

Spring Runoff

Report



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Introduction

We are pleased to present the 2023 Spring Runoff Report for Provo City. This report serves as a summary of the impacts and aftermath of the large amount of snow and rain experienced during the recent spring runoff season.

Our goal is to provide an understanding of the events that occurred during this critical period, and to identify necessary maintenance and action plans for Provo City Public Works to implement over the next several years. This report will cover several areas, including data collection, community outreach efforts, and our response and mitigation measures.

We are committed to leveraging our experiences to construct a safer and more resilient city for future generations.

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Employee Recognition



It is essential to acknowledge the remarkable response and mitigation measures put in place by several departments throughout the city during this challenging period. Their dedication and quick actions helped minimize the impact of flooding and ensure the safety and well-being of our residents.

We extend our gratitude to all the departments, experts, and individuals who contributed to the overall success of this spring runoff period.



Data

The charts below show the following information gathered through spring runoff dates in 2023.

- Daily Temperatures
- Provo River flows
- Frontal Canyon flows

Date	Temperature (°F)		Provo River (cfs)		Rock Canyon Weir (cfs)		Little Rock (cfs)		Slate Canyon Weir (cfs)		Mile High (cfs)	
	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
March 27, 2023	30	38	135	143	-	-	-	-	-	-	-	-
March 28, 2023	29	49	124	143	-	-	-	-	-	-	-	-
March 29, 2023	30	35	117	135	-	-	-	-	-	-	-	-
March 30, 2023	32	41	117	241	-	-	-	-	-	-	-	-
March 31, 2023	33	46	150	165	-	-	-	-	-	-	-	-
April 1, 2023	30	60	136	159	-	-	-	-	-	-	-	-
April 2, 2023	40	56	139	167	-	-	-	-	-	-	-	-
April 3, 2023	28	38	161	202	-	-	-	-	-	-	-	-
April 4, 2023	26	34	149	170	-	-	-	-	-	-	-	-
April 5, 2023	27	36	155	167	-	-	-	-	-	-	-	-
April 6, 2023	23	45	149	204	-	-	-	-	-	-	-	-
April 7, 2023	28	59	146	211	-	-	-	-	-	-	-	-
April 8, 2023	43	62	211	225	-	-	-	-	-	-	-	-
April 9, 2023	40	65	221	239	-	-	-	-	-	-	-	-
April 10, 2023	39	72	239	347	-	-	-	-	-	-	-	-
April 11, 2023	50	75	333	491	-	-	0.25	0.25	-	-	-	-
April 12, 2023	52	71	422	545	-	-	0.10	0.10	-	-	-	-
April 13, 2023	34	69	446	537	-	-	0.1	0.1	-	-	-	-
April 14, 2023	28	46	446	491	-	-	0.1	0.1	1	1	-	-
April 15, 2023	29	57	402	483	-	-	0.1	0.1	0.1	0.1	-	-
April 16, 2023	34	70	458	487	-	-	0.1	0.1	0.1	0.1	-	-
April 17, 2023	44	71	390	567	-	-	0.1	0.1	0.1	0.1	-	-
April 18, 2023	40	59	479	533	-	-	0.1	0.1	0.1	0.1	-	-
April 19, 2023	31	46	253	504	-	-	0.1	0.1	-	-	-	-
April 20, 2023	30	48	454	550	no water	no water	no water	no water	no water	no water	no water	no water
April 21, 2023	33	53	458	483	no water	no water	no water	no water	no water	no water	no water	no water
April 22, 2023	41	49	458	467	no water	no water	no water	no water	no water	no water	no water	no water
April 23, 2023	33	59	458	475	no water	no water	no water	no water	no water	no water	no water	no water
April 24, 2023	41	60	467	483	no water	no water	no water	no water	no water	no water	no water	no water
April 25, 2023	37	47	463	541	no water	no water	no water	no water	no water	no water	no water	no water
April 26, 2023	39	61	450	471	-	-	0.5	0.5	-	-	-	-
April 27, 2023	39	69	463	488	-	-	0.5	0.5	-	-	-	-
April 28, 2023	43	66	452	493	-	-	0.5	0.5	-	-	-	-
April 29, 2023	42	79	473	515	-	-	0.66	0.66	-	-	-	-
April 30, 2023	46	83	462	523	-	-	0.66	0.66	-	-	-	-
May 1, 2023	52	83	462	529	-	-	1.24	1.24	-	-	-	-
May 2, 2023	57	78	471	533	1.5	1.5	1.5	1.5	-	-	-	-

Data

May 3, 2023	50	78	439	530	1.5	1.5	1.5	1.5	-	-	-	-
May 4, 2023	49	68	469	544	11.37	11.37	1.24	1.24	-	-	-	-
May 5, 2023	46	57	519	540	10	10	1.2	1.2	0.5	0.5	-	-
May 6, 2023	39	61	478	540	10	10	1.2	1.2	0.5	0.5	-	-
May 7, 2023	39	62	491	512	10	10	1.25	1.25	0.5	0.5	-	-
May 8, 2023	40	70	472	508	10	10	-	-	0.5	0.5	1.25	1.25
May 9, 2023	41	70	476	514	10	10	-	-	0.5	0.5	1.25	1.25
May 10, 2023	47	66	449	519	10	10	1.2	1.2	0.5	0.5	-	-
May 11, 2023	41	68	482	519	10	10	1.25	1.25	0.5	0.5	-	-
May 12, 2023	44	71	466	524	10	10	1.25	1.25	-	-	-	-
May 13, 2023	54	68	495	546	10	10	1.25	1.25	-	-	-	-
May 14, 2023	52	69	546	645	22	22	1	1	7	7	-	-
May 15, 2023	48	77	590	707	40	40	0.66	0.66	17.28	17.28	-	-
May 16, 2023	52	75	659	783	28.11	28.11	0.66	0.66	13.55	13.55	-	-
May 17, 2023	50	76	765	784	33.86	33.86	0.66	0.66	11.25	11.25	-	-
May 18, 2023	51	76	784	879	33.27	33.27	0.35	0.35	11.25	11.25	-	-
May 19, 2023	51	77	798	906	35.2	35.2	0.15	0.15	16.3	16.3	-	-
May 20, 2023	58	80	834	906	39.38	39.38	0.15	0.15	18.6	18.6	-	-
May 21, 2023	55	81	829	865	39.38	39.38	0.15	0.15	0.25	0.25	-	-
May 22, 2023	58	82	376	856	28	28	0.15	0.15	18.3	18.3	-	-
May 23, 2023	57	79	814	933	28.11	28.11	0.15	0.15	19.2	19.2	-	-
May 24, 2023	53	80	929	1070	28	28	0.15	0.15	21.3	21.3	-	-
May 25, 2023	51	77	1050	1220	33.27	33.27	0.15	0.15	21.33	21.33	-	-
May 26, 2023	55	74	1100	1410	15.57	15.57	0.1	0.1	18.6	18.6	-	-
May 27, 2023	51	73	1400	1450	14.26	14.26	0.1	0.1	12.15	12.15	-	-
May 28, 2023	53	76	1300	1450	-	-	-	-	-	-	-	-
May 29, 2023	50	80	1350	1420	-	-	-	-	-	-	-	-
May 30, 2023	51	81	1350	1450	0.5	12.99	-	-	0.8	11.25	-	-
May 31, 2023	53	81	1440	1670	9	9	-	-	11.25	11.25	-	-
June 1, 2023	54	76	1540	1650	0.9	0.9	-	-	11.25	11.25	-	-
June 2, 2023	54	71	1550	1620	0.4	9.09	-	-	0.65	8.1	-	-
June 3, 2023	50	73	1310	1610	-	-	-	-	-	-	-	-
June 4, 2023	47	77	1200	1320	5.74	5.74	-	-	4.86	4.86	-	-
June 5, 2023	52	82	1110	1230	-	-	-	-	-	-	-	-
June 6, 2023	65	88	487	1250	-	-	-	-	-	-	-	-
June 7, 2023	61	78	879	1210	-	-	-	-	-	-	-	-

June 8, 2023	53	72	1170	1210	-	-	-	-	-	-	-	-
June 9, 2023	49	79	1010	1210	-	-	-	-	-	-	-	-
June 10, 2023	53	80	1010	1040	-	-	-	-	-	-	-	-
June 11, 2023	59	79	920	1050	-	-	-	-	-	-	-	-
June 12, 2023	54	72	915	1090	-	-	-	-	-	-	-	-
June 13, 2023	55	73	1020	1300	-	-	-	-	-	-	-	-
June 14, 2023	58	71	1300	1690	-	-	-	-	-	-	-	-
June 15, 2023	54	67	1490	1840	-	-	-	-	-	-	-	-
June 16, 2023	47	73	1590	1720	-	-	-	-	-	-	-	-
June 17, 2023	50	79	1700	1730	-	-	-	-	-	-	-	-
June 18, 2023	58	82	1700	1720	-	-	-	-	-	-	-	-
June 19, 2023	61	84	1670	1720	-	-	-	-	-	-	-	-
June 20, 2023	54	73	1720	1790	-	-	-	-	-	-	-	-
June 21, 2023	50	76	1720	1790	-	-	-	-	-	-	-	-
June 22, 2023	54	82	1710	1790	-	-	-	-	-	-	-	-
June 23, 2023	53	78	1690	1750	-	-	-	-	-	-	-	-
June 24, 2023	51	82	1680	1720	-	-	-	-	-	-	-	-
June 25, 2023	57	88	1520	1720	-	-	-	-	-	-	-	-
June 26, 2023	52	87	1100	1550	-	-	-	-	-	-	-	-
June 27, 2023	61	82	753	1120	-	-	-	-	-	-	-	-
June 28, 2023	58	79	563	758	-	-	-	-	-	-	-	-
June 29, 2023	59	80	357	558	-	-	-	-	-	-	-	-
June 30, 2023	55	84	464	554	-	-	-	-	-	-	-	-

Successes

In this section, the focus lies on the successes of the response to the 2023 Spring Runoff event. Despite the challenges posed by the substantial amount of precipitation, the coordinated efforts displayed exemplary preparedness on behalf of the involved parties. The achievements highlighted below aim to identify effective strategies for future runoff events, ultimately bolstering the city's resilience and enhancing the safety of the community.

Items are centered on specific actions and initiatives that played a crucial role in mitigating the impact of the runoff. Among these successes are efficient communication systems and well-coordinated emergency services, each contributing significantly to the safeguarding of residents and infrastructure.

1 Community Flood Information Website & Public Outreach

The website created by the Public Works GIS team was a great success. The Public Works department was able to request that Provo City Customer Service Representatives direct many residents to get their questions answered on the website. There was a significant amount of traffic to this website during the spring runoff period.

The website included the following topics:

- History of Spring Runoff in Provo City
- Frequently Asked Questions
- Sandbag Information and FAQ's
- Temporary Diversion Route Information
- Will My Property Be Flooded?
- Flooding Reporting Link
- City Preparations with a Timeline of Events

Additional public outreach included regular social media postings; several news articles with interviews; and physical newsletters that were published and distributed with residents' utility bills.

Successes

2 Security & Flood Monitoring Cameras

Several low-cost, temporary cameras for monitoring were added at various locations along the Provo River and frontal canyon outfalls for 24-hour surveillance. These were very effective - and at a minimal cost - to monitor areas for clogged screens and drains. Utilizing these cameras significantly reduced employee hours spent monitoring the areas for flooding; and employee response time to clear outfall drains was also quicker due to mobile monitoring capabilities.

3 Interdepartmental Flood Task Force

The Flood Preparation Task Force was established with representatives from Public Works, Police, Fire, Emergency Services, and Power. This group proactively planned for the potential spring runoff flooding and associated emergencies, allowing for quick communication and coordination between departments. They also created a new dispatch call structure for spring runoff emergency calls from residents.

Weekly Task Force meetings were very productive and allowed for resources - employees, equipment, or both - between departments to be utilized as needed for mitigation and emergency use. In these meetings, they planned community outreach efforts and communications, as well as coordinated with outside groups on the potential sandbag diversion routes.

4 Employee Participation & Flexibility

Public Works employees, alongside employees from other departments, demonstrated their willingness and readiness to assist with 24-hour monitoring, sandbag operations, and their general flexibility to fill in for other employees and tasks as needed.

Storm Water and Streets employees also signed up for staggered 24-hour screen-cleaning and river monitoring shifts throughout the spring runoff period.

Successes

5 Temporary Diversion Maps (Outfall Canyons & Provo River)

Storm Water engineers meticulously planned emergency diversion maps, planned to effectively channel runoff from natural drainage into the storm water infrastructure system. They created temporary routing maps for Slate Canyon, Rock Canyon, Little Rock Canyon, and various areas along the river. These comprehensive maps included the precise path of the sandbag channels, along with estimates of the required number of sandbags needed for each route, the locations of pedestrian crossing bridges, and all necessary traffic devices along the routes.

In addition, the Engineering division actively reached out to several entities that could potentially be affected by the temporary routing, including the Provo School District, UTA, United States Postal Service, City Emergency Services (Fire & Police), and the Public Works Sanitation operations.

6 Essential Equipment Purchases

The purchase of (2) 6" water pumps, along with a concrete mixer attachment to fill sandbags, played a crucial role in supporting spring runoff operations this year and will continue to be beneficial in subsequent years. Furthermore, the implementation of using roll-off bins and pallets, including both rented/purchased and city-owned ones, proved to be highly efficient for sandbag storage and quick deployment.

7 Volunteer Coordination & Community Assistance

Volunteer coordination efforts for filling sandbags were well organized, with on-site staff to direct volunteers, and an online sign-up system.

Public Works was able to deploy those filled sandbags in several areas throughout Provo to mitigate flooding, as well as deliver thousands of sandbags to neighboring communities in need, including Santaquin City and Spanish Fork City.

Mitigation Measures

To mitigate flooding in Provo City, employees implemented various measures targeting both the Provo River and frontal canyon areas. Their efforts focused on debris and vegetation clearing and removal, ensuring that potential obstructions were removed to maintain a clear flow path. Additionally, they removed sandbars and trees from the river, enhancing its capacity to handle water flow during the spring runoff.

