps.gov> wrote:

> Hi Jessica,
>
> During the assessment, a group collected 6 liter samples (one at the cooling tower, one at the cold water pumping/gravity station, and 4 at the bathhouse) and 9 swabs. Results are still pending.
> I'm very grateful for your offer to assist and will let you know when we learn more.
>
> Best,

Maria

On Fri, Jan 18, 2019 at 2:54 PM Smith, Jessica (CDC/DDID/NCIRD/DBD) <lyd7@cdc.gov> wrote:

Hi Maria, Dirk and Kurt,

I wanted to check in this week about how the on-site assessment went in Hot Springs and whether the environmental results have come back or not. I don't mean to add to anyone's plate… we were just curious to hear if there are any updates. And of course we remain standing by if there's anything we can do to be of assistance.

Thanks and hope you all have a good weekend,
Jessica

—
Jessica C. Smith, MPH
Epidemiologist | Centers for Disease Control and Prevention
NCIRD/DBD/Respiratory Diseases Branch
404.718.5205 | lyd7@cdc.gov

--
Maria Said, MD, MHS | CDR, U.S. Public Health Service
Epidemiology Branch Chief | Office of Public Health | National Park Service
Address: 1849 C. Street, NW, Room 2543, Mailstop 2560 | Washington, DC 20240
Office Tel: 202-513-7151 | Email: maria_said@nps.gov
Website (public): https://www.nps.gov/orgs/1878/index.htm
Website (internal): https://sites.google.com/a/nps.gov/in2-protect-and-promote-health/home/disease-surveillance-response

--
Maria Said, MD, MHS | CDR, U.S. Public Health Service
Epidemiology Branch Chief | Office of Public Health | National Park Service
Address: 1849 C. Street, NW, Room 2543, Mailstop 2560 | Washington, DC 20240
Office Tel: 202-513-7151 | Email: maria_said@nps.gov
Website (public): https://www.nps.gov/orgs/1878/index.htm
Website (internal): https://sites.google.com/a/nps.gov/in2-protect-and-promote-health/home/disease-surveillance-response

From: Kesteloot, Kurt
Sent: 23 Jan 2019 10:54:38 -0600
To: Said, Maria
Cc: Smith, Jessica (CDC/DDID/NCIRD/DBD);Haselow, Dirk (CDC arkansas.gov);Lee, Sooji (CDC/DDID/NCIRD/DBD) (CTR);Ritter, Troy (CDC/DDNID/NCEH/DEHSP);Kunz, Jasen M. (CDC/DDNID/NCEH/DEHSP);Terry Paul
Subject: Re: [EXTERNAL] Checking in re: Hot Springs

Good Morning Jessica,

Thanks for sharing ideas. Some initial thoughts are:

1. Flush, inspect, and clean the cooled thermal water plumbing and reservoir
2. Check air handling system
3. Coordinate a trip with the Arkansas Department of Health pool expert and others to evaluate the thermal pools/spas in the Quapaw (Conduct additional testing if deemed necessary)
4. Evaluate all fountains in the park and test if needed for Legionella
5. Address any other ideas or thoughts regarding the park hot and cooled thermal water.

Thank You and Very Respectfully,

Kurt

CDR Kurt Kesteloot, PE, BCEE, USPHS
Supervisory Public Health Consultant, Midwest Region
National Park Service,Office of Public Health (OPH),
601 Riverfront Drive
Omaha, NE 68102
Office Phone: 1-402-661-1718
Office Fax: 1-402-661-1719
Cell Phone: 1-202-641-0055
Email: Kurt_Kesteloot@nps.gov

Attention Federal Employees Only: Please let us know how we are doing by completing a survey found at: https://www.surveymonkey.com/s/NPS-OPH-CustServ

"The NPS One Health Network: promoting and protecting the health of all species and the parks that we share." GREEN DOT

On Tue, Jan 22, 2019 at 9:32 PM Said, Maria <maria_said@nps.gov> wrote:

Thanks Jessica.

I'll defer to Kurt and am also including Terry Paul from the Arkansas Dept of Health, as they can speak much better than I about the environmental assessment and how to optimize conditions moving forward.

And from me -- another thank you to Arkansas for all your assistance with the assessment and testing. It is very much appreciated.

Best,
Maria

On Tue, Jan 22, 2019 at 5:13 PM Smith, Jessica (CDC/DDID/NCIRD/DBD) <lyd7@cdc.gov> wrote:

Thanks so much for the update, Maria! That is certainly reassuring.

I chatted with Jasen and Troy about this on the EH side, and we were wondering in general (b)(5) (b)(5) If so, were there any recommendations (b)(5) (b)(5)

Depending (b)(5) (b)(5) (b)(5) you might consider (b)(5) (b)(5) Happy to discuss further anytime if needed.

Thanks again,
Jessica

From: Said, Maria <maria_said@nps.gov>
Sent: Monday, January 21, 2019 11:16 AM
To: Smith, Jessica (CDC/DDID/NCIRD/DBD) <lyd7@cdc.gov>
Cc: Haselow, Dirk (CDC arkansas.gov) <dirk.haselow@arkansas.gov>; Kurt Kesteloot <kurt_kesteloot@nps.gov>; Lee, Sooji (CDC/DDID/NCIRD/DBD) (CTR) <npf3@cdc.gov>
Subject: Re: [EXTERNAL] Checking in re: Hot Springs

Hi Jessica,

We've received results that are all negative for Legionella. We have told the Quapaw they can resume normal operations.

Thanks very much for your help with this - it is much appreciated.

And we will be in touch if there are any new developments.

Best,

Maria

On Fri, Jan 18, 2019 at 3:00 PM Said, Maria <maria_said@nps.gov> wrote:

> Hi Jessica,
>
> During the assessment, a group collected 6 liter samples (one at the cooling tower, one at the cold water pumping/gravity station, and 4 at the bathhouse) and 9 swabs. Results are still pending.
>
> I'm very grateful for your offer to assist and will let you know when we learn more.
>
> Best,
>
> Maria
>
> On Fri, Jan 18, 2019 at 2:54 PM Smith, Jessica (CDC/DDID/NCIRD/DBD) <lyd7@cdc.gov> wrote:
>
> > Hi Maria, Dirk and Kurt,

I wanted to check in this week about how the on-site assessment went in Hot Springs and whether the environmental results have come back or not. I don't mean to add to anyone's plate… we were just curious to hear if there are any updates. And of course we remain standing by if there's anything we can do to be of assistance.

Thanks and hope you all have a good weekend,

Jessica

—

Jessica C. Smith, MPH

Epidemiologist | Centers for Disease Control and Prevention

NCIRD/DBD/Respiratory Diseases Branch

404.718.5205 lyd7@cdc.gov

--

Maria Said, MD, MHS | CDR, U.S. Public Health Service
Epidemiology Branch Chief | Office of Public Health | National Park Service
Address: 1849 C. Street, NW, Room 2543, Mailstop 2560 | Washington, DC 20240

Office Tel: 202-513-7151 | Email: maria_said@nps.gov

Website (public): https://www.nps.gov/orgs/1878/index.htm

Website (internal): https://sites.google.com/a/nps.gov/in2-protect-and-promote-health/home/disease-surveillance-response

--

Maria Said, MD, MHS | CDR, U.S. Public Health Service
Epidemiology Branch Chief | Office of Public Health | National Park Service
Address: 1849 C. Street, NW, Room 2543, Mailstop 2560 | Washington, DC 20240

Office Tel: 202-513-7151 | Email: maria_said@nps.gov

Website (public): https://www.nps.gov/orgs/1878/index.htm

Website (internal): https://sites.google.com/a/nps.gov/in2-protect-and-promote-health/home/disease-surveillance-response

--
Maria Said, MD, MHS | CDR, U.S. Public Health Service
Epidemiology Branch Chief | Office of Public Health | National Park Service
Address: 1849 C. Street, NW, Room 2543, Mailstop 2560 Washington, DC 20240
Office Tel: 202-513-7151 | Email: maria_said@nps.gov
Website (public): https://www.nps.gov/orgs/1878/index.htm
Website (internal): https://sites.google.com/a/nps.gov/in2-protect-and-promote-health/home/disease-surveillance-response

Turner, Ramona <ramona_turner@nps.gov>

Final Response to Freedom of Information Act (FOIA) Request Number 2019-0840, Legionella Case Investigation

1 message

Turner, Ramona <ramona_turner@nps.gov> Tue, May 7, 2019 at 10:28 AM
To: seanior@sbcglobal.net

OFFICIAL CORRESPONDENCE SENT VIA ELECTRONIC MAIL
National Park Service
Midwest Region
601 Riverfront Drive
Omaha, Nebraska 68102

NO HARD COPY TO FOLLOW

May 7, 2019

9.C.(MWR-LCPP/FOIA)

Ms. Janice Watkins
1184 East Nichols Road, Unit 6B
Palatine, Illinois 60074

Reference: Hot Springs National Park

Subject: Final Response to Freedom of Information Act (FOIA) Request Number 2019-0840, Legionella Case Investigation

Dear Ms. Watkins:

This letter is in final response to your Freedom of Information Act (FOIA) request dated April 18, 2019. You requested the following information:

> *"I am requesting copies of all findings for the Legionella case investigation regarding myself beginning July 2018 to present at the Quapaw Bath & Spa in Hot Springs, Ar."*

Upon further review, your request is granted in full. We are releasing and have attached 1 file in its entirety, containing 24 page of responsive material. This material consists of an Environmental Assessment of the Quapaw Bath & Spa, dated August 23, 2018; and email conversation between Hot Springs National Park (park) and National Park Service Public Health officials, regarding Legionella.

The park also informed me that water testing was done on all thermal water outlets bathhouses and outside fountains; all results were negative. This testing was conducted in January 2019. Federally mandated water testing is routinely performed.

Please do not hesitate to contact me with any further questions or concerns. I can be reached at the address above, by phone at 402-312-2521, or via email at ramona turner@nps.gov.

Sincerely,

Ramona K. Turner
Midwest Region FOIA Officer

Attachment

~~~~~~~~~~~~~~~~~~~~~~~~~~

Ramona K. Turner
Freedom of Information Act Officer
Midwest Region
National Park Service
Midwest Region
601 Riverfront Drive
Omaha, Nebraska 68102

| ☎: 402-312-2521 | 🖷: 402-661-1737

Ramona_Turner@nps.gov

~~~~~~~~~~~~~~~~~~~~~~~~~~

Responsive Documents.pdf
4745K

Re: HOSP Quapaw Baths legionella : [EXTERNAL] New FOIA request received from Whitney Johnson

Horn, Patricia A. <Tricia_Horn@nps.gov>

Wed 7/15/2020 9:51 AM

To: Koopmeiners, Sheila M <Sheila_Koopmeiners@nps.gov>
Cc: Miller, Laura A. <Laura_A_Miller@nps.gov>; Kesteloot, Kurt <Kurt_Kesteloot@nps.gov>

Sheila,
This last bit is the last of the FOIA information that was requested. This should answer the question:
1. Any and all safety procedures, statutory requirements, and reporting requirements, for legionella outbreaks at Hot Springs National Park, including but not limited Quapaw Baths & Spa;

the park has developed a water management plan and all users/businesses were also required to develop a water management plan. Due to the security of the water system, this document is considered sensitive information and not public information.

If you need anything else -- please let us know.

Thanks,
Tricia

Tricia Horn
Management & Program Analyst
Hot Springs National Park
101 Reserve St.
Hot Springs, AR 71901

Phone: 501-620-6730
Fax: 501-624-1037
Website: http://www.nps.gov/hosp

tricia_horn@nps.gov

From: Horn, Patricia A. <Tricia_Horn@nps.gov>
Sent: Wednesday, July 15, 2020 9:17 AM
To: Koopmeiners, Sheila M <Sheila_Koopmeiners@nps.gov>
Cc: Miller, Laura A. <Laura_A_Miller@nps.gov>; Kesteloot, Kurt <Kurt_Kesteloot@nps.gov>
Subject: Fw: HOSP Quapaw Baths legionella : [EXTERNAL] New FOIA request received from Whitney Johnson

Sheila,

Attached is the Lease for the Quapaw. we don't have any additional information concerning the FOIA requests.

Tricia

Tricia Horn
Management & Program Analyst
Hot Springs National Park
101 Reserve St.
Hot Springs, AR 71901

Phone: 501-620-6730
Fax: 501-624-1037
Website: http://www.nps.gov/hosp

tricia_horn@nps.gov

From: Horn, Patricia A. <Tricia_Horn@nps.gov>
Sent: Wednesday, July 15, 2020 9:12 AM
To: Simmons, Tracy R. <Tracy_Simmons@nps.gov>
Cc: Miller, Laura A. <Laura_A_Miller@nps.gov>; Kesteloot, Kurt <Kurt_Kesteloot@nps.gov>; Koopmeiners, Sheila M <Sheila_Koopmeiners@nps.gov>
Subject: Re: HOSP Quapaw Baths legionella : [EXTERNAL] New FOIA request received from Whitney Johnson

ok thanks, I will send a copy to Sheila

Tricia Horn
Management & Program Analyst
Hot Springs National Park
101 Reserve St.
Hot Springs, AR 71901

Phone: 501-620-6730
Fax: 501-624-1037
Website: http://www.nps.gov/hosp

tricia_horn@nps.gov

From: Simmons, Tracy R. <Tracy_Simmons@nps.gov>
Sent: Wednesday, July 15, 2020 9:11 AM
To: Horn, Patricia A. <Tricia_Horn@nps.gov>
Cc: Miller, Laura A. <Laura_A_Miller@nps.gov>; Kesteloot, Kurt <Kurt_Kesteloot@nps.gov>; Koopmeiners, Sheila M <Sheila_Koopmeiners@nps.gov>
Subject: Re: HOSP Quapaw Baths legionella : [EXTERNAL] New FOIA request received from Whitney Johnson

Good morning Tricia.

Yes, the lease is considered a public document and can be released.

Thank you,
Tracy

From: Horn, Patricia A. <Tricia_Horn@nps.gov>
Sent: Wednesday, July 15, 2020 8:43 AM
To: Simmons, Tracy R. <Tracy_Simmons@nps.gov>
Cc: Miller, Laura A. <Laura_A_Miller@nps.gov>; Kesteloot, Kurt <Kurt_Kesteloot@nps.gov>; Koopmeiners, Sheila M <Sheila_Koopmeiners@nps.gov>
Subject: Fw: HOSP Quapaw Baths legionella : [EXTERNAL] New FOIA request received from Whitney Johnson

Tracy,

We have a FOIA request concerning the Quapaw and the legionella cases going back to January 2017. We have already submitted prior information for this and now it seems they are asking for the Quapaw Lease and any safety actions that have been taken.

Can we give the lease out under FOIA?

Kurt - can we give them the Water Management Plans for the Quapaw?

T

Tricia Horn
Management & Program Analyst
Hot Springs National Park
101 Reserve St.
Hot Springs, AR 71901

Phone: 501-620-6730
Fax: 501-624-1037
Website: http://www.nps.gov/hosp

tricia_horn@nps.gov

From: Horn, Patricia A. <Tricia_Horn@nps.gov>
Sent: Wednesday, July 15, 2020 8:31 AM
To: Miller, Laura A. <Laura_A_Miller@nps.gov>; Kesteloot, Kurt <Kurt_Kesteloot@nps.gov>; Koopmeiners, Sheila M <Sheila_Koopmeiners@nps.gov>
Subject: Re: HOSP Quapaw Baths legionella : [EXTERNAL] New FOIA request received from Whitney Johnson

I believe you are correct -- all the information concerning the Legionella case has been submitted. The only thing left that I do not know about is

1. Any and all safety procedures, statutory requirements, and reporting requirements, for legionella outbreaks at Hot Springs National Park, including but not limited Quapaw Baths & Spa; 2. Any and all contracts and/or agreements, including leases, (with attachments/exhibits) between the National Park Service and Quapaw Baths & Spa; 3. Any and all contracts and/or agreements, including leases, (with attachments/exhibits) between the National Park Service and Quapaw Baths, LLC; 4. Any and all contracts and/or agreements, including leases, (with attachments/exhibits) between the National Park Service and C. Anthony Taylor; 5. Any and all contracts and/or agreements, including leases, (with attachments/exhibits) between the Hot Springs National Park and Quapaw Baths & Spa; 6. Any and all contracts and/or agreements, including leases, (with attachments/exhibits) between the Hot Springs National Park and Quapaw Baths, LLC; and 7. Any and all contracts and/or agreements, including leases, (with attachments/exhibits) between the Hot Springs National Park and C. Anthony Taylor."

Are they asking for the Quapaw Lease and water management plans for Park and Quapaw? I have not sent any of these to Sheila. But did tell her we have no other information about the case.

Tricia Horn
Management & Program Analyst
Hot Springs National Park
101 Reserve St.
Hot Springs, AR 71901

Phone: 501-620-6730
Fax: 501-624-1037
Website: http://www.nps.gov/hosp

tricia_horn@nps.gov

From: Miller, Laura A. <Laura_A_Miller@nps.gov>
Sent: Wednesday, July 15, 2020 8:24 AM
To: Kesteloot, Kurt <Kurt_Kesteloot@nps.gov>; Horn, Patricia A. <Tricia_Horn@nps.gov>
Subject: Re: HOSP Quapaw Baths legionella : [EXTERNAL] New FOIA request received from Whitney Johnson

I know we received one FOIA request for information about Legionella and I think Dr. Said helped respond. I think this is a FOIA to find out how many people have FOIA'd the information, if that makes sense. Is that correct, Tricia?

Laura A. Miller
Superintendent
Hot Springs National Park
101 Reserve Street
Hot Springs, AR 71901
501.623.2824
870.302.9250 (cell)
501.624.1037 (fax)
www.nps.gov/hosp

From: Kesteloot, Kurt <Kurt_Kesteloot@nps.gov>
Sent: Wednesday, July 15, 2020 7:56 AM
To: Miller, Laura A. <Laura_A_Miller@nps.gov>; Horn, Patricia A. <Tricia_Horn@nps.gov>
Subject: Re: HOSP Quapaw Baths legionella : [EXTERNAL] New FOIA request received from Whitney Johnson

Good Morning Laura,

I'm not sure what is being asked here. I do not have anything additional that the Park would not have and nothing was sent to a personal email.

Thank You and Very Respectfully,

Kurt

CDR Kurt Kesteloot, PE, CPH, USPHS
Supervisory Public Health Consultant, Interior Regions 3, 4, and 5
National Park Service, Office of Public Health, Field Services Branch Team Lead
601 Riverfront Dr.
Omaha, NE 68102

Office Phone: 402-661-1718
Office Fax: 402-661-1719
Work Cell Phone: 202-641-0055

From: Miller, Laura A. <Laura_A_Miller@nps.gov>
Sent: Sunday, July 5, 2020 10:43 AM
To: Horn, Patricia A. <Tricia_Horn@nps.gov>; Kesteloot, Kurt <Kurt_Kesteloot@nps.gov>
Subject: Re: HOSP Quapaw Baths legionella : [EXTERNAL] New FOIA request received from Whitney Johnson

No, we probably don't. Kurt would you, Dr. Said, or Captain Newman have the information on this?

Laura A. Miller
Superintendent
Hot Springs National Park
101 Reserve Street
Hot Springs, AR 71901
501.623.2824
870.302.9250 (cell)
501.624.1037 (fax)
www.nps.gov/hosp

From: Horn, Patricia A. <Tricia_Horn@nps.gov>
Sent: Tuesday, June 30, 2020 6:54 AM
To: Kesteloot, Kurt <Kurt_Kesteloot@nps.gov>; Miller, Laura A. <Laura_A_Miller@nps.gov>
Subject: Fw: HOSP Quapaw Baths legionella : [EXTERNAL] New FOIA request received from Whitney Johnson

I will be back in the office on Monday, July 6 and can work on this. I don't think I have much information on this case

T

Tricia Horn
Management & Program Analyst
Hot Springs National Park
101 Reserve St.
Hot Springs, AR 71901

Phone: 501-620-6730
Fax: 501-624-1037
Website: http://www.nps.gov/hosp

tricia_horn@nps.gov

From: Koopmeiners, Sheila M <Sheila_Koopmeiners@nps.gov>
Sent: Friday, June 26, 2020 10:46 AM
To: Horn, Patricia A. <Tricia_Horn@nps.gov>
Subject: FW: HOSP Quapaw Baths legionella : [EXTERNAL] New FOIA request received from Whitney Johnson

Hi Tricia,

I'm forwarding this FOIA. The requester is asking for:

"Pursuant to the Freedom of Information Act, MCL 15.231 et seq., we respectfully request copies of any and all previously received Freedom of Information Act requests received by your office from January 1, 2017 to present and your respective responses, in which information requested included or related to the following: 1. Any and all information requested in regard to Quapaw Baths & Spa; 2. Any and all information requested in regard to Quapaw Baths, LLC; 3. Any and all information requested in regard to the investigation of the diagnosis of legionella bacteria and/or legionella outbreak concerning Kathy Douglas DOB: 2/18/1958 , 4. Any and all information requested in regard to legionella outbreaks at Quapaw Baths & Spa or legionella pneumonia being found in the water system at Quapaw Baths & Spa; 5. Any and all information requested in regard to legionella outbreaks at any entity located within Hot Springs National Park. 6. Any and all information related to FOIA No. NPS-2019-00840, dated April 17, 2019, including copy of original request and NPS response. In addition to previously requested FOIA material listed above, we also request the following documents that were/are in effect between January 1, 2017 to Present: 1. Any and all safety procedures, statutory requirements, and reporting requirements, for legionella outbreaks at Hot Springs National Park, including but not limited Quapaw Baths & Spa; 2. Any and all contracts and/or agreements, including leases, (with attachments/exhibits) between the National Park Service and Quapaw Baths & Spa; 3. Any and all contracts and/or agreements, including leases, (with attachments/exhibits) between the National Park Service and Quapaw Baths, LLC; 4. Any and all contracts and/or agreements, including leases, (with attachments/exhibits) between the National Park Service and C. Anthony Taylor; 5. Any and all contracts and/or agreements, including leases, (with attachments/exhibits) between the Hot Springs National Park and Quapaw Baths & Spa; 6. Any and all contracts and/or agreements, including leases, (with attachments/exhibits) between the Hot Springs National Park and Quapaw Baths, LLC; and 7. Any and all contracts and/or agreements, including leases, (with attachments/exhibits) between the Hot Springs National Park and C. Anthony Taylor."

I'm requesting a **reply-due date back to me of July 15, 2020**. This will allow time for my review, and obtain Regional Solicitor review, if required.

Attached is a FOIA Search Tracking Form to help you keep track of the time spent on searching for responsive records. Please let me know if you have any problems accessing this form.

As always, please let me know if you have <u>any</u> questions--I'm here to help the best I can!

From: Wilson, Charis <Charis_Wilson@nps.gov> On Behalf Of FOIA, NPS
Sent: Wednesday, June 24, 2020 4:33 PM
To: Koopmeiners, Sheila M <Sheila_Koopmeiners@nps.gov>
Cc: wjohnson@maileyglasser.com
Subject: HOSP Quapaw Baths legionella : [EXTERNAL] New FOIA request received from Whitney Johnson

Hi Sheila,

I am routing this request to you for processing. Let me know if it turns out another office needs to search for responsive records.

As usual I've cc'd the requester so they know who will be handling their request.

Thanks,

C.

Ms. Charis Wilson, PhD., CRM
NPS FOIA Officer
12795 W. Alameda Parkway
PO Box 25287
Denver, CO 80225-0287
303-969-2959
Fax: 303-969-2557
1-855-NPS-FOIA

Please send replies to this NPSFOIA@nps.gov Address

***** PLEASE NOTE Until further notice I will be unable to receive faxes, physical mail, or packages sent via Fed Ex or UPS as our office is closed. Please send materials electronically******

From: National.FOIAPortal@usdoj.gov <National.FOIAPortal@usdoj.gov> on behalf of National FOIA Portal <National.FOIAPortal@usdoj.gov>
Sent: Wednesday, June 24, 2020 2:00 PM
To: FOIA, NPS <npsfoia@nps.gov>
Subject: [EXTERNAL] New FOIA request received for National Park Service

Hello

A new FOIA request was submitted in the system [illegible]

The following list contains the entire submission [illegible] Date [illegible] and information for easier viewing and printing

Contact information

First name	[illegible]
Last name	[illegible]
Mailing Address	[illegible]
City	[illegible]
State/Province	[illegible]
Postal Code	[illegible]
Country	[illegible]
Phone	[illegible]
Fax	[illegible]
Company/Organization	Bailey & Glasser LLP
Email	wjohnson@baileyglasser.com

Request

Request ID	[illegible]
Confirmation ID	[illegible]
Request description	Pursuant to the Freedom of Information Act (FOIA), 5 U.S.C. § 552, as amended, respectfully request copies of any and all personally identifiable information (PII) collected by your office from January [illegible] to present and your responsive documents or which information requested included or related to the following: 1. Any and all information requested in regard to Quapaw Bains & Spas, 2. Any and all information requested in regard to Quapaw Bains, LLC, 3. Any and all information requested in regard to the investigation of the magnitude of [illegible] contamination in Quapaw Bains & Spas, 4. Any and all information requested in regard to the contamination found [illegible] 5. Any and all information requested in regard to Quapaw Bains & Spas, 6. Any and all information requested in regard to the water system at Quapaw Bains & Spas, 7. Any and all information requested in regard to [illegible] hot tanks at any entity located within the Saratoga National Park, 8. Any and all information related to FOIA No. NPS-2019-[illegible] dated June 17, 2019, including copy of original request and NPS response. In addition to previously

requested FOIA material listed above. We also request the following documents that were/are in effect between January 1, 2017 to Present: 1. Any and all safety procedures, statutory requirements, and reported requirements, for legionella outbreaks at Hot Springs National Park, including but not limited Quapaw Baths & Spa. 2. Any and all contracts and/or agreements, including leases, (with attachments/exhibits) between the National Park Service and Quapaw Baths & Spa. 3. Any and all contracts and/or agreements, including leases, (with attachments/exhibits) between the National Park Service and Quapaw Baths, LLC. 4. Any and all contracts and/or agreements, including leases, (with attachments/exhibits) between the National Park Service and C. Anthony Taylor. 5. Any and all contracts and/or agreements, including leases, (with attachments/exhibits) between the Hot Springs National Park and Quapaw Baths & Spa. 6. Any and all contracts and/or agreements, including leases, (with attachments/exhibits) between the Hot Springs National Park and Quapaw Baths, LLC; and 7. Any and all contracts and/or agreements, including leases, (with attachments/exhibits) between the Hot Springs National Park and C. Anthony Taylor. Should you deny any or all of this request, please cite each specific exemption you feel justifies the refusal to release the information and notify me of the appeal procedures available to me under the law. If you have any questions or would like to discuss any issue, please do not hesitate to contact me.

Supporting documentation

Fees

Request category ID	other
Fee waiver	no
Willing to pay	We are willing to pay a reasonable fee for the cost of reproducing these records. Please notify our office if cost is more than $100.

Expedited processing

Expedited Processing	yes
Explanation	The information being redacted is subject to a potential litigation and statutes of limitation. Failure to timely obtain and preserve could result in the spoliation of evidence.

Additional information

are_you_seeking_these_records_from_a_particular_park_refuge_site	National Park Service and Hot Springs National Park
are_you_submitting_this_request_on_behalf_of_another_party_	N/A.

Turner, Ramona <ramona_turner@nps.gov>

HOSP PA requests: FOIA from: Janice Watkins

1 message

FOIA, NPS <npsfoia@nps.gov> Thu, Apr 18, 2019 at 9:48 AM
To: Ramona Turner <ramona_turner@nps.gov>
Cc: seanior@sbcglobal.net

Hi Ramona,

I am routing this request to you for processing. Let me know if it turns out another office needs to search for responsive records.

As usual I've cc'd the requester so they know who will be handling their request.

Thanks,

C.

Ms. Charis Wilson, PhD, CRM
NPS FOIA Officer
12795 W. Alameda Parkway
PO Box 25287
Denver, CO 80225-0287
303-969-2959
Fax: 303-969-2557
1-855-NPS-FOIA
npsfoia@nps.gov

---------- Forwarded message ---------
From: **U.S. Department of the Interior** <doi-webforms@ios.doi.gov>
Date: Wed, Apr 17, 2019 at 5:30 PM
Subject: FOIA from: Janice Watkins
To: <npsfoia@nps.gov>

Submitted on Wednesday, April 17, 2019 - 7:30pm
Submitted by anonymous user: [10.156.8.158]
Submitted values are:
Your Name: Janice Watkins
Mailing Address: 1184 E Nichols Rd Unit 6B
City: Palatine
State or Country: Il
Zip or Postal Code: 60074
Address Type: Home
Daytime Phone Number: 847-220-2159
Fax Number:
E-mail Address: seanior@sbcglobal.net
Confirm E-mail Address : seanior@sbcglobal.net
Your Organization:
Are you filing the request on behalf of another party? No
If so, who are you filing the request on behalf of?
Contact Information Certification:
Bureau/Office: National Park Service (NPS)

Relevant park, refuge, site or other location: Quapaw Bath & Spa
Request Description: I am requesting copies of all findings for the Legionella case investigation regarding myself beginning July 2018 to present at the Quapaw Bath & Spa in Hot Springs, Ar.
Requester's Communication Preferences: Electronic communication via email
Document Disclosure Preferences: Electronic copies via email
Select the applicable reason why you are requesting expedited processing:
Justification for Expedited Processing:
Expedited Processing Certification:
Please select the appropriate statement: I agree to pay fees up to a particular amount (see my response below).
I agree to pay fees up to this particular amount: $5.00 if any charge
To assist in determining my requester category to assess fees, you should know that I am: an individual seeking information for personal use and not for commercial use
Affiliated Organization:
Check the boxes to the right to confirm that you meet the Department's fee waiver criteria:
Please explain why your request for a waiver of fees or a reduction in fees is justified.:

The results of this submission may be viewed at:
https://www.doi.gov/node/11498/submission/528167

HOTEL HALE

WATER MANAGEMENT PLAN

Purpose: The purpose of the Water Management Plan at Hotel Hale is to ensure that guests can enjoy the Thermal Water of the Hot Springs National Park in a safe, risk free manner.

Policy: Studies and onsite tests have determined that thermal water in regular use is the best deterrent to the growth of legionella bacteria. In that regard, if at any time hotel occupancy is nonexistent for a period of 2 consecutive days, flushing protocol will be instituted. Flushing Protocol consists of running thermal water lines a minimum of 30 minutes twice per day, once in the morning and once in the evening until occupancy occurs.

Overnight rooms may be alternated but only rooms at the most northern end of the facility (end of the thermal water lines) shall be utilized in this protocol. Consequently, overnight rooms shall include the Fordyce, Superior and the Lamar. Each of these rooms' soaking tubs have only one handle with a mixing valve which will allow the flushing of both the hot and cold thermal water lines at the same time.

Due to the new construction, all thermal water lines throughout the overnight rooms and at any point of dispensing is new pipe and thus not corrupted with age or lack of use.

Legionella Bacteria Testing will occur no less frequently than on a quarterly basis at the dead-end line furthest from the point of supply. Date and time will be coordinated with the Hot Springs National Park and other Park Partners. Should a positive result be obtained, remedial action will be implemented, such as increased flushing of lines, until a negative result is achieved.

Date: May 14, 2020

Horn, Patricia <tricia_horn@nps.gov>

Re: Legionnaire Case CDC (Arkansas)

1 message

Miller, Laura <laura_a_miller@nps.gov> Thu, Aug 23, 2018 at 2:55 PM
To: Maria Said <maria_said@nps.gov>
Cc: "Kesteloot, Kurt" <kurt_kesteloot@nps.gov>, David Kostamo <david_kostamo@nps.gov>, Mark Scott <mark_scott@nps.gov>, Patricia Horn <tricia_horn@nps.gov>, Subria Spencer <subria_spencer@partner.nps.gov>

Thank you all for your rapid response and assistance in this!