These proactive mitigation measures played a crucial role in reducing flood risks and safeguarding the community from potential damages caused by overflowing rivers and frontal canyons.

Mitigation Area	Activity / Project
Provo River	Debris, tree and vegetation removal; sandbar removal; sandbag deployment
Rock Canyon	Debris and vegetation removal; screen monitoring and clearing
Slate Canyon	Debris and vegetation removal; screen monitoring and clearing
Little Rock Canyon	Debris and vegetation removal; screen monitoring and clearing

Provo River Mitigation

Mitigation work in and along the banks of the Provo River consisted of extensive debris removal, bank maintenance ensuring a clear and unobstructed flow path, and sandbar, island and tree removal. Areas underneath several bridges were thoroughly cleared by city employees and contractors to allow for rising river flows.



Provo River Mitigation



Provo River Mitigation

Sandbags were placed along several areas on the river banks to keep rising water from flooding river trails.



Provo River Mitigation



Provo River Mitigation

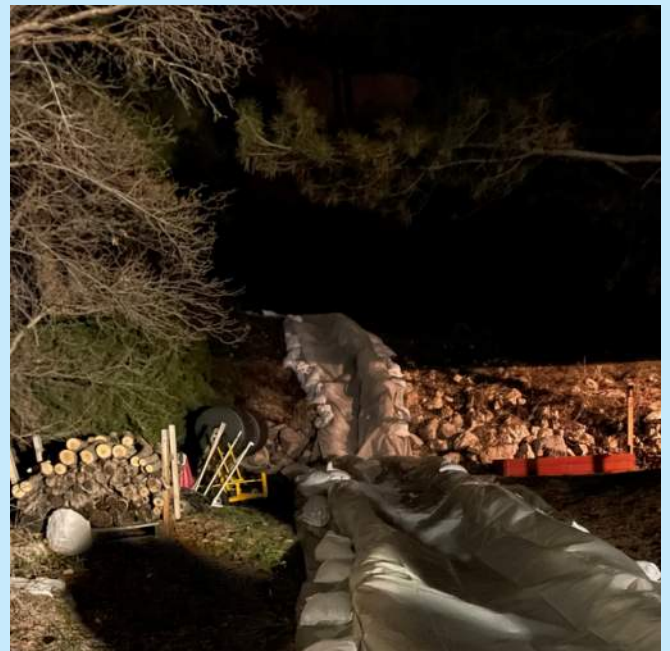


Provo River Mitigation



Sandbag Response - Paiute Dr

Public Works employees deployed approximately 1,000 sandbags to Paiute Dr in Provo City, diverting runoff water from residences.



Sandbag Response - Paiute Dr



Mitigation - Sandbag Operations

Sandbag filling operations were coordinated as part of the efforts to mitigate the impact of flooding.

Volunteers signed up for shifts online that were published through social media postings, and Public Works staff were on-site for all volunteer operations. Approximately 116,000 sandbags were filled by Provo City employees and volunteers as part of the overall mitigation efforts.



Mitigation - Sandbag Operations



Mitigation - Sandbag Operations



Mitigation - Rock Canyon

Debris that came down from the runoff path into Rock Canyon was cleared out multiple times over the spring runoff period to clear the path. Large boulders and rocks were removed from the basin periodically as they came down with the water.



Mitigation - Screen Clearing

Screens at the frontal canyons and outfalls were cleaned several times per day to keep the water path clear of debris.





A berm was built in a high-risk neighborhood to block potential floodwaters.

Mitigation - Helping Neighboring Communities

Public Works employees loaded and delivered thousands of sandbags to help neighboring communities experiencing flooding, providing valuable relief and assistance in flood mitigation efforts. Sandbags were delivered to Santaquin City and Spanish Fork City.



Hello Wayne,

I hope you are doing well.

I wanted to send you a huge thank you to Provo City!

Today, within an hour of Santaquin Mayor Dan Olson moving us up a one level on our emergency matrix, due to heavy snowmelt runoff and subsequent (although somewhat minor) street flooding, Provo City staff reached out to my emergency manager to offer assistance.

Within a couple of hours after that, Provo City trucks showed up to provide us with 5,000 filled sandbags.

Wow!! And Thank You!

We were so focused on placing our already filled sandbags today to protect homes and property, it took us a few hours to realize that we were quickly running low on our own filled sandbag stockpiles.

Thank you, please thank Mayor Kaufusi, and please thank your staff as well!

We are so humbly appreciative and thankful for your help!

Regards

Norm Beagley, MPA, P.E.
Santaquin City Manager
275 West Main Street
Santaquin, Utah 84655
nbeagley@santaquin.org
(801) 754-3211 Office
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Lessons Learned

The following are valuable "lessons learned" from the experiences this spring, highlighting areas that we can improve and fine-tune for future spring runoff emergency situations. These will serve as a blueprint for optimizing our response in handling future spring runoff emergencies.

1 Community Flood Website / Public Outreach

The public outreach messages for spring runoff should not include messaging about clogged storm water inlets. This decision to include that messaging this year created a significant amount of additional work for storm water employees, diverting their time away from more pressing spring runoff issues.

2 Sandbags

The sandbags that were purchased - although relatively inexpensive - proved to be of low-quality and degraded within approximately 30 days with any sun exposure. However, the "Super Sacks" that were acquired later in the season proved to be much more effective and less time-consuming than using regular-sized sandbags. Moving forward, the plan is to aim to utilize large "Super Sacks" as much as possible in future runoff seasons, and purchase higher-quality sandbags overall.

3 Communication with "At-Risk" Communities

One valuable "lesson learned" was the need for timely communication with communities that had created islands in the river before the spring runoff (e.g., Stonegate area). Public Works encountered challenges in addressing these islands, which impeded the natural water flow. To enhance their approach going forward, they plan to initiate early communication with the residents, emphasizing the importance of addressing and removing these islands, which were not initially permitted to be built. This proactive approach aims to enable better water flow management and mitigate potential flood risks more effectively in the future.

4 Communications

In anticipation of high spring runoff, coordination between several agencies was critical. This cooperation included those managing dam operations at both Jordanelle and Deer Creek reservoirs, and those over the Delta Restoration Project.

Correspondence was sent to several agencies with concerns highlighting the potential high river flows, including the United States Bureau of Reclamation, Central Utah Water Conservancy District, Provo River Water Users Association, and the Utah Reclamation Mitigation and Conservation Commission.

Regrettably, despite multiple meetings and extensive correspondence, certain communication obstacles persisted. In light of this, the commitment moving forward involves working closely with these agencies to ascertain their water management and release plans comprehensively. The aim is to collaboratively address any lingering issues and establish an operational framework for future years.



PUBLIC WORKS
TEL 801 852 6780
1377 S 350 E
PROVO, UT 84606

April 26, 2023

[REDACTED] Area Manager
United States Bureau of Reclamation
302 East Lakeview Parkway
Provo, UT 84606-7317

[REDACTED]

I am writing to express a growing concern on the part of Provo City regarding the anticipated spring runoff volumes in the Provo River and their management. Several staff members from Provo City have attended a variety of meetings where anticipated river volumes have been discussed by representatives from your agencies. The anticipated volumes have significantly increased since mid-February meetings and continue to increase, even in meetings staff attended just a few days ago.

According to recent reports, volumes anticipated to be released in the lower river from Jordanelle and Deer Creek reservoirs at the time of peak runoff may be as high as 2100 cfs. This number has been trending upwards and given other evidence and factors, I am concerned the released volume could exceed this amount. Additionally, whatever volume released from the reservoirs, the amount reaching Provo City and impacting the property and lives of citizens will be greater due to unregulated sources downstream from the reservoirs.

These concerns are exacerbated by what has been reported to me about current plans for release from the reservoirs. It was reported to me from staff members attending a meeting late last week that Deer Creek reservoir has no defined release plan to date. Additionally, the release plan for Jordanelle reservoir appears to be based on the lowest potential runoff trajectory. Yet, recent reports by USDA anticipate record stream flows on nearly every river in the Provo/Jordan River basin.

Given the data available to Provo City, we believe an earlier release of water from these reservoirs would help reduce the peak volumes in the river which will place residents of Provo City at risk. This could be done without negatively impacting overall storage volumes in either reservoir. Even at this late date, it seems that immediate moves to mitigate future flows may have significant benefits in protecting property and safety later in the season.

These concerns are based on the limited information available to Provo City currently. To better understand intended and potential mitigation efforts, I am requesting a copy of the release plans for both Deer Creek and Jordanelle reservoir. I would also appreciate a

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copy of any implementation plan for utilizing the flood control storage in Jordanelle reservoir and the process which is in place to enact use of the emergency storage.

I am also concerned about the design and recently reported volume limitations through the new Delta Restoration project. This project has also placed a permanent diversion in the current channel of the river which may lead to flooding in the area, including areas upstream, and damage to new bridges and roadways. I am requesting a copy of any plans in place to avoid flooding and damage to the structures in this area.

I appreciate your help and assistance with these concerns and look forward to working with each of you to reduce associated runoff risks and still meet the operational objectives of each agency. It is also my hope that discussing these issues now will lead to continued collaboration in years to come as we all work to serve and protect those that our agencies benefit. Thank you.

Sincerely,

Dave Decker
Public Works Director
Provo City

CC: Provo River Water Users Association
Central Utah Water Conservancy District
US Army Corps of Engineers

Mitigation Cost Breakdowns

The following mitigation cost sheets were organized into three categories that were submitted for funding requests through Utah County.

- Sandbag Operations,
- Provo River Mitigation, and
- Slate Canyon Mitigation

Costs were then further broken down into personnel-related costs and equipment/supply purchasing.

Provo River Debris Cleaning Costs

Mitigation work included the following: Debris removal and bank maintenance along Provo River by Streets and Storm Water employees; sandbar, island, and tree removals in several locations along the river by Streets and Storm Water employees; debris removal under State Street bridge by Sunroc.

Equipment/Materials/Supplies

RIVER DEBRIS CLEANING		
Tipping fees for debris	Payson City	\$5,005.01
Batteries, chain loop, chainsaw	Home Depot	\$597.92
Pumps	Wheeler Machinery	\$99,120.00
River cleaning	Sunroc	\$32,430.75
Waders for cleaning out river	Sportsmans	\$239.98
Stream Alteration Permit Fee	State of Utah	\$500.00
Chainsaw chains and filler cap	Ace Hardware	\$48.21
Chain loops for chainsaws	Ace Hardware	\$48.58
Chains	Ace Hardware	\$59.38
Keys to pump stations	ARCO	\$33.75
Chains and files and chainsaws	Ace Hardware	\$208.75
Chainsaws & apron chaps	Ace Hardware	\$1,376.96
Vertical Turbine Rebuild	Rhino Pumps	\$15,077.71
Tower lights	Amazon	\$352.00
	TOTAL	\$155,099.00

Personnel Costs

Sum of Trans Amount		Date			
Dist. Code	Dist. Code Description	4/6/2023	5/18/2023	6/1/2023	Grand Total
110 1501.4001	FULL TIME REGULAR	\$36,385.33	\$36,486.00	\$36,653.71	\$109,525.04
110 1501.4005	OVERTIME		\$631.57	\$5,073.17	\$5,704.74
110 1501.4051	RETIREMENT	\$7,626.75	\$6,672.30	\$7,411.96	\$21,711.01
110 1501.4052	TAXES/RETIREMENT	\$3,339.77	\$3,269.35	\$3,399.39	\$10,008.51
110 1501.4053	INSURANCE	\$15,519.36	\$15,519.36	\$15,519.36	\$46,558.08
580 3001.4001	FULL TIME REGULAR	\$27,647.37	\$31,074.70	\$31,139.54	\$89,861.61
580 3001.4002	PART TIME REGULAR	\$1,160.25	\$1,894.51	\$2,074.76	\$5,129.52
580 3001.4005	OVERTIME		\$378.34	\$1,532.97	\$1,911.31
580 3001.4051	RETIREMENT	\$5,307.03	\$5,955.48	\$5,947.87	\$17,210.38
580 3001.4052	TAXES/RETIREMENT	\$2,296.04	\$2,765.86	\$2,709.63	\$7,771.53
580 3001.4053	INSURANCE	\$9,223.03	\$9,223.05	\$9,734.91	\$28,180.99
Grand Total		\$108,504.93	\$113,870.52	\$121,197.27	\$343,572.72

Slate Canyon Flood Mitigation Costs

Mitigation work included the following: debris removal in detention basin and surrounding areas; ongoing screen monitoring and debris removal.

Equipment/Materials/Supplies

SLATE CANYON DEBRIS CLEANING		
Concrete caulk	Home Depot	\$98.82
Concrete caulk	Home Depot	\$42.12
3" trash pumps with hoses	Wheeler Machinery	\$2,727.00
Gator Hose	Hose & Rubber	\$7,167.81
Elliptical Pipe	Northwest	\$63,000.00
Elliptical Pipe	Northwest	\$25,151.80
Neck lights (6)	Amazon	\$142.56
Memory card/mobile service	T-Mobile	\$272.41
Sign blanks for park closures	Safety Supply & Sign	\$3,565.72
Security Cameras, monitoring brackets and memory cards	Amazon	\$379.68
SIM Cards from T-Mobile	T-Mobile	\$65.31
Wall mounting brackets - cameras	Amazon	\$69.86
Head Lamps	Amazon	\$99.64
Stream Gauge	Amazon	\$101.19
Camera, wall mount, memory card	Amazon	\$199.24
Cameras, HD cards, and mounting brackets	Amazon	\$1,295.93
Head Lamps	Amazon	\$499.83
Flood lights	Amazon	\$699.88
Traffic control devices	Safety Supply & Sign	\$2,650.40
Traffic control devices	Safety Supply & Sign	\$2,867.63
Traffic control devices	Safety Supply & Sign	\$540.80
Polyfilm (for flood mitigation)	White Cap	\$1,859.12
Polyfilm (for flood mitigation)	White Cap	\$464.78
	TOTAL	\$113,961.53

Personnel Costs

Sum of Trans Amount		Date
Dist. Code	Dist. Code Description	3/23/2023
110 1501.4001	FULL TIME REGULAR	\$36,329.32
110 1501.4005	OVERTIME	\$6,615.05
110 1501.4051	RETIREMENT	\$7,651.56
110 1501.4052	TAXES/RETIREMENT	\$3,345.58
110 1501.4053	INSURANCE	\$15,519.36
580 3001.4001	FULL TIME REGULAR	\$30,725.14
580 3001.4002	PART TIME REGULAR	\$1,236.75
580 3001.4005	OVERTIME	\$845.27
580 3001.4051	RETIREMENT	\$5,876.66
580 3001.4052	TAXES/RETIREMENT	\$2,515.97
580 3001.4053	INSURANCE	\$8,734.37
Grand Total		\$119,395.03

Sandbag Operation Costs

Costs for Provo City Sandbag Operations, including coordination of delivery of sand, pallets, supplies; coordination of volunteer work and city employee labor; deployment of sandbags to various locations for flood control (Santaquin City, Spanish Fork City, and areas along the Provo River Trail and Paiute Dr in Provo).