Laura

On Thu, Aug 23, 2018 at 1:08 PM, Maria Said <maria_said@nps.gov> wrote:
I heard back from the state heath department re the case report form -- they cannot share specific health information, but their form only asks about whirl pools, hot tubs, spas, humidifiers, breathing machines, oxygen, or showers. If we hear of another case, they would then drill down further to try and better understand common exposure sources.

On Thu, Aug 23, 2018 at 1:45 PM Maria Said <maria_said@nps.gov> wrote:
Here is the link to the ASHRAE Guidance on Legionella I mentioned on the phone -- https://www.ashrae.org/technical-resources/bookstore/ansi-ashrae-standard-188-2018-legionellosis-risk-management-for-building-water-systems

The CDC includes the ASHRAE Guidance on their website, as well as some other materials -- https://www.cdc.gov/legionella/resources/guidelines.html

Maria

On Thu, Aug 23, 2018 at 12:57 PM Maria Said <maria_said@nps.gov> wrote:
Here is a proposed agenda -- but we can adjust however you think best.
Maria

1. Introductions (Everyone)
2. Brief background on legionella (Maria)
2. Update from the park on any history with legionella, any concerns with the spa
3. Update on environmental assessment (David Kostamo) and any additional thoughts on the water system (Kurt)
3. Next steps in response (All)

On Thu, Aug 23, 2018 at 12:35 PM Kesteloot, Kurt <kurt_kesteloot@nps.gov> wrote:
Hi Maria,

No worries, talk to you soon.

Thank You and Very Respectfully,

Kurt

CDR Kurt Kesteloot, PE, BCEE, USPHS
Supervisory Public Health Consultant, Midwest Region
National Park Service,Office of Public Health (OPH),
601 Riverfront Drive
Omaha, NE 68102
Office Phone: 1-402-661-1718
Office Fax: 1-402-661-1719

Cell Phone: 1-202-641-0055
Email: Kurt_Kesteloot@nps.gov

Attention Federal Employees Only: Please let us know how we are doing by completing a survey found at: https://www.surveymonkey.com/s/NPS-OPH-CustServ

"The NPS One Health Network: promoting and protecting the health of all species and the parks that we share."

On Thu, Aug 23, 2018 at 11:33 AM, David Kostamo <david_kostamo@nps.gov> wrote:
Sounds good. Thank you Maria.
David

Sent from my iPhone

On Aug 23, 2018, at 11:30 AM, Maria Said <maria_said@nps.gov> wrote:

Sorry! I realized I made the meeting invite for 12pm central time rather than 1pm central -- I am actually free to meet at that earlier time, so if it's okay with everyone, let's keep the time listed in the calendar invite -- 12pm central, 1pm ET.
Talk to you all soon.
Maria

On Thu, Aug 23, 2018 at 9:50 AM Kostamo, David <david_kostamo@nps.gov> wrote:
Hi Maria,

Sounds good..talk to you then.

Thank you,
David

David Kostamo PE, RS, CP-FS
Public Health Consultant
National Park Service
Midwest Region
Office: (402) 661-1782
Cell: (202) 591-6449
601 Riverfront Dr.
Omaha, NE 68102
david_kostamo@nps.gov

Attention Federal Employees Only: Please let us know how we are doing by completing a survey found at: https://www.surveymonkey.com/s/NPS-OPH-CustServ

On Thu, Aug 23, 2018 at 8:31 AM, Maria Said <maria_said@nps.gov> wrote:
Hi David, I look forward to talking later this afternoon and hearing more about the park, the water system, and your environmental assessment. I just spoke with a state epidemiologist

who has had a lot of experience with Legionella, and based on our conversation, there is a good argument for possibly not pursuing legionella testing at this point. I will explain the rationale more when we talk this afternoon - and we can discuss together the next best steps forward.
Maria

Sent from my iPhone

On Aug 23, 2018, at 9:13 AM, Kostamo, David <david_kostamo@nps.gov> wrote:

> Good morning Kurt,
>
> I concur on inquiring if the person had contact with other park fountains/waterfalls would be helpful (hopefully the initial report covers all the places the person visited as a few are listed). I am not aware of contact information for the individual but we may be able to obtain from the State of Arkansas Health Department.
>
> Thank you,
>
> David
>
> David Kostamo PE, RS, CP-FS
> Public Health Consultant
> National Park Service
> Midwest Region
> Office: (402) 661-1782
> Cell: (202) 591-6449
> 601 Riverfront Dr.
> Omaha, NE 68102
> david_kostamo@nps.gov
>
> FIND YOUR PARK
>
> Attention Federal Employees Only: Please let us know how we are doing by completing a survey found at: https://www.surveymonkey.com/s/NPS-OPH-CustServ
>
> On Thu, Aug 23, 2018 at 6:56 AM, Kesteloot, Kurt <kurt_kesteloot@nps.gov> wrote:
>
> Good Morning David,
>
> I have attached the PHA pages from earlier this year that refer to water testing recommendations for the Quapaw and the rec water report. The facility agreed to test within 60 days. Today will mark 90 days from that inspection. With this recent finding and past lack of testing by this facility, I think we need to have a call with Quapaw and the park to determine steps forward. I would like to see the testing completed that was recommended and any testing needed after your assessment today.
>
> When seeking a lab here is what CDC recommends.
>
> Consultant Considerations | Legionella | CDC
>
> - **Laboratory expertise:** For example, is the laboratory they use accredited for environmental testing? Does it participate in a proficiency testing program for *Legionella*? Does their laboratory perform culture for

Legionella (which is particularly important following remediation to ensure adequacy of the remediation process)? What level of identification (species/serogroup) can their laboratory perform? Is their laboratory willing to save samples and isolates and share them with public health laboratories if requested during an outbreak investigation?

Thanks again for sharing the Legionella notice.

Here is another link that OSHA has for information: https://www.osha.gov/dts/osta/otm/legionnaires/sampling.html it is similar to the CDC information at: https://www.cdc.gov/legionella/health-depts/environmental-inv-resources.html.

Lastly, the park has several water fountains/waterfalls. Does anyone have contact information for the person that tested positive for Legionella? I think we should ask them if they drank and/or had contact with water at other locations in the park.

Thank You and Very Respectfully,

Kurt

CDR Kurt Kesteloot, PE, BCEE, USPHS
Supervisory Public Health Consultant, Midwest Region
National Park Service,Office of Public Health (OPH),
601 Riverfront Drive
Omaha, NE 68102
Office Phone: 1-402-661-1718
Office Fax: 1-402-661-1719
Cell Phone: 1-202-641-0055
Email: Kurt_Kesteloot@nps.gov

FIND YOUR PARK

Attention Federal Employees Only: Please let us know how we are doing by completing a survey found at: https://www.surveymonkey.com/s/NPS-OPH-CustServ

"The NPS One Health Network: promoting and protecting the health of all species and the parks that we share."

On Wed, Aug 22, 2018 at 4:09 PM, Kostamo, David <david_kostamo@nps.gov> wrote:

Hi Dr. Said,

HOSP (Hot Springs) park received a report (please see attached) from the CDC stating a diagnosed case of Legionnaires disease. In the report it states that one of the facilities visited by this person was the Quapaw Baths and Spa which is a concessionaire in a NPS facility. Today I met with Superintendent Laura Miller and staff. I recommended that the facility conduct some testing in response to the report. Could you provide some feedback on conducting the testing and any information about what tests would be recommended and/or who to contact for additional information and guidance. If you have any questions please contact me.

Thank you,

David

David Kostamo PE, RS, CP-FS
Public Health Consultant
National Park Service
Midwest Region
Office: (402) 661-1782
Cell: (202) 591-6449
601 Riverfront Dr.
Omaha, NE 68102
david_kostamo@nps.gov

Attention Federal Employees Only: Please let us know how we are doing by completing a survey found at: https://www.surveymonkey.com/s/NPS-OPH-CustServ

--
Maria Said, MD, MHS | CDR, U.S. Public Health Service
Epidemiology Branch Chief | Office of Public Health | National Park Service
Address: 1849 C. Street, NW, Room 2543, Mailstop 2560 | Washington, DC 20240
Office Tel: 202-513-7151 | Email: maria_said@nps.gov
Website (public): https://www.nps.gov/orgs/1878/index.htm
Website (internal): https://sites.google.com/a/nps.gov/in2-protect-and-promote-health/home/disease-surveillance-response

--
Maria Said, MD, MHS | CDR, U.S. Public Health Service
Epidemiology Branch Chief | Office of Public Health | National Park Service
Address: 1849 C. Street, NW, Room 2543, Mailstop 2560 | Washington, DC 20240
Office Tel: 202-513-7151 | Email: maria_said@nps.gov
Website (public): https://www.nps.gov/orgs/1878/index.htm
Website (internal): https://sites.google.com/a/nps.gov/in2-protect-and-promote-health/home/disease-surveillance-response

--
Maria Said, MD, MHS | CDR, U.S. Public Health Service
Epidemiology Branch Chief | Office of Public Health | National Park Service
Address: 1849 C. Street, NW, Room 2543, Mailstop 2560 | Washington, DC 20240
Office Tel: 202-513-7151 | Email: maria_said@nps.gov
Website (public): https://www.nps.gov/orgs/1878/index.htm
Website (internal): https://sites.google.com/a/nps.gov/in2-protect-and-promote-health/home/disease-surveillance-response

--

Maria Said, MD, MHS | CDR, U.S. Public Health Service
Epidemiology Branch Chief | Office of Public Health | National Park Service
Address: 1849 C Street, NW, Room 2543, Mailstop 2560 | Washington, DC 20240
Office Tel: 202-513-7151 | Email: maria_said@nps.gov
Website (public): https://www.nps.gov/orgs/1878/index.htm
Website (internal): https://sites.google.com/a/nps.gov/in2-protect-and-promote-health/home/disease-surveillance-response

--

Laura A. Miller
Superintendent
Hot Springs National Park
101 Reserve Street
Hot Springs, AR 71901
501.623.2824
870.302.9250 (cell)
501.624.1037 (fax)
www.nps.gov/hosp

FIND YOUR PARK

Horn, Patricia <tricia_horn@nps.gov>

Fwd: Legionnaire Case in Arkansas Update

1 message

Miller, Laura <laura_a_miller@nps.gov> Fri, Aug 24, 2018 at 3:53 PM
To: Patricia Horn <tricia_horn@nps.gov>, Mark Scott <mark_scott@nps.gov>

FYI.

---------- Forwarded message ----------
From: **Kesteloot, Kurt** <kurt_kesteloot@nps.gov>
Date: Thu, Aug 23, 2018 at 2:19 PM
Subject: Legionnaire Case in Arkansas Update
To: Duane Bubac <Duane_Bubac@nps.gov>, Sara Newman <sara_newman@nps.gov>, Tracy Simmons <tracy_simmons@nps.gov>
Cc: david kostamo <david_kostamo@nps.gov>, "Said, Maria" <maria_said@nps.gov>, "Miller, Laura" <laura_a_miller@nps.gov>

Good Afternoon,

We had a great discussion at noon today with Dr. Said, HOSP Management, and etc. Thank you to LCDR Kostamo for on the ground work and CDR Maria Said for further research.

We cannot confirm that Legionella was transmitted at HOSP Quawpaw. We cannot confirm if or where it happened at HOSP. There are many potential locations where a legionella environment could occur in the Park and nearby. With research from Dr. Said, it is advised that we do not do environmental testing until we have a cluster of cases. If we find out about another case, we will be able to ask more questions to determine if they are linked and where it may have happened.

Meanwhile, the NPS OPH will continue to work with HOSP on minimizing risk for Legionella and other recreational water concerns. I recommended testing for the Quapaw in May of this year and they were given 60 days to comply. We are now at 90 days and the Park is assisting them to help conduct recommended pool/spa water quality testing.

OPH will also be talking to the Park more about disinfecting the thermal water at HOSP. Currently the water temperature ranges from 143 degrees Fahrenheit to 146 degrees Fahrenheit (F). The food code requires food to be held at 135F. Thus, the park has been operating under the requirement that all thermal water that is potable must leave the spigots at 135F. There are several other areas where visitors can be exposed to aerosolized water that is non potable. We are talking about providing disinfection for those waters to help reduce risk of Legionella. It is also important to note this is the only confirmed case of Legionnaire that we have heard about for HOSP since 2010.

I will update as we find out more information and welcome any questions, comments, or concerns.

Thank You and Very Respectfully,

Kurt

CDR Kurt Kesteloot, PE, BCEE, USPHS
Supervisory Public Health Consultant, Midwest Region
National Park Service,Office of Public Health (OPH),
601 Riverfront Drive
Omaha, NE 68102
Office Phone: 1-402-661-1718
Office Fax: 1-402-661-1719
Cell Phone: 1-202-641-0055
Email: Kurt_Kesteloot@nps.gov

Attention Federal Employees Only: Please let us know how we are doing by completing a survey found at: https://www.surveymonkey.com/s/NPS-OPH-CustServ

"The NPS One Health Network: promoting and protecting the health of all species and the parks that we share."

--

Laura A. Miller
Superintendent
Hot Springs National Park
101 Reserve Street
Hot Springs, AR 71901
501.623.2824
870.302.9250 (cell)
501.624.1037 (fax)
www.nps.gov/hosp

Horn, Patricia <tricia_horn@nps.gov>

Fwd: Legionella Environmental Assessment (Quapaw Bath & Spa)

1 message

Miller, Laura <laura_a_miller@nps.gov> Thu, Apr 18, 2019 at 11:21 AM
To: Patricia Horn <tricia_horn@nps.gov>

---------- Forwarded message ---------
From: **Kesteloot, Kurt** <kurt_kesteloot@nps.gov>
Date: Mon, Aug 27, 2018 at 6:16 AM
Subject: Re: Legionella Environmental Assessment (Quapaw Bath & Spa)
To: Kostamo, David <david_kostamo@nps.gov>
Cc: Laura Miller <laura_a_miller@nps.gov>, Said, Maria <maria_said@nps.gov>

Good Morning!

Thanks Maria and David.

David,

I notice #25 says the lowest recorded temperature was 109 Deg. F. That is too high. The highest temperature should be 104 Deg. F. Sid knows that. Can you please reflect that in your report when you send to the park?

Thank You and Very Respectfully,

Kurt

CDR Kurt Kesteloot, PE, BCEE, USPHS
Supervisory Public Health Consultant, Midwest Region
National Park Service,Office of Public Health (OPH),
601 Riverfront Drive
Omaha, NE 68102
Office Phone: 1-402-661-1718
Office Fax: 1-402-661-1719
Cell Phone: 1-202-641-0055
Email: Kurt_Kesteloot@nps.gov

Attention Federal Employees Only: Please let us know how we are doing by completing a survey found at: https://www.surveymonkey.com/s/NPS-OPH-CustServ

"The NPS One Health Network: promoting and protecting the health of all species and the parks that we share."

On Fri, Aug 24, 2018 at 3:20 PM, Kostamo, David <david_kostamo@nps.gov> wrote:
Hi Laura and Maria,

Here (attached) is the Legionella Environmental Assessment for the Quapaw Bath and Spa. If you have any questions please contact me.

Thank you,

David

David Kostamo PE, RS, CP-FS
Public Health Consultant
National Park Service
Midwest Region
Office: (402) 661-1782
Cell: (202) 591-6449
601 Riverfront Dr.
Omaha, NE 68102
david_kostamo@nps.gov

Attention Federal Employees Only: Please let us know how we are doing by completing a survey found at: https://www.surveymonkey.com/s/NPS-OPH-CustServ

--

Laura A. Miller
Superintendent
Hot Springs National Park
101 Reserve Street
Hot Springs, AR 71901
501.623.2824
870.302.9250 (cell)
501.624.1037 (fax)
www.nps.gov/hosp

LEGIONELLA ENVIRONMENTAL ASSESSMENT FORM

Persons completing the assessment:

Name: CDR David Kostamo Job Title: Public Health Consultant Organization: NPS

Telephone: 402 661 1782 E-mail: david_kostamo@nps.gov

Name: _____ Job Title: _____ Organization: _____

Telephone: _____ E-mail: _____

Assessment details:

Facility Name: Qua Paw Bath & Spa Date of Assessment: 8/23/18

Facility Address: 413 Central Ave Hot Springs AR 71901
street city state zip

Person(s) interviewed during assessment:

Name: Sid Kennedy Job Title: Maintenance Director

Name: _____ Job Title: _____

Name: _____ Job Title: _____

Facility Characteristics

1. Is this a healthcare facility or senior living facility with skilled nursing care (e.g., hospital, long term care/rehab/assisted living/ skilled nursing facility, or clinic)?

   ☐ YES → If yes, skip to Q.3 & also complete Appendix A.

   ☒ NO

2. If NO, indicate type of facility (check all that apply):

   ☐ Senior living facility (e.g., retirement home without skilled nursing care)

   ☐ Other residential building (e.g., apartment, condominium)

   ☐ Hotel, motel, or resort

   ☐ Recreational facility (e.g., health club, water park)

   ☐ Office building

   ☐ Manufacturing facility

   ☐ Restaurant

   ☒ Other Health & Beauty Spa

3. Total number of buildings on campus: 1 Total number of buildings being assessed: 1

4. Total number of rooms that can be occupied overnight (e.g., patient rooms, hotel rooms): 0

NA Does occupancy vary throughout the year? ☐ YES ☐ NO

   If YES, seasons with lowest occupancy (check all that apply):

   ☐ Winter ☐ Spring ☐ Summer ☐ Fall

NA 6. Are any occupant rooms taken out of service during specific parts of the year, e.g., low season?

   ☐ YES ☐ NO

   If YES, which rooms? _____

NB 7. Average length of stay for occupants (check one):

☐ 1 night ☐ 2-3 nights ☐ 4-7 nights ☐ >7 nights

8. Does the facility have emergency water systems (e.g., fire sprinklers, safety showers, eye wash stations)?

☒ YES ☐ NO

If YES, are these systems regularly tested (i.e., sprinkler head flow tests)? ☒ YES ☐ NO

If YES, how often and when was the last test? Sprinkler system

9. Are there any cooling towers or evaporative condensers on the facility premises?

☐ YES → If yes, also complete Appendix B.

☒ NO

10. Are there any whirlpool spas, hot tubs, or hydrotherapy spas on the facility premises?

☒ YES → If yes, also complete Appendix C.

☐ NO

11. Are there any decorative fountains, misters, water features, etc. on the facility premises?

☒ YES → If yes, also complete Section D.

☐ NO

12. Does the facility have centralized humidification (e.g., on air-handling units) or any room humidifiers?

☐ YES ☒ NO

If YES, describe their location and operation: _____

13. Has there been any recent (last 6 months) or ongoing major construction on or around the facility premises?

☐ YES → If yes, also complete Appendix E.

☒ NO

14. Has this facility been associated with a previous legionellosis cluster or outbreak?

☐ YES ☒ NO

If YES, please describe number of cases, dates, source if found, and any interventions (immediate and long-term) to prevent recurrence: _____

15. Does the facility have a water safety plan or *Legionella* prevention program?

☐ YES ☒ NO

If YES, does the facility ever test for *Legionella* in water samples?

☐ YES → If yes, obtain copies of results ☐ NO

If YES, please describe the plan briefly here (does it include clinical disease surveillance and/or environmental *Legionella* surveillance?) and **obtain a written copy** of the program policy:

_____

16. Describe each building that shares water or air systems, including the main facility

Building Name (List main facility building first)	Original Construction	Later Construction (renovation, expansion)	Stories or Levels	Occupancy rate (%)*	Daily Census (yr. avg.)	Use (List all types of uses)
	Year Completed	From/To or "N/A"	#	Rate (%) or "N/A"	#/day or "N/A"	e.g., occupant rooms, utilities, heating/AC plant For healthcare, specify: Outpatient = O Inpatient (acute) = I Chronic = C Intensive care = ICU Transplant = Tx
1. Qua Paw Bath & Spa	1921	2008	3	N/A	N/A	Tourist Health Spa
2.						
3.						
4.						
5.						
6.						
7.						

*[occupancy rate = (# of rooms occupied overnight / total # of rooms) X 100]

Water Supply Source

17. What is the source of the water used by the facility? (Check all that apply)

☒ Municipal water if YES:

Name of supplier City of Hot Springs

How is the municipal water disinfected? (Check one) ☒ Chlorine ☐ Monochloramine ☐ Other _____

Has treatment of municipal water changed in the past year? ☐ YES ☒ NO

If YES, specify _____

☒ Non-municipal well if YES:

How is the well water disinfected? (Check one) ☒ Chlorine ☐ Other _____ ☐ Not disinfected

Is the water filtered onsite? ☒ YES ☐ NO

☒ Other Thermal Spring Water

18. Have there been any pressure drops, boil water advisories, or water disruptions (e.g., water main break) to the facility in the past 6 months? ☒ YES ☐ NO

If YES, describe what happened and which buildings or parts of buildings were affected: Pressure was low of a few hours on Monday August 20, 2018

19. Does the facility monitor incoming water parameters (e.g., residual disinfectant, temperature, pH)?

☐ YES → If yes, obtain copies of the logs ☒ NO

If YES, what is the range of disinfectant residual, temperature, and pH entering the facility? _____

Premise Plumbing System

Note: It is important to gain an understanding of where and how water flows, starting where it enters the facility and including its distribution to and through buildings to the points of use. Understand water processes, including but not limited to: heating, storage, filtration, UV irradiation, and addition of secondary disinfectants. Refer to a facility map and blueprints; *obtain copies of these and/or draw a diagram* and include with the completed assessment.

20. Are cisterns and/or water storage holding tanks used to store potable water before it's heated?

☐ YES ☒ NO

21. Is there a recirculation system (a system in which water flows continuously through the piping to ensure constant hot water to all endpoints) for the hot water?

☐ YES ☒ NO

If YES, please describe where it runs and delivery/return temperatures if they are measured: _____

22. Are thermostatic mixing valves used?

☒ YES ☐ NO

If YES, describe where they are located (ideally, mixing valves are close to the point of use): Individual tubs that use city water use thermostatic mixing values.

23. How is the hot water system configured to deliver hot water to each building?

Building name	Type of system (e.g., instantaneous heater, hot water heater with a storage tank, solar heating)	Name of system (e.g., Boiler #1, Loop #1)	Areas served (e.g., floor, rooms)	Date of installation	Total capacity (gallons)	Usual temperature setting (°F)
1. Qua Paw Bath & Spa	Thermal System	Thermal system	1st Floor 4 Spa Pools	1921	8700 gal 6250 gal 7250 gal 5200 gal	99-104°F
2.						
3.						
4.						
5.						
6.						
7.						

Comments/notes: _____

24. What is the maximum **hot** water temperature at the point of delivery permitted by state / local regulations? NPS

143° °F or _____ °C

25. Are **hot** water temperatures ever measured by the facility at the points of use?

☒ YES → If yes, obtain copies of the temperature logs

If YES, what is the **lowest** documented **hot** water temperature measured at any point within the facility?

109° °F or _____ °C documented on (Month/Date/Year) ____/____/____ constant analog temp. recorder

☐ NO

26. Are **cold** water temperatures ever measured by the facility at the points of use?

☐ YES → If yes, obtain copies of the temperature logs

If YES, what is the **highest** documented **cold** water temperature measured at any point within the facility?

_____ °F or _____ °C documented on (Month/Date/Year) ____/____/____

☒ NO

27. Are the potable water disinfectant levels (e.g., chlorine) ever measured by the facility at the points of use?

☒ YES → If yes, obtain copies of the logs

If YES, how often are they measured? 4 times per day

If YES, list the range of disinfectant residuals 1-3 mg/L Cl residual

☐ NO

28. Does the facility have a supplemental disinfection system for long term control of *Legionella* or other microorganisms?

☐ YES ☒ NO

If YES, obtain SOPs for routine use and maintenance as well as maintenance logs and records of disinfection levels, and complete the table:

Buildings with supplemental disinfection	Type of system (e.g., chlorine, chlorine dioxide, copper-silver)	Date installed	Describe any maintenance in the past year (include routine and emergency)

Comments/Notes: _____

29. Please describe any maintenance (either routine or emergency) carried out on the potable water system in the past year. Obtain records/SOPs if available. Water heater was repaired spring 2018.

30. Measured Water System Parameters (see instructions on p. 1)

Copy from table for question 23 (p. 6)		Part of system	Sampling site	Free chlorine	pH	Maximum measured temperature	Time to reach max temp
Building name	Name of system (e.g., incoming water, Boiler #1, Loop #1)	(Central heater/ boiler=C Proximal occupant room=P Distal occupant room=D)	(e.g., heater #1 hot water tap in room #436)	(ppm)		(°F)	(min)
Quapaw Bath & spa	Spa Pools Left		Left Pool	ORP 630 3.00 mg/L	9.6	—	—
"	" Right		Right Pool	ORP 630	9.0	—	—
"	" Upper		Upper Pool	ORP 605	9.4	—	—
"	" Center		Center Pool	ORP 635	8.8	—	—

APPENDIX A. HEALTHCARE FACILITIES N/A

Note: Complete for all healthcare facilities, including but not limited to hospitals, long term care/rehab/assisted living/skilled nursing facilities, or clinics.

1. Type of healthcare facility (check all that apply):
   - ☐ Acute care hospital

     If YES, does the facility have a solid organ or bone marrow transplant program?

     ☐ YES ☐ NO
   - ☐ Long term care facility (i.e., nursing home, long term acute care)
   - ☐ Rehabilitation facility or other skilled nursing care
   - ☐ Assisted living facility
   - ☐ Outpatient surgical center
   - ☐ Other outpatient clinic (describe): _____
   - ☐ Other healthcare facility (describe): _____
2. Number of beds: _____
3. Are ice machines used to provide ice for patient consumption or processing medical equipment?

   ☐ YES ☐ NO

   If YES, list manufacturer and model or catalog number: _____
4. Has this facility experienced previous Legionnaires' disease cases that were "possibly" or "definitely" facility-acquired?

   ☐ YES ☐ NO

   If YES, describe (e.g., number of cases, dates): _____

APPENDIX B. COOLING TOWERS AND EVAPORATIVE CONDENSERS

N/A

Note: It is important to gain an understanding of where the cooling towers are located, how they work, and how they are maintained. Cooling towers are frequently maintained by an outside contractor, and you may need to contact them directly if facility management does not have an in-depth knowledge of these systems. Request copies of the maintenance logs.

1. List all cooling towers and evaporative condensers on the facility premises:

Name of device (e.g., CT1)	Date installed	Manufacturer	Location of device	Distance to nearest air intake*/location of the air intake/ passive or forced	Drift eliminators used? (Y/N)	Party responsible for maintenance

*intakes to air handling units (AHUs)

2. List details of how each cooling tower is chemically disinfected:

Name of device from Table 1 (e.g., CT1)	List type/name of bactericide(s) used	Range in which the bactericide(s) is regularly maintained (e.g., 5–10 ppm)	Schedule and method of adding bactericide (e.g., daily, weekly, as needed, automatic, by hand)	Are cooling towers turned off at any time? (e.g., seasonally) (Y/N) If yes, include schedule

3. List recent (last 6 months) special (non-routine) treatments, maintenance, or repairs to cooling devices: N/A

Name of device from Table 1 (e.g., CT1)	Action taken	Date	Comments

NA Does the cooling tower water come from a branch of the potable water system inside the facility?

☐ YES ☐ NO

If YES, are backflow prevention devices in place to ensure cooling tower water is not introduced into the potable water system?

☐ YES ☐ NO

If NO, what is the source of water for the cooling towers and evaporative condensers? _____

5. Can any windows in any occupant rooms or common areas be opened? ☒ YES ☐ NO

If YES, describe which rooms or which buildings have windows that can be opened: these windows (offices and building) Can be open but are never opened

APPENDIX C. WHIRLPOOL SPAS, HOT TUBS, AND HYDROTHERAPY SPAS

Note: Do NOT complete Appendix C for Jacuzzis or whirlpool baths that are filled from the tap and drained after each use. In many jurisdictions, whirlpool spas are publicly permitted and inspected by the local health authority. An environmental health specialist with expertise in pool and spa inspection should participate in assessment of spas and will be aware of local regulations and enforcement powers, as well as have access to a pool sampling kit. Request copies of the last inspection report as well as routine maintenance logs.

1. Who performs the spa maintenance (e.g., on-site facilities management, name of outside contractor)? Sid Kennedy
2. Describe each whirlpool spa and how it is disinfected:

Spa Questions	Spa Description/Location (e.g., main pool, private room #)			
Indoor or outdoor?	1 Left	2 right	3 upper	4 Center
Max. bather load				
Filter type S = sand DE = diatomaceous earth, C = cartridge	DE	DE	DE	DE
Date filter was last changed	Manual backwash @ 30psi (≈ every 7-10 days)			
Date of last filter backwash				
Compensation tank present?	Expansion tank of closed boiler system			
Type of disinfectant used (include chemical name, formulation, and amount used)				
Current measured disinfectant level (e.g., free chlorine, bromine) (ppm)	3.00ppm	Not tested	not tested	not tested
Current measured pH	9.6	9.0	9.4	8.8
Method used for adding disinfectant (e.g., automatic feeder, by hand)	Automatic chemical pump	Same	Same	Same
Method used for monitoring and maintaining disinfectant and pH levels (e.g., automatic controllers)	ORP monitor	ORP monitor	ORP monitor	ORP monitor
Date last drained and scrubbed	8/21/18	8/21/18	8/21/18	8/21/18
Was there a recent disinfectant "shock" treatment?	NO	NO	NO	NO
Operating as designed and in good repair?				
If no, describe issues.	Yes	Yes	Yes	Yes

APPENDIX D. OTHER WATER FEATURES

Note: Complete for decorative fountains, water walls, recreational misters, etc. This can also be modified for industrial use water. If SOPs and/or maintenance logs exist, request copies.

Water Feature Questions	Water Feature Descriptor/Location (e.g., lobby fountain, cabana misters)
	Wall Fountain
Indoor or outdoor?	Indoor
Source of water	City Water
Operates continuously (C) or intermittently (I)	Continuously
Presence of a heat source? (e.g., incandescent lighting)	NO
Type of disinfectant used (include chemical name, formulation, and amount used)	chlorine
Current measured disinfectant level (e.g., free chlorine, bromine) (ppm)	N/A Broke at time of assessment
Current measured pH	N/A Broke at time of Assessment
Is there a maintenance protocol?	NO
Date last cleaned	8/24/18
Operating as designed and in good repair? If no, describe issues.	Yes

APPENDIX E. RECENT OR ONGOING MAJOR CONSTRUCTION None

1. Describe in general the extent of the construction: _____

2. Was temporary water service provided to the new construction area (i.e., separate meter)?

   ☐ YES ☐ NO

   If YES, describe: _____

3. Has jack-hammering or pile-driving been used during the construction process?

   ☐ YES ☐ NO

   If YES, list dates and locations: _____

4. Have there been disruptions or changes to the existing potable water system during the construction?

   ☐ YES ☐ NO

   If YES, describe: _____

5. Has the potable water changed in terms of taste or color during the construction process?

   ☐ YES ☐ NO

   If YES, describe the changes including when they started and ended: _____

6. Is there a standard operating procedure (SOP) for shutting down, isolating, and refilling/flushing for water service areas that have been subjected to repair and/or construction interruptions?

   ☐ YES ☐ NO

   If YES, briefly describe the steps used in the SOP (attach a copy if possible): _____

7. Was the potable water system flushed before occupying the new building space?

   ☐ YES ☐ NO

   If YES, what period of time passed between flushing and when the building was occupied? _____

8. Complete table on next page.

8. Complete the table below N/A

New Building/Wing Name or Remodeled Area	Date construction began	Estimated date of completion	Date water service began or restarted*	Relationship to existing potable water system Independent=I Extension of existing system=E	Stories and Square Feet Involved (# and Ft²)	Uses (e.g., rooms, dining, recreation, utilities) For healthcare: Inpatient = I Outpatient = O Both = B Intensive Care = ICU Transplant = Tx	Date occupants began occupying new or remodeled building	Floors currently occupied

*If remodeling of existing structure, include water shut-down date and re-start date.