Equipment/Materials/Supplies

SANDBAG OPERATIONS		
Traffic cones	Interwest	\$493.20
Pallets	Wasatch Pallet	\$1,152.94
Safety gloves and safety glasses	Amazon	\$1,499.00
Gloves, safety glasses, batteries, and shovels	Bonneville	\$1,246.13
Portable Toilets	Honey Bucket	\$410.71
Gloves	Bonneville	\$70.54
Sand delivery fees	Geneva Rock	\$2,973.76
Pallets	Wasatch Pallets	\$3,167.25
Sawhorses, cones, 2X4's	Home Depot	\$335.46
Sand	Searle Trucking	\$731.12
Portable toilets	Honey Bucket	\$510.00
Beverage jugs for volunteers	Home Depot	\$79.96
Sand delivery fees	Geneva Rock	\$7,343.22
Sandbags	Safety Supply & Sign	\$18,090.00
Sandbags	Safety Supply & Sign	\$11,040.00
Super Sack sandbags	MyD Industries	\$19,552.00
Sandbags	Safety Supply & Sign	\$20,160.00
Sandbags	Safety Supply & Sign	\$22,080.00
Sandbags	Safety Supply & Sign	\$22,680.00
Zip ties for sandbags	Home Depot	\$154.38
Sawhorses and 2X4's	Home Depot	\$197.72
Sawhorses and 2X4's	Home Depot	\$197.72
Rolloff bins	Thorn	\$42,330.00
Pallets	Wasatch Pallet	\$2,075.00
Pallets	Wasatch Pallet	\$2,137.25
Sandbags	Safety Supply & Sign	\$2,520.00
Mixer attachment for sandbag filling	Wheeler Machinery	\$7,580.00
Water	Sams Club	\$382.08
Gloves	Amazon	\$444.50
Gloves	Amazon	\$459.00
Portable toilets	Honey Bucket	\$460.00
Sand delivery fees	Geneva Rock	\$4,831.00
Sand delivery fees	Geneva Rock	\$5,144.43
Sand delivery fees	Geneva Rock	\$5,806.06
Sand delivery fees	Geneva Rock	\$5,927.38
Canopies and sunscreen for volunteers	Costco	\$943.87
Zip ties for sandbag filling station fencing	Home Depot	\$19.96
Pallet wrap	Bonneville Industrial Supply	\$1,765.00
Fuel tank for fork lift (sandbag filling)	Freeway Propane	\$271.72
Sawhorses, screws, 2X4's	Home Depot	\$215.68
High torque impact wrench	Amazon	\$881.08
Batteries	Amazon	\$25.55
Socket sets and batteries	Amazon	\$331.78
	TOTAL	\$218,716.45

Sandbag Operation Costs, Cont.

Personnel Costs

Sum of Trans Amount		Date			
Dist. Code	Dist. Code	4/6/2023	4/20/2023	5/4/2023	Grand Total
110 1501.4005	OVERTIM	\$6,482.06	\$5,373.83	\$1,971.83	\$13,827.72
110 1601.4005	OVERTIM	\$848.44	\$4,089.51	\$3,318.47	\$8,256.42
510 2502.4005	OVERTIM	\$210.15	\$1,615.25	\$2,251.06	\$4,076.46
510 2503.4005	OVERTIM	\$1,252.87	\$3,738.35	\$7,285.92	\$12,277.14
510 2504.4005	OVERTIM	\$1,185.63	\$1,840.89		\$3,026.52
520 2601.4005	OVERTIM	\$1,047.34	\$67.27		\$1,114.61
520 2602.4005	OVERTIM	\$787.72	\$488.97	\$751.98	\$2,028.67
580 3001.4005	OVERTIM	\$1,087.96	\$1,785.37	\$817.08	\$3,690.41
650 3401.4005	OVERTIM	\$1,147.52	\$1,342.65	\$2,886.98	\$5,377.15
Grand Total		\$14,049.69	\$20,342.09	\$19,283.32	\$53,675.10

Next Steps

Outlined below are distinct areas, further subdivided into subsections, which have been pinpointed as requiring essential projects, supplementary maintenance, or additional administrative efforts.

1 Provo River Maintenance

SHORT TERM

- Conduct a comprehensive survey to identify problem areas and sandbars along the river, followed by the formulation of a well-structured maintenance plan (Responsibility: Richard Snyder, Jacob O'Bryant);
- Establish a consistent schedule for ongoing tree and rock bar maintenance for the next five years, in accordance with the active Army Corps of Engineers permit;
- Coordinate within Public Works, Parks, and Energy departments to initiate vegetation removal; schedule a collaborative meeting to kick-off (Responsibility: Richard Snyder);
- Initiate the process of obtaining Army Corps of Engineers permits for the purpose of cleaning and clearing rock and sand bars within the river (Responsibility: Jacob O'Bryant);
- Identify the necessity for riprap placement along the majority of the south bank of the river, as well as specific areas on the north bank;

LONG TERM

- Review the requirement for building permits for small structures;
- Additionally, evaluate pertinent code changes to ensure alignment with the project's objectives and requirements;
- PENDING LEGAL OPINION: Consider potential reinforcement measures for areas that experienced sinkholes along the Provo River this year, particularly along the south bank near Geneva Road;
- PENDING LEGAL OPINION: Address maintenance access challenges extending from Riverview Pump Station to Geneva Road;

Next Steps

2 Rock Canyon Maintenance

- Formulate a comprehensive strategy for the Rock Canyon Outfall lining project under the Capital Improvement Plan (CIP) (Responsibility: Jared Penrod);
- Coordinate on Rock Canyon Outfall storm drain TV inspection (Responsibility: Jared Penrod, Trevor Halladay);
- Initiate the development of a new Capital Improvement Plan (CIP) aimed at reconstructing the Rock Canyon debris basin screen; assess the potential requirement for an additional upstream screen in tandem (Responsibility: Carlos Garcia);

3 Little Rock Canyon Maintenance

- We do not anticipate any additional maintenance or improvements needed for the next 12 months.

4 Slate Canyon Maintenance

- We do not anticipate any additional maintenance or improvements needed for the next 12 months.

5 Additional Frontal Canyon Maintenance

- Prepare detailed maps or exhibits for the purpose of identifying maintenance requirements for all frontal canyons within the Provo Area in the future;
- Collaborate with Public Works GIS team to oversee the addition of a new layer to the ARGIS system; layer to serve to pinpoint flood-prone areas and integrate emergency sandbag diversion routes for future reference (Responsibility: Carlos Garcia)

Community Outreach

The excerpts provided below were part of a comprehensive community outreach campaign from Provo City, focusing on spring runoff flooding. This multifaceted campaign included informative and engaging content, including social media posts and news articles. Topics ranged from flood prevention measures, essential safety tips, and timely updates.

The primary objectives of the outreach efforts were to keep the community well-informed and prepared for the potential challenges and risks that accompanied this critical season, and to be able to navigate the season with confidence and safety.

Flood Plans for Spring Runoff

While the record-breaking snowpack is helpful for drought conditions, Provo City is actively preparing for potential flooding as a precautionary measure. Our Flood Preparation Committee began meeting weekly in February.

“Since the last major flood 40 years ago, Provo has been improving its storm water system as the city continues to grow and develop. We are currently planning and coordinating with internal and external agencies to prepare for any type of flood emergency, including identifying areas with the biggest flood risk and developing routes to divert water to protect the residents and homes.” - David Decker, Provo City Public Works Director

Our crews are working on flood prevention by cleaning our storm drains and clearing away vegetation or runoff materials that could clog the system. Crews will also clear the Provo River of debris impeding water flow. Residents can help by keeping gutters and storm drains clear of any yard waste and garbage.



We have also secured sandbags to add to our existing inventory. Should flooding occur, the city will notify residents of sand bag pick-up locations. This year marks the 40th anniversary of the State Street flooding, with many comparing the snowpack conditions then and now.

“We are monitoring areas with excessive snowpack to determine water volume and better understand potential flood risks should the warming weather create concerns,” said Decker.

Provo City is prepared for potential flooding. Our expert crews are doing the preparation work necessary to safeguard potential flood areas while being properly supplied with sandbags and equipment to quickly respond.

As we monitor and prepare for potential floods, we ask that residents help by keeping an eye out for flooding. If you notice any blocked storm drains, please contact Provo 311 or the Public Works Storm

Water Division at 801-852-6700. If the likelihood of flooding increases, we will release additional information to help residents know how to prepare and volunteer to help in case of an emergency.

Part of Provo’s water management approach is to take advantage of wet years similar to this one. Aquifer Storage and Recovery (ASR) projects allow the city to store excess water in our aquifers, helping replenish declining groundwater levels.

1984 Provo Flooding Facts:

- The sandbag channel in Slate Canyon had over 90,000 sandbags, over 2,625 tons of sand, two vehicular bridges and eight pedestrian bridges.
- It took 1,455 volunteers a total of over 3,770 hours to construct the Slate Canyon channel.
- Additionally, over 3,280 volunteers have contributed a total of 5,190 hours in filling and moving other sandbags to-date

Conversations with Kaufusi: Flooding Q&A

During this special episode of "Conversations with Kaufusi", I sit down with Public Works Director Dave Decker to talk about potential flooding. Press play to listen to the frequently asked questions I've received from residents and learn what Provo is doing to prepare and what the public can do to help.



1. Everyone is wondering about the potential flooding this year with the record snowpack we have received. What has the city been doing to prepare for flooding?



A: Staff has been meeting weekly to plan and prepare for flooding since February. Public Works, Energy and Parks crews are working to clear debris from the Provo River, as well as clearing runoff materials that could potentially clog our storm drain system. Debris will continue to flow down the river and will need to be cleaned as it comes. We have secured sandbags and identified high risk areas and have plans in place of where to divert potential flood waters.

2. What different factors play into possible flooding?



A: There are various different factors that play into the potential for flooding. The amount snow in the mountains is a big factor the other factor is the weather and how quickly the snow melts. If the snow melts all at once that will result in large amounts of water coming down into the valley.

3. What areas of the city are at the highest risk of potential flooding?



A: All of the water from spring runoff flows down into Provo City in a few places. A lot of water will make its way into the Provo River as the snow melts. The other area where the runoff will happen is our frontal canyons: Rock Canyon, Slate Canyon, and Little Rock Canyon. Localized flooding may occur due to saturated soils. Property owners should look at their own properties and address low areas that may cause flooding to buildings.

4. Are sandbags available to residents?



A: Yes, residents can pick up a bundle of 25 sandbags at the Public Works building. They will need to bring their own shovels to fill the bags with sand. Sand has been placed near the compost yard. Sandbags will deteriorate over time and it is best to store them inside until needed.

5. What's the best thing residents can do to minimize the potential for flooding around their home?



A: The best thing residents can do is to clear the storm drains and gutters around their home. Remove any yard waste or garbage and throw it in your bin. City crews are focused on the highest risk areas and it would be difficult for them to clean every gutter before spring runoff. Residents should also protect the lower levels of your home such as window wells or other entries. If you have a sump pump make sure it is working properly. The best time to clear it is now before the rain and spring runoff.

6. What new infrastructure is in place to help with flooding?



A: We have installed detention basins at Rock and Slate Canyons. We have also improved the storm drain systems in those areas to help carry some of the potential flood waters away.

7. How will the city communicate with residents if flooding does occur?



A: The city will communicate through their social media channels and emails to residents. However, one of the best ways to get information quickly is to sign up for our everbridge notification system. For email updates visit provocty.info/signup and for Everbridge alerts visit alerts.utahcounty.gov.

8. Will the city need volunteers if flooding happens and how will they be able to help?



A: Right now, we are working with volunteer organizations to come and fill sand. If flooding does occur we will need additional help from volunteers to place sand. We will update the city's social media channels for future volunteer opportunities.

9. The snow is bringing a lot of critical water that we need as a state. How will this water help us? And what will happen to the excess water?



A: There is a large quantity of extra water that nature is providing to us this year, more than can be stored in any surface water reservoirs. For long-term water management strategies, it is important to take advantage of this extra water and store it for future years of need. Provo has several ASR (Aquifer Storage and Recovery) projects operating and we have been draining much of the Provo-owned surface water and placing it in the ground to improve the aquifer levels. This will allow Provo to use it in future years of drought and store this extra water in a location where it will not evaporate and is lost. Unfortunately, even with these projects, much of this extra water is simply going to Utah Lake where it will just evaporate. We understand some water is certainly needed in Utah Lake to meet water rights and environmental needs. However, nature is providing far more water this spring than these needs demand and, overall, we are concerned the water community is missing out on an excellent chance to store this extra water for coming years of drought. Provo is promoting several more aggressive ASR projects to replenish the ground water aquifer and take advantage of the excellent water years like the one we are experiencing.

10. What other cautions would you want residents to be aware of?



A: It's important to maintain a safe distance from the river and flood waters. High flowing water is extremely dangerous and we don't want to see anyone get swept away.

Preparing for the Worst, Hoping for the Best

Across the state, eyes are turned toward the snow-filled mountains with concerns of spring flooding. While the plentiful snowpack is a blessing for ongoing drought conditions, in this case, extremely high levels create issues if it melts too quickly, with weather conditions being an unknown factor.

High snow volumes are concerning as they create a greater likelihood Provo will experience some level of flooding. Public Works crews have been engaged in implementing their flood control plan since February, proactively clearing debris along the Provo River, cleaning out storm drains, and providing sandbags to residents.



Special attention is focused on the frontal canyons because of their high snowpack and flood potential due to mountain runoff. Snowpack-monitoring stations are measuring water content in Rock Canyon, Slate Canyon, and Little Rock Canyon as areas of concern due to greater than average volume.

Similarly, residents are strongly encouraged to protect their property, particularly those who have experienced past flooding. Recommended efforts include clearing gutters, sump pumps and drains, strategically placing sandbags, and if near an open waterway, removing debris from the property that could wash into the river. We also caution all to maintain a safe distance from fast-moving waters.

While there is no need for alarm, preparation is key. Not only are we protecting areas of concern in anticipation of this season's runoff, but past infrastructure improvements such as Rock Canyon and Slate Canyon Detention Dams and the installation of numerous stormwater piping improvements will help substantially reduce the impacts of potential flooding.

Need Sandbags?

Visit Public Works at 1377 S 350 E to pick up a bundle of 25 sandbags. Residents will need to bring their own shovel to fill sandbags.

Have Questions?

Visit the Public Works website at provo.org/departments/public-works/storm-water for updated flood preparations and sandbag information. Or call Public Works at 801-852-6700.

Sign up for updates

City Updates: provocity.info/signup

Emergency Updates: Alerts.utahcounty.gov

Whatever this season brings, let's help each other get through it safe and sound!

Lt. Gov. Deidre Henderson Joins Us to Help Fill Sandbags

Updated: Apr 17

This morning Lt. Gov. Deidre Henderson joined us at the Provo City Public Works Yard to fill sandbags, discuss local flood mitigation efforts, share best practices, and encourage Utahns to pay attention to updates from municipalities.



Resources

Sandbag Availability

Public Works facility
1377 S 350 E
25-bag bundle
Bring a shovel

Flooding Questions

Public Works
Website: <https://www.provo.org/departments/>
Phone: (801) 852-6700

Email and Text Updates

City updates: provocity.info/signup
Emergency updates: alerts.utahcounty.gov

1984 Provo Flooding Facts

- The sandbag channel in Slate Canyon had over 90,000 sandbags, over 2,625 tons of sand, two vehicular bridges and eight pedestrian bridges.
- It took 1,455 volunteers a total of over 3,770 hours to construct the Slate Canyon channel.
- Additionally, over 3,280 volunteers have contributed a total of 5,190 hours in filling and moving other sandbags

I am so thankful to our state visitors today for helping Provo reach its goal of 100,000 sandbags by May 1. Thank you to our employees and volunteers who have also responded to the call for help. Our volunteer numbers are impressive and prove how quickly a community can come together to make a difference. Just look at these numbers:

- 45,000 sandbags have been filled
- 1,000 sandbags have been deployed for use
- 411 volunteers have contributed to 1,255 volunteer hours

Areas of highest flood concern are being actively monitored and mitigated. These include:

- The frontal canyons of Rock, Slate and Little Rock Canyons and
- Properties adjacent to the Provo River.
- Provo's Public Works department has been working on flood prevention efforts since February and their tireless efforts continue.

We've made significant infrastructure improvements, public works crews are actively mitigating high risk areas, protection efforts continue with sandbagging and residents are encouraged to follow updated information on our website and social media channels.

Provo is preparing for the worst but hoping for the best. While we can't control Mother Nature, we can and must be as prepared as possible. Thank you again to all who have and will continue to join Provo as we prepare to protect our community.



Provo City Government

March 17 · 🌐



While the record-breaking snowpack is helpful for drought conditions, Provo City is actively preparing for potential flooding as a precautionary measure.

Our crews are working on flood prevention by cleaning our storm drains and clearing away vegetation or runoff materials that could clog the system. Crews will also clear the Provo River of debris impeding water flow. Residents can help by keeping gutters and storm drains clear of any yard waste and garbage. If you notice any blocked storm drains, please contact Provo 311 or the Public Works Storm Water Division at 801-852-6700.

We have also secured sandbags to add to our existing inventory. Should flooding occur, the city will notify residents of sandbag pick-up locations. Keep reading for more details.



MAYORKAUFUSI.COM

Flood Plans for Spring Runoff

While the record-breaking snowpack is helpful for drought conditions, Provo City is actively pr...



Provo City Government

March 17 · 🌐



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MAYORKAUFUSI.COM

Flood Plans for Spring Runoff

While the record-breaking snowpack is helpful for drought conditions, Provo City is actively pr...



Provo City Government

April 1 · 🌐

Public Works crews have been engaged in implementing their flood control plan since February, proactively clearing debris along the Provo River, cleaning out storm drains, and providing sandbags to residents.

Residents are strongly encouraged to protect their property, particularly those who have experienced past flooding. Recommended efforts include clearing gutters, sump pumps, and drains, strategically placing sandbags, and if near an open waterway, removing debris from the property that could wash into the river. We also caution all to maintain a safe distance from fast-moving waters.

Need Sandbags? Visit Public Works at 1377 S 350 E to pick up a bundle of 25 sandbags. Residents will need to bring their own shovel to fill sandbags.



MAVORKAUFUSI.COM

Preparing for the Worst, Hoping for the Best

Across the state, eyes are turned toward the snow-filled mountains with concerns of spring flo...



Provo City Government

April 10 · 🌐

We are grateful for all of the volunteers and city staff who have helped fill sandbags. We have already filled 35,000 sandbags and counting. 🙌 Our goal is to reach 100,000 sandbags by May 1st.

We have added additional volunteer shifts in the evening this week Wednesday-Friday from 5PM-8PM. Please sign up to volunteer at provocity.info/sandbagvolunteers





Provo City Government

April 6 · 🌐



Public Works needs your help filling sandbags to prepare for potential spring runoff flooding in Provo! Sign up to volunteer at provocity.info/sandbagvolunteers

Our goal is to get 100,000 sandbags filled and ready to deploy by May 1st. Volunteer slots are available in (2) four-hour daily shifts with a maximum volunteer count of 80 per shift.



VOLUNTEERS NEEDED!

CALLING ALL VOLUNTEERS! WE NEED YOUR HELP!

Public Works needs your help filling sandbags to prepare for potential spring runoff flooding in Provo. Our goal is to get 100,000 sandbags filled and ready to deploy by May 1st.

Volunteer slots are available in (2) four-hour daily shifts with a maximum volunteer count of 80 per shift.

Sign up for a time slot at provocity.info/sandbagvolunteers



SIGNUPGENIUS.COM

Sandbag Filling Volunteers

Sign up

Please review the available time slots below and click on the button to sign up

Public Works needs your help filling sandbags to prepare for spring runoff flooding in Provo! We have added additional volunteer shifts. Please sign up to volunteer at provocity.info/sandbagvolunteers

We have already filled 45,000 sandbags and counting. Our goal is to reach 100,000 sandbags by May 1st. 🌟

BY THE NUMBERS - SANDBAGS

26,000

SANDBAGS GIVEN TO
PROVO RESIDENTS TO DATE

1,000
SANDBAGS
DEPLOYED
TO DATE

45,000 SANDBAGS
FILLED TO DATE

**VOLUNTEERS
TO DATE**

411

1,255
VOLUNTEER
HOURS TO DATE

We need more volunteers to help increase these numbers.

Sign up to help with flood prep today!

provocity.info/sandbagvolunteers

Provo's new Flood Control 311 Website is now live! Check it out at provopw.org/floodprep.html to learn what Provo City has been doing to prepare for spring run-off. We've got a detailed FAQ section, information on Sandbag Pickup, instructions on how to report flooding issues, and so much more.

FLOODING PREPAREDNESS

- ✓ Fill sandbags to protect structure openings such as window wells and doorways from surface water breaching. You can fill 25 FREE sandbags at Provo Public Works yard (bring your own tools to fill sandbags).
- ✓ Stay informed of local weather updates in case of a flood watch or warning.
- ✓ Clear gutters and downspouts to ensure efficient drainage away from the structure.
- ✓ Do not go near or enter moving water! Stay away from riverbanks and bodies of water, keep pets on a leash, supervise children closely, and obey trail closures.
- ✓ Elevate valuable items and electronic equipment off the floor.

VISIT WWW.PROVOPW.ORG/FLOODPREP.HTML
FOR MORE TIPS!



Provo City Government

April 14 · 🌐

This morning Lt. Governor Deidre Henderson joined us at the Provo City Public Works Yard to fill sandbags, discuss local flood mitigation efforts, share best practices, and encourage Utahns to pay attention to updates from municipalities.

We are so thankful to our state visitors today for helping Provo reach its goal of 100,000 sandbags by May 1. Thank you to our employees and volunteers who have also responded to the call for help. 🙏

Our volunteer numbers are impressive and prove how quickly a community can come together to make a difference. Public Works still needs your help filling sandbags. Please sign up to volunteer at provocity.info/sandbagvolunteers



Provo City Government

April 18 · 🌐

There are many water detention basins across Utah in cities and counties that collect, hold, and release water in a controlled manner to help prevent flooding. Take Rock Canyon Park in Provo. The bowl-shaped park on the city's east side is a popular place to play, but it has another purpose.

"Most people don't realize it's a detention pond," said Dave Decker, Provo city public works director. "It's got a pipe system out of it, and if it exceeds the pipe system, it'll start to fill that detention pond. We're anticipating these ponds will fill up."

There are more city detention basins to the south, near Slate Canyon.



KUTV.COM

Water detention basins in Utah play critical role in flood prevention

As parts of Utah brace for more flooding, cities and counties are making sure they have enough...



Provo City Government

May 1 · 🌐

Thanks to everyone who volunteered to fill sandbags! With your help we filled 112,000 sandbags! With the weather warming up we will continue to have volunteer opportunities to fill sandbags. Please, sign up at <http://provocity.info/sandbagvolunteers>.



Provo City Government
 May 19 · 🌐

Please stay clear of water coming down during spring runoff. While the water seems fun there are several hazards that come with spring runoff. The water is extremely cold and carries lots of debris, bacteria, and animal waste. It only takes about 6 inches of water to knock someone off their feet.

Over the next few weeks, the Provo River is also expected to see a substantial increase in flows. The high flows will be extremely dangerous, cold, and swift. Please maintain a safe distance and keep children and pets away from the water.

If you haven't signed up to receive emergency alerts, this is a great time to do so. Visit alerts.utahcounty.gov and sign up today.



Provo City Government
 May 24 · 🌐

🚫 Stay clear of the water during spring runoff! 🌊

Spring runoff may seem tempting, but it brings numerous hazards. The water is icy cold and filled with debris, bacteria, and animal waste. Surprisingly, just 6 inches of water can easily knock you off your feet.

In the upcoming weeks, the Provo River will experience a significant surge in water flow, making it incredibly dangerous, frigid, and swift. It's crucial to maintain a safe distance and ensure that children and pets stay away from the water.

If you haven't already, now is the perfect time to sign up for emergency alerts. Head over to alerts.utahcounty.gov and register today. It's a simple step that can keep you informed and safe.



Provo City Government
 Reels · May 19 · 🌐

👍 55
 💬 1
 ➦ 12

Please stay clear of water coming down during spring runoff. While the water seems fun there are several hazards that come with spring runoff. The wat... See more

Elected officials join sandbagging effort as flood risk continues throughout Utah County

By Harrison Epstein - 1 Apr 15, 2023



Harrison Epstein, Daily Herald



As the year's abnormally high snowpack begins to melt and water levels rise, elected officials continue urging residents to stay aware and take precautions to protect themselves and their property. On Friday, a handful of officials decided to put their money where their mouths are and help fill sandbags to protect from flooding.

Provo's Flood Preparation Committee began meeting weekly in February. "We are planning and coordinating with internal and external agencies to prepare for any type of flood emergency, protecting areas with the biggest flood risk and helping to prepare at-risk residents," Decker said.

Decker added that routes have been developed with a planned process to divert floodwaters to protect residents and homes.

Part of Provo's water management approach is to take advantage of wet years like this one. Aquifer storage and recovery projects allow the city to store excess water in area aquifers, helping replenish declining groundwater levels.

There are various factors that play into the potential for flooding. The amount snow in the mountains is a big factor, but another is the weather and how quickly the snow melts. If the snow melts all at once, that will result in large amounts of water coming down into the valley.

If needed, the city will communicate with residents through its social media channels, emails and the Everbridge notification system. For email updates, visit provocity.info/signup. For Everbridge alerts, visit alerts.utahcounty.gov.

Sandbags are available to residents at the Public Works facility, 1377 S. 350 East, in 25-bag bundles.

"We've got a lot of water up in those mountains that's going to be coming down, and we have to prepare," said Lt. Gov. Deidre Henderson, standing in front of volunteers continuously filling sandbags by hand and machine. "Every community has different needs, different risks. Understand the risks in your area and follow the advice of your city leaders who are on top of this."

Provo Mayor Michelle Kaufusi said the city's highest areas of concern for flood prevention include the frontal canyons of Rock Canyon, Slate Canyon and Little Rock Canyon along with properties that neighbor the Provo River.

"We've made significant infrastructure improvements. Public work crews are actively mitigating high-risk areas, protection efforts continue with sandbagging," she said. "Provo is preparing for the worst but hoping for the best. While we can't control Mother Nature, we can and must be as prepared as possible."

Henderson and Kaufusi were joined by state Rep. Tyler Clancy, R-Provo, and Municipal Council members Rachel Whipple and Katrice MacKay. The sandbagging and other flood-prevention activities, Clancy said, are partially funded using a \$5 million allocation approved by Gov. Spencer Cox in November 2022.

That allocation, Henderson said, has already been fully used and the state has begun to use its existing "rainy day fund."

According to [live mapping from the National Weather Service and the Colorado Basin River Forecast Service](#), water levels are considered "normal" at all measured water access points throughout Utah County. Levels are expected to rise in the future, though, in the following areas: Spanish Fork at Castilla, Spanish Fork near Lakeshore, Hobble Creek in Springville, American Fork near the power plant, Dry Creek near Alpine, and West Canyon Creek near Cedar Fort.