Horn, Patricia <tricia_horn@nps.gov>

Fwd: Legionella Environmental Assessment (Quapaw Bath & Spa)

1 message

Miller, Laura <laura_a_miller@nps.gov> Thu, Apr 18, 2019 at 11:21 AM
To: Patricia Horn <tricia_horn@nps.gov>

---------- Forwarded message ---------
From: **Kesteloot, Kurt** <kurt_kesteloot@nps.gov>
Date: Mon, Aug 27, 2018 at 6:16 AM
Subject: Re: Legionella Environmental Assessment (Quapaw Bath & Spa)
To: Kostamo, David <david_kostamo@nps.gov>
Cc: Laura Miller <laura_a_miller@nps.gov>, Said, Maria <maria_said@nps.gov>

Good Morning!

Thanks Maria and David.

David,

I notice #25 says the lowest recorded temperature was 109 Deg. F. That is too high. The highest temperature should be 104 Deg. F. Sid knows that. Can you please reflect that in your report when you send to the park?

Thank You and Very Respectfully,

Kurt

CDR Kurt Kesteloot, PE, BCEE, USPHS
Supervisory Public Health Consultant, Midwest Region
National Park Service,Office of Public Health (OPH),
601 Riverfront Drive
Omaha, NE 68102
Office Phone: 1-402-661-1718
Office Fax: 1-402-661-1719
Cell Phone: 1-202-641-0055
Email: Kurt_Kesteloot@nps.gov

Attention Federal Employees Only: Please let us know how we are doing by completing a survey found at:
https://www.surveymonkey.com/s/NPS-OPH-CustServ

"The NPS One Health Network: promoting and protecting the health of all species and the parks that we share."

On Fri, Aug 24, 2018 at 3:20 PM, Kostamo, David <david_kostamo@nps.gov> wrote:
Hi Laura and Maria,

Here (attached) is the Legionella Environmental Assessment for the Quapaw Bath and Spa. If you have any questions please contact me.

Thank you,

David

David Kostamo PE, RS, CP-FS
Public Health Consultant
National Park Service
Midwest Region
Office: (402) 661-1782
Cell: (202) 591-6449
601 Riverfront Dr.
Omaha, NE 68102
david_kostamo@nps.gov

Attention Federal Employees Only: Please let us know how we are doing by completing a survey found at: https://www.surveymonkey.com/s/NPS-OPH-CustServ

--

Laura A. Miller
Superintendent
Hot Springs National Park
101 Reserve Street
Hot Springs, AR 71901
501.623.2824
870.302.9250 (cell)
501.624.1037 (fax)
www.nps.gov/hosp

LEGIONELLA ENVIRONMENTAL ASSESSMENT FORM

Persons completing the assessment:

Name: CDR David Kostamo Job Title: Public Health Consultant Organization: NPS

Telephone: 402 661 1782 E-mail: david_kostamo@nps.gov

Name: _____ Job Title: _____ Organization: _____

Telephone: _____ E-mail: _____

Assessment details:

Facility Name: Qua Paw Bath & Spa Date of Assessment: 8/23/18

Facility Address: 413 Central Ave (street) Hot Springs (city) AR (state) 71901 (zip)

Person(s) interviewed during assessment:

Name: Sid Kennedy Job Title: Maintenance Director

Name: _____ Job Title: _____

Name: _____ Job Title: _____

Facility Characteristics

1. Is this a healthcare facility or senior living facility with skilled nursing care (e.g., hospital, long term care/rehab/assisted living/ skilled nursing facility, or clinic)?
   - ☐ YES → If yes, skip to Q.3 & also complete Appendix A.
   - ☒ NO
2. If NO, indicate type of facility (check all that apply):
   - ☐ Senior living facility (e.g., retirement home without skilled nursing care)
   - ☐ Other residential building (e.g., apartment, condominium)
   - ☐ Hotel, motel, or resort
   - ☐ Recreational facility (e.g., health club, water park)
   - ☐ Office building
   - ☐ Manufacturing facility
   - ☐ Restaurant
   - ☒ Other Health & Beauty Spa
3. Total number of buildings on campus: 1 Total number of buildings being assessed: 1
4. Total number of rooms that can be occupied overnight (e.g., patient rooms, hotel rooms): 0

NA Does occupancy vary throughout the year? ☐ YES ☐ NO

If YES, seasons with lowest occupancy (check all that apply):

☐ Winter ☐ Spring ☐ Summer ☐ Fall

NA 6. Are any occupant rooms taken out of service during specific parts of the year, e.g., low season?

☐ YES ☐ NO

If YES, which rooms? _____

NA 7. Average length of stay for occupants (check one):

☐ 1 night ☐ 2-3 nights ☐ 4-7 nights ☐ >7 nights

8. Does the facility have emergency water systems (e.g., fire sprinklers, safety showers, eye wash stations)?

☒ YES ☐ NO

If YES, are these systems regularly tested (i.e., sprinkler head flow tests)? ☒ YES ☐ NO

If YES, how often and when was the last test? Sprinkler system

9. Are there any cooling towers or evaporative condensers on the facility premises?

☐ YES → If yes, also complete Appendix B.

☒ NO

10. Are there any whirlpool spas, hot tubs, or hydrotherapy spas on the facility premises?

☒ YES → If yes, also complete Appendix C.

☐ NO

11. Are there any decorative fountains, misters, water features, etc. on the facility premises?

☒ YES → If yes, also complete Section D.

☐ NO

12. Does the facility have centralized humidification (e.g., on air-handling units) or any room humidifiers?

☐ YES ☒ NO

If YES, describe their location and operation: _____

13. Has there been any recent (last 6 months) or ongoing major construction on or around the facility premises?

☐ YES → If yes, also complete Appendix E.

☒ NO

14. Has this facility been associated with a previous legionellosis cluster or outbreak?

☐ YES ☒ NO

If YES, please describe number of cases, dates, source if found, and any interventions (immediate and long-term) to prevent recurrence: _____

15. Does the facility have a water safety plan or *Legionella* prevention program?

☐ YES ☒ NO

If YES, does the facility ever test for *Legionella* in water samples?

☐ YES → If yes, obtain copies of results ☐ NO

If YES, please describe the plan briefly here (does it include clinical disease surveillance and/or environmental *Legionella* surveillance?) and **obtain a written copy** of the program policy:

_____

16. Describe each building that shares water or air systems, including the main facility

Building Name (List main facility building first)	Original Construction	Later Construction (renovation, expansion)	Stories or Levels	Occupancy rate (%)*	Daily Census (yr. avg.)	Use (List all types of uses)
	Year Completed	From/To or "N/A"	#	Rate (%) or "N/A"	#/day or "N/A"	e.g., occupant rooms, utilities, heating/AC plant For healthcare, specify: Outpatient = O Inpatient (acute) = I Chronic = C Intensive care = ICU Transplant = Tx
1. QuaPaw Bath & Spa	1921	2008	3	N/A	N/A	Tourist Health Spa
2.						
3.						
4.						
5.						
6.						
7.						

*[occupancy rate = (# of rooms occupied overnight / total # of rooms) X 100]

Water Supply Source

17. What is the source of the water used by the facility? (Check all that apply)

☒ **Municipal water** if YES:

Name of supplier City of Hot Springs

How is the municipal water disinfected? (Check one) ☒ Chlorine ☐ Monochloramine ☐ Other _____

Has treatment of municipal water changed in the past year? ☐ YES ☒ NO

If YES, specify _____

☒ **Non-municipal well** if YES:

How is the well water disinfected? (Check one) ☒ Chlorine ☐ Other _____ ☐ Not disinfected

Is the water filtered onsite? ☒ YES ☐ NO

☒ **Other** Thermal Spring Water

18. Have there been any pressure drops, boil water advisories, or water disruptions (e.g., water main break) to the facility in the past 6 months? ☒ YES ☐ NO

If YES, describe what happened and which buildings or parts of buildings were affected: Pressure was low of a few hours on Monday August 20, 2018

19. Does the facility monitor incoming water parameters (e.g., residual disinfectant, temperature, pH)?

☐ YES → If yes, obtain copies of the logs ☒ NO

If YES, what is the range of disinfectant residual, temperature, and pH entering the facility? _____

Premise Plumbing System

Note: It is important to gain an understanding of where and how water flows, starting where it enters the facility and including its distribution to and through buildings to the points of use. Understand water processes, including but not limited to: heating, storage, filtration, UV irradiation, and addition of secondary disinfectants. Refer to a facility map and blueprints; *obtain copies of these and/or draw a diagram* and include with the completed assessment.

20. Are cisterns and/or water storage holding tanks used to store potable water before it's heated?

☐ YES ☒ NO

21. Is there a recirculation system (a system in which water flows continuously through the piping to ensure constant hot water to all endpoints) for the hot water?

☐ YES ☒ NO

If YES, please describe where it runs and delivery/return temperatures if they are measured: _____

22. Are thermostatic mixing valves used?

☒ YES ☐ NO

If YES, describe where they are located (ideally, mixing valves are close to the point of use): Individual tubs that use city water use thermostatic mixing values.

23. How is the hot water system configured to deliver hot water to each building?

Building name	Type of system (e.g., instantaneous heater, hot water heater with a storage tank, solar heating)	Name of system (e.g., Boiler #1, Loop #1)	Areas served (e.g., floor, rooms)	Date of installation	Total capacity (gallons)	Usual temperature setting (°F)
1. Qua Paw Bath & Spa	Thermal System	Thermal system	1st Floor 4 spa Pools	1921	8700 gal 6250 gal 7250 gal 5200 gal	99-104°F
2.						
3.						
4.						
5.						
6.						
7.						

Comments/notes: _____

24. What is the maximum **hot** water temperature at the point of delivery permitted by state / local regulations? NPS

143° °F or _____ °C

25. Are **hot** water temperatures ever measured by the facility at the points of use?

☒ YES → If yes, obtain copies of the temperature logs

If YES, what is the **lowest** documented **hot** water temperature measured at any point within the facility?

109° °F or _____ °C documented on (Month/Date/Year) ____/____/____ constant analog temp. recorder

☐ NO

26. Are **cold** water temperatures ever measured by the facility at the points of use?

☐ YES → If yes, obtain copies of the temperature logs

If YES, what is the **highest** documented **cold** water temperature measured at any point within the facility?

_____ °F or _____ °C documented on (Month/Date/Year) ____/____/____

☒ NO

27. Are the potable water disinfectant levels (e.g., chlorine) ever measured by the facility at the points of use?

☒ YES → If yes, obtain copies of the logs

If YES, how often are they measured? 4 times per day

If YES, list the range of disinfectant residuals 1-3 mg/L Cl residual

☐ NO

28. Does the facility have a supplemental disinfection system for long term control of *Legionella* or other microorganisms?

☐ YES ☒ NO

If YES, obtain SOPs for routine use and maintenance as well as maintenance logs and records of disinfection levels, and complete the table:

Buildings with supplemental disinfection	Type of system (e.g., chlorine, chlorine dioxide, copper-silver)	Date installed	Describe any maintenance in the past year (include routine and emergency)

Comments/Notes: _____

29. Please describe any maintenance (either routine or emergency) carried out on the potable water system in the past year. Obtain records/SOPs if available. Water heater was repaired spring 2018.

30. Measured Water System Parameters (see instructions on p. 1)

Copy from table for question 23 (p. 6)		Part of system (Central heater/ boiler=C Proximal occupant room=P Distal occupant room=D)	Sampling site (e.g., heater #1, hot water tap in room #436)	Free chlorine (ppm)	pH	Maximum measured temperature (°F)	Time to reach max temp (min)
Building name	Name of system (e.g., incoming water, Boiler #1, Loop #1)						
Quapaw Bath & Spa	Spa Pools Left		Left Pool	ORP 630 3.00 mg/L	9.6	—	—
"	" Right		Right Pool	ORP 630	9.0	—	—
"	" Upper		Upper Pool	ORP 605	9.4	—	—
"	" Center		Center Pool	ORP 635	8.8	—	—

APPENDIX A. HEALTHCARE FACILITIES N/A

Note: Complete for all healthcare facilities, including but not limited to hospitals, long term care/rehab/assisted living/skilled nursing facilities, or clinics.

1. Type of healthcare facility (check all that apply):
   - ☐ Acute care hospital

     If YES, does the facility have a solid organ or bone marrow transplant program?

     ☐ YES ☐ NO
   - ☐ Long term care facility (i.e., nursing home, long term acute care)
   - ☐ Rehabilitation facility or other skilled nursing care
   - ☐ Assisted living facility
   - ☐ Outpatient surgical center
   - ☐ Other outpatient clinic (describe): _____
   - ☐ Other healthcare facility (describe): _____
2. Number of beds: _____
3. Are ice machines used to provide ice for patient consumption or processing medical equipment?

   ☐ YES ☐ NO

   If YES, list manufacturer and model or catalog number: _____
4. Has this facility experienced previous Legionnaires' disease cases that were "possibly" or "definitely" facility-acquired?

   ☐ YES ☐ NO

   If YES, describe (e.g., number of cases, dates): _____

APPENDIX B. COOLING TOWERS AND EVAPORATIVE CONDENSERS

N/A

Note: It is important to gain an understanding of where the cooling towers are located, how they work, and how they are maintained. Cooling towers are frequently maintained by an outside contractor, and you may need to contact them directly if facility management does not have an in-depth knowledge of these systems. Request copies of the maintenance logs.

1. List all cooling towers and evaporative condensers on the facility premises:

Name of device (e.g., CT1)	Date Installed	Manufacturer	Location of device	Distance to nearest air intake*/location of the air intake/ passive or forced	Drift eliminators used? (Y/N)	Party responsible for maintenance

*intakes to air handling units (AHUs)

2. List details of how each cooling tower is chemically disinfected:

Name of device from Table 1 (e.g., CT1)	List type/name of bactericide(s) used	Range in which the bactericide(s) is regularly maintained (e.g., 5–10 ppm)	Schedule and method of adding bactericide (e.g., daily, weekly, as needed, automatic, by hand)	Are cooling towers turned off at any time? (e.g., seasonally) (Y/N) If yes, include schedule

3. List recent (last 6 months) special (non-routine) treatments, maintenance, or repairs to cooling devices: N/A

Name of device from Table 1 (e.g., CT1)	Action taken	Date	Comments

NA Does the cooling tower water come from a branch of the potable water system inside the facility?

☐ YES ☐ NO

If YES, are backflow prevention devices in place to ensure cooling tower water is not introduced into the potable water system?

☐ YES ☐ NO

If NO, what is the source of water for the cooling towers and evaporative condensers? _____

5. Can any windows in any occupant rooms or common areas be opened? ☒ YES ☐ NO

If YES, describe which rooms or which buildings have windows that can be opened: these windows (offices and building) Can be open but are never opened

APPENDIX C. WHIRLPOOL SPAS, HOT TUBS, AND HYDROTHERAPY SPAS

Note: Do NOT complete Appendix C for Jacuzzis or whirlpool baths that are filled from the tap and drained after each use. In many jurisdictions, whirlpool spas are publicly permitted and inspected by the local health authority. An environmental health specialist with expertise in pool and spa inspection should participate in assessment of spas and will be aware of local regulations and enforcement powers, as well as have access to a pool sampling kit. Request copies of the last inspection report as well as routine maintenance logs.

1. Who performs the spa maintenance (e.g., on-site facilities management, name of outside contractor)? Sid Kennedy
2. Describe each whirlpool spa and how it is disinfected:

Spa Questions	Spa Descriptor/Location (e.g., main pool, private room #)			
Indoor or outdoor?	1 Left	2 right	3 upper	4 Center
Max. bather load				
Filter type S = sand DE = diatomaceous earth, C = cartridge	DE	DE	DE	DE
Date filter was last changed	Manual backwash @ 30psi (≈ every 7–10 days)			
Date of last filter backwash				
Compensation tank present?	Expansion tank of closed boiler system			
Type of disinfectant used (include chemical name, formulation, and amount used)				
Current measured disinfectant level (e.g., free chlorine, bromine) (ppm)	3.00ppm	Not tested	not tested	not tested
Current measured pH	9.6	9.0	9.4	8.8
Method used for adding disinfectant (e.g., automatic feeder, by hand)	Automatic chemical pump	Same	Same	Same
Method used for monitoring and maintaining disinfectant and pH levels (e.g., automatic controllers)	ORP monitor	ORP monitor	ORP monitor	ORP monitor
Date last drained and scrubbed	8/21/18	8/21/18	8/21/18	8/21/18
Was there a recent disinfectant "shock" treatment?	NO	NO	NO	NO
Operating as designed and in good repair? If no, describe issues.	Yes	Yes	Yes	Yes

APPENDIX D. OTHER WATER FEATURES

Note: Complete for decorative fountains, water walls, recreational misters, etc. This can also be modified for industrial use water. If SOPs and/or maintenance logs exist, request copies.

Water Feature Questions	Water Feature Descriptor/Location (e.g., lobby fountain, cabana misters)			
	Wall Fountain			
Indoor or outdoor?	Indoor			
Source of water	City Water			
Operates continuously (C) or intermittently (I)	Continuously			
Presence of a heat source? (e.g., incandescent lighting)	NO			
Type of disinfectant used (include chemical name, formulation, and amount used)	chlorine			
Current measured disinfectant level (e.g., free chlorine, bromine) (ppm)	N/A Broke at time of assessment			
Current measured pH	N/A Broke at time of Assessment			
Is there a maintenance protocol?	NO			
Date last cleaned	8/24/18			
Operating as designed and in good repair? If no, describe issues.	Yes			

APPENDIX E. RECENT OR ONGOING MAJOR CONSTRUCTION None

1. Describe in general the extent of the construction: _____

2. Was temporary water service provided to the new construction area (i.e., separate meter)?

   ☐ YES ☐ NO

   If YES, describe: _____

3. Has jack-hammering or pile-driving been used during the construction process?

   ☐ YES ☐ NO

   If YES, list dates and locations: _____

4. Have there been disruptions or changes to the existing potable water system during the construction?

   ☐ YES ☐ NO

   If YES, describe: _____

5. Has the potable water changed in terms of taste or color during the construction process?

   ☐ YES ☐ NO

   If YES, describe the changes including when they started and ended: _____

6. Is there a standard operating procedure (SOP) for shutting down, isolating, and refilling/flushing for water service areas that have been subjected to repair and/or construction interruptions?

   ☐ YES ☐ NO

   If YES, briefly describe the steps used in the SOP (attach a copy if possible): _____

7. Was the potable water system flushed before occupying the new building space?

   ☐ YES ☐ NO

   If YES, what period of time passed between flushing and when the building was occupied? _____

8. Complete table on next page.

8. Complete the table below: N/A

New Building/Wing Name or Remodeled Area	Date construction began	Estimated date of completion	Date water service began or restarted*	Relationship to existing potable water system Independent=I Extension of existing system=E	Stories and Square Feet Involved (# and Ft²)	Uses (e.g., rooms, dining, recreation, utilities) For healthcare: Inpatient = I Outpatient = O Both = B Intensive Care = ICU Transplant = Tx	Date occupants began occupying new or remodeled building	Floors currently occupied

*If remodeling of existing structure, include water shut-down date and re-start date.

Horn, Patricia <tricia_horn@nps.gov>

Re: Legionnaire Case CDC (Arkansas)

1 message

Miller, Laura <laura_a_miller@nps.gov> Thu, Aug 23, 2018 at 2:55 PM
To: Maria Said <maria_said@nps.gov>
Cc: "Kesteloot, Kurt" <kurt_kesteloot@nps.gov>, David Kostamo <david_kostamo@nps.gov>, Mark Scott <mark_scott@nps.gov>, Patricia Horn <tricia_horn@nps.gov>, Subria Spencer <subria_spencer@partner.nps.gov>

Thank you all for your rapid response and assistance in this!

Laura

On Thu, Aug 23, 2018 at 1:08 PM, Maria Said <maria_said@nps.gov> wrote:
I heard back from the state heath department re the case report form -- they cannot share specific health information, but their form only asks about whirl pools, hot tubs, spas, humidifiers, breathing machines, oxygen, or showers. If we hear of another case, they would then drill down further to try and better understand common exposure sources.

On Thu, Aug 23, 2018 at 1:45 PM Maria Said <maria_said@nps.gov> wrote:
Here is the link to the ASHRAE Guidance on Legionella I mentioned on the phone -- https://www.ashrae.org/technical-resources/bookstore/ansi-ashrae-standard-188-2018-legionellosis-risk-management-for-building-water-systems

The CDC includes the ASHRAE Guidance on their website, as well as some other materials -- https://www.cdc.gov/legionella/resources/guidelines.html

Maria

On Thu, Aug 23, 2018 at 12:57 PM Maria Said <maria_said@nps.gov> wrote:
Here is a proposed agenda -- but we can adjust however you think best.
Maria

1. Introductions (Everyone)
2. Brief background on legionella (Maria)
2. Update from the park on any history with legionella, any concerns with the spa
3. Update on environmental assessment (David Kostamo) and any additional thoughts on the water system (Kurt)
3. Next steps in response (All)

On Thu, Aug 23, 2018 at 12:35 PM Kesteloot, Kurt <kurt_kesteloot@nps.gov> wrote:
Hi Maria,

No worries, talk to you soon.

Thank You and Very Respectfully,

Kurt

CDR Kurt Kesteloot, PE, BCEE, USPHS
Supervisory Public Health Consultant, Midwest Region
National Park Service,Office of Public Health (OPH),
601 Riverfront Drive
Omaha, NE 68102
Office Phone: 1-402-661-1718
Office Fax: 1-402-661-1719

Cell Phone: 1-202-641-0055
Email: Kurt_Kesteloot@nps.gov

Attention Federal Employees Only: Please let us know how we are doing by completing a survey found at: https://www.surveymonkey.com/s/NPS-OPH-CustServ

"The NPS One Health Network: promoting and protecting the health of all species and the parks that we share."

On Thu, Aug 23, 2018 at 11:33 AM, David Kostamo <david_kostamo@nps.gov> wrote:
Sounds good. Thank you Maria.
David

Sent from my iPhone

On Aug 23, 2018, at 11:30 AM, Maria Said <maria_said@nps.gov> wrote:

Sorry! I realized I made the meeting invite for 12pm central time rather than 1pm central -- I am actually free to meet at that earlier time, so if it's okay with everyone, let's keep the time listed in the calendar invite -- 12pm central, 1pm ET.
Talk to you all soon.
Maria

On Thu, Aug 23, 2018 at 9:50 AM Kostamo, David <david_kostamo@nps.gov> wrote:
Hi Maria,

Sounds good..talk to you then.

Thank you,
David

David Kostamo PE, RS, CP-FS
Public Health Consultant
National Park Service
Midwest Region
Office: (402) 661-1782
Cell: (202) 591-6449
601 Riverfront Dr.
Omaha, NE 68102
david_kostamo@nps.gov

Attention Federal Employees Only: Please let us know how we are doing by completing a survey found at: https://www.surveymonkey.com/s/NPS-OPH-CustServ

On Thu, Aug 23, 2018 at 8:31 AM, Maria Said <maria_said@nps.gov> wrote:
Hi David, I look forward to talking later this afternoon and hearing more about the park, the water system, and your environmental assessment. I just spoke with a state epidemiologist

who has had a lot of experience with Legionella, and based on our conversation, there is a good argument for possibly not pursuing legionella testing at this point. I will explain the rationale more when we talk this afternoon - and we can discuss together the next best steps forward.
Maria

Sent from my iPhone

On Aug 23, 2018, at 9:13 AM, Kostamo, David <david_kostamo@nps.gov> wrote:

> Good morning Kurt,
>
> I concur on inquiring if the person had contact with other park fountains/waterfalls would be helpful (hopefully the initial report covers all the places the person visited as a few are listed). I am not aware of contact information for the individual but we may be able to obtain from the State of Arkansas Health Department.
>
> Thank you,
>
> David
>
> David Kostamo PE, RS, CP-FS
> Public Health Consultant
> National Park Service
> Midwest Region
> Office: (402) 661-1782
> Cell: (202) 591-6449
> 601 Riverfront Dr.
> Omaha, NE 68102
> david_kostamo@nps.gov
>
> FIND YOUR PARK
>
> Attention Federal Employees Only: Please let us know how we are doing by completing a survey found at: https://www.surveymonkey.com/s/NPS-OPH-CustServ
>
> On Thu, Aug 23, 2018 at 6:56 AM, Kesteloot, Kurt <kurt_kesteloot@nps.gov> wrote:
>
> Good Morning David,
>
> I have attached the PHA pages from earlier this year that refer to water testing recommendations for the Quapaw and the rec water report. The facility agreed to test within 60 days. Today will mark 90 days from that inspection. With this recent finding and past lack of testing by this facility, I think we need to have a call with Quapaw and the park to determine steps forward. I would like to see the testing completed that was recommended and any testing needed after your assessment today.
>
> When seeking a lab here is what CDC recommends.
>
> Consultant Considerations | Legionella | CDC
>
> - **Laboratory expertise:** For example, is the laboratory they use accredited for environmental testing? Does it participate in a proficiency testing program for *Legionella*? Does their laboratory perform culture for

Legionella (which is particularly important following remediation to ensure adequacy of the remediation process)? What level of identification (species/serogroup) can their laboratory perform? Is their laboratory willing to save samples and isolates and share them with public health laboratories if requested during an outbreak investigation?

Thanks again for sharing the Legionella notice.

Here is another link that OSHA has for information: https://www.osha.gov/dts/osta/otm/legionnaires/sampling.html it is similar to the CDC information at: https://www.cdc.gov/legionella/health-depts/environmental-inv-resources.html.

Lastly, the park has several water fountains/waterfalls. Does anyone have contact information for the person that tested positive for Legionella? I think we should ask them if they drank and/or had contact with water at other locations in the park.

Thank You and Very Respectfully,

Kurt

CDR Kurt Kesteloot, PE, BCEE, USPHS
Supervisory Public Health Consultant, Midwest Region
National Park Service,Office of Public Health (OPH),
601 Riverfront Drive
Omaha, NE 68102
Office Phone: 1-402-661-1718
Office Fax: 1-402-661-1719
Cell Phone: 1-202-641-0055
Email: Kurt_Kesteloot@nps.gov

Attention Federal Employees Only: Please let us know how we are doing by completing a survey found at: https://www.surveymonkey.com/s/NPS-OPH-CustServ

"The NPS One Health Network: promoting and protecting the health of all species and the parks that we share."

On Wed, Aug 22, 2018 at 4:09 PM, Kostamo, David <david_kostamo@nps.gov> wrote:

Hi Dr. Said,

HOSP (Hot Springs) park received a report (please see attached) from the CDC stating a diagnosed case of Legionnaires disease. In the report it states that one of the facilities visited by this person was the Quapaw Baths and Spa which is a concessionaire in a NPS facility. Today I met with Superintendent Laura Miller and staff. I recommended that the facility conduct some testing in response to the report. Could you provide some feedback on conducting the testing and any information about what tests would be recommended and/or who to contact for additional information and guidance. If you have any questions please contact me.

Thank you,

David

David Kostamo PE, RS, CP-FS
Public Health Consultant
National Park Service
Midwest Region
Office: (402) 661-1782
Cell: (202) 591-6449
601 Riverfront Dr.
Omaha, NE 68102
david_kostamo@nps.gov

Attention Federal Employees Only: Please let us know how we are doing by completing a survey found at: https://www.surveymonkey.com/s/NPS-OPH-CustServ

--
Maria Said, MD, MHS | CDR, U.S. Public Health Service
Epidemiology Branch Chief | Office of Public Health | National Park Service
Address: 1849 C. Street, NW, Room 2543, Mailstop 2560 | Washington, DC 20240
Office Tel: 202-513-7151 | Email: maria_said@nps.gov
Website (public): https://www.nps.gov/orgs/1878/index.htm
Website (internal): https://sites.google.com/a/nps.gov/in2-protect-and-promote-health/home/disease-surveillance-response

--
Maria Said, MD, MHS | CDR, U.S. Public Health Service
Epidemiology Branch Chief | Office of Public Health | National Park Service
Address: 1849 C. Street, NW, Room 2543, Mailstop 2560 | Washington, DC 20240
Office Tel: 202-513-7151 | Email: maria_said@nps.gov
Website (public): https://www.nps.gov/orgs/1878/index.htm
Website (internal): https://sites.google.com/a/nps.gov/in2-protect-and-promote-health/home/disease-surveillance-response

--
Maria Said, MD, MHS | CDR, U.S. Public Health Service
Epidemiology Branch Chief | Office of Public Health | National Park Service
Address: 1849 C. Street, NW, Room 2543, Mailstop 2560 | Washington, DC 20240
Office Tel: 202-513-7151 | Email: maria_said@nps.gov
Website (public): https://www.nps.gov/orgs/1878/index.htm
Website (internal): https://sites.google.com/a/nps.gov/in2-protect-and-promote-health/home/disease-surveillance-response

--

Maria Said, MD, MHS | CDR, U.S. Public Health Service
Epidemiology Branch Chief | Office of Public Health | National Park Service
Address: 1849 C. Street, NW, Room 2543, Mailstop 2560 | Washington, DC 20240
Office Tel: 202-513-7151 | Email: maria_said@nps.gov
Website (public): https://www.nps.gov/orgs/1878/index.htm
Website (internal): https://sites.google.com/a/nps.gov/in2-protect-and-promote-health/home/disease-surveillance-response

--

Laura A. Miller
Superintendent
Hot Springs National Park
101 Reserve Street
Hot Springs, AR 71901
501.623.2824
870.302.9250 (cell)
501.624.1037 (fax)
www.nps.gov/hosp

FIND YOUR PARK

Horn, Patricia <tricia_horn@nps.gov>

Fwd: Legionnaire Case in Arkansas Update

1 message

Miller, Laura <laura_a_miller@nps.gov> Fri, Aug 24, 2018 at 3:53 PM
To: Patricia Horn <tricia_horn@nps.gov>, Mark Scott <mark_scott@nps.gov>

FYI.

---------- Forwarded message ----------
From: **Kesteloot, Kurt** <kurt_kesteloot@nps.gov>
Date: Thu, Aug 23, 2018 at 2:19 PM
Subject: Legionnaire Case in Arkansas Update
To: Duane Bubac <Duane_Bubac@nps.gov>, Sara Newman <sara_newman@nps.gov>, Tracy Simmons <tracy_simmons@nps.gov>
Cc: david kostamo <david_kostamo@nps.gov>, "Said, Maria" <maria_said@nps.gov>, "Miller, Laura" <laura_a_miller@nps.gov>

Good Afternoon,

We had a great discussion at noon today with Dr. Said, HOSP Management, and etc. Thank you to LCDR Kostamo for on the ground work and CDR Maria Said for further research.

We cannot confirm that Legionella was transmitted at HOSP Quawpaw. We cannot confirm if or where it happened at HOSP. There are many potential locations where a legionella environment could occur in the Park and nearby. With research from Dr. Said, it is advised that we do not do environmental testing until we have a cluster of cases. If we find out about another case, we will be able to ask more questions to determine if they are linked and where it may have happened.

Meanwhile, the NPS OPH will continue to work with HOSP on minimizing risk for Legionella and other recreational water concerns. I recommended testing for the Quapaw in May of this year and they were given 60 days to comply. We are now at 90 days and the Park is assisting them to help conduct recommended pool/spa water quality testing.

OPH will also be talking to the Park more about disinfecting the thermal water at HOSP. Currently the water temperature ranges from 143 degrees Fahrenheit to 146 degrees Fahrenheit (F). The food code requires food to be held at 135F. Thus, the park has been operating under the requirement that all thermal water that is potable must leave the spigots at 135F. There are several other areas where visitors can be exposed to aerosolized water that is non potable. We are talking about providing disinfection for those waters to help reduce risk of Legionella. It is also important to note this is the only confirmed case of Legionnaire that we have heard about for HOSP since 2010.

I will update as we find out more information and welcome any questions, comments, or concerns.

Thank You and Very Respectfully,

Kurt

CDR Kurt Kesteloot, PE, BCEE, USPHS
Supervisory Public Health Consultant, Midwest Region
National Park Service,Office of Public Health (OPH),
601 Riverfront Drive
Omaha, NE 68102
Office Phone: 1-402-661-1718
Office Fax: 1-402-661-1719
Cell Phone: 1-202-641-0055
Email: Kurt_Kesteloot@nps.gov

Attention Federal Employees Only: Please let us know how we are doing by completing a survey found at: https://www.surveymonkey.com/s/NPS-OPH-CustServ

"The NPS One Health Network: promoting and protecting the health of all species and the parks that we share."

--

Laura A. Miller
Superintendent
Hot Springs National Park
101 Reserve Street
Hot Springs, AR 71901
501.623.2824
870.302.9250 (cell)
501.624.1037 (fax)
www.nps.gov/hosp

AMENDMENT No. 1
Hot Springs National Park Lease
Of
Quapaw Bathhouse
By and Between
The National Park Service
And
Quapaw Baths, LLC

This Amendment No. 1 is entered into by and between the United States Department of the Interior, acting through the National Park Service, an agency of the United States of America ("Lessor"), and Quapaw Baths, LLC, ("Lessee"), and is effective as of the last date of its execution set forth below.

WITNESSETH:

WHEREAS, Lessor and Lessee entered into a lease for certain real property located in Hot Springs National Park ("Park"), effective as of May 1, 2007 ("Lease"); and

WHEREAS, under the terms of the Lease, Lessee would operate a spa on the real property; and

WHEREAS, although the Lease is silent as to the use of the Park's thermal water in the spa operation, the parties understood that the thermal water would be used in such a manner; and

WHERAS, the Lessor and the Lessee have agreed that the use of and payment collection for thermal water needs to be addressed in the Lease; and

WHEREAS, the Director has determined that it is in the best interest of the United States to amend the lease; and

NOW THEREFORE, Lessor and Lessee agree, in consideration of the mutual premises set forth below, that the Lease is amended as follows:

1. Section 11 is now amended to read:

Section 11. Utilities and Thermal Water

(a) The Lessee at its sole expense shall make all arrangements with appropriate utility providers (including the Lessor where applicable), for all utilities furnished to the Premises, including, without limitation, gas, electricity, other power, water, cable, telephone and other communication services, sewage, and waste removal. Any utility service provided by the Lessor will be subject to the Lessor's established policies and procedures for provision of utility services to third parties.

(b) The Lessee is hereby authorized to use the Park's thermal water as both a utility and in the provision of the spa-related services set forth in Section 6.1 of the Lease. Such use shall be subject to Section 11(a) above, as well as all Applicable Laws. Additionally, pursuant to 36 C.F.R. § 18.4, this authorization will at all times be contingent on the continued use of the thermal water not resulting in the degradation of the purposes and values of the Park Area.

IN WITNESS WHEREOF, the parties hereto have hereunder subscribed their names and affixed their seals as of the dates set forth below:

Lessee
By: Robert Kempkes
Chief Executive Member
Robert Kempkes

Date: 3.15.2018

United States of America
By: Patricia S Trap
Regional Director (acting)
Midwest Region, National Park Service

Date: 3.22.18

Executive Summary

Organization: Quapaw Baths and Spa

WMP Name: Quapaw Baths and Spa

The Quapaw Baths & Spa Water Management Program (WMP) aligns the facility's key decision-makers in order to assure water safety and improve operational efficiencies.

The WMP utilizes the Hazard Analysis & Control process (also referred to as HACCP for Hazard Analysis and Critical Control Points). Routine, proactive use of this systematic risk management process will provide these benefits:

- Prevention of waterborne diseases by controlling the hazards which cause them.
- Establishment and compilation of concise, defensible records that document Quapaw Baths & Spas' decision-making process.
- Streamlined decision-making through the Water Management Team
- Alignment with water system best practices, notably utilizing the following references:

1. Occupational Health and Safety Administration technical manual and healthcare facility guidance (http://www.osha.gov/dts/osta/otm/legionnaires/index.html)
2. The American Society of Heating, Refrigerating and Air-conditioning Engineers Legionellosis Guideline (GPC12-2000), the forthcoming ASHRAE Standard 188P (Prevention of Legionellosis Associated with Building Water Systems)
3. Legionella and the Prevention of Legionellosis (2007), World Health Organization.

Water Management Team

Organization: Quapaw Baths and Spa

WMP Name: Quapaw Baths and Spa

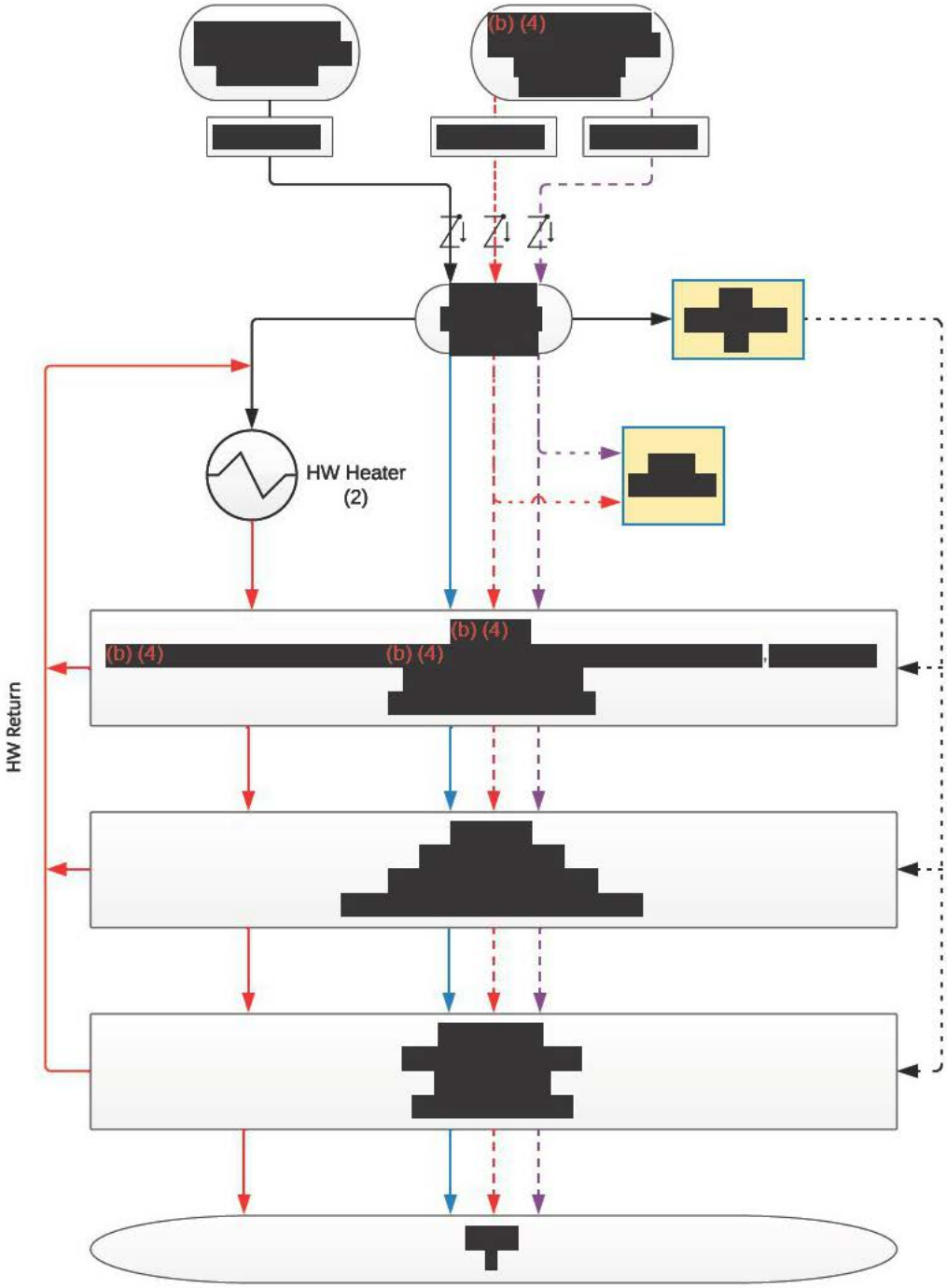
Name	Title	Functional Area	Team Role	Email Address
Anthony Taylor	Owner	Owner	Decision Maker	anthony@taylorkempkes.com
Bob Kempkes	Owner	Owner	Decision Maker	bob@taylorkempkes.com
Jeanine Surf	General Manager	Operations Management	General Manager	jsurf@quapawbaths.com
Jim Schulz	Maintenance Manager	Facilities	Operations	
Mezo ____	Maintenance Tech	Facilities		
Daniel Ostrand	Phigenics Account Manager	Water Management Expert	Facilitator	dostrand@phigenics.com

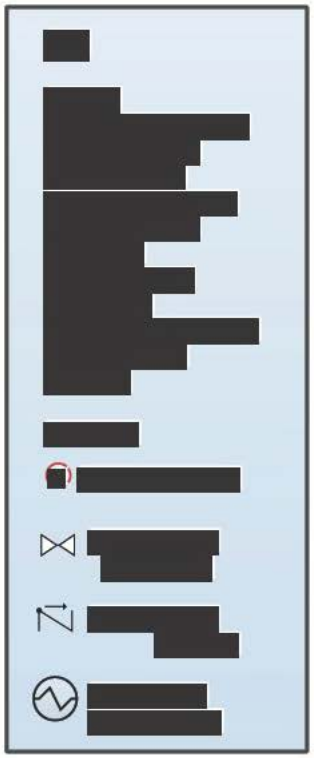
Version Date: 06-12-2020
WMT Review Date: 06-12-2020

Quapaw Baths & Spa
Water Process Flow Diagram
Potable and Non-Potable

(This does not depict a plumbing riser diagram)
*Potable and Non-potable water is defined according to the EPA's Definitions List

(b) (4)





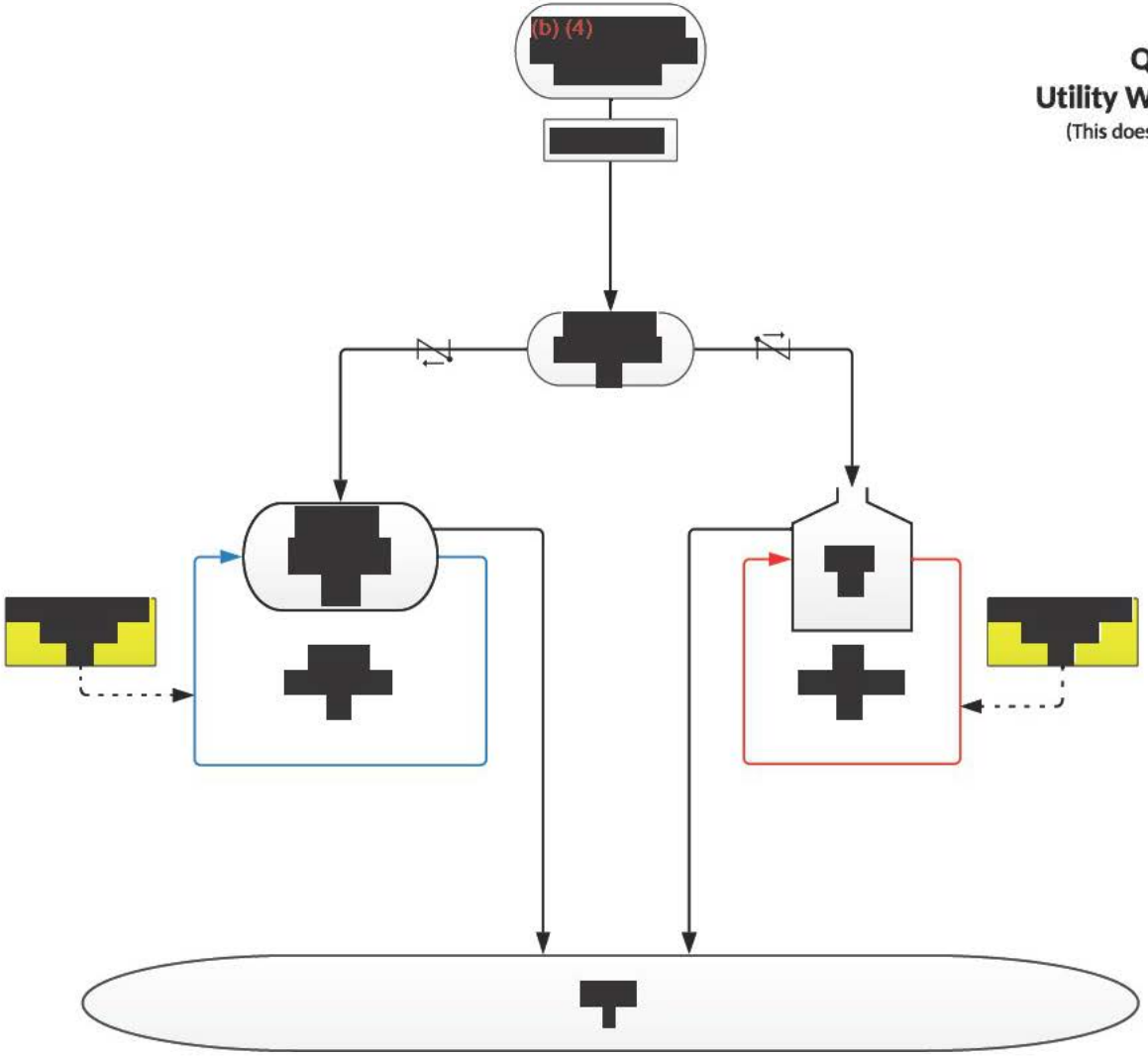
QUAPAW BATHS & SPA
IMMERSE & INDULGE

phigenics
Independent Water Management

Version Date: 06-12-2020
WMT Review Date: 06-12-2020

Quapaw Baths & Spa
Utility Water Process Flow Diagram
(This does not depict a plumbing riser diagram)

[redacted]



QUAPAW BATHS & SPA
IMMERSE & INDULGE

phigenics
Independent Water Management

Quapaw Baths and Spa Water Management Program
Quapaw Baths and Spa
413 Central Ave.
Hot Springs National Park, AR 71901

Water Use Description
Version Date: June 12, 2020

Building Details and Overview
The Quapaw Baths and Spa is a 25,000 SF hot springs spa facility located in Hot Springs National Park, AR. The facility was built in 1922 and was remodeled in 2008.

The building has two above ground floors and a basement. The basement serves baths, a steam cave, spa treatment rooms, laundry facilities, housekeeping and maintenance. The first floor serves baths, pools, and the cafe. The second floor serves spa treatment rooms.

The chiller and boiler are located on the first floor.

Potable Water Processing Steps

1. **Receiving**

A - Municipal Supply

- Potable water is received onto the campus from the municipality city water tees off at Central Avenue.
- The municipality applies chlorine as the final disinfectant.
- (b) (4) [redacted]

B - Hot Spring Water [135°F]

- Hot spring water is received onto the campus from the Hot Springs National Parks Service.
- (b) (4) [redacted]

C - Tempered Spring Water [98°F]

- Tempered Hot spring water is received onto the campus from the Hot Springs National Parks Service.
- There is one point of entry (POE) to the building located in the mechanical room with a RPZ backflow preventer, which is scheduled for annual testing in accordance with code requirements.
- The incoming hot spring water has a dedicated tap located in the mechanical room in the basement.

D - Steam Cave [135°F]

- Hot spring water enters the steam cave in the basement naturally at 135°F, from here water is plumbed to the next room (where all the pool injection equipment is installed) for drainage as described in processing step 8 below.

2. Supplemental Disinfection

B - Bathing Tubs [Ozone]

- Bathing Tubs at the facility have onboard ozonation units

D - Pool (Baths) [Chlorine, CO2, Ozone]

- The four bathing pools are located on the first floor of the building.
- The pools are treated with liquid chlorine using feeders controlled by continuous electronic monitoring.
- The pools are also treated with Carbon Dioxide (CO2) to control pH and reduce scaling conditions in the pools.
- Lastly, there are four ozone injection systems with gas-off systems installed to reduce chlorine demand by 10-20% and mitigate the chlorine smell in the pool. A green light indicates the functionality of each system. (b) (4) [redacted]
- (b) (4) [redacted]
- *NOTE the above documentation describes the therapy pool based on this Supplemental Disinfection processing step; however, downstream processing at the point of Distribution is referenced later in the Water Use Description.*

3. Conditioning

D - Filtration (Sand Filters)

- Water serving the bathing pools is filtered using sand.
- A periodic backwash for cleaning when the pressure gradient gets high enough, as indicated on a local gauge.

- There is a 6-year life-expectancy on the sand before it needs to be changed out.

4. Heating (Potable)

A - Hot Water Heating [120°F]

- Potable hot water is generated via two hot water heaters at a target temperature of 120°F. The hot water system is a recirculating loop with a hot water return (HWR).

6. Distribution (Potable) -- all sub-processing steps

A - Cold Water; B - Cold Water (Ice Machines); C - Hot Water [120°F]; D - Hot Spring Water [135°F]

- *** Outlet also provides hot or tempered water to the user**
- The potable water distribution system contains Type L copper ,and PVC plumbing lines.
- (b) (4) [redacted]

7. Distribution (Non-Potable)

A - Fire Suppression

- (b) (2) [redacted]
- As per initial operation, the fire suppression will be maintained by the installer.

B - Water Wall

- Municipal cold water is distributed to the ground floor where a vertical decorative "water wall" approximately 7 feed wide by 5 feet tall imitates a waterfall. Work on the decorative feature has been put on hold until further notice and is not in operation.

E - Pools (Baths) and Bathing Tubs

- The four bathing pools are located in the basement and on the first floor of the building.
- Bathing tubs are located on each floor of the building

- Hot Spring Water [135°F] is tempered by the Tempered Spring Water [98°F] stream before entering the pools and baths.

8. Waste

- All potable water outlets drain to the sanitary waste system.
- (b) (4) [redacted]

Utility Water Processing Steps

1. Receiving

A - Municipal Supply

- Municipal Potable cold water is received into the Central Utility Plant in the same manner it is received into the main building. Reference Potable Water Processing Step 1.A for additional information. One way check valves are located on each line before

3. Treatment

B - Closed Hot Loop

- A corrosion inhibitor is added to the loop when levels test below what is recommended by the vendor.
- Maintenance is carried out by GTS.

C - Closed Chilled Loop

- A corrosion inhibitor is added to the loop when levels test below what is recommended by the vendor.
- Maintenance is carried out by GTS.

4. Heating and Cooling

B - Hot Water Generation

- One boiler generates hot water in order to supply building heating.
- Water is recirculated back to the boiler.

C - Chilled Water Generation

- Chilled water is maintained between one 60 ton chiller. It supplies cooling to the building's air handler units.
- Condenser water flows through the system daily.

6. Distribution

A - Circulation- Chilled Closed Loop

- Chilled water supplies cooling to the building's air handler units.
- 1 chilled loops - Serving building HVAC.

B - Circulation- Hot Closed Loop

- Hot closed loop water supplies heating to the building's air handler units.
- 1 hot loops - Serving building HVAC.

7. Waste

- All utility water outlets drain to the sanitary waste system.

Safety Analysis Summary Table

Organization: Quapaw Baths and Spa

WMP Name: Quapaw Baths and Spa

Processing Step	Potential Hazards			Risk Significant?	Risk Basis	Control Measure(s)
1A. RECEIVING - Municipal Supply	B	C	P	No	Cold water is received from the City of Hot Springs. Water is processed in accordance with Primary Drinking Water Standards as required in the Code of Federal Regulations. As part of the disinfection process, the municipality treats the water with Chlorine. There is no history of frequent main breaks or other treated municipal supply problems.	1. Confirm Source Water Safety 2. Confirm Source Water Quality 3. Disinfectant Monitoring
1B. RECEIVING - Hot Spring Water [135°F]	B	C	P	No	Hot spring water is received onto the campus from the Hot Springs National Parks Service. This water stream is untreated. However, the high temperature of this stream reduces the potential for microbial activity.	1. Monitoring bacterial quality
1C. RECEIVING - Tempered Spring Water [98°F]	B	C	P	No	Hot spring water is received onto the campus from the Hot Springs National Parks Service. This water stream is untreated. The Tempered water stream has an increased water age and comes from a large storage tank upstream. What's more, it is in a temperature range more conducive to biological growth.	1. Ozonator (Currently Planning)
1D. RECEIVING - Steam Cave	B	C	P	No	(b) (2) [redacted] for drainage as described in processing step 8. This water stream is untreated; however, the high temperature of this stream reduces the potential for microbial activity.	1. Monitoring bacterial quality

Processing Step	Potential Hazards			Risk Significant?	Risk Basis	Control Measure(s)
2B. SUPPLEMENTAL DISINFECTION for Bathing Tubs				Yes	The facility's tubs all have onboard ozonator units.	**1. Monitoring**
2D. SUPPLEMENTAL DISINFECTION for Pools	B	C		Yes	Four bathing pools at the facility, located on the first floor, are treated manually with liquid chlorine and continuously with carbon dioxide and ozone. Chlorine residuals are monitored manually with test strips three times a day. Carbon dioxide and ozone are controlled by continuous electronic monitoring. The chemical injection for chlorine, carbon dioxide and ozone is located on the sand filter recirculation line.	**1. Maintain desired chlorine range** **2. Ozone monitoring** **3. Carbon Dioxide monitoring**
3D. CONDITIONING - Filtration (Sand Filters/Bathing Pools)	B			Yes	There is a sand filter for the bathing pools. Filters can serve as surface area for biological growth, and as a source of biological material for the water system when not well disinfected. Since this unit is on a system disinfected by the previously discussed liquid chlorine system, carbon dioxide and ozone, controls for that processing step can be considered as a control that reduces the risk at this processing step without further/different controls here.	**1. Routine backwash of filter** **2. Filter Change**
4A. HEATING, 120°F				No	Potable hot water used for restrooms, locker rooms, and laundry is generated via two hot water heaters set to a temperature of 120°F. At this temperature, there is some potential for microbiological growth while the risk of scalding is reduced. Exposure at this step is limited to trained staff and contractors working with the heating systems.	1. Monitor Temperature
6A/6B. DISTRIBUTION (Potable) - Cold Water/Ice Machines	B			No	Cold water temperatures (<65°F) reduce the potential for microbiological growth is reduced compared to a hot water system. Based on outlet types in the distribution system, exposure to waterborne pathogens is still possible. The municipality applies chlorine to the water serving Quapaw Bath and Spa, resulting in the need to measure free residual oxidant (FRO) at the incoming point and throughout the distribution system to characterize the disinfectant profile at the facility. Baseline measurements of Free Residual Oxidant indicated levels ranging from 1.0-2.0 ppm Cl_2 in the cold water distribution system. The cuber ice machine, which does not have filtration, does have a PM strategy.	1. Flushing 2. Monitoring **3. Ice machine PM**

Processing Step	Potential Hazards			Risk Significant?	Risk Basis	Control Measure(s)
6C. DISTRIBUTION (Potable) - Hot Water	B			No	The hot water distribution system can be extensive and complex within the building water system. Along with favorable temperatures for growth, there is potential for disinfectant residuals to dissipate and leave the system with low or non-detectable levels of hazard control. The potable hot water serves laundry and the showers in the locker rooms. Based on the heating configuration onsite, hot water serving guest areas is received at a temperature approximately 120°F. While this temperature reduces the risk of scalding, the risk of microbiological growth remains. Free residual oxidant (FRO) readings are important to further understand the risk of growth in the distribution system. Baseline measurements of FRO indicated levels ranging from non-detectable-0.07 ppm Cl_2 in the hot water distribution system.	1. Flushing 2. Monitoring 3. Temperature Monitoring
6D. DISTRIBUTION (Potable) - Hot Spring Water (Baths and Steam Room)	B			Yes	The baths are fed by the municipal hot spring water supply and the temperature can be mixed down using the tempered spring water. There is high exposure potential at this step based on the usage of the baths. Additionally, hot spring water is utilized for the steam room (cave).	**1. Temperature Monitoring** **2. Flushing**
7A. DISTRIBUTION (Non-Potable) - Fire Suppression	B			No	The fire suppression system is fed from the basement, via a separate line from the municipal supply. Maintenance and flushing of the fire suppression system is the responsibility of the installer, is completed on an annual basis and reports are filed with the city. Though there is potential for microbiological growth due to stagnant lines, exposure is limited. In the event of a fire or activation of the sprinkler system, the affected area would be under evacuation.	1. Flush Testing
7B. DISTRIBUTION (Non-Potable) - Water Wall	B			Yes	A decorative water wall is located in the basement. This feature is fed with the potable cold water. There is minimal potential for aerosolization at this step. Work on the decorative feature has been put on hold until further notice and is not in operation.	**1. Apply Treatment**

Processing Step	Potential Hazards			Risk Significant?	Risk Basis	Control Measure(s)
7E. DISTRIBUTION (Non-Potable Spring) - Pools (Baths) and Bathing Tubs	B	C	P	Yes	Tempered spring water [98°F] is used to mix with the thermal water [135°F] in the pools as well as the baths. The four bathing pools are located in the basement and on the first floor of the building. Pool water is treated with chlorine, carbon dioxide and ozone. Baths/Tubs are disinfected with ozonators.	**1. Temperature Monitoring**
8. WASTE	B	C	P	No	Sewage can transmit pathogens or other contaminants, however exposure is limited and well controlled. Sewage drains to the sanitary waste system Specifically for thermal water, there is a square hole in the ground where it is drained.	1. Sanitary Sewer: 2. Backflow Prevention
1A. Municipal Supply				No	Since the water received for the utility system is the same as that of the potable system, this stream can be considered as having the same risk basis/controls as that described in step 1A of the potable system analysis.	1. N/A
3B. Treatment-Closed Hot Loop				No	Treatment of the closed loops occurs infrequently, and the method of chemical addition limits exposure potential. Treatment is applied and monitored by a third party.	1. N/A
3C. Treatment-Closed Chilled Loop				No	Treatment of the closed loops occures infrequently, and the method of chemical addition limits exposure potential. Treatment is applied and monitored by a third party.	1. N/A
4B. Heating and Cooling - Cold Water Generation				No	The method of cooling water water generation - an air-cooled chiller - does not allow exposure of the chilled water to guests or employees on any routine/frequent basis, limiting exposure.	1. N/A
4B. Heating and Cooling - Hot Water Generation				No	The method of hot water generation - a gas fired heater - does not allow exposure of the heated water to guests or employees on any routine/frequent basis, limiting exposure.	1. N/A
6A. Distribution - Circulation of closed chilled loop				No	The closed loop limits exposure risk and prevents significant micriobio growth within this distribution system.	1. N/A
6B. Distribution - Circulation of closed hot loop			P	No	The closed loop limits exposure risk and prevents significant micriobio growth within this distribution system. Scald potential from hot pipes is also limited due to the limited exposure risk to the pipes themselves.	1. N/A

Processing Step	Potential Hazards			Risk Significant?	Risk Basis	Control Measure(s)
7A. Waste				No	Since the waste stream for the utility system is the same as that of the potable system, this stream can be considered as having the same risk basis/controls as that described in step 8A of the potable system analysis.	1. N/A

Potential Hazards: (B)iological, **(C)**hemical, **(P)**hysical

Program Control Summary Table

Organization: Quapaw Baths and Spa

WMP Name: Quapaw Baths and Spa

Processing Step	Control Measure(s)	Control Limit	Monitoring Method	Frequency	Corrective Action	Records
2B. SUPPLEMENTAL DISINFECTION for Bathing Tubs	1. Monitoring	Verify ozonators online.	Check blue indicator light.	Monthly	1. Repair/replace hardware if needed	PhiAnalytics
2D. SUPPLEMENTAL DISINFECTION for Pools	1. Maintain desired chlorine range	Free Residual Oxidant: 2.0-4.0 ppm pH: Alkalinity:	Chlorine levels checked via test strip readings	3x per day (7am, 12 pm, 3pm)	1. Adjust chemical feed as needed	State required pool log / phiAnalytics
	2. Ozone monitoring	Verify ozonators online.	Check blue indicator light.	Monthly	2. Repaire/replace hardware if needed.	phiAnalytics
	3. Carbon Dioxide monitoring	Verify CO_2 flow.	Visual check	Monthly	3. Work with vendor to repair/replace hardware if needed	phiAnalytics
3D. CONDITIONING - Filtration (Sand Filters/Bathing Pools)	1. Routine backwash of filter	Preventative maintenance performed	Backwash filter according to manufacturer recommendations	When pressure reads 30 psi	1. If backwash of filter is not performed, perform immediately.	
	2. Filter Change	Preventative maintenance performed	Filter changed per manufacturer recommendations	After 3 backwashes or 1x per month	2. If filter change is not performed, perform immediately and retrain staff as needed.	Log/PM System

Processing Step	Control Measure(s)	Control Limit	Monitoring Method	Frequency	Corrective Action	Records
6D. DISTRIBUTION (Potable) - Hot Spring Water (Baths and Steam Room)	1. Temperature Monitoring	Target Temperature: 135°F pH: 7-10	Monitor temperature via manual thermometer measurement Monitor pH via pH test strips	Daily	1. If temperature or pH is outside of desired range, flush and retest. If parameters remain out of range after flushing, contact NPS.	phiAnalytics
	2. Flushing	Target Flush Time: 3-5 minutes or until temperature reaches 135°F.	Flush outlets prior to daily use	Daily	2. If flushing is not performed, perform immediately	Flush Log/phiAnalytics
7B. DISTRIBUTION (Non-Potable) - Water Wall	1. Apply Treatment					
7E. DISTRIBUTION (Non-Potable Spring) - Pools (Baths) and Bathing Tubs	1. Temperature Monitoring	Target Temperature: 90-100°F	Monitor tempered spring water temperatures via manual thermometer measurement	Daily	1. If temperature is outside of desired range, flush and retest. If flushing does not bring temperature into desired range, contact NPS.	phiAnalytics

Validation Criteria Summary Table

Organization: Quapaw Baths and Spa

WMP Name: Quapaw Baths and Spa

Processing Step	Validation Criteria	Frequency
Step Name 2B. SUPPLEMENTAL DISINFECTION for Bathing Tubs	Validation Criteria **Test** Phigenics PVT TimeZero Test including TimeZero Dipslide and THAB. **Results** THAB less than or equal to 10^3 CFU/mL, Non-detectable (< 10 CFU/mL) of *Legionella* bacteria on PVT TimeZero test.	Frequency Quarterly
Step Name 2D. SUPPLEMENTAL DISINFECTION for Pools	Validation Criteria	Frequency
Step Name 3D. CONDITIONING - Filtration (Sand Filters/Bathing Pools)	Validation Criteria	Frequency
Step Name 6D. DISTRIBUTION (Potable) - Hot Spring Water (Baths and Steam Room)	Validation Criteria **Test** Phigenics PVT TimeZero Test including TimeZero Dipslide and THAB. **Results** THAB less than or equal to 10^3 CFU/mL, Non-detectable (< 10 CFU/mL) of *Legionella* bacteria on PVT TimeZero test.	Frequency Quarterly
Step Name 7B. DISTRIBUTION (Non-Potable) - Water Wall	Validation Criteria Work on the decorative feature has been put on hold until further notice and is not in operation.	Frequency
Step Name 7E. DISTRIBUTION (Non-Potable Spring) - Pools (Baths) and Bathing Tubs	Validation Criteria **Test** Phigenics PVT TimeZero Test including TimeZero Dipslide and THAB. **Results** THAB less than or equal to 10^3 CFU/mL, Non-detectable (< 10 CFU/mL) of *Legionella* bacteria on PVT TimeZero test.	Frequency Quarterly

Verification and Validation Schedule

Organization: Quapaw Baths and Spa

WMP Name: Quapaw Baths and Spa

Activity	Frequency	Responsibility
Periodic reassessment of the WMP to review any needed control changes, documentation strategy changes, additional changes required, additional water processing steps and/or large remodel/construction projects that require updates on the PFDs, etc	Annual per ANSI/ASHRAE 188, or as needed	WMT/Phigenics
Routine validation testing.	Quarterly - Water Management Team reviewed, updated periodically (annual WMP reassessment).	WMT/Phigenics
Verification of all monitoring/corrective actions of the program. Review to ensure the program is being implemented as designed--all controls are being implemented and documentation strategies recorded in the Program Controls Summary are being executed.	Annual	Phigenics Support of Facilities Manager
Initial baseline validation testing of the facility.	Upon implementation of the Program Controls Summary (~May 2020)	WMT/Phigenics
Quapaw Baths to review work and related records/documentation related to control locations.	Quarterly	Assigned Designee

BUCKSTAFF WATER PLAN
DRAFT (6/5/20)

Mandi Hall

BUCKSTAFF BATHHOUSE 509 Central Ave., Hot Springs, AR 71901

The Buckstaff Bathhouse provides Mineral Water Whirlpool Baths' to customers using the geothermal water provided by the National Park Service. The Mineral Water Whirlpool Bath includes fifteen to twenty minutes in a 90-gallon claw foot tub, fifteen to twenty minutes on hot packs which are towels soaked in the hot mineral water, ten minutes in a sitz bath, five minutes in the steam cabinet and about 90 seconds in a rinse off cooling needle shower. This process in total takes roughly one hour to complete. Please continue reading to see our detailed operations and how we help to mitigate the risk factors associated with Legionella and other Bacteria.