"We have experts who are watching everything from land movement to weather forecasts to road conditions to water movement. We're doing our best to look around all the corners and be prepared for when that flooding does inevitably come and hopefully when it does come it's coming in a proper channel and we're ready for it," Henderson said.

The only emergency declarations due to flooding, so far, have been north of Utah County in Salt Lake City and throughout Davis County. Henderson asked members of the public to stay conscious of health risks associated with flooded waters. Rivers and streams pose immediate risks — swept-up debris like rocks and tree limbs — and possible bacterial contamination. Kim Shelley, executive director of the Department of Environmental Quality, reiterated Henderson's plea for caution around bodies of water for the time being.

"We should assume that every single floodwater is contaminated. It's running over agricultural fields, running over parking lots, picking up all sorts of viruses, bacteria, etc. that we don't want humans ingesting or recreating in," Shelley said.

Sediment carried from the mountains and through Utah County's different rivers and streams into Utah Lake is also a major concern. As a shallow lake, the "jewel" is at risk of ecological damage from sedimentation through high mountain streams and, particularly, American Fork River, which collects heavy metals from mining in the area. Depositing of those metals could "have an impact on aquatic life as well as public health," Shelley said.

It's unknown what impact high flows into Utah Lake will have on June Sucker restoration and repopulation efforts, though it is being monitored by the Department of Water Quality.

For southern Utah County, a significant portion of which is agricultural, concerns go beyond the effects floods can have on homes. Shelley warned of nutrient loading from the extra sediment, adding that DEQ and the Department of Agriculture notified producers in the state of "best practices" for handling the spring including what crops to plant, where to plant, field irrigation, manure management and more.

Members of the public who believe a body of water may be contaminated are encouraged to [contact DEQ on its website](#). The department also has a spill line where, by calling 801-536-4123, residents can alert the government if drinking water has odd tastes, odors or anything else unusual.

To prepare for the increased stormwater and floodwaters, DEQ has scaled up monitoring crews to stay on top of new developments.

"It will be business as usual but we're all on high alert," Shelley said. "We're ready, we're proactive and I think, as a state, we'll be just fine getting through this together."

While environmental risks exist and will be monitored, residents are still encouraged to contribute time and energy to helping their local municipalities prepare for flooding through sandbagging and other manual labor.

Volunteers on Friday included everyday citizens, officials and both city and state employees taking time out of their regular work to help safeguard city infrastructure.

"I just saw they needed volunteers and I sit all day, so it's an opportunity to get outside," said Denise Smallcanyon, a Provo emergency dispatch employee. "Even if you just came out for an hour ... a little bit goes a long way."

Provo City set a goal to fill 100,000 sandbags before May 1 with over 45,000 bags already filled. According to Kaufusi, 1,000 sandbags have already been deployed and, as of Thursday, 411 volunteers have worked a cumulative 1,255 hours in service to the city.

Volunteers can sign up online to help fill sandbags and pick them up from the city's Public Works building. Northern Utah County residents can collect sandbags from the Lehi Public Works building and Lehi Power Department.

"We are prepared for A to Z. We have maps, we have plans, we have diversion roads already prepared. We'll just do the best we can," Kaufusi said. "We're doing everything we possibly can. We're getting the sandbags out and about and also mapped every single potential problem."

Central Utah County cities filling sandbags, plan for potential flooding

By Genelle Pugmire - | Apr 13, 2023



Courtesy Provo City

Provo Mayor Michelle Kaufusi joins other residents to help fill sandbags in this undated photo.

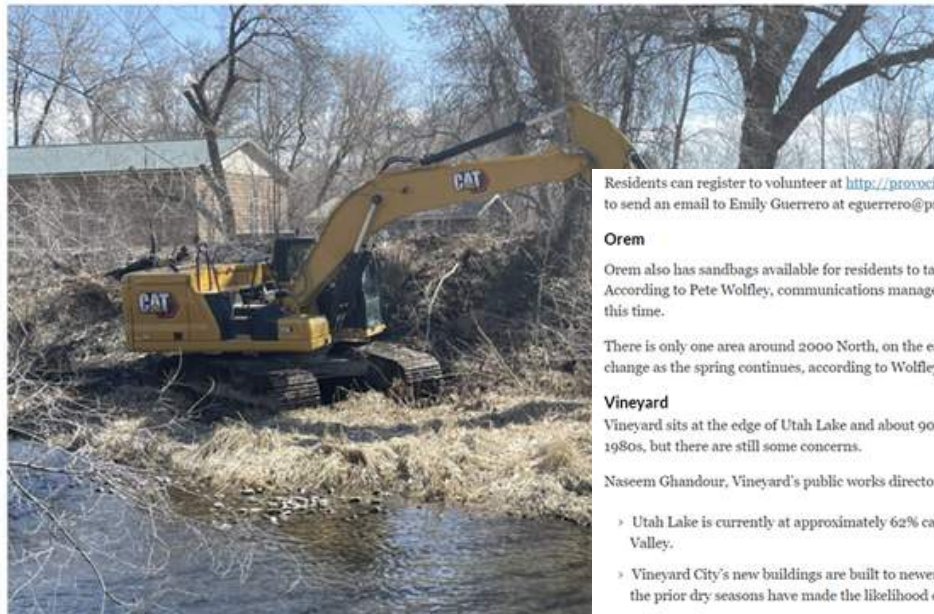
In anticipation of potential flooding this spring, Provo's Public Works Department is seeking help from residents.

Public Works needs help filling 100,000 sandbags by May 1 to prepare for any spring runoff. Volunteer slots are available in four-hour daily shifts with a maximum volunteer count of 80 per shift.

Some shifts, as of Tuesday afternoon, have as few as three volunteers while Saturday shifts have up to 45 — but none have reached the 80 person cut-off. The city encourages individuals, families, clubs, organizations and businesses to join in volunteering.

Volunteers will need to go to the Provo City Public Works Yard, 568 E 1325 South, to fill sandbags. Park vehicles on the street, and then follow the signs into the gate. Residents are encouraged to bring gloves if they have them, if not, the city will some.

According to Joseph Gandy, Public Works public information officer, the areas of focus for potential flooding include the frontal areas of Slate, Provo, and Little Rock Canyons as well as the Provo River. Gandy hopes residents will heed the volunteer call.



Residents can register to volunteer at <http://provocity.info/sandbagvolunteers>. Those who have questions are welcomed to send an email to Emily Guerrero at eguerrero@provo.org and they will be answered as soon as possible.

Orem

Orem also has sandbags available for residents to take and fill for potential flooding areas around their homes. According to Pete Wolfley, communications manager, the city is not overly concerned about spring runoff or flooding at this time.

There is only one area around 2000 North, on the east side of the city that the city is monitoring, though concerns may change as the spring continues, according to Wolfley.

Vineyard

Vineyard sits at the edge of Utah Lake and about 90% of the city has been built since the state's historic floods of the 1980s, but there are still some concerns.

Naseem Ghandour, Vineyard's public works director, noted three differences between now and years past.

- › Utah Lake is currently at approximately 62% capacity compared to the 1983 flooding event that impacted Utah Valley.
- › Vineyard City's new buildings are built to newer engineering standards, Utah Lake flood control agreements and the prior dry seasons have made the likelihood of city-wide flooding minimal.
- › In the event of city-wide or isolated flooding that may impact city infrastructure/services to the residents, public works is prepared with over 10,000 sandbags, equipment, aid agreements with neighboring cities and seasoned professionals.



Provo planning ahead for possible spring flooding

By Genevieve Pugmire - | Mar 16, 2023



Daily Herald file photo

Men carry sandbags in the back of a truck to stop flooding on June 2, 1983. A record setting spring snow and rain created flooding across Utah County in 1983.

As the anniversary nears of the the Salt Lake City "river" flood nearly 40 years ago, long-time Utah County residents still remember the streams flowing out of the canyons east of the city around the same time.

In 1984, a sandbag channel out of Slate Canyon had more than 90,000 sandbags holding more than 2,625 tons of sand. It took 1,455 volunteers over 3,770 hours to construct the Slate Canyon channel. Sandbags also lined the streets around the Provo Temple and ran down 900 East past the new Provo Missionary Training Center.

While the record-breaking modern snowpack is helpful for drought conditions, once again, Provo City is actively preparing for potential flooding as a precautionary measure.

"We are monitoring areas with excessive snowpack to determine water volume and better understand potential flood risks should the warming weather create concerns," Provo City Public Works director Dave Decker said.

According to Decker, Provo's flood preparation committee began holding weekly meetings in February.



"Since the last major flood 40 years ago, Provo has been improving its storm water system as the city continues to grow and develop," Decker said. "We are currently planning and coordinating with internal and external agencies to prepare for any type of flood emergency, including identifying areas with the biggest flood risk and developing routes to divert water to protect the residents and homes."

Provo City has also secured sandbags to add to their existing inventory. Should flooding occur, the city will notify residents of pick-up locations.

"Our crews are working on flood prevention by cleaning our storm drains and clearing away vegetation or runoff materials that could clog the system. Crews will also clear the Provo River of debris impeding water flow," Decker said. "Residents can help by keeping gutters and storm drains clear of any yard waste and garbage."

Part of Provo's water management approach is to take advantage of wet years, similar to this one. Aquifer Storage and Recovery projects allow the city to store excess water in its aquifers, helping replenish declining groundwater levels.

"As we monitor and prepare for potential floods, we ask that residents help by keeping an eye out for flooding. If you notice any blocked storm drains, please contact Provo 311 or the Public Works Storm Water Division at 801-852-6700," said Nicole Martin, Provo City Communications Director. "If the likelihood of flooding increases, we will release additional information to help residents know how to prepare and volunteer to help in case of an emergency."

Engineers discuss snowpack, spring flooding in Utah County

By Robyn Morris Christensen · March 8, 2023

1407



City engineers have addressed how the snowfall this year may impact spring runoff and flooding.

City engineers watch the snow conditions closely year-round. Jared Penrod is the principal engineer at Provo City and is part of a team that gives input on the water systems.

Most of the water comes from the High Uintas and right now those mountains are around 120% of the annual snowpack. The runoff will flow into the Jordanelle and Deer Creek reservoirs and then the Provo River. All of those water flow sites are only at 50% capacity because of the recent drought.

"Those reservoirs will fill but not necessarily have a lot of extra water," Penrod said.

Additionally, Provo City works to construct and maintain drains, gutters and sewers throughout the city. Even with extensive preparation, the biggest threat to spring flooding is the temperature.

"If it stays really cold and then it's hot that's when we have issues," Penrod said. Engineer Danielle Nixon said the temperature affects the speed of the snow melting.

"This year we have more snow and the big concern is that it's going to melt all at once," Nixon said.

The Provo City engineers say they don't foresee a huge spring flooding but are prepared if anything would happen.

"We are prepared to divert it a different way so it doesn't harm anyone's property or homes," Nixon said.

The team is also equipped with around 160,000 sandbags and a BYU volunteer team is on standby to help fill and place those sandbags.

"We have a sandbag filling machine that can fill sandbags in ten seconds per bag," Penrod said. There is also a team of maintenance workers that are available to help residents with flooding and can be contacted through a hotline at 311.

Provo mayor's office discusses preparations for spring run off

By Joe Wirthlin · April 3, 2023

842



Provo City Public Works crews clear away debris from the edge of Provo River. By reducing the debris along the edges of the riverbed, the city will allow water to flow easily through the floodway and avoid surging up into residential and commercial housing. (Photo courtesy of the city of Provo)

As the weather warms after a record snowfall, the city of Provo is preparing in advance for the possibility of flooding from spring runoff.

In a statement released March 30, Mayor Michelle Kaufusi described the steps that the city of Provo has taken to prepare for the runoff from, what Provo City Public Works Director Dave Decker called, this year's "unusually high snowpack."

"While we can't control Mother Nature, we can be prepared," Mayor Kaufusi said. "We've made significant infrastructure improvements, activated our flood prevention plan, and are informing residents while providing them with necessary resources."

Provo's Flood Preparation Committee began meeting weekly in February to prepare for the spring runoff, and has prepared 200,000 sandbags and sand for residents to fill them with. Residents can pick up a bundle of 25 sandbags at the Provo Public Works Department building. Nicole Martin, communications director for the city of Provo, said "residents just need to bring their own shovel."

Decker encouraged residents to take proactive steps to avoid the flooding by clearing storm drains and gutters around their home, as well as removing yard waste or garbage. Residents are also encouraged to ensure their sump pumps are functioning properly before the rain and melting begins, as well as secure low-level entryways from water entering their homes.

A lot of the water that comes down from the mountain will flow into the Provo River. Other areas under watch include Rock Canyon, Slate Canyon and Little Rock Canyon. Detention basins have been installed at Rock and Slate Canyons, and improved storm drains have been installed to help carry away potential flood waters.

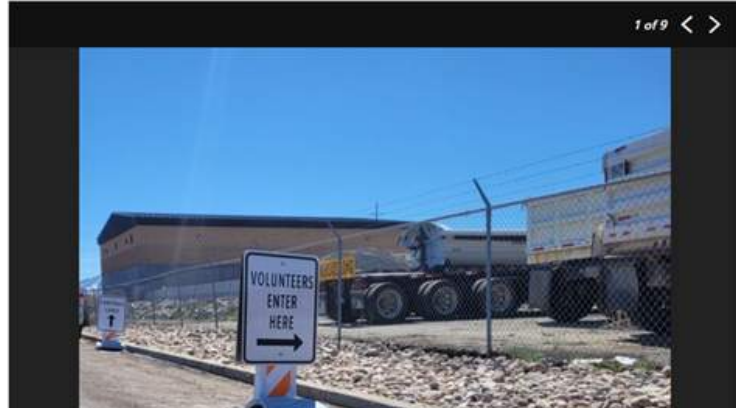
Provo also has several Aquifer Storage and Recovery projects operating to drain surface water and store it in a place where it will not evaporate. These ASRs will be used to help provide Provo with water in times of future drought.

Mayor Kaufusi recorded a question and answer session with Decker, which can be viewed [here](#). Those that have additional questions regarding the potential for flooding are encouraged to go to [Provo's Public Works Department website](#).