Mandi Hall
Manager
Buckstaff Bathhouse
509 Central Ave.
Hot Springs, AR 71901
(501) 623-2308
mandi@buckstaffbaths.com

(b) (4)

(b) (4)

The Buckstaff will also post for the Public the following message on their website, front desk and at all bathing areas:

General Public Message Regarding Thermal Water:

The thermal water at Hot Springs National Park is nearly 4,000-year-old spring water in its natural state. The water's high temperature kills most harmful bacteria, and it is monitored to U.S. standards for safe drinking water. Bacteria may still be present and could affect those with compromised immune systems or other medical conditions if water is inhaled. Please see https://www.cdc.gov/legionella/index.html for additional information and/or consult with your physician before use.

Water Management Program

Hot Springs National Park

May 15, 2020

TABLE OF CONTENT

	Page
Introduction	2
Facility and Water Management Team	2
Process Flow Diagram – Closed System	3
Monitoring Sites – Hot Springs National Park	4
Water Feature Descriptions – Displays a) Decorative Water Feature Legionella Testing	5
Sampling Supplies Checklist	6
Additional Information for Mitigation and Remediation	7
Appendix A – Incident Report Template	9
Appendix B – Selecting a Water Management Consultant	10
Appendix C – Standards, Regulations, and Guidance	12
Appendix D – Resources	13

Introduction

Hot Springs National Park is a 5,500-acre park in Hot Springs, Arkansas, that preserves geothermal spring water and resources related to therapeutic bathing and parklands that provide opportunities for public health and wellness activities. Congress created the park in 1832 when it designated the land as Hot Springs Reservation, making it the first area nationwide to be set aside for protection by the federal government. In 1921, the reservation's name changed to Hot Springs National Park. Today, Hot Springs National Park preserves and manages its natural and cultural resources for over 1.5 million annual visitors. Located about 55 miles southwest of Little Rock, Hot Springs National Park encompasses mostly forested mountains, but includes a developed urban edge formed by Bathhouse Row, which was designated a National Historic Landmark in 1987.

The geothermal gradient causes the surrounding rock to heat at a predictable rate with increased depth. As the water travels to extreme depth, it is heated by conduction to approximately 160 degrees Fahrenheit causing minerals to dissolve into the water. The water rises to the surface through the faults and joints leading up to the base of Hot Springs Mountain, where the hot mineral water is passively collected.

Hot Springs National Park collects and distributes the thermal water to the park's bathhouses and public fountains, and to a non-profit hospital and three hotels outside the park. The park uses an extensive underground collection system that is largely concealed from public view. Although most of the 47 springs on the mountainside are capped to prevent contamination, the public can interact with the spring water by bathing in the bathhouses, viewing several display springs, or by collecting it as drinking water from one of the park's public fountains. Thousands of people come to the park to fill jugs or bottles from the outdoor jug fountains that provide the water free to the public.

Facility and Water Management Team

Water Management Team

Name	Position	Phone Number	Email Address
Laura Miller	Superintendent	870-302-9250	Laura_A_Miller@nps.gov
Mark Scott	Chief of Facility Maintenance	501-282-2894	Mark_Scott@nps.gov
Stacy Jackson	Buildings Supervisor	501-276-4118	Stacy_Jackson@nps.gov
Shane Bratton	Water Operator	501-545-6036	Roy_Bratton@nps.gov
Nathan Charlton	Natural Resources Specialist	501-563-0892	Nathan_Charlton@nps.gov
Kurt Kesteloot	NPS Public Health Consultant	402-661-1718	Kurt_Kesteloot@nps.gov
Tara Dondzila	NPS Public Health Consultant	402-661-1782	Tara_Dondzila@nps.gov

(b) (4)

(b) (4)

Testing of the selected 19 sites along the water system will be completed quarterly. The sites will be divided into sections with testing being accomplished monthly. The tests will be collected by qualified personnel and sent to an independent lab for testing.

The Jug fountains at the Administration building and the Libbey PMC have by-pass lines for continuous flow so water maintains a temperature over 120 degrees.

Water Feature Descriptions – Displays

Water Feature Questions	Descriptor/Location			
	Arlington Lawn Cascade	Display Fountain - Admin	Noble Fountain Reserve St.	Fordyce Entrance Water Features (2)
Indoor or Outdoor	Outdoor	Outdoor	Outdoor	Outdoor
Operates continuously or intermittently	Continuous	Continuous	Continuous	Continuous
Heat source	Thermal Water	Thermal Water	Thermal Water	Thermal Water

The flow of each of these outdoor water features is monitored for temperature and water spray volume. These areas are cleaned on a regular basis to remove debris and algae film with pressure washing of all surfaces.

Decorative Water Feature *Legionella* Testing

Will *Legionella* culture testing be performed? Yes No

If yes, complete the table below:

Component	Response
Responsible party for *Legionella* sample collection	Qualified personnel will collect the water samples on a scheduled rotation
***Legionella* sample collection location(s)**	Water Sources listed at the Monitoring Sites
***Legionella* sampling protocol**	Samples will be taken following the approved guidelines and transported to an independent lab for testing. Chain of custody procedures will apply.
Responsible party for corrective action(s)	Superintendent, Chief of Facility Maintenance and NPS Public Health Consultants will respond to test results and develop corrective actions.
Corrective action(s) and timeline	Corrective actions will begin immediately upon the determination of a positive test result. Park personnel, CDC and NPS Public Health Consultants will coordinate the actions and timelines.

Sampling Supplies Checklist

- ☐ Sterile plastic 1 L bottles. (Glass bottles are not recommended, due to risk of breakage during transport.)
- ☐ Sterile plastic 15 mL screw top tubes (with a tube rack) for biofilm swabs.
- ☐ Disposable dacron/polypropylene-tipped swabs with wooden or plastic stems. **Do NOT use cotton-tipped swabs as they inhibit *Legionella* growth.**
- ☐ Test tube/bottle labels
- ☐ 0.1N solution of sodium thiosulfate (Na2S2O3) (15.81 g/L in distilled water, filter sterilize, replace every 12 months).
- ☐ Pipettes and bulbs for adding 0.5 mL of 0.1N sodium thiosulfate solution into 1 L water samples.
- ☐ Sterile plastic 500 mL or 1 L bottle for testing chlorine level, pH, and temperature.
- ☐ pH test kit.
- ☐ Chlorine test kit sensitive enough to detect chlorine level below 1 ppm and up to 100 ppm (may need two kits). Free chlorine may be measured when it is known that chlorine is the method of disinfection (as opposed to monochloramine, bromine, or another disinfectant). Other, measure total chlorine.
- ☐ Thermometer.
- ☐ Sample data sheet (example below) and pens/sharpies.
- ☐ Large cooler, preferably with wheels. A 70 quart (66.2 L) horizontal cooler (a standard large picnic cooler) should fit twenty-five 1 L bottles, twenty-five 15 mL plastic tubes for biofilm swabs, thermometer, pH, and chlorine test kits. For sampling of a larger facility (60-100 samples total), a second cooler that holds nothing but bottles, swabs, and tubes may be needed. The cooler may be packed ahead of time and stored at ambient temperature for an unlimited time as long as the sodium thiosulfate is replaced every 12 months.
- ☐ If cooler is being mailed, you will also need tape and scissors for sealing the cooler.
- ☐ Biohazard waste bags for collecting trash.
- ☐ Gloves.
- ☐ N95 respirator. *These are appropriate when sampling cooling towers if the fans cannot be turned off, or in enclosed spaces with an aerosol-generating device that cannot be turned off. Respirators must be used in accordance with a comprehensive respiratory protection program, which includes fit testing. Training, and medical clearance ahead of their use (see OSHA standard 29 CFR 1910.134). For more information about N95 respirators, visit the National Institute for Occupational Safety and Health (NIOSH) website.*
- ☐ Other (specify): _____

Additional Information for Mitigation and Remediation

General Thermal Water Requirements:

The Park is responsible for the hot and cold thermal lines that enter each facility or as it leaves Park property. Samples should be taken directly before backflow devices in buildings or backflow devices on main lines leaving the Park to an offsite facility. Dead end lines should be eliminated where possible or flushed as needed.

All potable drinking water should meet federal and state regulations and NPS policy for potable water. Per approved waiver, the hot thermal water is disinfected naturally. In order to disinfect or minimize bacteria growth, water delivery locations should always be flushed to provide water at a temperature of at least 135 degrees Fahrenheit. This will help ensure the water is fresher from the source and bacterial growth is minimized due to the higher temperatures. That said, this is natural water and the following message is recommended for any area providing potable water as described above.

The cooled thermal water is non potable water as it is not disinfected or held at or above 135 degrees Fahrenheit to reduce the risk of bacteria growth and is not approved for consumption. Note: We will discuss exceptions to this by facilities that properly chill the water under agreed-upon standards (2 hrs from 135 F to 70 F and 4 hrs from 69 F to 40 F.)

The park and partners will post the following message on the park website and at all accessible fountains:

General Public Message Regarding Thermal Water:
The thermal water at Hot Springs National Park is nearly 4,000-year-old spring water in its natural state. The water's high temperature kills most harmful bacteria, and it is monitored to U.S. standards for safe drinking water. Bacteria may still be present and could affect those with compromised immune systems or other medical conditions if water is inhaled. Please see https://www.cdc.gov/legionella/index.html *for additional information and/or consult with your physician before use.*

In addition, the park will work with end users to ensure that they develop and follow water management plans that include the following specifications:

- Daily flushing of thermal water to ensure the water coming from the water delivery locations in the facility is fresh from the main distribution system before any potential daily use (~100-1,000 gallons of flushing depending on the distance from the main distribution line). Record daily temperature and pH at flush point(s). The water should be flushed until a temperature of 135 degrees Fahrenheit or great is achieved. Sampling and flush locations should be at point of use locations such as the jug fountains or tubs.
- All water to showers with direct water contact to the face that could be ingested or inhaled should be plumbed to potable city water or have onsite disinfection with a minimum contact time of approximately 30 minutes before the end user. Check daily for chlorine residuals. Chlorine residuals should be taken at the shower furthest from the water entering the building. If there are several locations that are far from the point of entry to the building it

may be necessary to sample at several locations. When submitting your building plumbing plans this should be easy to clarify.

- Facilities connected to the Park hot and cooled thermal water system should develop a *Legionella* sampling plan and conduct *Legionella* culture sampling on a monthly basis. After one year of sampling to verify effectiveness of the water management plan, the sampling frequency may reduce to quarterly. However, if there are any problems it may change as needed to help ensure reduced risk of *Legionella* exposure. A sampling plan is provided in Appendix A. More details about sampling can be found at: https://www.cdc.gov/legionella/downloads/cdc-sampling-procedure.pdf.

  Dead end lines should be eliminated where possible or flushed as needed. Sample locations are recommended on any dead end lines to help ensure *Legionella* is not growing in the system. Monthly or Quarterly sample locations should rotate as shown and described in the System Sampling Plan recommendations in Appendix A and as provided in the CDC reference. The Park can provide assistance with sampling as requested.
- As of 12/5/19 each facility connected to the NPS thermal water system is operating uniquely to minimize bacteria exposure. Until a water management plan is developed and NPS, NPS OPH, Arkansas Department of Health, and the facility agree upon a plan to minimize *Legionella*/bacteria risks, changes in water management should not be made. It is recommended that all changes be discussed before being implemented, as changes in water chemistry can have other unforeseen impacts if not properly addressed. For example, if the water is currently non-corrosive and minerals have attached in the plumbing, then if it is modified to become corrosive there may be other minerals that release into the system in quantities that could impact the health of the public.

Recreational Water Requirements:

- Any and all recreational water activities should minimize the exposure of humans to aerosolized water. Biofilm should not be allowed to accumulate on any surfaces.
- Individual tubs configured with microbubbles, multiple jets, and plumbing that is hard to clean should be treated with ozone, chlorine, or another preferred disinfectant approved by the NPS OPH. These tubs should also be cleaned/scrubbed on a weekly or practical basis as needed to help prevent any biofilm growth.
- Individual tubs with a traditional single jet and line do not require chemical disinfection at this time; however, they must be cleaned and scrubbed between use to reduce biofilm growth potential. There should also be a clearly visible notice to users about the potential *Legionella* risk associated with the activity, including a description of the particularly vulnerable populations. **See approved General Public Message Regarding Thermal Water.**
- Steam cabinets and needle showers must minimize exposure to aerosolized water. They must also be cleaned and sanitized thoroughly as needed to ensure no biofilm accumulates.

APPENDIX A: INCIDENT REPORT TEMPLATE

This table is used to:

1. Capture recent changes to the facility's potable water system or water features, as well as near-by events that may have caused a disruption to the water system
2. Report notable incidents, including *Legionella* sampling exceedances and legionellosis cases

Legionella Incident Report

Please keep this form for your records and/or submit to [your local health department] if required.

Date:

Incident Type (check all that apply)

□ *Legionella in potable water system*
□ *Legionella* in cooling tower
□ *Legionella* in water feature
□ 1 or more cases of legionellosis associated with facility

Facility Name	
Address	
Primary contact name, title	
Primary contact phone, email	
Secondary contact name, title	
Secondary contact phone, email	
Date of onset	
Initial sampling date, results	
Remedial actions taken	
Follow-up sampling date, results	

Please provide a short text description of the incident:

Factors that may have contributed to the incident (check all that apply):

□ Disruption to the public water supply (e.g. upstream fire, construction, etc.)
□ Disruption to the building/feature water system (changes in water temperature, residual, etc.)
□ Changes in equipment maintenance
□ Inadequate maintenance protocol
□ Contamination of water system
□ Other (please describe):

APPENDIX B: SELECTING A WATER MANAGEMENT CONSULTANT

Background

You may consider working with one or more *Legionella* consultants in creating or improving your water management program. Deciding whether to work with consultants at all, and if so, the exact type and number of consultants you decide to use, will depend on your situation and the consultant's area of expertise.

Considerations

Level of experience

- What kind of *Legionella*-specific experience do the employees of this company have?
- Do the employees have appropriate training in critical fields (engineering, environmental health or industrial hygiene, water treatment, plumbing, microbiology)?
- Does the company have *Legionella*-specific experience with a facility of your size/type?
- Do they have experience with water system remediation, implementation of water management programs to prevent Legionnaires' disease, or both?

Laboratory expertise

- Is the laboratory they use accredited for environmental testing?
- Is the lab ELITE certified?
- Does it participate in a proficiency testing program for *Legionella*?
- What kind of environmental testing for *Legionella* does their laboratory use?
- Does their laboratory perform culture for *Legionella*, which is particularly important following remediation to ensure adequacy of the remediation progress?
- Does their laboratory perform PCR testing for *Legionella* which can be useful in quickly identifying areas of contamination?
- What level of identification (species/serogroup) can their laboratory perform?
- Is their laboratory willing to save samples and isolates and share them with public health laboratories if requested during an outbreak investigation?

Environmental assessment expertise

- How much experience does the company have with environmental assessments and/or sampling for *Legionella*?
- Can they describe situations where they performed an environmental assessment and/or *Legionella* sampling in a facility of your size/type?

Remediation expertise

- How frequently does the company provide remediation services and can they describe situations where they remediated *Legionella* from a building water system in a facility of your size/type?

- Can the company discuss the benefits and challenges associated with multiple approaches to remediation?

Water management expertise

- How much experience does the company have creating water management programs compliant with industry standards for a facility of your size/type?
- What level of support does the company provide with creation and implementation of water management programs?
- What is the spectrum of services they offer once the water management program is established?

Knowledge of codes, standards, and regulations

- Does the company have previous experience working in your state and/or jurisdiction?
- How familiar is the company with state and local building codes in your jurisdiction, water treatment regulations, healthcare accreditation and survey requirements, and public health reporting requirements?
- Local building code officials or your health department may be good resources for knowledge about existing codes, standards, and regulations.

Potential conflicts of interest

- Does the company have interest in promoting specific services or products?

APPENDIX C: STANDARDS, REGULATIONS, AND GUIDANCE

ASHRAE 188-2015, Legionellosis: Risk Management for Building Water Systems

Summary: Establishes minimum legionellosis risk management requirements for building water systems.

Link: https://www.ashrae.org/technical-resources/standards-and-guidelines/guidance-on-reducing-the-risk-of-legionella

ASHRAE 12-2000, Minimizing the Risk of Legionellosis Associated with Building Water Systems

Summary: Provides information and guidance in order to minimize *Legionella* contamination in building water systems.

Link: https://www.ashrae.org/technical-resources/standards-and-guidelines/guidance-on-reducing-the-risk-of-legionella

VA DIR 1061, Prevention of Healthcare-Associated *Legionella* Disease and Scald Injury from Potable Water Distribution Systems

Summary: Establishes policy for the prevention and control of healthcare-associated *Legionella* disease in VHA-owned buildings in which patients, residents, or visitors stay overnight.

Link: https://www.va.gov/VHApublications/ViewPublication.asp?pub_ID=3033

WRF Project No. 4664, Customer Messaging on Opportunistic Pathogens in Plumbing Systems

Summary: A series of messages for the water community to use when communicating with different audiences about *Legionella* in building water systems. Also includes recommendations for the best practices of reaching various audience segments, along with samples of each tactic.

Link: http://www.waterrf.org/PublicReportLibrary/4664.pdf

CDC PreventLD, Preventing Legionnaires' Disease: A Training on *Legionella* Water Management Programs

Summary: Online training aiming to outline how to reduce risk for *Legionella* in facilities through water management programs that align with industry standards such as ASHRAE 188-2015.

Link: https://www.cdc.gov/nceh/ehs/elearn/prevent-LD-training.html

CDC Developing a Water Management Program to Reduce *Legionella* Growth and Spread in Buildings: A Practical Guide to Implementing Industry Standards

Summary: Toolkit designed to help develop and implement a water management program to reduce risk for growing and spreading *Legionella* in building water systems.

Link: https://www.cdc.gov/legionella/downloads/toolkit.pdf

- WHO guidance

APPENDIX D: RESOURCES

1. ASHRAE. Legionellosis: risk management for building water systems. ASHRAE standard 188. Atlanta, GA: ASHRAE; 2015.
2. ASHRAE. Minimizing the Risk of Legionellosis Associated with Building Water Systems. ASHRAE standard 12. Atlanta, GA: ASHRAE; 2000.
3. CDC. Developing a Water Management Program to Reduce *Legionella* Growth and Spread in Buildings: A Practical Guide to Implementing Industry Standards. Atlanta, GA. 2017.
4. CDC. Disinfection of Hot Tubs that Contain *Legionella*. Atlanta, GA.
5. CDC. Environmental *Legionella* Isolation Techniques Evaluation (ELITE) Program. Atlanta, GA.
6. CDC. Model Aquatic Health Code (MAHC): An All-Inclusive Model Public Swimming Pool and Spa Code. Atlanta, GA.
7. CDC. Preventing Legionnaires' Disease: A Training on *Legionella* Water Management Programs (PreventLD Training). Western Region Public Health Training Center, University of Arizona. 2018.
8. Centers for Medicaid & Medicare Services. Requirement to reduce *Legionella* risk in healthcare facility water systems to prevent cases and outbreaks of Legionnaires' disease (LD) [Memorandum dated June 2, 2017]. Baltimore, MD: US Department of Health and Human Services, Centers for Medicaid & Medicare Services, Center for Clinical Standards and Quality/Survey & Certification Group; 2017.
9. Council of State and Territorial Epidemiologists. Public health reporting and national notification for legionellosis. Position statement no. 09-ID-45. Atlanta, GA: Council of State and Territorial Epidemiologists; 2010.
10. Doebbeling BN, Wenzel RP (1987). The epidemiology of *Legionella pneumophila* infections. Seminars in Respiratory Infections 2:206–21.
11. Fields BS, Benson RF, Besser RE. *Legionella* and Legionnaires' disease: 25 years of investigation. Clin Microbiol Rev 2002;15:506–26.
12. Garrison LE, Kunz JM, Cooley LA, et al. Vital Signs: Deficiencies in Environmental Control Identified in Outbreaks of Legionnaires' Disease - North America, 2000-2014. MMWR Morb Mortal Wkly Rep. Jun 10 2016;65(22):576-584.
13. Kanamori H, Weber DJ, Rutala WA. Healthcare outbreaks associated with a water reservoir and infection prevention strategies. Clin Infect Dis 2016;62:1423–35.
14. Mercante JW, Winchell JM. Current and emerging *Legionella* diagnostics for laboratory and outbreak investigations. Clin Microbiol Rev 2015;28:95–133.
15. Murdoch DR. Diagnosis of *Legionella* infection. Clin Infect Dis 2003;36:64–9.
16. Queensland Government – Queensland Health. Guidelines for *Legionella* Control in the operation and maintenance of water distribution systems in health and aged care facilities. Queensland, Australia, 2015.
17. Queensland Government – Queensland Health. Risk management plan for *Legionella* control in the operation and maintenance of the water systems. Queensland, Australia, 2015.
18. Soda EA, Barskey AE, Shah PP, et al. Vital Signs: Health Care–Associated Legionnaires' Disease Surveillance Data from 20 States and a Large Metropolitan Area — United States, 2015. MMWR Morb Mortal Wkly Rep 2017;66:584–589.
19. The Water Research Foundation. Customer Messaging on Opportunistic Pathogens in Plumbing Systems (Project No. 4664). 2018.
20. World Health Organization. *Legionella* and the prevention of legionellosis. Geneva, Switzerland: World Health Organization; 2007.

HOTEL HALE

WATER MANAGEMENT PLAN

Purpose: (b) (4) [redacted]

(b) (4) [redacted]

Policy: (b) (4) [redacted]

[redacted]

Date: May 14, 2020

include WATER Management Plan

Our goal at Hotel Hale is reduce transmission among employees and guest, maintain a healthy business operation and maintain a healthy work environment.

- Hotel and restaurant employees are required to wear masks and gloves at work.
- Maintain as much distance as possible among other employees and guests within the hotel.
- Hotel employees should also eliminate all unnecessary travel and should report to management if they have traveled in the past two weeks.
- At the start of each employees will be required to have their temperature taken and complete a Covid-19 questionnaire.
- We have signage that asks that guests notify management if they are sick, so proper management can be taken with that individual.
- Food servers will thoroughly clean table and chair surfaces between settings.
- Remove any unnecessary items from the table, such as candles, flowers vases, and salt and pepper shakers.
- To protect our employees and guests, we will provide personal protective equipment, disposable gloves, and disinfectant solution.
- All high-touch surfaces will be regularly cleaned and disinfected throughout the day, especially front-desk counters, doors and door handles, elevator buttons and any common use areas within the hotel.
- We will have windows and doors open as much as possible to encourage air flow.

Reduce Transmission Among Employees and Guest

Actively encourage sick employees to stay home:

- Employees who have symptoms (i.e., fever, cough, or shortness of breath) should notify their supervisor and stay home.

- Sick employees should follow CDC-recommended steps. Employees should not return to work until the criteria to discontinue home isolation are met, in consultation with their healthcare provider.
- Employees who are well but who have a sick family member at home with COVID-19 should notify their supervisor will be follow CDC recommended precautions.

HOTEL HALE AND EDEN COVID-19 ACTIVE SCREENING QUESTIONNAIRE

Your health and well-being are of the upmost importance and we are taking measures to keep Hotel Hale and Eden's environment safe for employees and the public. Therefore, anyone coming into the property will be screened and part of our screening process will include taking their temperature and asking the following questions.

1. Within the last 14-days, have you experienced a new cough that you cannot attribute to another health condition? ☐ YES ☐ NO

2. Within the last 14-days, have you experienced new shortness of breath that you cannot attribute to another health condition? ☐ YES ☐ NO

3. Within the last 14-days, have you experienced a new sore throat that you cannot attribute to another health condition? ☐ YES ☐ NO

4. Within the last 14-days, have you experienced new muscle aches that you cannot attribute to another health condition or a specific activity such as physical exercise? ☐ YES ☐ NO

5. Within the last 14-days, have you had a temperature at or above 100.4° or the sense of having a fever? ☐ YES ☐ NO

6. Within the last 14 days, have you had close contact, without the use of appropriate PPE, with someone who is currently sick with suspected or confirmed COVID-19?* (Note: Close contact is defined as within 6 feet for more than 10 consecutive minutes) ☐ YES ☐ NO If the individual answers YES to any of the questions they will not be allowed into the property.

Name: _____

Date: _____

Temp: _____

We have educated employees about how they can reduce the spread of COVID-19:

- Stay home if you are sick, except to get medical care.
- Inform your supervisor if you have a sick family member at home with COVID-19.
- Wash your hands often with soap and water for at least 20 seconds. Use hand sanitizer with at least 60% alcohol if soap and water are not available.
- Avoid touching your eyes, nose, and mouth with unwashed hands.
- Cover your mouth and nose with a tissue when you cough or sneeze or use the inside of your elbow. Throw used tissues in the trash and immediately wash hands with soap and water for at least 20 seconds. If soap and water are not available, use hand sanitizer containing at least 60% alcohol.
- Clean AND disinfect frequently touched objects and surfaces such as workstations, keyboards, telephones, handrails, and doorknobs. Dirty surfaces can be cleaned with soap and water prior to disinfection.
- Avoid using other employees' phones, desks, offices, or other work tools and equipment, when possible. If necessary, clean and disinfect them before and after use.
- Practice social distancing by avoiding gatherings and maintaining distance (approximately 6 feet) from others when possible.

We are establishing policies and practices for social distancing.

- Implementing flexible worksites (e.g., telework)
- Implementing flexible work hours (e.g., staggered shifts)
- Increasing physical space between employees at the worksite
- Increasing physical space between employees and customers (e.g., drive through, partitions)
- Downsizing operations
- Delivering products through curbside pick-up or delivery

Executive Summary

Organization: Quapaw Baths and Spa

WMP Name: Quapaw Baths and Spa

The Quapaw Baths & Spa Water Management Program (WMP) aligns the facility's key decision-makers in order to assure water safety and improve operational efficiencies.

The WMP utilizes the Hazard Analysis & Control process (also referred to as HACCP for Hazard Analysis and Critical Control Points). Routine, proactive use of this systematic risk management process will provide these benefits:

- Prevention of waterborne diseases by controlling the hazards which cause them.
- Establishment and compilation of concise, defensible records that document Quapaw Baths & Spas' decision-making process.
- Streamlined decision-making through the Water Management Team
- Alignment with water system best practices, notably utilizing the following references:

1. Occupational Health and Safety Administration technical manual and healthcare facility guidance (http://www.osha.gov/dts/osta/otm/legionnaires/index.html)
2. The American Society of Heating, Refrigerating and Air-conditioning Engineers Legionellosis Guideline (GPC12-2000), the forthcoming ASHRAE Standard 188P (Prevention of Legionellosis Associated with Building Water Systems)
3. Legionella and the Prevention of Legionellosis (2007), World Health Organization.

Water Management Team

Organization: Quapaw Baths and Spa

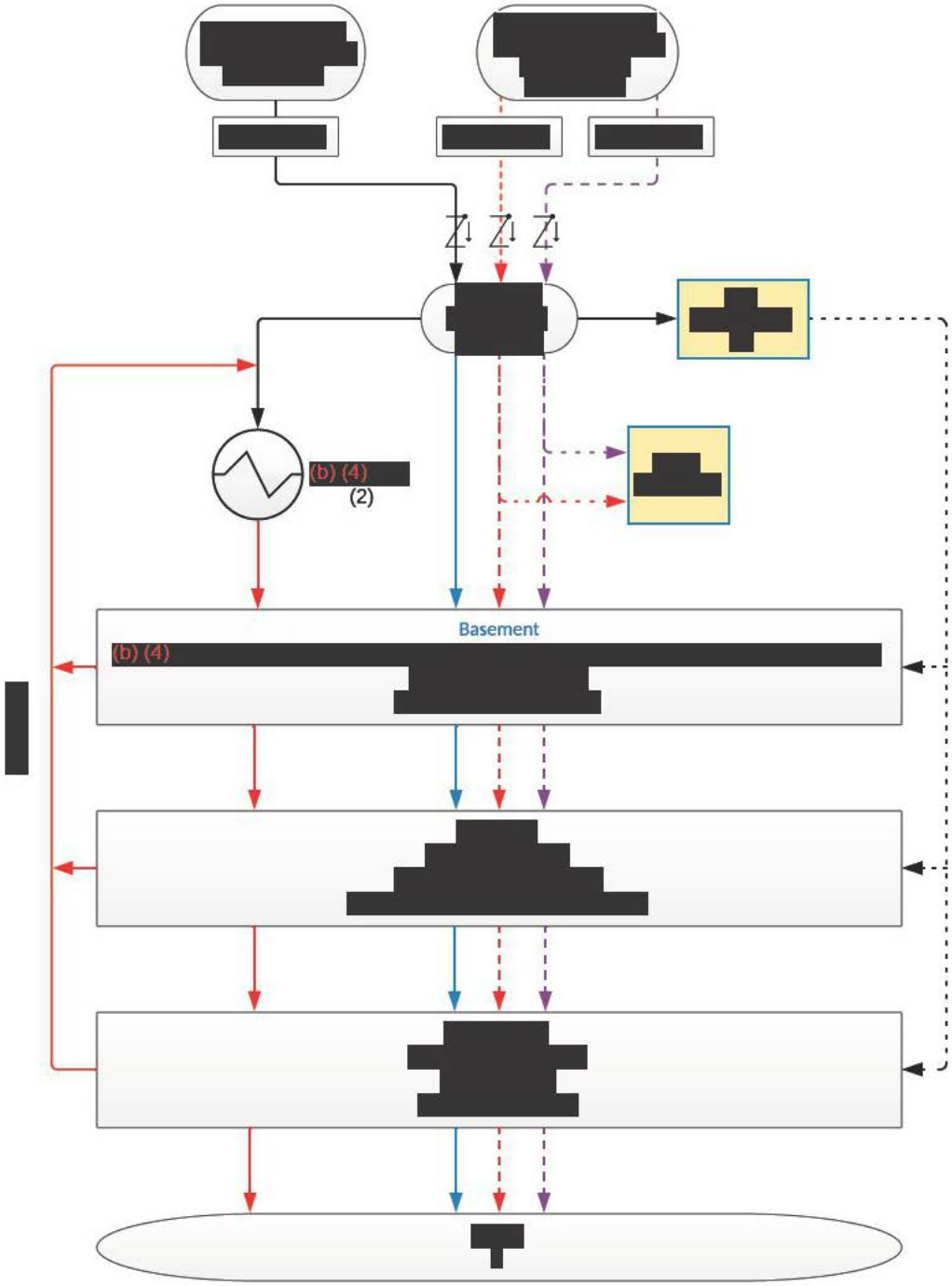
WMP Name: Quapaw Baths and Spa

Name	Title	Functional Area	Team Role	Email Address
Anthony Taylor	Owner	Owner	Decision Maker	anthony@taylorkempkes.com
Bob Kempkes	Owner	Owner	Decision Maker	bob@taylorkempkes.com
Jeanine Surf	General Manager	Operations Management	General Manager	jsurf@quapawbaths.com
Jim Schulz	Maintenance Manager	Facilities	Operations	
Mezo ____	Maintenance Tech	Facilities		
Daniel Ostrand	Phigenics Account Manager	Water Management Expert	Facilitator	dostrand@phigenics.com

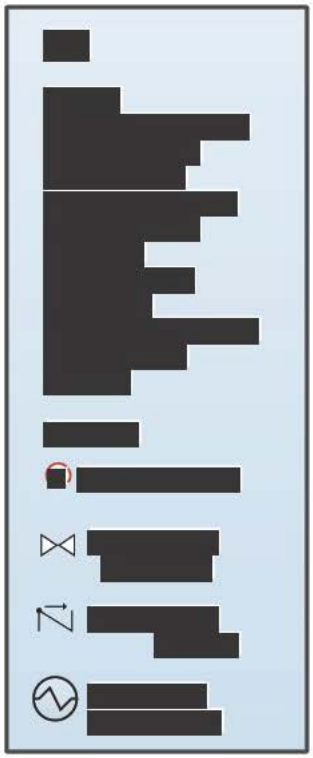
[redacted]

(b) (4)

[redacted]



[redacted]



QUAPAW BATHS & SPA
IMMERSE & INDULGE

phigenics
Independent Water Management

(b) (4) [redacted]

[redacted]

[redacted]

[redacted]

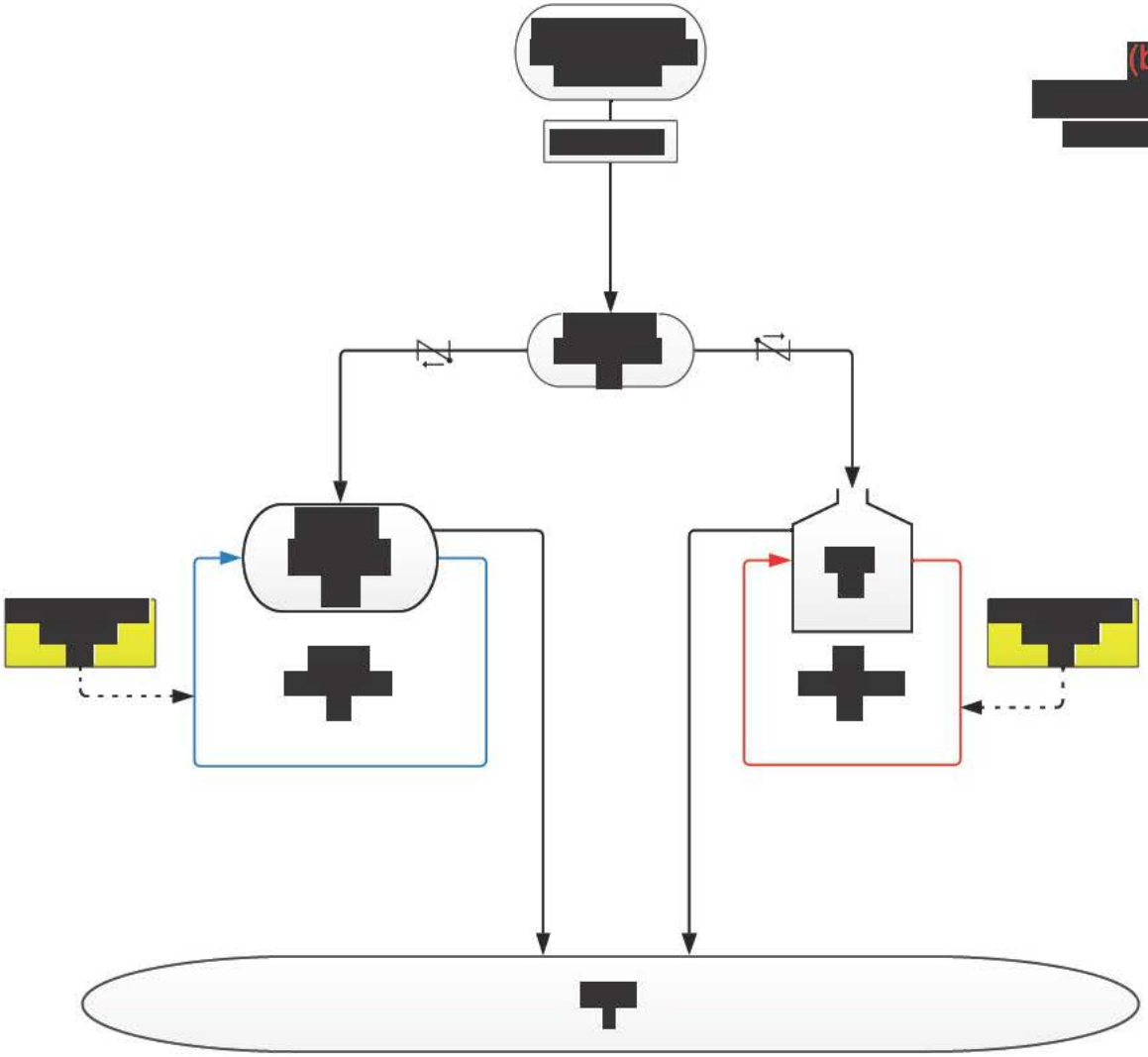
[redacted]

[redacted]

[redacted]

[redacted]

[redacted]



(b) (4) [redacted]

QUAPAW BATHS & SPA
IMMERSE & INDULGE

phigenics
Independent Water Management

Quapaw Baths and Spa Water Management Program
Quapaw Baths and Spa
413 Central Ave.
Hot Springs National Park, AR 71901

Water Use Description
Version Date: June 12, 2020

Building Details and Overview
The Quapaw Baths and Spa is a 25,000 SF hot springs spa facility located in Hot Springs National Park, AR. The facility was built in 1922 and was remodeled in 2008.

The building has two above ground floors and a basement. The basement serves baths, a steam cave, spa treatment rooms, laundry facilities, housekeeping and maintenance. The first floor serves baths, pools, and the cafe. The second floor serves spa treatment rooms.

The chiller and boiler are located on the first floor.

Potable Water Processing Steps

1. **Receiving**

A - Municipal Supply

- Potable water is received onto the campus from the municipality city water tees off at Central Avenue.
- The municipality applies chlorine as the final disinfectant.
- There is one municipal point of entry (POE) to the building located in the mechanical room with a RPZ backflow preventer, which is scheduled for annual testing in accordance with code requirements.
- The incoming cold water and fire suppression water have dedicated taps located in the mechanical room in the basement.
- A recirculation pump takes returning hot water from the basement, first floor and second floor, and sends it back into the municipal line prior to the heater.

B - Hot Spring Water [135°F]

- Hot spring water is received onto the campus from the Hot Springs National Parks Service.
- There is one point of entry (POE) to the building located in the mechanical room with a RPZ backflow preventer, which is scheduled for annual testing in accordance with code requirements.
- The incoming hot spring water has a dedicated tap located in the mechanical room in the basement.

C - Tempered Spring Water [98°F]

- Tempered Hot spring water is received onto the campus from the Hot Springs National Parks Service.
- There is one point of entry (POE) to the building located in the mechanical room with a RPZ backflow preventer, which is scheduled for annual testing in accordance with code requirements.
- The incoming hot spring water has a dedicated tap located in the mechanical room in the basement.

D - Steam Cave [135°F]

- Hot spring water enters the steam cave in the basement naturally at 135°F, from here water is plumbed to the next room (where all the pool injection equipment is installed) for drainage as described in processing step 8 below.

2. Supplemental Disinfection

B - Bathing Tubs [Ozone]

- Bathing Tubs at the facility have onboard ozonation units

D - Pool (Baths) [Chlorine, CO2, Ozone]

- The four bathing pools are located on the first floor of the building.
- The pools are treated with liquid chlorine using feeders controlled by continuous electronic monitoring.
- The pools are also treated with Carbon Dioxide (CO2) to control pH and reduce scaling conditions in the pools.
- Lastly, there are four ozone injection systems with gas-off systems installed to reduce chlorine demand by 10-20% and mitigate the chlorine smell in the pool. A green light indicates the functionality of each system. A carbon filter is installed in the gas-off line in the basement with an annual replacement PM. Blue Water Pools out of Little Rock, AR is the vendor for these systems.
- The chemical injection for chlorine, carbon dioxide and ozone is located on the sand filter recirculation line.
- *NOTE the above documentation describes the therapy pool based on this Supplemental Disinfection processing step; however, downstream processing at the point of Distribution is referenced later in the Water Use Description.*

3. Conditioning

D - Filtration (Sand Filters)

- Water serving the bathing pools is filtered using sand.
- A periodic backwash for cleaning when the pressure gradient gets high enough, as indicated on a local gauge.

- There is a 6-year life-expectancy on the sand before it needs to be changed out.

4. Heating (Potable)

A - Hot Water Heating [120°F]

- Potable hot water is generated via two hot water heaters at a target temperature of 120°F. The hot water system is a recirculating loop with a hot water return (HWR).

6. Distribution (Potable) -- all sub-processing steps

A - Cold Water; B - Cold Water (Ice Machines); C - Hot Water [120°F]; D - Hot Spring Water [135°F]

- *** Outlet also provides hot or tempered water to the user**
- The potable water distribution system contains Type L copper ,and PVC plumbing lines.
- Potable cold and hot water flows from the basement level of the building to the top floor.
- The potable water distribution system serves the following outlets:
  - Automatic Faucets*
  - Drink Stations
  - EVS Closets*
  - Emergency Eyewash/Showers
  - Food Service Equipment
  - Ice Machine
  - Laundry*
  - Sink (manual)*
  - Shower*
  - Shower with Hose*: ADA Bathrooms
  - Toilet/Urinal
  - Tubs*

7. Distribution (Non-Potable)

A - Fire Suppression

- The fire suppression system is located in the mechanical room and is received in the building via its own water main.
- As per initial operation, the fire suppression will be maintained by the installer.

B - Water Wall

- Municipal cold water is distributed to the ground floor where a vertical decorative "water wall" approximately 7 feed wide by 5 feet tall imitates a waterfall. Work on the decorative feature has been put on hold until further notice and is not in operation.

E - Pools (Baths) and Bathing Tubs

- The four bathing pools are located in the basement and on the first floor of the building.
- Bathing tubs are located on each floor of the building

- Hot Spring Water [135°F] is tempered by the Tempered Spring Water [98°F] stream before entering the pools and baths.

8. Waste

- All potable water outlets drain to the sanitary waste system.
- Specifically for thermal water, there is a square hole in the ground where it is drained.

<u>Utility Water Processing Steps</u>

1. Receiving

A - Municipal Supply

- Municipal Potable cold water is received into the Central Utility Plant in the same manner it is received into the main building. Reference Potable Water Processing Step 1.A for additional information. One way check valves are located on each line before

3. Treatment

B - Closed Hot Loop

- A corrosion inhibitor is added to the loop when levels test below what is recommended by the vendor.
- Maintenance is carried out by GTS.

C - Closed Chilled Loop

- A corrosion inhibitor is added to the loop when levels test below what is recommended by the vendor.
- Maintenance is carried out by GTS.

4. Heating and Cooling

B - Hot Water Generation

- One boiler generates hot water in order to supply building heating.
- Water is recirculated back to the boiler.

C - Chilled Water Generation

- Chilled water is maintained between one 60 ton chiller. It supplies cooling to the building's air handler units.
- Condenser water flows through the system daily.

6. Distribution

A - Circulation- Chilled Closed Loop

- Chilled water supplies cooling to the building's air handler units.
- 1 chilled loops - Serving building HVAC.

B - Circulation- Hot Closed Loop

- Hot closed loop water supplies heating to the building's air handler units.
- 1 hot loops - Serving building HVAC.

7. Waste

- All utility water outlets drain to the sanitary waste system.

Safety Analysis Summary Table

Organization: Quapaw Baths and Spa

WMP Name: Quapaw Baths and Spa

Processing Step	Potential Hazards			Risk Significant?	Risk Basis	Control Measure(s)
1A. RECEIVING - Municipal Supply	B	C	P	No	Cold water is received from the City of Hot Springs. Water is processed in accordance with Primary Drinking Water Standards as required in the Code of Federal Regulations. As part of the disinfection process, the municipality treats the water with Chlorine. There is no history of frequent main breaks or other treated municipal supply problems.	1. Confirm Source Water Safety 2. Confirm Source Water Quality 3. Disinfectant Monitoring
1B. RECEIVING - Hot Spring Water [135°F]	B	C	P	No	Hot spring water is received onto the campus from the Hot Springs National Parks Service. This water stream is untreated. However, the high temperature of this stream reduces the potential for microbial activity.	1. Monitoring bacterial quality
1C. RECEIVING - Tempered Spring Water [98°F]	B	C	P	No	Hot spring water is received onto the campus from the Hot Springs National Parks Service. This water stream is untreated. The Tempered water stream has an increased water age and comes from a large storage tank upstream. What's more, it is in a temperature range more conducive to biological growth.	1. Ozonator (Currently Planning)
1D. RECEIVING - Steam Cave	B	C	P	No	(b) (2) [redacted] for drainage as described in processing step 8. This water stream is untreated; however, the high temperature of this stream reduces the potential for microbial activity.	1. Monitoring bacterial quality

Processing Step	Potential Hazards			Risk Significant?	Risk Basis	Control Measure(s)
2B. SUPPLEMENTAL DISINFECTION for Bathing Tubs				Yes	The facility's tubs all have onboard ozonator units.	**1. Monitoring**
2D. SUPPLEMENTAL DISINFECTION for Pools	B	C		Yes	Four bathing pools at the facility, located on the first floor, are treated manually with liquid chlorine and continuously with carbon dioxide and ozone. Chlorine residuals are monitored manually with test strips three times a day. Carbon dioxide and ozone are controlled by continuous electronic monitoring. The chemical injection for chlorine, carbon dioxide and ozone is located on the sand filter recirculation line.	**1. Maintain desired chlorine range** **2. Ozone monitoring** **3. Carbon Dioxide monitoring**
3D. CONDITIONING - Filtration (Sand Filters/Bathing Pools)	B			Yes	There is a sand filter for the bathing pools. Filters can serve as surface area for biological growth, and as a source of biological material for the water system when not well disinfected. Since this unit is on a system disinfected by the previously discussed liquid chlorine system, carbon dioxide and ozone, controls for that processing step can be considered as a control that reduces the risk at this processing step without further/different controls here.	**1. Routine backwash of filter** **2. Filter Change**
4A. HEATING, 120°F				No	Potable hot water used for restrooms, locker rooms, and laundry is generated via two hot water heaters set to a temperature of 120°F. At this temperature, there is some potential for microbiological growth while the risk of scalding is reduced. Exposure at this step is limited to trained staff and contractors working with the heating systems.	1. Monitor Temperature
6A/6B. DISTRIBUTION (Potable) - Cold Water/Ice Machines	B			No	Cold water temperatures (<65°F) reduce the potential for microbiological growth is reduced compared to a hot water system. Based on outlet types in the distribution system, exposure to waterborne pathogens is still possible. The municipality applies chlorine to the water serving Quapaw Bath and Spa, resulting in the need to measure free residual oxidant (FRO) at the incoming point and throughout the distribution system to characterize the disinfectant profile at the facility. Baseline measurements of Free Residual Oxidant indicated levels ranging from 1.0-2.0 ppm Cl_2 in the cold water distribution system. The cuber ice machine, which does not have filtration, does have a PM strategy.	1. Flushing 2. Monitoring **3. Ice machine PM**

Processing Step	Potential Hazards			Risk Significant?	Risk Basis	Control Measure(s)
6C. DISTRIBUTION (Potable) - Hot Water	B			No	The hot water distribution system can be extensive and complex within the building water system. Along with favorable temperatures for growth, there is potential for disinfectant residuals to dissipate and leave the system with low or non-detectable levels of hazard control. The potable hot water serves laundry and the showers in the locker rooms. Based on the heating configuration onsite, hot water serving guest areas is received at a temperature approximately 120°F. While this temperature reduces the risk of scalding, the risk of microbiological growth remains. Free residual oxidant (FRO) readings are important to further understand the risk of growth in the distribution system. Baseline measurements of FRO indicated levels ranging from non-detectable-0.07 ppm Cl_2 in the hot water distribution system.	1. Flushing 2. Monitoring 3. Temperature Monitoring
6D. DISTRIBUTION (Potable) - Hot Spring Water (Baths and Steam Room)	B			Yes	The baths are fed by the municipal hot spring water supply and the temperature can be mixed down using the tempered spring water. There is high exposure potential at this step based on the usage of the baths. Additionally, hot spring water is utilized for the steam room (cave).	**1. Temperature Monitoring** **2. Flushing**
7A. DISTRIBUTION (Non-Potable) - Fire Suppression	B			No	The fire suppression system is fed from the basement, via a separate line from the municipal supply. Maintenance and flushing of the fire suppression system is the responsibility of the installer, is completed on an annual basis and reports are filed with the city. Though there is potential for microbiological growth due to stagnant lines, exposure is limited. In the event of a fire or activation of the sprinkler system, the affected area would be under evacuation.	1. Flush Testing
7B. DISTRIBUTION (Non-Potable) - Water Wall	B			Yes	A decorative water wall is located in the basement. This feature is fed with the potable cold water. There is minimal potential for aerosolization at this step. Work on the decorative feature has been put on hold until further notice and is not in operation.	**1. Apply Treatment**

Processing Step	Potential Hazards			Risk Significant?	Risk Basis	Control Measure(s)
7E. DISTRIBUTION (Non-Potable Spring) - Pools (Baths) and Bathing Tubs	B	C	P	Yes	Tempered spring water [98°F] is used to mix with the thermal water [135°F] in the pools as well as the baths. The four bathing pools are located in the basement and on the first floor of the building. Pool water is treated with chlorine, carbon dioxide and ozone. Baths/Tubs are disinfected with ozonators.	**1. Temperature Monitoring**
8. WASTE	B	C	P	No	Sewage can transmit pathogens or other contaminants, however exposure is limited and well controlled. Sewage drains to the sanitary waste system Specifically for thermal water, there is a square hole in the ground where it is drained.	1. Sanitary Sewer: 2. Backflow Prevention
1A. Municipal Supply				No	Since the water received for the utility system is the same as that of the potable system, this stream can be considered as having the same risk basis/controls as that described in step 1A of the potable system analysis.	1. N/A
3B. Treatment-Closed Hot Loop				No	Treatment of the closed loops occurs infrequently, and the method of chemical addition limits exposure potential. Treatment is applied and monitored by a third party.	1. N/A
3C. Treatment-Closed Chilled Loop				No	Treatment of the closed loops occures infrequently, and the method of chemical addition limits exposure potential. Treatment is applied and monitored by a third party.	1. N/A
4B. Heating and Cooling - Cold Water Generation				No	The method of cooling water water generation - an air-cooled chiller - does not allow exposure of the chilled water to guests or employees on any routine/frequent basis, limiting exposure.	1. N/A
4B. Heating and Cooling - Hot Water Generation				No	The method of hot water generation - a gas fired heater - does not allow exposure of the heated water to guests or employees on any routine/frequent basis, limiting exposure.	1. N/A
6A. Distribution - Circulation of closed chilled loop				No	The closed loop limits exposure risk and prevents significant micriobio growth within this distribution system.	1. N/A
6B. Distribution - Circulation of closed hot loop			P	No	The closed loop limits exposure risk and prevents significant micriobio growth within this distribution system. Scald potential from hot pipes is also limited due to the limited exposure risk to the pipes themselves.	1. N/A

Processing Step	Potential Hazards			Risk Significant?	Risk Basis	Control Measure(s)
7A. Waste				No	Since the waste stream for the utility system is the same as that of the potable system, this stream can be considered as having the same risk basis/controls as that described in step 8A of the potable system analysis.	1. N/A

Potential Hazards: (B)iological, **(C)**hemical, **(P)**hysical

Program Control Summary Table

Organization: Quapaw Baths and Spa

WMP Name: Quapaw Baths and Spa

Processing Step	Control Measure(s)	Control Limit	Monitoring Method	Frequency	Corrective Action	Records
2B. SUPPLEMENTAL DISINFECTION for Bathing Tubs	1. Monitoring	Verify ozonators online.	Check blue indicator light.	Monthly	1. Repair/replace hardware if needed	PhiAnalytics
2D. SUPPLEMENTAL DISINFECTION for Pools	1. Maintain desired chlorine range	Free Residual Oxidant: 2.0-4.0 ppm pH: Alkalinity:	Chlorine levels checked via test strip readings	3x per day (7am, 12 pm, 3pm)	1. Adjust chemical feed as needed	State required pool log / phiAnalytics
	2. Ozone monitoring	Verify ozonators online.	Check blue indicator light.	Monthly	2. Repaire/replace hardware if needed.	phiAnalytics
	3. Carbon Dioxide monitoring	Verify CO_2 flow.	Visual check	Monthly	3. Work with vendor to repair/replace hardware if needed	phiAnalytics
3D. CONDITIONING - Filtration (Sand Filters/Bathing Pools)	1. Routine backwash of filter	Preventative maintenance performed	Backwash filter according to manufacturer recommendations	When pressure reads 30 psi	1. If backwash of filter is not performed, perform immediately.	
	2. Filter Change	Preventative maintenance performed	Filter changed per manufacturer recommendations	After 3 backwashes or 1x per month	2. If filter change is not performed, perform immediately and retrain staff as needed.	Log/PM System

Processing Step	Control Measure(s)	Control Limit	Monitoring Method	Frequency	Corrective Action	Records
6D. DISTRIBUTION (Potable) - Hot Spring Water (Baths and Steam Room)	1. Temperature Monitoring	Target Temperature: 135°F pH: 7-10	Monitor temperature via manual thermometer measurement Monitor pH via pH test strips	Daily	1. If temperature or pH is outside of desired range, flush and retest. If parameters remain out of range after flushing, contact NPS.	phiAnalytics
	2. Flushing	Target Flush Time: 3-5 minutes or until temperature reaches 135°F.	Flush outlets prior to daily use	Daily	2. If flushing is not performed, perform immediately	Flush Log/phiAnalytics
7B. DISTRIBUTION (Non-Potable) - Water Wall	1. Apply Treatment					
7E. DISTRIBUTION (Non-Potable Spring) - Pools (Baths) and Bathing Tubs	1. Temperature Monitoring	Target Temperature: 90-100°F	Monitor tempered spring water temperatures via manual thermometer measurement	Daily	1. If temperature is outside of desired range, flush and retest. If flushing does not bring temperature into desired range, contact NPS.	phiAnalytics

Validation Criteria Summary Table

Organization: Quapaw Baths and Spa

WMP Name: Quapaw Baths and Spa

Processing Step	Validation Criteria	Frequency
Step Name 2B. SUPPLEMENTAL DISINFECTION for Bathing Tubs	Validation Criteria **Test** Phigenics PVT TimeZero Test including TimeZero Dipslide and THAB. **Results** THAB less than or equal to 10^3 CFU/mL, Non-detectable (< 10 CFU/mL) of *Legionella* bacteria on PVT TimeZero test.	Frequency Quarterly
Step Name 2D. SUPPLEMENTAL DISINFECTION for Pools	Validation Criteria	Frequency
Step Name 3D. CONDITIONING - Filtration (Sand Filters/Bathing Pools)	Validation Criteria	Frequency
Step Name 6D. DISTRIBUTION (Potable) - Hot Spring Water (Baths and Steam Room)	Validation Criteria **Test** Phigenics PVT TimeZero Test including TimeZero Dipslide and THAB. **Results** THAB less than or equal to 10^3 CFU/mL, Non-detectable (< 10 CFU/mL) of *Legionella* bacteria on PVT TimeZero test.	Frequency Quarterly
Step Name 7B. DISTRIBUTION (Non-Potable) - Water Wall	Validation Criteria Work on the decorative feature has been put on hold until further notice and is not in operation.	Frequency
Step Name 7E. DISTRIBUTION (Non-Potable Spring) - Pools (Baths) and Bathing Tubs	Validation Criteria **Test** Phigenics PVT TimeZero Test including TimeZero Dipslide and THAB. **Results** THAB less than or equal to 10^3 CFU/mL, Non-detectable (< 10 CFU/mL) of *Legionella* bacteria on PVT TimeZero test.	Frequency Quarterly

Verification and Validation Schedule

Organization: Quapaw Baths and Spa

WMP Name: Quapaw Baths and Spa

Activity	Frequency	Responsibility
Periodic reassessment of the WMP to review any needed control changes, documentation strategy changes, additional changes required, additional water processing steps and/or large remodel/construction projects that require updates on the PFDs, etc	Annual per ANSI/ASHRAE 188, or as needed	WMT/Phigenics
Routine validation testing.	Quarterly - Water Management Team reviewed, updated periodically (annual WMP reassessment).	WMT/Phigenics
Verification of all monitoring/corrective actions of the program. Review to ensure the program is being implemented as designed--all controls are being implemented and documentation strategies recorded in the Program Controls Summary are being executed.	Annual	Phigenics Support of Facilities Manager
Initial baseline validation testing of the facility.	Upon implementation of the Program Controls Summary (~May 2020)	WMT/Phigenics
Quapaw Baths to review work and related records/documentation related to control locations.	Quarterly	Assigned Designee

HOT SPRINGS NATIONAL PARK LEASE

Of

QUAPAW BATHHOUSE

By and Between

THE NATIONAL PARK SERVICE

And

QUAPAW BATHS, LLC

TABLE OF CONTENTS

Section 1. DEFINITIONS

Section 2. LEASE OF PREMISES

2.1 Lease of Premises; Reservation of Rights

2.2 Waiver

2.3 Easements

2.4 Ownership of the Premises

2.5 Historic Property

Section 3. ACCEPTANCE OF THE PREMISES

3.1 As Is Condition of the Premises

3.2 Quapaw Baths' Due Diligence

3.3 Inventory and Condition Report

Section 4. LEASE TERM AND ABANDONMENT

4.1 Lease Term

4.2 Abandonment

Section 5. RENT

5.1 Net Lease

5.2 Annual Rent

5.3 Rent Adjustment

Section 6. USES OF PREMISES

6.1 Authorized Uses

6.2 Changes to Authorized Uses

6.3 Applicable Laws

6.4 Forbidden Uses

6.5 Site Disturbance

6.6 Protection of Cultural and Archeological Resources

6.7 Signs

6.8 Permits and Approvals

6.9 Alterations

Section 7. RECORDS AND AUDITS

Section 8. INITIAL IMPROVEMENTS BY TENANT

Section 9. CONSTRUCTION APPROVAL

9.1 In General

9.2 Enforced Delays
9.3 Utilities During Construction
9.4 Site Inspection
9.5 Approval of Construction
9.6 Construction Documents
9.7 General Scope of Review
9.8 Changes to Approved Construction Documents
9.9 Special Considerations for Historic Property
9.10 Evidence of Adequate Funds
9.11 Building Permit
9.12 Construction Completion Procedures
9.13 Service's Right to Utilize Construction Documents
Section 10. MAINTENANCE AND REPAIR
10.1 Quapaw Baths' Responsibilities
10.2 Preservation Maintenance Plan
10.3 Maintenance Reserve
Section 11. UTILITIES
Section 12. HAZARDOUS MATERIALS
Section 13. INSURANCE AND INDEMNIFICATION
13.1 Construction Insurance
13.2 Insurance During Lease Term
13.3 Conditions on Insurance
13.4 Policy Form and Content
13.5 Indemnity
Section 14. DAMAGE OR DESTRUCTION
14.1 No Termination; No Effect on Rental Obligation
14.2 Evaluation of Damage
14.3 Damage or Destruction; Duty to Restore
14.4 Application of Insurance Proceeds
14.5 Excess Insurance Proceeds
14.6 Emergency Repairs
Section 15. LIENS
15.1 No Power in Quapaw Baths to Create

15.2 Discharge of Liens by Quapaw Baths

15.3 No Consent or Waiver by Service

Section 16. ASSIGNMENTS

Section 17. ENCUMBRANCES

17.1 Approval Required

17.2 Purposes of Encumbrances

17.3 Exceptions to Approval

17.4 Copy of Encumbrances

17.5 Notices of Default

17.6 Terms of Encumbrances

Section 18. DEFAULTS AND LANDLORD'S REMEDIES

18.1 Termination for Default

18.2 Bankruptcy

18.3 No Waiver

18.4 Service's Right to Cure Defaults

Section 19. SURRENDER AND HOLDING OVER

19.1 Surrender of the Premises

19.2 Holding Over

Section 20. EQUAL OPPORTUNITY LAWS

Section 21. NOTICES

Section 22. ENERAL PROVISIONS

Exhibit A. Map of Premises

Exhibit B. Inventory and Condition Report

Exhibit C. Initial Improvements

QUAPAW BATHHOUSE LEASE

THIS LEASE is made and entered into by and between the United States Department of the Interior, acting through the National Park Service, an agency of the United States of America ("Service"), and Quapaw Baths, LLC, a limited liability company organized in the State of Arkansas, with its principal place of business located in Hot Springs, Arkansas ("Quapaw Baths").

WITNESSETH THAT:

WHEREAS, Hot Springs National Park ("Park") is a unit of the national park system;

WHEREAS, the Park contains property that has been determined suitable for leasing under 36 Code of Federal Regulations Part 18;

WHEREAS, the Service has determined that the use and occupancy of the property that is made available under this Lease is consistent with the Park area's General Management Plan and the requirements of Part 18 of Title 36 of the Code of Federal Regulations; and

WHEREAS, Quapaw Baths desires to lease the property on the terms and conditions set forth in this Lease;

NOW THEREFORE, in consideration of their mutual promises, the Service and Quapaw Baths hereby agree as follows:

Section 1. DEFINITIONS

As used in this Lease, the following defined terms are applicable to both singular and plural forms.

1.1 Alterations – means any construction, modification, rehabilitation, reconstruction, or restoration of the Premises other than Initial Improvements.

1.2 Applicable Laws – means all present and future laws, statutes, requirements, ordinances, judgments, regulations, and administrative and judicial determinations (that are applicable by their own terms to the Premises or Quapaw Baths), even if unforeseen or extraordinary, of every governmental or quasi-governmental authority, court or agency claiming jurisdiction over the Premises now or hereafter enacted or in effect (including, but not limited to, Part 18 and the Park's General Management Plan, environmental laws and those relating to accessibility to, usability by, and discrimination against, disabled individuals), and all covenants, restrictions, and conditions now or hereafter of record which may be applicable to the Quapaw Baths or to all or any portion of the Premises, or to the use, occupancy, possession, operation, maintenance, alteration, repair or restoration of any of the Premises, even if compliance therewith necessitates structural changes to the Premises or results in interference with the use or enjoyment of all or any portion of the Premises.