Provo invites volunteers to fill 100K sandbags in anticipation of spring runoff

By Joe Wirthlin - April 12, 2023

1382



Provo resident Lochsley Allred joined in the efforts to fill sandbags with her friend, Crystal Blodgett. "This is a great way to hang out with a friend," Allred said. "It hasn't been as backbreaking as I thought it would be." Allred said her husband is planning on coming to fill sandbags on Friday, taking turns to help the city while keeping an eye on their toddler.

Volunteers filled sandbags with shovels, placing bags under upside-down traffic cones and dumping the sand inside to help the bags hold their shape. With this system, Blodgett estimated that she would be able to fill 25 bags in an hour by herself. Having a friend doubled their output to 50 bags in an hour. "They have a nice system in place," Blodgett said.

On the other side of the yard, a compact utility loader filled a hopper with sand to help mechanize the process. The hopper allowed residents to fill bags up quickly, but not as many volunteers could use it at a time. Several employees of SGFusion Living, a property management company based in Provo, and Blackfish Investments, a real estate investment company based in Provo, helped fill bags from the hopper.

Teresa Cope, manager of human resources at SGFusion Living, said that their company used to own an apartment complex in Provo that had issues with flooding in the past. This year, Cope said the city has "done a really good job preparing" for flooding. The sandbags, as Cope puts it, are "just in case."

Danica Rose, marketing specialist for Blackfish Investments, said that it is good to be prepared for the upcoming runoff. "I think they're doing a really great job," Rose said. "It's been set up really well, and well organized."

As the weather warms and the snow begins to melt, Gandy cautioned people to be careful around the Provo River. "As the flows increase, the river will become increasingly dangerous," Gandy said, "so we want to encourage people to keep a safe distance away from the river, especially kids and pets."

Provo residents can take home up to 25 sandbags to protect their homes, placing the bags near windowsills and lower entryways. With over 114,000 residents living in Provo, those sandbags will go quickly. "We could always use more volunteers," Gandy said.

Provo city workers, residents and companies have filled roughly 44,000 sandbags in preparation for this year's spring runoff out of a goal of 100,000 sandbags.

Provo received 1,500 tons of sand, which was donated by Geneva Rock. Joseph Gandy, public relations analyst for Provo, said they will need more sand to reach their goal.

With two four-hour shifts of 80 volunteers can fill close to 10,000 sandbags in a single day. More than 350 volunteers signed up to help. "The residents of Provo have really stepped up to the plate," Gandy said.



Provo prepares for potential flooding, sandbags available for pick up

by: [Chin Tung Tan](#)
Posted: Mar 30, 2023 / 05:04 PM MDT
Updated: Mar 30, 2023 / 05:04 PM MDT



Courtesy of City of Provo

PROVO, Utah (ABC4) — Provo city crews say they are clearing debris from the Provo River and monitoring frontal canyons as they take a preventive approach to record-breaking snowfall which will eventually turn into an unpredictable spring runoff.

“Unusually high snowpack during a cold, wet spring leads to the potential of sudden high temperatures creating flooding conditions. That is our worst-case scenario,” said Public Works Director Dave Decker.

[| Missing 13-year-old boy from Taylorsville believed to be heading to Arizona >](#)

But which areas in Provo have the highest risk of potential flooding?

Mayor Michelle Kaufusi and Decker say while a majority of the water from spring runoff will make its way into the Provo River, other areas with high flood concerns include Provo’s frontal canyons: Rock Canyon, Slate Canyon and Little Rock Canyon.

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“It is very likely we will see flooding on the Provo River,” Decker said. “Residents will see a lot of city crew activity as they clear out dead trees and sand and gravel bars to maximize capacity in the river. This is a vital flood preparation component for Provo.”

Provo residents can pick up a bundle of 25 sandbags at the Public Works building, but they have to bring their shovels to fill the bags with sand. There are reportedly about 200,000 sandbags available for pickup.

“Localized flooding may occur due to saturated soils,” said city officials. “Property owners should look at their own properties and address low areas that may cause flooding to buildings.”

During the 1984 Provo flooding, over 90,000 sandbags made up the Slate Canyon channel, which has two vehicular bridges and eight pedestrian bridges. It reportedly took 1,455 volunteers over 3,770 hours to construct the channel, officials said.

As a proactive measure, residents are advised to periodically clear their storm drains and gutters around their homes and remove any waste or garbage immediately.

Decker says officials have developed routes with a planned process to divert floodwaters to protect residents and neighborhoods.

“We are planning and coordinating with internal and external agencies to prepare for any type of flood emergency, protecting areas with the biggest flood risk, and helping to prepare at-risk residents.”

Water detention basins in Utah play critical role in flood prevention

by Daniel Woodruff, KUTV | Tue, April 18th 2023, 5:44 PM MDT



Sugar House Park in Salt Lake City, Utah acts as a water detention basin when needed, the city said. (Photo: Gabe Mills, KUTV)



PROVO, Utah (KUTV) — As parts of Utah brace for more flooding, cities and counties are making sure they have enough places to put all the water.

Over the last week, Sugar House Park in Salt Lake City **quickly filled with excess water** as planned releases from reservoirs fed into a detention basin there.

It's not the only one. The Utah Department of Natural Resources tells KUTV 2News there are "many water detention basins across Utah in cities and counties that collect, hold and release water in a controlled manner to help prevent flooding."

Take Rock Canyon Park in Provo. The bowl-shaped park on the city's east side is a popular place to play, but it has another purpose.



Rock Canyon Park in Provo, Utah acts as a water detention basin when needed, the city's public works director said. (Photo: Eddie Collins/KUTV)

"Most people don't realize it's a detention pond," said Dave Decker, Provo city public works director. "It's got a pipe system out of it, and if it exceeds the pipe system, it'll start to fill that detention pond."

Rock Canyon filled up in the 1980s, Decker said. There are more city detention basins to the south, near Slate Canyon.

Asked if he believed those ponds will be used this year, Decker said, "Definitely. We're anticipating these ponds will fill up."

With all the runoff expected this season, he added, "this could have a lot of water in it."

A Farmington public works official told KUTV 2News the basin hasn't been used yet, but it's there just in case.

Back in Provo, Chloe Handley visited Rock Canyon Park on Tuesday afternoon with her dog.

"I'll come here at least once a week," she said.

She didn't realize the park was a water detention basin, and it's unclear at this point how much water might fill up in it this season.

But Decker, Provo's public works director, said they're preparing for whatever comes.



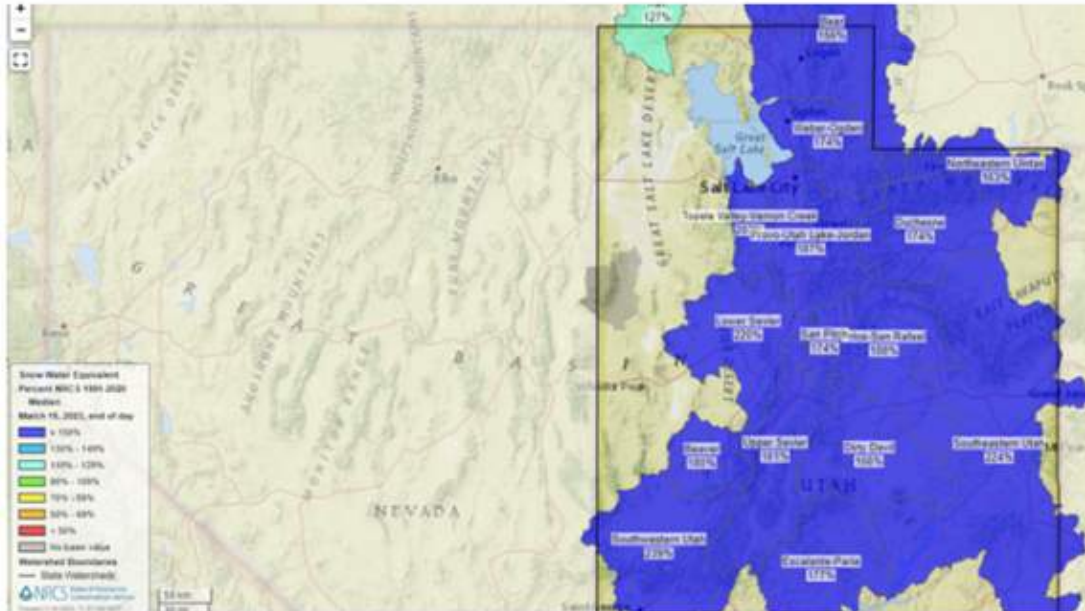
Dave Decker, Provo city public works director, speaks with KUTV 2News reporter Daniel Woodruff on Tuesday, April 18, 2023. (Photo: Eddie Collins/KUTV)

"We hope that we're not getting more than what the detention ponds can handle," he said.

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If that happens, Decker said the city has a backup plan to use sandbags to divert water down the streets into storm drains or, if needed, into a natural channel that dumps into Utah Lake.

According to the [National Resources Conservation Service National Water and Climate Center](#), Provo was at a snowpack level of 187% by March 16, 2023. As stated by government officials, Utah's snowpack levels do not typically peak until April, meaning that that percentage is expected to increase.



Map of Utah's snowpack levels on March 16, 2023. (Photo: [National Resources Conservation Service National Water and Climate Center](#))

MORE from 2News:

- [Gov. Cox grants state employees optional leave for flood mitigation efforts](#)
- [Concerns for valleys raised by flooding in Utah's mountain communities](#)
- [Draper neighborhood dealing with severe flooding due to rain, melting snow](#)
- [2 dead, 1 rescued in Kane County flood search; crews find 10 more stranded during effort](#)

"Our crews are working on flood prevention by cleaning our storm drains and clearing away vegetation or runoff materials that could clog the system. Crews will also clear the Provo River of debris impeding water flow," said Decker. "Residents can help by keeping gutters and storm drains clear of any yard waste and garbage."

The City has also acquired sandbags which were added to their existing stockpile, which will be made available to residents at sandbag pick-up location should flooding persist.

Officials noted that they took advantage of previous floods when creating a water management plan for the upcoming spring season, particularly considering how the Salt Lake City State Street flooding of 1983 panned out.

Provo prepping for potential flooding out of canyons, along Provo River

By Genele Pugmire | Mar 31, 2023



As seen in this undated photo, Provo crews are cleaning debris and dead trees out of the Provo River.

Courtesy Provo City



It was 40 years ago that residents of Provo were sandbagging streets and making their own downtown “rivers” just like Salt Lake City. Provo is planning and hoping there is not a repeat.

City crews are clearing debris from the Provo River, filling sandbags and monitoring frontal canyons as they take a preventive approach to record-breaking and unpredictable spring runoff.

According to Dave Decker, Provo City Public Works director, springtime weather is a significant contributor to possible flooding. “Unusually high snowpack during a cold, wet spring leads to the potential of sudden high temperatures creating flooding conditions,” he said. “That is our worst-case scenario.”

Much has changed since the flooding of the 1980s, but some things have not and that is where city leaders are taking bold preemptive steps.

“While we can’t control Mother Nature, we can be prepared,” Mayor Michelle Kaufusi said. “We’ve made significant infrastructure improvements, activated our flood prevention plan and are informing residents while providing them with necessary resources.”

Areas of highest flood concern include Rock, Slate and Little Rock canyons and properties adjacent to the Provo River. Past infrastructure projects intended to control floodwaters include debris basins for Rock and Slate canyons, as well as several stormwater piping improvements.

“It is very likely we will see flooding on the Provo River,” said Decker, whose crews started clearing debris in early March. “Residents will see a lot of city crew activity as they clear out dead trees and sand and gravel bars to maximize capacity in the river. This is a vital flood preparation component for Provo.”

Decker also reminds residents of the danger of recreational use of the Provo River during spring runoff. “With past issues, we can’t stress strongly enough the importance of staying well away from unpredictable floodwaters.”

With city crews focused on high-risk areas, residents are encouraged to take proactive measures to protect their property before spring runoff. “A safe practice is to clear storm drains and gutters around their home and remove yard waste or garbage,” Decker said. Those who have experienced flooding are encouraged to protect lower levels and entryways, as well as ensure sump pumps are functional.

“We have installed detention basins at Rock and Slate canyons. We have also improved the storm drain systems in those areas to help carry some of the potential floodwaters away,” Decker said.

Provo City is actively filling sandbags for emergency use and is offering sandbag bundles to residents free of charge at the Public Works building. “We have 200,000 sandbags and a ready supply of sand. Residents just need to bring their own shovel,” said Nicole Martin, the city’s communications director.

Provo city officials prepare for flooding while remembering State Street flood of '83

by Danielle MacDerm, KUTV | Thu, March 16th 2023, 12:30 PM MDT



A drone captures the heavy snow accumulation in Provo, Utah on February 22, 2023. (Photo: John Hammond via Channel)



PROVO, Utah (KUTV) — Provo City officials are gearing up for potential flooding by reason of an above average snowpack level impacting the majority of the Beehive State.

Dave Decker, Provo City Public Works Director, explained that the city's Flood Preparation Committee began meeting on a weekly basis back in February, where they have actively been planning and coordinating with both city and government officials to prepare for any type of flood emergency that may arise in the upcoming months.

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Decker noted that officials have been working to identify areas with the greatest flood risks as well as routes that could be used to divert water away from homes and businesses.

For perspective, city officials reported that the 1983 flooding, which greatly impacted Provo along with several other cities, required a sandbag channel in Slate Canyon with over 90,000 sandbags, over 2,625 tons of sand, two vehicular bridges and eight pedestrian bridges.



Salt Lake City State Street flood of 1983. (Photo: Manfred Mühlbacher)

In total, the Slate Canyon channel prompted by the State Street flood took over 3,770 hours to construct with the help of 1,445 volunteers.