1.3 Annual Rent – means the annual fixed rent to be paid to the Service by Quapaw Baths under Section 5.

1.4 Assignment – means the transfer, whether it is direct or indirect, voluntary or by operation of law, assignment, sale, or conveyance, of Quapaw Baths' leasehold estate, or Quapaw Baths' rights under this Lease in whole or part. Such transfer may be designated as a sale, a conveyance, or an assignment. The sale, conveyance, or assignment (including by consolidation, merger, or reorganization) of a controlling interest in Quapaw Baths, whether in a single transfer or in a series of related transfers, and whether directly or by sales or transfers of underlying ownership interests, is an Assignment. Because Quapaw Baths is a limited liability company, "controlling interest" means the beneficial ownership of the capital assets of Quapaw Baths so as to permit exercise of managerial authority over the actions and operations of Quapaw Baths.

1.5 Commencement Date – means the first day of the Lease Term as stated in Section 4 of this Lease.

1.6 Encumbrance – means the direct or indirect, voluntary or by operation of law, encumbrance, pledge, mortgage, or other hypothecation of the interest or rights of Quapaw Baths under this Lease or the Premises or Quapaw Baths' leasehold estate.

1.7 Expiration Date – means the last day of the Lease Term as stated in Section 4 of this Lease.

1.8 F&E – means all fixtures and equipment in or on the Premises.

1.9 Hazardous Materials – means any material or other substance: (a) that requires investigation or correction under Applicable Laws; (b) that is or becomes defined as a hazardous waste, hazardous substance, pollutant, or contaminant, under Applicable Laws; (c) that is toxic, explosive, corrosive, flammable, infectious, radioactive, carcinogenic, mutagenic, or otherwise hazardous, and is or becomes regulated under Applicable Laws; (d) that, without limitation of the foregoing, contains gasoline, diesel fuel, or other petroleum hydrocarbons; (e) that, without limitation of the foregoing, contains polychlorinated biphenyls (PCBs), asbestos, or urea formaldehyde foam insulation; or (f) without limitation of the foregoing, contains radon gas. The term Hazardous Materials as used in this Lease includes Pre-Existing Hazardous Materials unless otherwise stated in a particular provision of this Lease.

1.10 Hazardous Materials Occurrence –means any use, treatment, keeping, storage, sale, release, disposal, migration, transport, or discharge of any hazardous materials from, on, under, or into the Premises or other Park property that occurs during the Lease Term.

1.11 Historic Property – means building(s) and land located within the boundaries of the Park that are part of a pre-historic or historic district or site included on, or eligible for inclusion on, the National Register of Historic Places.

1.12 Improvements – refers collectively to any Alterations and Initial Improvements.

1.13 Initial Improvements – means the construction, modification, rehabilitation, reconstruction, and restoration of the Premises as may be described in Section 8 of this Lease.

1.14 Interest Rate – means the percentage of interest charged based on the current value of funds to the United States Treasury that is published annually in the "Federal Register" or successor publication.

1.15 Inventory and Condition Report – means the document contained in Exhibit B to this Lease that describes the F&E in the Premises and the condition of the Premises (including F&E) as of the Commencement Date.

1.16 Lease Term – is the term of this Lease as stated in Section 4 of this Lease.

1.17 Lease Year – means a year of the Lease Term. The first Lease Year commences on the Commencement Date and ends on the expiration of the twelfth full calendar month following thereafter. Each subsequent Lease Year commences on the next day following the expiration of the preceding Lease Year, and ends on the expiration of the twelfth full calendar month following thereafter, or on the last day of the Lease Term, whichever occurs first.

1.18 Notice of Default – means a written instrument from the Service to Quapaw Baths providing notice of that Quapaw Baths is in default of the Lease.

1.19 NPS 28 – means the National Park Service document entitled *Cultural Resource Management Guideline*, as it now exists or hereafter may be revised, which is made a part of this Lease by reference.

1.20 Part 18 – means Part 18 of Volume 36 of the Code of Federal Regulations, as it now exists or hereafter may be revised.

1.21 Personal Property – means all furniture, equipment, appliances, and apparatus placed in or on the Premises that are neither permanently attached to nor form a part of the Premises.

1.22 Pre-existing Hazardous Materials – means hazardous materials (including storage tanks) that existed in, on, or under the Premises or other Park property prior to the Commencement Date.

1.23 Premises – means the property of the Park described in Section 2 of this Lease.

1.24 Preservation Maintenance Plan – is a document that sets forth a plan for Quapaw Baths' repair and maintenance of Historic Property.

1.25 Rent - means the rent Quapaw Baths will pay to the Service described in Section 5 of this Lease and any additional payments designated as Rent in this Lease.

1.26 Secretary's Treatment Standards – means the Secretary of the Interior's Treatment Standards for Historic Property, as they now exist or hereafter may be revised, which is made a part of this Lease by reference.

1.27 Sublease - means an agreement under which Quapaw Baths grants a person or entity (a Subtenant) the right to use, occupy, or possess a portion of the Premises.

1.28 Termination Date – means the date this Lease may be terminated or cancelled in accordance with its terms prior to the Expiration Date.

Section 2. LEASE OF PREMISES

2.1 Lease of Premises and Service's Reservation of Rights

Subject to all Applicable Laws, and all liens, encumbrances, restrictions, rights, and conditions of law or of record or otherwise, the Service hereby leases and demises to Quapaw Baths under the authority of Part 18, and Quapaw Baths hereby leases, upon and subject to the covenants and agreements contained in this Lease, from the Service the Premises described as follows:

> The structure known as the Quapaw Bathhouse located in Hot Springs National Park, Hot Springs, Arkansas, and adjacent property to include to the hedge on the

west side of the building, to the sidewalk at the edge of the basement stairwell on the north side of the building, to the sidewalk on the south side of the building, and to the wall on the east side of the building. (A map of the leasehold boundary is attached as Exhibit A to this Lease.)

The Service hereby excepts and reserves the right, at reasonable times and (except in case of emergency) following advance notice to Quapaw Baths, to enter and to permit any governmental agency, public or private utilities, and other persons to enter upon the Premises as may be necessary for the purposes of the administration of this Lease and the Park as determined by the Service, and to close the Premises when immediate danger to life or property is discovered; and

Excepts and reserves exclusive rights to all oil, gas, hydrocarbons, and other minerals in, under, or on the Premises and ownership of any current or future water rights applicable to the Premises.

2.2 Waiver

Quapaw Baths hereby waives any claims for damages for any injury or inconvenience to or interference with its use and occupancy of the Premises, any loss of occupancy or quiet enjoyment of the Premises or any other loss occasioned by the Service's exercise of its rights under this Lease or by the Service's actions taken for the management and protection of the Park's resources and visitors.

2.3 Easements

Nothing contained in this Lease shall give or be deemed to give Quapaw Baths a right to grant or reserve any type of easement or right-of-way affecting the Premises.

2.4 Ownership of the Premises

This Lease does not vest in Quapaw Baths any fee interest in the Premises. Title to the Premises at all times is with and will remain solely with the United States of America.

2.5 Historic Property

The Premises are Historic Property. As such, the following standards now apply to the maintenance of the Premises: the Secretary of the Interior's Standards for Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings, the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes and the Secretary of the Interior's Standards for Rehabilitation & Illustrated Guidelines for Rehabilitating Historic Buildings.

Section 3. ACCEPTANCE OF THE PREMISES

3.1 As Is Condition of the Premises

Quapaw Baths agrees to lease the Premises in their existing "as is" condition and acknowledges that in entering into this Lease, Quapaw Baths does not rely on, and the Service does not make, any express or implied representations or warranties as to any matters including, without limitation, any characteristics of the Premises or improvements thereon, the suitability of the Premises for the intended use, the likelihood of deriving trade from or other characteristics of the

Park, the economic or programmatic feasibility of Quapaw Baths' use and occupancy of the Premises, or hazardous materials on or in the vicinity of the Premises.

3.2 Quapaw Baths' Due Diligence

Prior to entering into this Lease, Quapaw Baths, in the exercise of due diligence, has made a thorough, independent examination of the Premises and all matters relevant to Quapaw Baths' decision to enter into this Lease, and Quapaw Baths is thoroughly familiar with all aspects of the Premises and is satisfied that the Premises are in an acceptable condition and meet the needs of Quapaw Baths.

3.3 Inventory and Condition Report

In the exercise of its due diligence, Quapaw Baths has taken into account the Inventory and Condition Report (Exhibit B to this Lease) that describes the condition of the Premises, including the F&E, and acknowledges that the Inventory and Condition Report is complete and accurate.

Section 4. LEASE TERM AND ABANDONMENT

4.1 Lease Term

The Lease Term shall be a period of fifty-five (55) years commencing on May1, 2007 (Commencement Date) and expiring on April 30, 2062 (Expiration Date), or ending on such earlier date as this Lease may be terminated in accordance with its terms (Termination Date); provided, however, that if Quapaw Baths fails to timely complete Initial Improvements in accordance with the completion requirements set forth in Section 8 of this Lease, this Lease shall be for a term of three (3) years, expiring on the third anniversary of the Commencement Date unless terminated earlier in accordance with its terms.

4.2 Abandonment

Quapaw Baths will occupy the Premises during the entire Lease Term. If it fails to do so, the Service, in its sole discretion, may determine that Quapaw Baths is in Default for abandoning the Premises. The Service will consider Quapaw Baths' occupancy is not required if the Service determines it infeasible because of the construction of Improvements.

Section 5. RENT

5.1 Net Lease

All Rent shall be absolutely net to the Service without any abatement, deduction, counterclaim, set-off or offset. Quapaw Baths will pay all costs, expenses, and charges of every kind and nature relating to the Premises, including, without limitation, all taxes and assessments.

5.2 Annual Rent

(a) During the first three Lease Years of this Lease, Quapaw Baths will pay to the Service Annual Rent for the Premises in the aggregate annual amount of ONE DOLLAR ($1.00) per year, the first payment to be made on or before the date Quapaw Baths executes this Lease and subsequent annual payments to be made on or before the first day of the second and third Lease

Years, respectively. [redacted]

(b) The Annual Rent, subject to subsection 5.3 below, will increase effective as of the beginning of the fourth Lease Year and annually thereafter during the Lease Term to reflect the proportionate cumulative increase in the CPI, if any, during the previous Lease Year.

(c) For purposes of this section, CPI means the United States Department of Labor, Bureau of Labor Statistics, All Cities Average Consumer Price Index, or if such index is no longer published, a successor or substitute index designated by the Service, that shows changes in consumer prices in the locale of the Park area.

(d) At the Service's option, payments of Rent shall be payable by wire transfer or other electronic means to such account as the Service may from time to time designate. All Rent payments consisting of $10,000 or more shall be deposited electronically by Quapaw Baths using instructions provided by the Service.

(e) The Service will assess an interest charge at the Interest Rate on all overdue Rent payments. The Service also may impose penalties for late payment to the extent authorized by Applicable Laws.

5.3 Rent Adjustment

(a) The Rent required by this Lease will be subject to adjustment at the request of the Service or Quapaw Baths after the end of the tenth, twentieth, thirtieth, fortieth, and fiftieth Lease Years of this Lease in order to maintain the Rent under this Lease in an amount and structure consistent with "fair market value rent." "Fair market value rent" for the purposes of this section means the most probable rent, as of a specific date, in cash or in terms equivalent to cash, for which the Premises, under the terms and conditions of this Lease, should rent for their highest and best permitted use after reasonable exposure in a competitive market under all conditions requisite to a fair leasing opportunity, with the Service and Quapaw Baths each acting prudently, knowledgeably, and for self-interest, and assuming that neither is under undue duress.

(b) To request a Rent adjustment, the requesting party must provide notice to the other party of its request within sixty (60) days before the end of the applicable Lease Year. Upon receipt of such notice, the parties will negotiate in good faith to determine whether a Rent adjustment is appropriate and, if so, the amount of such adjustment. If, after the end of a sixty (60) day negotiation period, the parties have not reached agreement on a possible Rent adjustment, either party may request that the matter be resolved by binding arbitration conducted by an arbitration panel by providing notice to the other party within thirty (30) days of the end of the negotiation period.

(c) The Service will select one member of the arbitration panel, and Quapaw Baths will select one member. Those two members then will select a third neutral member. The neutral arbiter must be a licensed real estate appraiser. The expenses of the neutral arbiter and other associated common costs of the arbitration will be borne equally by the Service and Quapaw Baths. The

arbitration panel will adopt procedures that treat each party equally, give each party the opportunity to be heard, and give each party a fair opportunity to present its position. A Rent adjustment determination must be made by a majority of the members of the panel and will be binding on the Service and Quapaw Baths. The arbitration panel will determine an appropriate adjustment to Rent, if any, to reflect the "fair market value rent" as defined in this Lease, effective as of the beginning of the eleventh, twenty-first or thirty-first Lease Year, as applicable.

(d) Unless otherwise agreed by the Service and Quapaw Baths, adjusted Rent established under this subsection will be in the form of Percentage Rent. "Percentage Rent" means an amount of money equal to a specified percentage of Quapaw Baths' Gross Revenues. "Gross Revenues" means the total amount received or realized by, or accruing to, Quapaw Baths from all sales for cash or credit, of services, accommodations, materials, and other merchandise made pursuant to the rights granted by this Lease, including gross receipts of Subtenants, commissions earned on contracts or agreements with other persons or companies operating in the Park, and gross revenues earned from electronic media sales. All monies paid into coin-operated devices whether provided by Quapaw Baths or by others shall be included in gross revenues. "Gross Revenues of Subtenants" means the total amount of money received or realized by, or accruing to, Subtenants from all sources as a result of the exercise of the rights conferred by a Sublease. A Subtenant will report all of its gross revenues to the Service without allowances, exclusions, or deductions of any kind or nature.

Section 6. USES OF PREMISES

6.1 Authorized Uses

Quapaw Baths may use the Premises only for the following:

-Large capacity public hot water pools with fountains and whirlpool jets

-Semi-private tub area

-Steam cave sauna with cool plunge pool

- Day spa

- Massage Rooms

- Large private bathing/massage spa room

- Catering kitchen and reception room available for private functions

- Sales of healthy snacks and juices

- Specialty gift shop

- Children's club with Park-related scheduled activities

6.2 Changes to Authorized Uses

Quapaw Baths may amend or change approved uses with the prior written approval of the Service. The Service will approve a change of the uses of the Premises only if it determines, among other matters, that the proposed use is consistent with Part 18, the Park's General Management Plan, all other Applicable Laws, and that the proposed change will not have an

adverse effect on the Service's ability to manage and protect the Park's resources, values, and visitors.

6.3 Applicable Laws

Quapaw Baths must comply with all Applicable Laws in its use and occupancy of the Premises.

6.4 Prohibited Uses

In no event may Quapaw Baths use the Premises for any purpose that is not permissible under Part 18 or, even if so permissible, may be dangerous to life, limb, property, or public health; that in any manner causes or results in a nuisance; that is of a nature that it involves substantial hazard, such as the manufacture or use of explosives, chemicals or products that may explode, or that otherwise harms the health or welfare of Park area resources, values, or visitors; or that results in any discharge of Hazardous Materials in, on, or under the Premises. Quapaw Baths may not, without the prior written consent of the Service (which may be withheld in its sole and absolute discretion): (a) use or permit the use of the Premises for any unauthorized sales of outlet, second-hand (other than used books), distress, fire, bankruptcy, liquidation, relocation, closing, or "going out of business" sales; (b) construct, permit to construct, or attach any equipment or furnishings to the exterior of the Premises, or any telecommunications and data communications equipment, including but not limited to satellite dishes and cellular or digital communications towers and antennae; (c) use or permit the use of the Premises for commercial filming and photography, or any event not typically and directly associated with operation of the Premises as permitted by the terms of this Lease, but excluding customary commercial filming and photography of conferences, meetings, and associated events at the Premises.

6.5 Site Disturbance

Quapaw Baths may not cut any timber or remove any other landscape features of the Premises, such as shrubs or bushes, without the Service's prior written consent. Quapaw Baths may not conduct mining or drilling operations, remove sand, gravel or similar substances from the ground, or commit waste of any kind.

6.6 Protection of Cultural and Archeological Resources

Quapaw Baths must ensure that any protected sites and archeological resources within the Park are not disturbed or damaged by Quapaw Baths except in accordance with Applicable Laws and only with the prior written approval of the Service. Quapaw Baths promptly must report all discoveries of any archeological resources to the Service. Quapaw Baths must cease work or other disturbance, which may impact any protected site or archeological resource, until the Service grants approval to continue upon such terms and conditions as the Service deems necessary to protect the site or resource.

6.7 Signs

Quapaw Baths may not post signs on the Premises of any nature without the Service's prior written approval. Any approval of a sign that may be given by the Service will specify the type, size, and other appropriate conditions concerning its display. The Service may post signs on the Premises as appropriate for the administration of the Park.

6.8 Permits and Approvals

Except as otherwise may be provided in this Lease, Quapaw Baths will be solely responsible for obtaining, at its expense, any permit or other governmental action necessary to permit its activities under this Lease.

6.9 Alterations

Quapaw Baths may not make any Alterations of any nature to the Premises without the prior written approval of the Service. Quapaw Baths may not construct new buildings or structures on the Premises, except that, with the prior written approval of the Service, Quapaw Baths may construct minor additions, buildings, or structures that the Service has determined as necessary for support of the uses authorized by this Lease.

Section 7. RECORDS AND AUDITS

Quapaw Baths must provide the Service (and its agents and affiliates, including without limitation, the Comptroller General of the United States) access to all books and records relating to the Premises and Quapaw Baths' use of the Premises under this Lease for the purpose of conducting audits to verify Quapaw Baths' compliance with the terms and conditions of this Lease for any of the five (5) preceding Lease Years. Quapaw Baths will keep and make available to the Service these books and records at a location in the Premises or within the locale of the Park.

When requested by the Service, Quapaw Baths will provide the Service with complete information and data concerning Quapaw Baths' operations and operating results.

Section 8. INITIAL IMPROVEMENTS BY TENANT

If otherwise granted approval by the Service under the terms of this Lease, Quapaw Baths hereby agrees to commence and engage diligently in the construction of the Initial Improvements described in Exhibit C to this Lease in accordance with Construction Documents approved by Service. Quapaw Baths must spend not less than $1.6 million dollars on Initial Improvements. Quapaw Baths must commence the construction of the Initial Improvements within thirty (30) days of the Commencement Date and complete construction on or before the last day of the third Lease Year of this Lease.

Section 9. CONSTRUCTION APPROVAL

9.1 In General

Quapaw Baths must undertake all Improvements at its sole expense and only with the Service's prior written approval. Quapaw Baths must perform all work in a good and workmanlike manner and with materials of at least the quality and standard of materials used in comparable facilities in the locale of the Park. Quapaw Baths must undertake Improvements in strict accordance with Applicable Laws and with approved Construction Documents. Upon request, Quapaw Baths must furnish the Service a correct copy of any contract with Quapaw Baths' general contractor, architects, or consultants. Quapaw Baths will determine (as a matter of health or safety) whether it may physically occupy specified portions of or all of the Premises during the construction of Improvements and notify the Service of its determination

9.2 Enforced Delays

The Service will not consider Quapaw Baths in default of this Lease in the event of an enforced delay in the construction of Improvements due to unforeseeable causes beyond the control of Quapaw Baths and without any fault or negligence on the part of Quapaw Baths. Such enforced delays include, without limitation, public enemies, war, invasion, insurrection, rebellion, riots, fires, floods, epidemics, quarantine restrictions, strikes, lockouts, freight embargoes, and unusually severe weather. In the event of an enforced delay, the time or times for construction of Improvements will be extended by the period of the enforced delay.

9.3 Utilities During Construction

In the preparation of proposed Construction Documents, Quapaw Baths must review utility plans for the location of existing utilities that may be affected by any Quapaw Baths Improvements. Quapaw Baths must obtain all necessary utility plans and permits from the appropriate public utility companies.

9.4 Site Inspection

The Service may enter the Premises at any time during the construction of Improvements with an inspector or representative who may observe all aspects of the work on the Premises. The Service will have no responsibility or liability with respect to the construction work, its prosecution or design, or be deemed to have waived any obligations or accepted any performance of Quapaw Baths under this Lease, based merely on the performance or non-performance of an inspection.

9.5 Approval of Construction

Quapaw Baths must request in writing advance permission from the Service to undertake Improvements. The request must include:

(a) proposed Construction Documents;

(b) if required by the Service, evidence of the availability of funding for the Improvements;

(c) documentation that required construction insurance is in effect; and

(d) other information as may be required by the Service.

9.6 Construction Documents

The proposed Construction Documents submitted to the Service must be complete and satisfactory to as showing all material elements of the Improvements. When proposed Construction Documents are approved by the Service, they become an Exhibit to this Lease without further action.

9.7 General Scope of Service's Review

The Service will not approve proposed Construction Documents unless it is able to determine in its discretion, among other matters, that the proposed Improvements are appropriate for the Park area and consistent with the requirements of Part 18, the Park area's General Management Plan and other Applicable Laws. Review and approval of proposed Improvements is subject to any required compliance with the National Environmental Policies Act (NEPA, 42 USC 4321 et seq.) and, if the project affects Historic Property, Section 106 of the National Historic Preservation Act (Section 106, 16 USC 470f).

9.8 Changes to Approved Construction Documents

Any material change in the approved Construction Documents and any deviation in actual construction from these documents are subject to the Service's prior written approval under the procedures stated in this Section. An approved change order will be issued by the Service if proposed changes are approved. Quapaw Baths shall prepare and maintain on the Premises during construction, current, annotated Construction Documents.

9.9 Special Considerations for Historic Property

The Service will not approve proposed Construction Documents unless it is able to determine in its discretion that they comply with the Secretary's Treatment Standards, NPS 28, and any conditions that may be imposed on the Improvements through the operation of other Applicable Laws, including, without limitation, NEPA and Section 106.

9.10 Evidence of Adequate Funds

As a condition to the approval of the construction of Improvements, Quapaw Baths must demonstrate to the satisfaction of the Service with appropriate documentation that it has available to it funds adequate to undertake and complete the project in accordance with all terms and conditions of the approved Construction Drawings.

9.11 Building Permit

Quapaw Baths shall not commence Improvements until such time as the Service may issue a Building Permit as evidence of approval of the Construction Documents. The Building Permit shall contain necessary and appropriate terms and conditions for the construction of the Improvements.

9.12 Construction Completion Procedures

Upon completion of the Improvements, Quapaw Baths shall submit to the Service (in formats specified by the Service):

(a) a notice of completion;

(b) if requested by the Service, satisfactory evidence of the payment of all expenses, liabilities, and liens arising out of or in any way connected with the Improvements;

(c) a complete set of "as built" drawings showing all revisions and substitutions during the construction period, including field changes and the final location of all mechanical equipment, utility lines, ducts, outlets, structural members, walls, partitions and other significant features of the Improvements; and

(d) a complete inventory of all F&E in on the Premises as of the completion of the Improvements.

Upon approval by the Service of the completion of the Improvements, the Service will issue a Certificate of Completion, including authorization to occupy the Premises.

9.13 Service's Right to Utilize Construction Documents

In the event of expiration or termination of this Lease, Quapaw Baths must assign and deliver to the Service as the Service's sole property, all architectural, engineering, and other plans, drawings, specifications, and studies relating to the Premises. In order to assure the Service that it will have the legal right to use such plans, drawings, specifications, and the like when the

Service becomes entitled to such items, Quapaw Baths must include in all of its agreements with the architects, engineers, and other professionals who prepare such items and who have any proprietary rights with respect to such items (including the rights to use in connection with the Premises) provisions whereby Quapaw Baths and the Service will have the right to use such plans and other materials in connection with the Premises. In furtherance and not in limitation thereof, Quapaw Baths (referred to below as "Owner") must include in all such agreements the following provisions:

> The drawings, specifications, and other documents prepared by the [Architect] for this Project ("Documents") are instruments of the [Architect's] service and, unless otherwise provided, the [Architect] will be deemed the author of these Documents and will retain all common law, statutory, and other reserved rights, including the copyright. For the purpose of completing this Project or for any other purpose, [Architect] and its consultants hereby (i) grant to the Owner and the National Park Service an irrevocable, fully paid-up, perpetual, worldwide license to copy and use such Documents for completion of this Project or for any other purpose and (ii) consent to the use by the Owner and the National Park Service, and of the modification by other design professionals retained by the Owner and the National Park Service, of the Documents. The [Architect] will have no responsibility or liability to the Owner or the National Park Service with respect to any modification to the Documents made by the Owner or National Park Service or any other design professional retained by the Owner or National Park Service. Furthermore, except where the Architect is found to be liable for such claim, damage or loss, the Owner shall hold [Architect] harmless from any such claim, damage, or loss arising out of (a) the modification of the Documents by the Owner or the National Park Service or another design professional. The Owner and the National Park Service may retain copies, including reproducible copies, of the Documents for information and reference in connection with the use and occupancy of the Project.
>
> Notwithstanding the foregoing, [Architect] acknowledges and consents to the use and ownership by the National Park Service, or its designees or assignees, of said plans and specifications in accordance with the Lease between the Owner (as Quapaw Baths) and the National Park Service (as Service) for the Premises leased to Quapaw Baths the associated Documents and [Architect] agrees to deliver copies of said plans and specifications to the National Park Service upon written request from the National Park Service.

Section 10. MAINTENANCE AND REPAIR

10.1 Quapaw Baths' Responsibilities

Quapaw Baths must repair and maintain the Premises during the Lease Term, to include, without limitation:

(a) the performance of all repairs, maintenance, replacement, upgrading, capital improvements, (whether structural or non-structural, foreseen or unforeseen, ordinary or extraordinary) necessary to maintain the Premises and the improvements thereon in good order, condition, and

repair in a manner consistent with the operation of comparable facilities in the locale of the Park and in compliance with all Applicable Laws;

(b) the replacement, as they become worn out or obsolete, of all furniture, fixtures, and equipment;

(c) housekeeping and routine and periodic work scheduled to mitigate wear and deterioration without altering the appearance of the Premises;

(d) the repair or replacement in-kind of broken or worn out elements, parts or surfaces to keep an acceptable appearance of the Premises;

(e) scheduled inspections of all building systems on the Premises;

(f) maintaining the grounds of the Premises in good condition, including, without limitation, regular grass mowing, managed lawn and ornamental plantings, and avoidance or removal of unsightly storage or parking of materials, equipment, or vehicles; and

(g) paying to the proper authority, when and as the same become due and payable, all taxes and assessments imposed by federal, state, or local agencies applicable to the Premises or Quapaw Baths' activities on the Premises.

10.2 Preservation Maintenance Plan

Quapaw Baths must repair and maintain all portions of the Premises consistent with a Preservation Maintenance Plan prepared by Quapaw Baths and approved by the Service as appropriate and consistent with the requirements of the Secretary's Treatment Standards and NPS 28. The Service may make reasonable modifications to the plan from time to time to reflect changing maintenance and repair needs of the Premises. Quapaw Baths must submit a proposed Preservation Maintenance Plan to the Service within thirty (30) calendar days of the Commencement Date.

10.3 Maintenance Reserve

(b) (4) [redacted]

(b) Quapaw Baths must deposit appropriate funds into the Maintenance Reserve on or before the last day of each quarter and must deliver to the Service within fifteen (15) days after the end of each quarter a statement setting forth the immediately preceding quarter's Gross Revenues, the amount deposited into the Maintenance Reserve, and the amount of funds held at the end of such quarter in the Maintenance Reserve.

(c) Quapaw Baths will establish, maintain, and replenish the Maintenance Reserve following withdrawals for the benefit of the Premises solely for the purpose of holding reserves to be used for emergency and non-emergency cyclical repair not recurring within a seven year time frame and component renewal and replacement. Notwithstanding anything in the foregoing to the contrary, Quapaw Baths may not use the Maintenance Reserve for routine, operational maintenance of facilities or housekeeping and grounds keeping activities. Nothing in this section will reduce or eliminate Quapaw Baths' obligation to perform repair and maintain the Premises with funds other than those in the Maintenance Reserve.

(d) Quapaw Baths will submit to the Service, on an annual basis within ninety (90) days after the close of each Lease Year, a written statement detailing all transactions posted to the Maintenance Reserve within such Lease Year. Quapaw Baths must maintain auditable records including invoices, billings, cancelled checks, and other documentation for all transactions posted to the Maintenance Reserve.

(e) The Service will consider Quapaw Baths' failure to maintain, replenish, or expend for the purposes set forth in this section funds contained in the Maintenance Reserve a material breach of this Lease for which the Service may seek monetary damages and other legal relief, including, without limitation, termination of this Lease.

(f) Upon expiration or termination of this Lease, Quapaw Baths will pay all funds remaining in the Maintenance Reserve not duly expended by Quapaw Baths to the Service as Additional Rent.

Section 11. UTILITIES

Quapaw Baths at its sole expense will arrange with appropriate utility providers (including the Service where applicable) for all utilities furnished to the Premises, including, without limitation, gas, electricity, other power, water, cable, telephone and other communication services, sewage, and waste removal. Any utility service provided by Service will be subject to the Service's policies, procedures and costs for provision of utility services to third parties as the Service may amend from time to time.

Section 12. HAZARDOUS MATERIALS

The following provisions apply to Hazardous Materials associated with the Premises:

(a) Quapaw Baths may not use, treat, keep, store, sell, release, discharge, or dispose of Hazardous Materials from, on, about, under, or into the Premises except in compliance with all Applicable Laws and as approved by the Service in writing;

(b) Quapaw Baths must use, manage, treat, keep, store, release, discharge, and dispose of its approved Hazardous Materials in accordance with all Applicable Laws. Quapaw Baths must timely acquire any and all permits required for its Hazardous Materials and related activities and fully comply with the provisions and conditions of such permits;

(c) If any Hazardous Materials Occurrence caused by Quapaw Baths results in any contamination of the Premises, other Park property, or neighboring property, Quapaw Baths promptly must take all actions at its sole expense as necessary to comply with Applicable Laws and to allow the Premises or such other property to be used free of any use restriction imposed under Applicable Laws as a result of the Hazardous Materials Occurrence. Except in cases of an emergency, Quapaw Baths first must obtain the Service's written approval of such actions;

(d) Quapaw Baths, at its expense, must abate all Hazardous Materials in accordance with Applicable Laws, including, without limitation, lead paint and asbestos, in, on, or under the Premises as of the Commencement Date and thereafter; and

(e) If Quapaw Baths discovers any unapproved Hazardous Materials in, on, or under the Premises or becomes aware of a Hazardous Materials Occurrence related to the Premises, Quapaw Baths must immediately notify the Service.

Section 13. INSURANCE AND INDEMNIFICATION

13.1 Construction Insurance

Quapaw Baths must obtain and keep in force during all Improvements and other construction work, at its sole expense, the following:

(a) When requested by the Service at any time, performance and payment bonds approved by the Service, to cover payment of all obligations arising under all contracts let in connection with the construction of Improvements or other work ("Construction Contract") and guaranteeing performance and payment under such Construction Contracts and payment in full of all claims for labor performed and materials supplied under such Construction Contracts. The bonds must be issued by a responsible surety company, licensed to do business in Arkansas, in an amount not less than the amount of the respective Construction Contract, including without limitation amounts for cost overruns, price increases, change orders, forced delays and the like, and must remain in effect until the entire work under such Construction Contract has been completed and accepted by the Service.

(b) During the course of construction of Improvements or other work, to the extent not covered by other property insurance maintained by Quapaw Baths, comprehensive "all risk" or "special form" builder's risk insurance, including vandalism and malicious mischief, covering all Improvements or other work in place on the Premises, all materials and equipment stored at the Premises and furnished under a Construction Contract, and all materials and equipment that are in the process of fabrication at the premises of any third party or that have been placed in due course of transit to the Premises when such fabrication or transit is at the risk of, or when title to or an insurable interest in such materials or equipment, has passed to Quapaw Baths or its construction manager, contractors, or subcontractors (excluding any tools and equipment owned by contractors, subcontractors, and construction managers, and property owned by the employees of contractors, subcontractors, and the construction manager), such insurance to be written on a completed value basis in an amount not less than the full estimated replacement cost of all Improvements or other work, as applicable.

13.2 Insurance During the Lease Term

(b) (4)

(b) (4)

[redacted]

13.3 Conditions on Insurance

(a) The policy or policies evidencing construction, property, and liability insurance must provide that in the event of loss hereunder, the proceeds of the policy or policies must be payable to Quapaw Baths to be used solely for Alterations of the property damaged or destroyed, as approved and directed by the Service, with any balance of the proceeds not required for such Alterations to be paid to Quapaw Baths.

(b) The proceeds of any policy or policies evidencing construction, property, and liability insurance must be payable in accordance with this Lease and any loss adjustment or disposition

(b) (4) [redacted]

13.4 Policy Form and Content

(a) All of the insurance required under this Lease and all renewals thereof, must be issued by one or more companies of recognized responsibility licensed to do business in Arkansas with a financial rating of at least a Class B+ (or equivalent) status, as rated in the most recent edition of Best's Insurance Reports (or equivalent), or as otherwise acceptable to the Service.

(b) Any deductible or self-insurance retention for insurance required pursuant to this section must be per occurrence, subject to the Service's prior written approval, and commensurate with such deductible as is generally provided for in policies carried by prudent operators of comparable properties in the Arkansas area. Liability coverage will carry no deductible. Quapaw Baths must pay all deductibles and self-insurance retentions. All insurance of Quapaw Baths shall be primary coverage.

(c) All policies provided for herein expressly must provide that such policies may not be canceled, terminated, or altered without thirty (30) days prior written notice to the Service. Quapaw Baths must provide the Service, on or before the Commencement Date and annually thereafter, a copy of each policy or a certificate of the policy executed by a properly qualified representative of the insurance company evidencing that the required insurance coverage is in full force and effect. Quapaw Baths must maintain all policies provided for herein throughout the Lease Term and renew or replace such policies before the expiration of the term of the policy. Except for specific provisions described herein, no exclusion may be permitted in any policy if it conflicts with any coverage required hereby, and, in addition, no policy may contain any exclusion from liability for personal injury or sickness, disease, or death or that in any way impairs coverage under the contractual liability coverage described above.

(d) If the Service at any time, but not more than annually, believes that the limits or extent of coverage, deductibles or self-insurance retention, with respect to any of the insurance required by this Lease, are either excessive or insufficient for a prudent owner of property of the nature of the Premises, the Service may determine the proper and reasonable limits and extent of coverage, deductibles, and self-insurance retention limits for such insurance and, thereafter, Quapaw Baths must carry such insurance with the limits and extent of coverage, deductibles, and self-insurance retention limits as so determined. Notwithstanding any of the foregoing to the contrary, the limits of liability insurance required under this section may be increased but will in no event be reduced pursuant to this subsection below the dollar amount previously stated.

(e) Quapaw Baths assumes full risk and responsibility for any inadequacy of insurance coverage or any failure of insurers. No approval by the Service of any insurer, or the terms or conditions of any policy, or any coverage or amount of insurance, or any deductible amount may be construed as a representation by the Service of the solvency of the insurer or the sufficiency of any policy or any coverage or amount of insurance or deductible.

(f) Quapaw Baths may not do anything, or permit anything to be done, in or about the Premises or on adjacent or nearby property that would invalidate or be in conflict with the provisions of any fire or other insurance policies covering the Premises or any property located therein, or

result in a refusal by insurance companies of good standing to insure the Premises or any such property in amounts required hereunder.

13.5 Indemnity

Quapaw Baths hereby indemnifies, and agrees to defend, save and hold the United States of America, its employees, successors, agents and assigns, harmless from and against, and reimburse the United States of America for any and all claims, demands, damages, injuries, losses, penalties, fines, costs, liabilities, causes of action, judgments, and expenses, including without limitation expenses incurred in connection with or arising in any way out of this Lease, the use, occupancy or manner of use or occupancy of the Premises by Quapaw Baths or any other person or entity, the design, construction, maintenance, or condition of any improvements on the Premises, the condition of the Premises, and/or any accident or occurrence on the Premises from any cause whatsoever; provided, however, that Quapaw Baths will not be liable to the extent that the damages, expenses, claims, or suits result from the willful misconduct or negligence of the United States of America, or its employees, contractors, or agents; provided, further, that the United States of America will be liable only to the extent such claims are covered by the Federal Tort Claims Act (28 USC 2671 et seq.). The provisions of this section will survive the Expiration Date or Termination Date of this Lease.

Section 14. DAMAGE OR DESTRUCTION

14.1 No Termination; No Effect on Rental Obligation

Except as otherwise specifically provided for in this Lease, no loss or damage by fire or other cause resulting in either partial or total destruction of the Premises, the improvements thereon, or any other property on the Premises will operate to terminate this Lease. Except to the extent specifically provided for in this Lease, no such loss or damage will affect or relieve Quapaw Baths from Quapaw Baths' obligation to pay Rent provided for under Section 5 hereof, and in no event will Quapaw Baths be entitled to any prorated return or refund of such charges or rent paid hereunder. Unless this Lease, with respect to a particular building or buildings, is terminated pursuant to and in accordance with this Lease, no such loss or damage will relieve or discharge Quapaw Baths from the payment of impositions or other charges as they become due and payable, or from the performance and observance of any of the agreements, covenants, or conditions herein contained on the part of Quapaw Baths to be performed and observed.

14.2 Evaluation of Damage

Upon the occurrence of any event of damage or destruction to the Premises, the improvements thereon or any portion thereof, Quapaw Baths promptly must undertake to determine the extent of the same and the estimated cost and time to perform Improvements or other construction of such property in accordance with the provisions of this Lease. Quapaw Baths must notify the Service of its estimation of such cost and time as soon as reasonably practicable, but not later than ninety (90) days after the occurrence of the damage or destruction.

14.3 Damage or Destruction; Duty to Restore

If the Premises, the improvements thereon, or any portion thereof are damaged or destroyed at any time during the Lease Term and this Lease is not terminated pursuant to and in accordance with its terms, Quapaw Baths, as promptly as reasonably practicable and with all due diligence,

shall prosecute to completion Improvements of such property, including, without limitation, repair and/or replacement, as directed by the Service in its sole discretion; provided, however, that if the Service, in its sole discretion, determines not to permit such Improvements, including, without limitation, repair and/or replacement, of damaged or destroyed property, the applicable insurance proceeds shall be distributed to the Service and Quapaw Baths as their interests may appear based on the extent of their respective interests in the damaged or destroyed property.

14.4 Application of Insurance Proceeds

Quapaw Baths will hold all insurance proceeds received by or payable to any party with respect to such damage (except proceeds of insurance covering loss or damage of Quapaw Baths' Personal Property), less actual expenses incurred in connection with the collection thereof, in an interest bearing account, with all interest accrued thereon deemed proceeds of insurance for purposes of this Lease. Quapaw Baths will apply such proceeds to the costs of Improvements as directed by the Service. Quapaw Baths must pay any amount by which insurance proceeds received as a result of such damage are insufficient to pay the entire cost of such Improvements. Without limitation of the foregoing, Quapaw Baths must replace and restore all furniture, fixtures, and equipment necessary for the operation of the Premises. Notwithstanding the foregoing, if required by the Service, an insurance trustee acceptable to the Service may hold such proceeds for application in accordance with this Lease. Nothing herein contained may be construed as an obligation upon the Service to perform Improvements or any part thereof. Use of insurance proceeds for Improvements will not alter their character as Service structures.

14.5 Excess Insurance Proceeds

If there are proceeds of insurance in excess of that required for Improvements required under this Lease, upon receipt by the Service of satisfactory evidence that such work has been fully completed and paid for in accordance with the provisions of this Lease, and that the last day for filing any mechanic's or supplier of materials' liens have passed without the filing of any, or if filed, any such lien has been released, any remaining amount of such proceeds of insurance will be paid to Quapaw Baths.

14.6 Emergency Repairs

If a casualty occurs, there is a substantial possibility that immediate emergency repairs will be required to eliminate defective or dangerous conditions and to comply with Applicable Laws pending settlement of insurance claims and prior to procuring bids for performance of repairs. Notwithstanding any provision of this Lease to the contrary, Quapaw Baths promptly must undertake such emergency repair work after a casualty as is necessary or appropriate under the circumstances to eliminate defective or dangerous conditions and to comply with Applicable Laws.

Section 15. LIENS

15.1 No Power in Quapaw Baths to Create

Quapaw Baths will have no authority to take any action that may create or be the foundation for any lien, mortgage, or other encumbrance upon the reversion, fee interest, or other estate of the United States of America or of any interest of the United States of America in the Premises.

15.2. Discharge of Liens by Quapaw Baths

Quapaw Baths may not suffer or permit any liens known to Quapaw Baths to stand against the Premises for any reason. If a lien is filed against the Premises, Quapaw Baths promptly must notify the Service of such filing and must cause the lien to be discharged of record within sixty (60) calendar days after notice to Quapaw Baths of filing the lien. If Quapaw Baths fails to discharge or contest the lien within this period, then, in addition to any other right or remedy of the Service, the Service may, but will not be required to, procure the discharge of the lien either by paying the amount claimed to be due, by deposit in court, or by bonding. All amounts paid or deposited by the Service for any of these purposes, and all other expenses of the Service and all necessary disbursements in connection with them, shall become due and payable forthwith by Quapaw Baths to the Service upon written demand therefore as additional Rent.

15.3 No Consent or Waiver by Service

Nothing in this Lease may be deemed to be or be construed in any way as constituting the consent or request of the Service, expressed or implied, by inference or otherwise, to any person, firm or corporation, for performance of any labor or the furnishing of any materials in connection with the Premises.

Section 16. ASSIGNMENTS

Quapaw Baths may not effectuate an Assignment of this Lease, in whole or in part, or any real property on the Premises, nor Sublease the Premises to a Subtenant or any part thereof or any property thereon, nor grant any interest, privilege, or license whatsoever in connection with this Lease, without the express prior written permission of the Service. Approval of any Assignment is in the discretion of the Service and in no event will the Service grant an approval unless it is able to determine that the proposed assignee or subtenant is financially and managerially capable of carrying out the terms of this Lease. The Service has an unconditional right to assign this Lease or any or all of its rights and obligations under it at any time.

Section 17. ENCUMBRANCES

17.1 Approval Required

Quapaw Baths may not effectuate an Encumbrance on the Premises without the prior written permission of the Service. Approval of any Encumbrance is at the discretion of the Service and in no event will the Service approve an encumbrance unless the Service determines that it only grants its holder, in the event of a foreclosure, to assume the responsibilities of Quapaw Baths under this Lease or to select a qualified new tenant subject to the written approval of the Service, and that it does not grant its holder any rights to alter or amend in any manner the terms and conditions of this Lease.

17.2 Purposes of Encumbrances

The Service will approve an Encumbrance only to secure the repayment of a loan or loans (and associated obligations) made to Quapaw Baths for the purpose of making Initial Improvements, Alterations, or preservation maintenance of the Premises and improvements ancillary thereto as approved by the Service. The form of an Encumbrance instrument will be subject to the Service's prior written approval.

17.3 Exceptions to Approval

The Service need not provide prior approval for (a) refinancing, whether pursuant to foreclosure or otherwise, the outstanding principal balance on any Encumbrance previously approved by the Service pursuant to this Lease plus the reasonable financing costs incurred in connection therewith, or (b) the sale of any Encumbrance previously approved by the Service pursuant to this Lease, provided that the new holder is a thrift association, savings and loan association, commercial bank, pension fund, insurance company, registered real estate investment trust, other recognized institutional type lender, or other state or federally regulated funding agency. Quapaw Baths must provide the Service notice of such refinancing or sale within two (2) calendar days of consummation or receiving notice. No Encumbrance may extend to, affect, or be a lien or encumbrance upon the estate or interest of the Service in the Premises or any part thereof, the improvements thereon, or the fee interest in the Premises.

17.4 Copy of Encumbrance

Quapaw Baths will deliver to the Service, promptly after execution by Quapaw Baths, a copy, certified by Quapaw Baths as a true copy, of any Encumbrance and any subsequent amendment, modification, or extension thereof, together with the name and address of the owner(s) and holder(s) thereof.

17.5 Notices of Default

During the continuance of any Encumbrance, until such time as the lien of any Encumbrance has been extinguished:

(a) The Service will give to the lender a copy of any Notice of Default at the same time as it gives notice of same to Quapaw Baths.

(b) Quapaw Baths will give the Service a copy of any Notice of Default received from any lender, within two (2) calendar days after receipt thereof. The lender must give the Service a copy of any Notice of Default filed by the lender, and no such notice of Default may be deemed effective unless and until a copy thereof has been received by the Service.

17.6 Terms of Encumbrances

The terms of an approved Encumbrance must include, without limitation, the following:

(a) The lender will have the right, but not the obligation, at any time prior to the expiration or termination of the Lease and without payment of any penalty, to pay all Rent and impositions due thereunder, to provide any insurance and make any other payments, to perform Initial Improvements, preservation maintenance or Alterations, and do any other act or thing required of Quapaw Baths thereunder, and to do any act or thing that may be necessary and proper to be done in the performance and observance of the covenants, conditions, and agreements thereof to cure any default or prevent the

termination of the Lease. All payments so made and all things so done and performed by the lender will be as effective to cure any default or prevent a termination of the Lease as the same would have been if made, done and performed by Quapaw Baths. Under all circumstances, if the lender chooses to operate any and all businesses of Quapaw Baths in the Premises, the lender must obtain the prior approval of the Service of the entity that will operate such businesses.

(b) Should any monetary default occur under the Lease, the lender will have thirty (30) calendar days after the receipt by the lender of notice from the Service setting forth the nature of such default, in which to remedy such default. Should any non-monetary default occur under the Lease, the lender will have forty-five (45) calendar days after the receipt by the lender of notice from the Service setting forth the nature of such default, in which to remedy such default. If any non-monetary default is such that possession of the Premises may be necessary to remedy the default, the lender will have a reasonable time after the expiration of such forty-five (45) day period within which to remedy such default, provided that: (1) the lender presents a written plan to the Service outlining the proposed remedy and setting reasonable goals and reporting dates in writing toward completion of the remedy; (2) the lender has fully cured any default in the payment of all monetary obligations of Quapaw Baths under the Lease, including but not limited to Rent, impositions, operating expenses, and insurance premiums within the forty-five (45) day period, and shall continue to pay currently all such monetary obligations, as and when the same are due; (3) the lender performs all other obligations of Quapaw Baths under the Lease, to the extent that they are susceptible of being performed by the lender; (4) within forty-five (45) calendar days after receipt of the Service's notice, the Lender has acquired Quapaw Baths' leasehold estate created hereby or given the Service written notice that such lender intends to take action to acquire Quapaw Baths' leasehold estate and intends to commence foreclosure or other appropriate proceedings in the nature thereof and thereafter diligently and continuously prosecutes such proceedings to completion; and (5) after gaining possession of the Premises, the lender performs all of the obligations of Quapaw Baths under the Lease as and when the same are due and cures any defaults that require possession of the Premises to cure, such cure to be effected within thirty (30) calendar days of gaining possession, or such longer period of time as is set forth in the written plan as reasonably necessary to effect such cure using all due diligence.

(c) If the lender is prohibited by any process or injunction issued by any court or by reason of any action by any court having jurisdiction of any bankruptcy or insolvency proceedings involving Quapaw Baths from commencing or prosecuting foreclosure or other appropriate proceedings in the nature thereof, the times specified above for commencing or prosecuting such foreclosure or other proceedings will be extended for the period of such prohibition, provided that such lender has fully cured any default in the payment of any monetary obligations of Quapaw Baths under this Lease and continues to pay currently such monetary obligations including, but not limited to, payment of Rent, impositions, operating expenses, and insurance premiums, as and when the same become due, and that the lender performs all other obligations of Quapaw Baths under the Lease, to the extent that they are susceptible of being performed by the lender.

(d) Foreclosure of an Encumbrance or any sale thereunder, whether by judicial proceedings or by virtue of any power of sale contained in the Encumbrance, or any conveyance of the leasehold estate from Quapaw Baths to any lender by virtue or in lieu of foreclosure or other appropriate proceedings in the nature thereof, requires written notification to the Service. Upon such foreclosure, sale or conveyance, the Service will recognize the lender, or, subject to the Service's prior approval, any other foreclosure sale purchaser or recipient of any deed in lieu, as tenant hereunder, which successor tenant will take Quapaw Baths' interest in the Premises subject to all the terms and conditions of the Lease. Except as otherwise specifically provided herein, the lender or such successor tenant will, during its ownership of the leasehold interest, assume all the obligations of Quapaw Baths under the Lease arising during the period of such ownership. Unless the lender or such successor tenant has fully cured all defaults under the Lease within the times provided hereunder (whether any such cure period has expired prior to, during, or after the lender's conducting foreclosure proceedings or other remedies), the Service may exercise its remedies under the Lease with respect to such defaults. As a condition of the Service's recognition of a successor tenant, the successor tenant must assume all agreements, conditions, covenants, and terms of the Lease accruing from and after the effective date of such foreclosure, sale, or conveyance, and must put such agreement in writing in recordable form delivered to the Service; provided, however, that no such agreement by such successor tenant and no recognition of such successor tenant by the Service will constitute a waiver by the Service of any default by Quapaw Baths under the Lease or any of the Service's remedies arising by reason of any such default. The lender, or such successor tenant, must take such actions as may be necessary to obtain possession of the Premises.

Section 18. DEFAULTS AND SERVICES'S REMEDIES

18.1 Termination for Default

The Service may terminate this Lease for default if Quapaw Baths fails to keep and perform any of the terms and conditions of this Lease, provided that the Service first gives Quapaw Baths written notice of at least fifteen (15) calendar days in the case of monetary defaults and thirty (30) calendar days in the case of non-monetary defaults, of the Service's intention to terminate if the default is not cured within the applicable time period. If the Service terminates this Lease, all of the rights of Quapaw Baths under this Lease and in the Premises will terminate. Quapaw Baths hereby acknowledges the sovereign right of the Service to cancel this Lease at any time to the extent otherwise provided by law. The Service will consider such a cancellation as a default of the Lease.

18.2 Bankruptcy

The Service may terminate this Lease, at its discretion, in the event of a filing or execution of: (a) a petition in bankruptcy by or against Quapaw Baths that is not dismissed within ninety (90) calendar days of its filing; (b) a petition seeking relief of the same or different kind under any provision of the Bankruptcy Act or its successor; (c) an assignment for the benefit of creditors; (d) a petition or other proceeding against Quapaw Baths for the appointment of a trustee, receiver

or liquidator; or (e) the taking by any person of the leasehold created by this Lease or any part thereof upon execution, attachment, or other process of law.

18.3 No Waiver

No failure by the Service to insist upon the strict performance of any of the terms and conditions of this Lease or to exercise any right or remedy upon a default, and no acceptance by the Service of full or partial rent during the continuance of any default will constitute a waiver of any default or of such terms and conditions. No terms and conditions of this Lease may be waived or modified except by a written instrument executed by the Service. No waiver of any default will affect or alter this Lease, but each and every term and condition of this Lease will continue in full force and effect with respect to any other then existing or subsequent default.

18.4 Service's Right to Cure Defaults

If a default occurs under the terms of this Lease and Quapaw Baths fails to correct the default within the applicable grace period, the Service may choose to correct the default (entering upon the Premises for such purposes if necessary), and the Service will not be liable or in any way responsible for any loss, disturbance, inconvenience, or damage resulting to Quapaw Baths as a result. Quapaw Baths must pay to the Service upon demand the entire expense of the correction as additional Rent, including, without limitation, compensation to the agents, consultants, and contractors of the Service and related expenses. The Service may act upon shorter notice or no notice at all if necessary in the Service's judgment to meet an emergency situation or governmental time limitation or to protect the Service's interest in the Premises.

Section 19. SURRENDER AND HOLDING OVER

19.1 Surrender of the Premises

(a) On or before the Expiration Date or Termination Date of this Lease, Quapaw Baths must surrender and vacate the Premises, remove Quapaw Baths' Personal Property, and return the Premises, including the F&E, to as good an order and condition as that existing upon the Commencement Date, or, if applicable, as that existing upon completion of any Improvements by Quapaw Baths.

(b) For these purposes, the Service and Quapaw Baths will prepare an inventory and condition report of the Premises to constitute the basis for settlement by Quapaw Baths to the Service for F&E, or other elements of the Premises lost, damaged or destroyed during the occupancy of Quapaw Baths. Quapaw Baths must replace any such F&E or other elements of the Premises, return them to their condition as of the Commencement Date (ordinary wear and tear excepted), or, at the election of the Service, reimburse at the then current market value.

19.2 Holding Over

This Lease will end upon the Expiration Date or Termination Date and any holding over by Quapaw Baths or the acceptance by the Service of any form of payment of rent or other charges after such date will not constitute a renewal of this Lease or give Quapaw Baths any rights under this Lease or in or to the Premises.

Section 20. EQUAL OPPORTUNITY LAWS

Quapaw Baths and its agents shall comply with the requirements of (a) Title VII of the Civil Rights Act of 1964 (as amended), as well as Executive Order 11246 of September 24, 1965, as amended by Executive Order 11375 of October 13, 1967; (b) Title V, Sections 503 and 504 of the Rehabilitation Act of September 26, 1973, Public Law 93-112 (as amended), which prohibits discrimination on the basis of disability and requires government contractors and subcontractors to take Affirmative Action to employ and advance in employment qualified handicapped individuals; (c) 41 C.F.R. Chapter 60, which prescribes affirmative action requirements for government contractors and subcontractors; (d) the Age Discrimination in Employment Act of December 15, 1967 (as amended); (e) the Americans with Disabilities Act, 42 U.S.C. Sections 12101 et seq.; (f) and all other Applicable Laws relating to nondiscrimination in employment and in providing facilities and services to the public. Quapaw Baths shall do nothing in advertising for employees that will prevent those covered by these laws from qualifying for such employment.

Section 21. NOTICES

Except as otherwise provided in this Lease, any notice, consent or other communication required or permitted under this Lease must be in writing and delivered by hand, sent by courier, sent by prepaid registered or certified mail with return receipt requested, or sent by other reputable overnight delivery service, and addressed as appropriate to the following addresses (or to such other or further addresses as the parties may designate by notice given in accordance with this section):

<u>If to the Service</u>:

Superintendent

Hot Springs National Park

101 Reserve Street

Hot Springs, Arkansas 71901

<u>If to Quapaw Baths</u>:

Quapaw Baths, LLC

210 Central Avenue, Suite 2A

Hot Springs, Arkansas 71901

Section 22. GENERAL PROVISIONS

(a) Section and Subsection headings in this Lease are for convenience only and may not be construed as a part of this Lease or as in any way limiting or amplifying the provisions of this Lease.

(b) The language in all parts of this Lease in all cases must be construed as a whole according to its fair meaning and not strictly for or against either Service or Quapaw Baths. The parties acknowledge that each party and its counsel have reviewed this Lease and participated in its

drafting and, therefore, the rule of construction that any ambiguities are to be resolved against the drafting party may not be employed or applied in the interpretation of this Lease.

(c) Whenever the context so requires, the neuter gender includes the masculine and the feminine and the singular includes the plural and vice versa.

(d) The laws of the United States will govern the validity, construction, and effect of this Lease.

(e) This instrument, together with the exhibits hereto, constitute the entire agreement between Service and Quapaw Baths with respect to the subject matter of this Lease.

(f) The Service is not for any purpose a partner or joint venture participant of Quapaw Baths in the development or operation of the Premises or in any business conducted on the Premises. Under no circumstances will the Service be responsible or obligated for any losses or liabilities of Quapaw Baths. Quapaw Baths may not publicize or otherwise circulate promotional or other material of any nature that states or implies endorsement of Quapaw Baths or its services or products by the Service or any other governmental agency.

(g) This Lease does not, nor may it be deemed nor construed to, confer upon any person or entity, other than the parties hereto, any right or interest, including, without limiting the generality of the foregoing, any third party beneficiary status or any right to enforce any provision of this Lease.

(h) This Lease provides no right of renewal or extension to Quapaw Baths. No rights shall be acquired by virtue of this Lease entitling Quapaw Baths to claim benefits under the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, Public Law 91-646.

(i) Quapaw Baths warrants that no person or selling agency has been employed or retained to solicit or secure this Lease upon an agreement or understanding for a commission, percentage, brokerage or contingent fee. For breach or violation of this warranty, the Service may terminate this Lease for Default.

(j) In case any one or more of the provisions of this Lease for any reason is held to be invalid, such invalidity will not affect any other provision of this Lease, and this Lease will be construed as if the invalid provisions had not been contained in this Lease.

(k) All Exhibits referenced in this Lease are hereby attached to and incorporated in this Lease.

(l) Time is of the essence to this Lease and all of its terms and conditions.

(m) The voluntary sale or other surrender of this Lease by Quapaw Baths to the Service, or a mutual cancellation, or the termination by the Service pursuant to any provision of this Lease, shall not work a merger, but, at the option of the Service, either terminates any or all existing subleases hereunder or operates as an assignment to the Service of any or all subleases.

(n) If more than one tenant is named in this Lease, each tenant is jointly and severally liable for performance of the obligations of this Lease.

(o) Any and all remedies available to the Service for the enforcement of the provisions of this Lease are cumulative and are not exclusive, and the Service will be entitled to pursue either the rights enumerated in this Lease or remedies authorized by law, or both. Quapaw Baths will be liable for any costs or expenses incurred by the Service in enforcing any term of this Lease, or in pursuing legal action for the enforcement of the Service's rights, including, but not limited to, court costs.

(p) This Lease may not be amended or modified in any respect whatsoever except by an instrument in writing signed by the Service and Quapaw Baths.

(q) Nothing contained in this Lease may be construed as binding the Service to expend, in any fiscal year, any sum in excess of the appropriation made by Congress for that fiscal year or administratively allocated for the subject matter of this Lease, or to involve the Service in any contract or other obligation for the future expenditure of money in excess of such appropriations.

IN WITNESS WHEREOF, the Regional Director, Midwest Region, National Park Service, acting on behalf of the United States of America, in the exercise of the delegated authority from the Secretary of the Interior, as Service, and Quapaw Baths have executed this Lease by proper persons thereunto duly authorized.

THE UNITED STATES DEPARTMENT OF THE INTERIOR, NATIONAL PARK SERVICE

By Mary A Bomar

Director,
National Park Service

Date: 20 April 2007

TENANT

QUAPAW BATHS, LLC

By Robert D. Kempkes

Name Robert D. Kempkes

Title Chief Executive Member

~~Attested~~ By:

Josie Fernandez

Name Josie Fernandez

Title Superintendent

Date: 10 April 2007

EXHIBIT A: Map of Premises

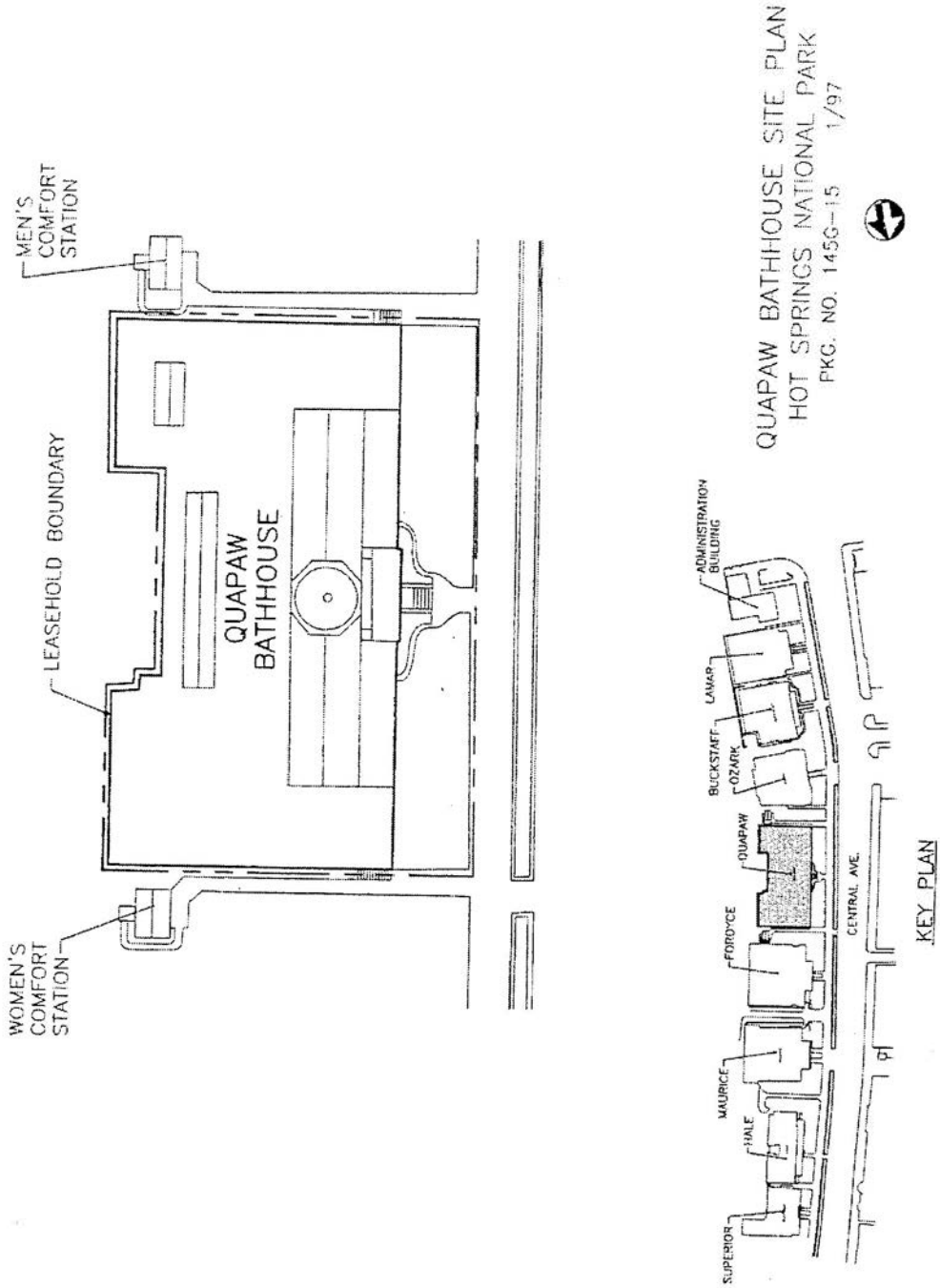


EXHIBIT B: Inventory and Condition Report

The Quapaw Bathhouse is located on Bathhouse Row in Hot Springs National Park. The Spanish Colonial Revival style building is two stories with a basement, containing over 24,000 square feet of which 17,546 square feet is leasable space. The Quapaw has a long front façade with ground floor center pavilion and two end pavilions, each with decorated shaped parapets. The pavilions are connected by arcaded open porches with round-headed arches. The second floor is topped by an elegant dome covered in intricate patterns of five colors of facience tiles. Red clay tiles are on the sloped roofs of the façade while the remaining roofs are flat. The exterior wall finishes are primarily white painted stucco.

Work completed on the building prior to 2007 has included:

Removed of asbestos and lead-based paint
Installation of a basic HVAC system
New roof
Rehabilitation of the roof dome
Structural stabilization
Demolition and removal of most old equipment in the basement
Installation of a collection and drainage system for thermal water flowing in the basement

The following items still remain in the building with the lessee to determine what they desire to retain in their operation:

Hand sinks	11 each	Steam cabinets	10 each
Mop sinks	4 each	Metal bathtubs	3 each
Window awning	1 set	Sitz tubs	7 each
Radiators	23 each	Urinals	3 each
Water fountain	1 each	Bathtubs	38 each
Lavatory	6 each	Lobby counter	1 each
Security boxes	1 set		

The stained glass panels for the skylights are also packed and stored in the building.

Lessee will decide during the construction period for the building what items they desire to retain for their use. Items removed will be delivered to the Hot Springs National Park storage area by the contractor.

Quapaw Baths, LLC

National Park Service