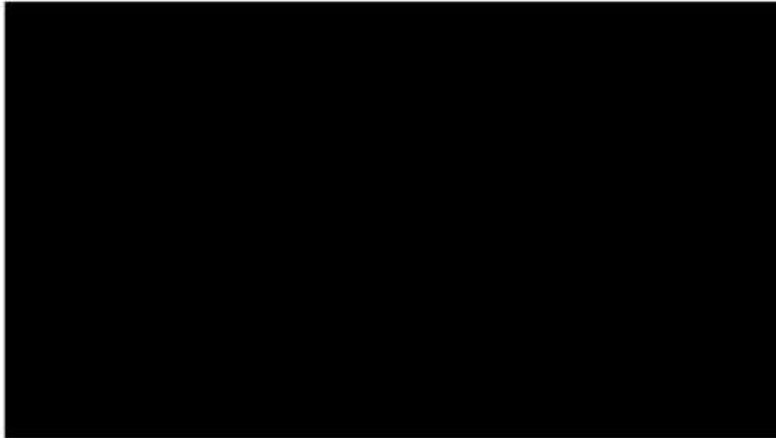
"Provo City is prepared for potential flooding," said Mayor Michelle Kaufusi. "Our expert crews are doing the preparation work necessary to safeguard potential flood areas while being properly supplied with sandbags and equipment to quickly respond."

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While Provo City continues to prepare for spring flooding, officials asked that residents contact Provo 311 or the Public Works Storm Water Division at 801-852-6700 if you notice any blocked storm drains.

'It's very dangerous': Increased flows expected for Provo River next week

May 19, 2023, 7:00 PM | Updated: 7:06 pm



KSL 5 TV Live



BY LADD EGAN
KSLTV.com

Share

PROVO CANYON, Utah – Those who live and recreate along the Provo River are being warned that there will be a significant increase in water over the next week.

"We're going to be pushing the capacity of the river and the dike system, the levee system along the river," said Dave Decker, Provo City's public works director.

Decker said Deer Creek Dam has alerted the city that it will begin releasing extra water for the next week and possibly longer. Currently, the Provo River is flowing between 700 to 800 cubic feet per second.



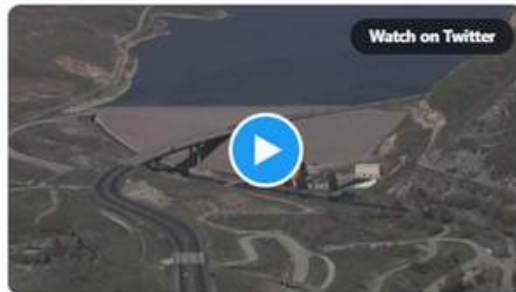
Ladd Egan · May 19, 2023

@laddegan · Follow

"We're going to be pushing the capacity of the river"

The flow of the Provo River could double over the next week because of releases from Deer Creek Reservoir.

I'll be live with the full story, next on @KSLTV at 6pm @kslnnewsradio @KSL.com



Ladd Egan

@laddegan · Follow

In addition to the extra water being released from Deer Creek, Provo City says it's also concerned about the North Fork, which passes by Sundance.

As high-elevation snow melt, the North Fork is expected to add more water into the Provo River.



"Each day we'll see about 100 cfs additional flow in the river," Decker said. "So it's going to double over the next week or so."

The daily increases will bring the river's flow to about 1,500 cfs, which is very close to flood stage, Deck said.

"It's very dangerous," Decker added. "It's a significant increase that residents are going to see."

In addition to extra water being released from Deer Creek Reservoir, there's also a significant amount of water entering the river from the North Fork of the Provo, which passes by Sundance.

"As we see temperatures increase—particularly over the next seven to 10 days—we're very concerned about the North Fork and the contributions it's going to make to the river."

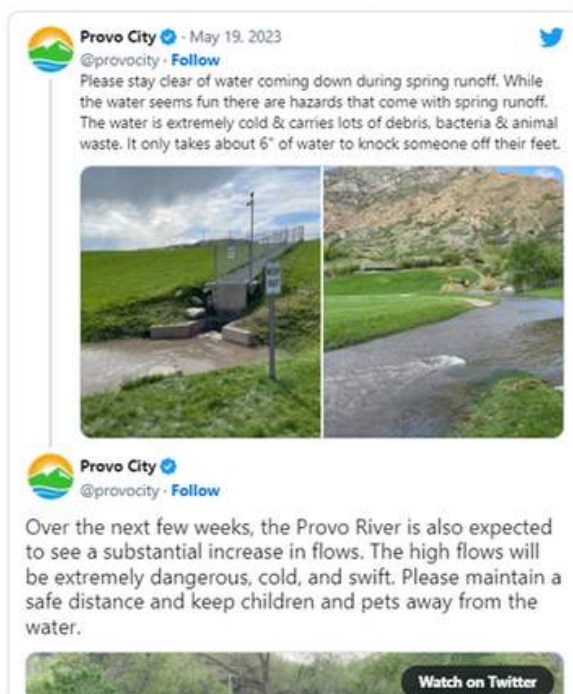


The increase in flow along the Provo River comes as more people are heading outdoors to recreate. Decker urged people to pay attention to the changing river.

A tweet from Provo City warned residents of a "substantial increase in flows."

"The high flows will be extremely dangerous, cold, and swift," the tweet said. "Please maintain a safe distance and keep children and pets away from the water."

Decker said there could be possible trail closures, especially in areas where the trail travels along the river under a bridge. He reminded to never go around a trail closure.



Outfitters, city officials urge caution while recreating near Provo River over holiday weekend

By Leida Egan, KSL-TV | Posted - May 26, 2023 at 10:00 a.m.



12 Save Story



Estimated read time: 2-3 minutes

PROVO CANYON – The Provo River is swelling with runoff just as Memorial Day weekend approaches and as Utahns plan to enjoy the outdoors.

"We haven't seen this level in quite some time," Steve Myers, the owner of High Country Adventure, said. "A lot of mud's coming in. This is about the dirtiest I've seen it in several, several years."

For more than 30 years, Myers has helped people raft, kayak and tube the Provo River. This spring he's warning inexperienced visitors that tubing is too dangerous right now because of the swift current.

"It wants to push you into the banks," he said of the current. "So if you're in a tube, you're scrambling. You're going to hit rocks, you're going to hit trees. You're going to flip over."

Myers is still open for business but is pausing tube rentals until the water levels go down.

"We're not telling people to cancel," he said. "If anyone wants to tube, we're happy to put them in a raft or kayak at the tubing rate."

In addition to the swift current, there's also concern about dangerous debris and the cold water temperature.

"These are extremely high flows," said Shane Winters, director of Provo's public services division. "We are anticipating high river flows for the next month, month and a half."

Winters said the river will be approaching flood stage because of increased releases from Deer Creek Reservoir and high runoff from the North Fork of the Provo, which passes by Sundance resort.

He understands that residents want to get outside for the holiday weekend but cautions that the river will be rising daily.

"Stay away," he urged. "Keep a safe distance from the river. Parents watch your children, watch your pets."

"Don't get that close. You can see it 20 feet away, 30 feet away just fine. Stay away. You never know what could happen," Myers said. "If you do have little kids, I wouldn't even bring them near the water unless you're going with an outfitter with lifejackets."

'Super excited': Provo River back to normal flows just in time for holiday weekend

Jun 26, 2023, 7:27 PM | Updated 7:27 pm



BY LADD EGAN
KSLTV.com

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UTAH COUNTY, Utah — River guides are calling it perfect timing for the 4th of July holiday weekend after the Provo River suddenly dropped to normal levels.

"It couldn't be better timing for us," said Carson Myers, a manager for High Country Adventure. "We've been dying to get back to tubing for the entire summer."

Provo River peaked on Sunday at nearly 1,800 cubic feet per second. Now, the river is flowing between 400 and 600 CFS, according to Provo Public Works engineer Jared Penrod.

Penrod added that the flows are now within the normal range for the river below Deer Creek and that typical summer water activities along the river shouldn't have any issues.

Even with the high temperatures this weekend, Penrod said the snowmelt is mostly over and they're not expecting any increases in runoff. Until now, the swift water made it so High Country Adventure voluntarily paused tube rentals because of safety concerns.



River guides and floaters getting ready to go back into the waters. (KSL TV)

"While the water was high, we just did a lot of guided rafting, keeping people safe," Myers said. "But now that the water's back down, it's a lot more manageable for people that don't have the experience that our guides do, and they can get down the river super easily by themselves."

They're celebrating a return to normal water levels and normal business for the 4th of July weekend and have started renting out tubes again. They hope the crowds return and remind everyone floating in the river on their own that it's the law to wear lifejackets.

"All the snowmelt's finally done, so I think we're ready to go!"

Provo River to run closer to flood stage as managers navigate runoff

Jun 2, 2023, 7:56 AM | Updated: Jun 6, 2023, 11:19 am



BY ANDREW ADAMS
KSLTV.com

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PROVO, Utah — City officials said they expected flows along the Provo River to be increased again next week as water managers continued to work through the historic spring runoff.

According to Jared Penrod, an engineer with the Provo City Public Works Storm Water Division, crews planned to increase flows starting on or after June 5 to 1,800 cubic feet per second.

Penrod said dam operators have said to expect the high flows for the next two to four weeks.

"We really don't want the river to get above 2,000 CFS at any point," Penrod said. "This is the most that we want to see in the river."

Regulars along a walking path that follows the river near 900 North and 800 West said they couldn't help but notice the river's appearance recently.

"I kind of get a little anxious about how high it's getting," teenager Heaven Begay said as she walked with her mom, siblings and others.

Michael Lloyd said the river appeared to him to be roughly three to five times what it normally looks like.

"I just want to keep watching it and see what happens," Lloyd said. "It could go higher. I'm not an expert in this stuff but I could see it."

The Provo River on Thursday was running at 1,500 cubic feet per second, Penrod said.

"When we hit 2,100 CFS, it's our flood stage," he said. "We don't want to get near that."

Penrod acknowledged it would be increasingly important for crews that are already monitoring the river 24/7 to watch even more closely to ensure unexpected circumstances like debris clogs don't happen.

"What we don't want to see is a backup anywhere," Penrod said. "Those backups can lead to overtopping of the river banks and flooding of properties."

The move comes as Jordanelle and Deer Creek reservoirs are approaching their capacities.

Website

The storm water system in Provo City, Utah, is a complex system that requires regular maintenance and management. The Provo City Storm Water Management Department is responsible for the Development Review and Coordination, Water Quality and Storm Water Pollution Prevention Plan (SWPPP) Permitting, and Capital Improvement Projects.

Spring Runoff

With the significant amount of snow we have received in the mountains, it is important to be prepared for Spring Runoff. Spring runoff will increase flows in the Provo River and it will be necessary to use caution and maintain a safe distance from the water. Our storm water system captures the runoff from the canyons and mountains along Provo, diverting the water to detention basins, Provo River, and Utah Lake. While our city crews are working to maintain and clean the storm drain system, residents can also do their part by keeping the gutters and storm drains near their homes clear of any yard waste or garbage. If residents notice any concerns regarding blocked storm drains or outfalls, please call 311 or 801-852-6700.

Sandbags

Sandbags are available for residents to pick up at the Public Works Building; residents will be limited to (1) bundle of 25 sandbags. Sand is available for residents across the street from the Compost Yard at 1620 S Industrial Pkwy (please see map). Residents will need to bring their own shovel to fill their sandbags. Sandbags only need to be filled between one-half (1/2) to two-thirds (2/3) of their capacity.

Remember: sandbags will deteriorate over time when exposed to continued wetting and drying conditions. If bags are placed outside too early, they may not be effective when needed.



Flood Control Storymap

STORM WATER DOCUMENTS

- Storm Water Manuals
- Storm Water Forms
- Preventing Storm Water Pollution
- Floodplain Documents
- Flooding Q&A



Provo City Flood Control 311



Provo City Flood Control 311

Learn what Provo City has been doing to prepare for Spring run-off in 2023.

Provo City Public Works
April 17, 2023



Website

Flooding Preparation Q&A

[Expand/Contract Questions and Answers](#)

Everyone is wondering about the potential flooding this year with the record snowpack we have received. What has the city been doing to prepare for flooding?

Staff has been meeting weekly to plan and prepare for flooding since February. Public Works, Energy and Parks crews are working to clear debris from the Provo River, as well as clearing runoff materials that could potentially clog our storm drain system. Debris will continue to flow down the river and will need to be cleaned as it comes. We have secured sandbags and identified high risk areas and have plans in place of where to divert potential flood waters.

What different factors play into possible flooding?

There are various different factors that play into the potential for flooding. The amount snow in the mountains is a big factor the other factor is the weather and how quickly the snow melts. If the snow melts all at once that will result in large amounts of water coming down into the valley.

What areas in the city are at the highest risk of potential flooding?

All of the water from spring runoff flows down into Provo City in a few places. A lot of water will make its way into the Provo River as the snow melts. The other area where the runoff will happen is our frontal canyons: Rock Canyon, Slate Canyon, and Little Rock Canyon. Localized flooding may occur due to saturated soils. Property owners should look at their own properties and address low areas that may cause flooding to buildings.

Are sandbags available to residents?

Yes, residents can pick up a bundle of 25 sandbags at the Public Works building. They will need to bring their own shovels to fill the bags with sand. Sand has been placed across the street from the compost yard. Sandbags will deteriorate over time and it is best to store them inside until needed.

What new infrastructure is in place to help with flooding?

We have installed detention basins at Rock and Slate Canyons. We have also improved the storm drain systems in those areas to help carry some of the potential flood waters away.

What is the best thing residents can do to minimize the potential for flooding around their home?

The best thing residents can do is to clear the storm drains and gutters around their home. Remove any yard waste or garbage and throw it in your bin. City crews are focused on the highest risk areas and it would be difficult for them to clean every gutter before spring runoff. Residents should also protect the lower levels of your home such as window wells or other entries. If you have a sump pump make sure it is working properly. The best time to clear it is now before the rain and spring runoff.

How will the city communicate with residents if flooding does occur?

The city will communicate through their social media channels and emails to residents. However, one of the best ways to get information quickly is to sign up for our everbridge notification system. For email updates visit provocity.info/signup and for everbridge alerts visit alerts.utahcounty.gov.

The snow is bringing a lot of critical water that we need as a state. How will this water help us? And what will happen to the excess water?

There is a large quantity of extra water that nature is providing to us this year, more than can be stored in any surface water reservoirs. For long-term water management strategies, it is important to take advantage of this extra water and store it for future years of need. Provo has several ASR (Aquifer Storage and Recovery) projects operating and we have been draining much of the Provo-owned surface water and placing it in the ground to improve the aquifer levels. This will allow Provo to use it in future years of drought and store this extra water in a location where it will not evaporate and is lost. Even with these projects, much of this extra water will go to Utah Lake where it will evaporate or make its way further downstream. We understand some water is certainly needed in Utah Lake to meet water rights and environmental needs. However, nature is providing far more water this spring than these needs demand and, overall, we are concerned the water community is missing out on an excellent chance to store this extra water for coming years of drought. Provo is promoting several more aggressive ASR projects to replenish the ground water aquifer and take advantage of the excellent water years like the one we are experiencing.

Will the city need volunteers if flooding happens? How would they be able to help?

Right now, we are working with volunteer organizations to come and fill sandbags. If flooding does occur we will need additional help from volunteers to place sandbags. Check the city's social media channels for future volunteer opportunities.

What other cautions would you want residents to know about?

It's important to maintain a safe distance from the river and flood waters. High flowing water is extremely dangerous and we don't want to see anyone get swept away.

Website

[Property Be Flooded?](#) [How Can I Get Sandbags?](#) [Report Flooding Issues?](#) [How is the City Preparing?](#) [Temporary](#)

Frequently Asked Questions

Curious about flooding in Provo? This resource is designed to provide answers to many of the questions regarding the anticipated 2023 runoff. Please become familiar with this resource and if you still have questions, please contact us using the contact information below.

- **Where are the sandbags located and how many can I get?**
 - One bundle (25 sandbags) per residence is available.
 - For details on how and where to pick them up and fill them, please [see below](#).
- **Where is the sand to fill the sandbags?**
 - Sand is located at approximately 1620 S Industrial Flow (please [see below](#)). Please remember to bring your own shovel.
- **Is my property going to flood?**
 - Although it is impossible to predict every possible scenario, history can give us some good clues. Please [see below](#) for more information.
- **Is my house in a floodplain zone?**
 - The Federal Emergency Management Agency (FEMA) has mapped various levels of risk for flooding based upon historical runoff patterns and base elevation surveys. Please [see below](#) for more information.
- **Is the floodplain changing?**
 - The current FEMA flood zones are [found below](#), however, FEMA is currently in the process of updating them. The proposed zones will be available for public comment this summer and the new floodplain maps for the Provo area will most likely be effective early 2025.
- **Do I need flood insurance? What can I do to prepare for flooding?**
 - If you are worried about flooding at your property, please [see below](#).
- **What is the difference between spring runoff and groundwater flooding?**
 - Please [see below](#).
- **What trails are going to be closed and when?**
 - Periodic closures of trails will be on an as-needed basis for river cleanup, emergencies, and any safety and flooding concerns during high water flows. If you notice blockages in the river, please safely report using the link below. To view updates on trail and park closures, please [see below](#).
- **Are there any volunteer opportunities?**
 - Please watch the [Provo City Government Facebook page](#) for volunteer sandbag filling opportunities, or visit provocity.info/sandbagvolunteers
- **What can I do to help?**
 - The best things residents can do are to:
 - Stay safe! Stay away from riverbanks and bodies of water, keep pets on a leash, supervise children closely, and obey trail closures.
 - Clear storm drain inlets and gutters around your property from any leaves, debris, or waste.
 - Help fill some sandbags for flood preparations! provocity.info/sandbagvolunteers
 - [See below](#) for additional preparation information.
- **How do I get emergency notices?**
 - Please sign up for Everbridge notices at alerts.utahcounty.gov to get emergency

Website

notifications. [See below](#) for more information.

- **Are there any tips for spring runoff safety?**
 - Please [see below](#) for more information.
- **What do I do with my sandbags after spring runoff?**
 - Residents are responsible for properly disposing of sandbags. Please [see below](#) for more information.
- **What precautions do I take with regard to the power to my house if flooding occurs?**
 - Never step into a flooded basement or other room if water may be in contact with electrical outlets, appliances, or cords.
 - Never attempt to turn off power at the breaker box if you must stand in water to do so. If you can't reach your breaker box safely, call 311 to shut off power at the meter.
 - Never use electric appliances or touch electric wires, switches, or fuses when you're wet or when you're standing in water.
 - If an electrical appliance has been in contact with water, have a professional check it out before it is used. It may need to be repaired or replaced.
 - If rising water threatens your home or business – or if you evacuate your home due to flooding – turn off your power at the circuit breaker panel or fuse box.

Will My Property Be Flooded?

Although it is impossible to predict every possible scenario, history can give us some good clues. There are typically two types of flooding with which to be concerned: groundwater and surface water.

Groundwater Flooding

Groundwater flooding refers to the type of nuisance flooding caused by saturated ground and higher than normal water tables. Under normal conditions the ground conveys water from the hillside benches to Utah Lake. The water table can indicate the level, or how far beneath the ground surface, the water is being conveyed. When the ground becomes saturated, the water table can rise to the point where groundwater becomes visible above ground surface levels. This is typically first noticed in basements, cellars, or around structure foundations. It is very difficult to map the water table as it constantly fluctuates based upon many conditions, however, higher water tables are usually found in West Provo areas between Interstate 15 and Utah Lake. A good predictor of groundwater flooding is if your home has a history of basement flooding. You can prepare by testing any sump pump systems to make sure they are operational and keep a battery-powered backup on hand, as well as have sandbags ready to protect structure openings such as window wells and doorways from surface water breaching.

Surface Water Flooding

Surface water flooding refers to the type of flooding caused by water flowing over the ground surface. Rivers and streams are examples of surface water and they naturally

Website

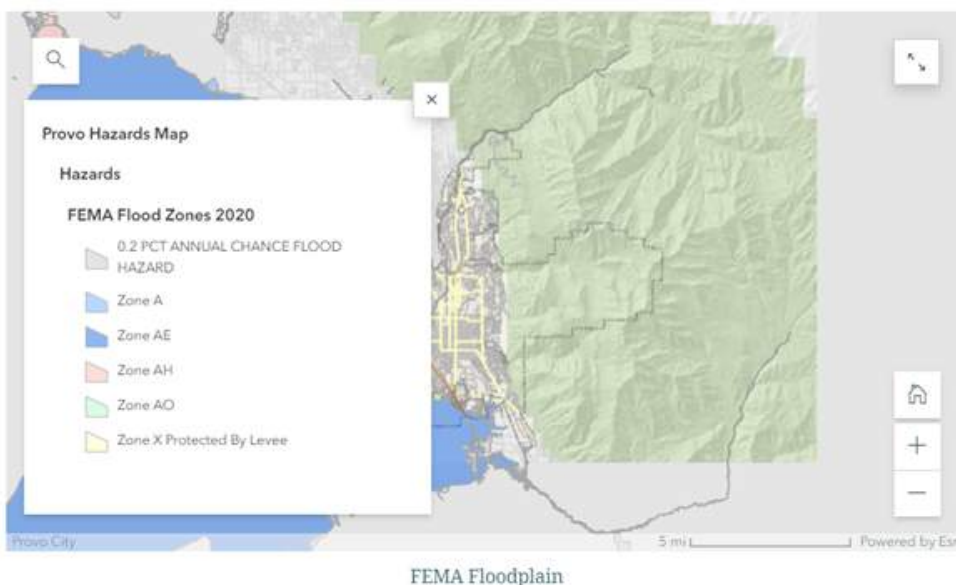
form channels to flow downhill. As these channels fill to capacity, water will overflow the channel and begin to flow in any path of least resistance driven by gravity and surrounding conditions. When we construct structures such as streets, parking lots, and buildings that disrupt the natural flow of surface water, we try to capture and offset the excess surface flow through a system of storm water pipes and ditches that convey the runoff to Utah Lake.

Areas closer to the river, canals, and frontal canyons will be more prone to spring runoff flooding, however, flooding can occur anywhere in the city. We encourage all residents to take necessary precautions to protect from flooding.

FEMA Floodplain Zones

In the case of rivers, the Federal Emergency Management Agency (FEMA) has mapped various levels of risk for flooding based upon historical runoff patterns and base elevation surveys. The purpose of this mapping is to determine where flood insurance may be required and does not represent actual flooding. These maps are officially known as Flood Insurance Rate Maps (FIRMs). The high- and moderate- to low-flood risk levels are estimated into zones, where a *Floodway* represents the channel, *Zone A* represents the greatest risk for flooding, and *Zone AE* represents the varying risk based upon individual base elevations. *Zone X*, *Zone AH*, *Zone AO* and *0.2 percent annual flood hazard* represents areas typically protected from flooding by a form of diversion structure such as a levee or a detention basin to slow the flow of surface water to levels of low risk. Please visit the

[FEMA website](#) for more explanation about flood zones. Search an address below to see what FEMA Flood Zone might affect specific areas. Please note that FEMA Flood Zones can only represent a percent risk per annual historic average and does not guarantee actual flooding in those areas.



Website

How Can I Get Sandbags?

You can prepare for potential flood risk by testing any sump pump systems to make sure they are operational and keep a battery-powered backup on hand, as well as have sandbags ready to protect structure openings such as window wells and doorways from surface water breaching. Empty sandbags (25) and sand are available to Provo residents for free at the Provo Public Works yard while supplies last. Free sand is also available to fill the sandbags at the yard. Please bring your own tools to fill the sandbags.

Monday - Thursday

Empty sandbags (25) can be picked up at the Provo Public Works Building located at [1377 S 350 E](#) between the hours of 7am - 6pm. The sandbags may be filled at the [east side](#) of the Public Works yard. Residents will need to bring their own shovels to fill the sandbags.



Website

Friday - Saturday

Empty sandbags can be picked up at the [Provo Compost Yard](#) across the street from the [filling location](#).

- Go through the gate and up the road to the shed.
- Show your ID for proof of residency.
- Pick up 25 sandbags.
- Go back down the hill and fill up sandbags (bring your own shovel)



Requirements for Used Sandbag Disposal

Sand or sandbags that have come into contact with only precipitation, but not floodwater, are normally considered to be not contaminated and can be reused without restriction. Potential reuses include flower beds, snow and ice control, or as base for paving blocks.

Sand or sandbags that have been in contact with flood water should not be reused in ways that would involve direct human contact, such as sand boxes, gardens or playgrounds.

Waste disposal after a flood needs to be communicated and addressed to ensure proper handling. By blocking the water flow, both the bag and the sand can become contaminated with sewage, pathogens, and chemicals from the floodwater.

DO NOT dump sandbags in creeks, rivers, canals, ditches, roadway gutters, storm drain inlets, or curbside garbage bins.

Due to the degradation of the sandbag material in the sun, it is imperative that sandbags are not sitting out for an extended period of time. If there is not an active flood threat, the sandbags need to be removed and properly disposed of. In addition, they cannot block floodways and floodplains since this could lead to further flooding complications.

Reference: https://drive.google.com/file/d/1pDqzcxWYloNO1CyBY0VCg0OD3kS_U02C/view

Additional Preparations

For more severe flooding, here are additional considerations that may help prepare for flooding:

- Do not go near or enter moving water! Stay away from riverbanks and bodies of water, keep pets on a leash, supervise children closely, and obey trail closures.
- Stay informed of local weather updates in case of a flood watch or warning. Consider creating an account at the [Utah County Alert Notification System](#) to receive critical information quickly.
- Install check valves in sewer traps to prevent flood water from backing up into the

Website

- Install check valves in sewer traps to prevent flood water from backing up into the home.
- Elevate valuable items and electronic equipment off the floor.
- Secure outdoor objects that could be picked up by flood waters and moved around.
- Clear gutters and downspouts to ensure efficient drainage away from the structure.
- Create an emergency kit with supplies such as food, water, a flashlight, and a battery-powered radio.
- Have an evacuation plan and know how to get to higher ground if necessary.

Report Flooding Issues?

- If you experience life threatening issues as a result of flooding or related events, please contact 911 immediately.
- If you have non-emergency concerns, please contact Provo City's 311 for residents or 801-852-6000 if you are outside city boundaries.
- If you would like to report non-life-threatening issues to be included in documentation, please fill out the following form that allows uploading of up to three photos.
 - [Report Flooding Link](#)

How is the City Preparing?

Since the flooding events of 1983, Provo has been upgrading its storm water infrastructure to handle increased runoff. This includes the construction of detention basins, debris basins, large diameter culverts, levee maintenance, debris clearing, drainage studies, update of building standards, data modeling, and more. Although it is impossible to predict every possible scenario, history has been a great teacher.

Due to the unexpected amount of precipitation in winter of 2022, spring of 2023 is anticipated to bring above average runoff, depending upon various factors contributing to how fast the snowpack in the mountains melt. In preparation for spring runoff, Provo City Public Works has begun planning for additional flood calming measures in specific areas where current facilities may need additional support.



Uploaded by Provo City on 2023-03-31.

Website

Temporary Diversions

Provo City is filling sandbags for placement in areas where surface runoff might be expected to breach channels or fill the stormwater system beyond current capacity.

Flood prevention measures in preparation for the Provo River include:

- Coordination with the Bureau of Reclamation to maintain storage capacity in Jordanelle and Deer Creek Reservoirs to retain runoff and release into the river below the dam at manageable flows
 - Reservoir levels may be monitored near real-time at this [Central Utah Water website](#)
 - River levels may be monitored near real-time at this [USGS website](#)
- Removal of debris from the Provo River channel
- Survey the levee system
- Sandbags ready for river banks if needed

Flood prevention measures in preparation for Provo's east bench canyons include:

- Monitor system capacity of infrastructure
- Removal of debris from canyon channels, basins, and outfalls
- Planning of temporary diversions of runoff from natural drainage to the storm water infrastructure system

In the event temporary diversions are placed, existing infrastructure, such as streets, will be utilized. While it is impossible to predict every possible scenario, here are some things residents might need to know.

- **Will my driveway be blocked by the sandbag route?**
 - Everyone will still have access to their driveway. If sandbags are used we ask that people drive carefully through the area and only encourage local traffic to use these streets. Please, be careful backing out of your driveway to not back into the sandbag channel.

Website

- **Will I still receive mail?**
 - Yes, mail services have been informed of the potential sandbag routes and detours necessary to deliver your mail.
- **Will my garbage, recycling, and green waste still be collected on the same day?**
 - Yes, these services will continue for all residents on or near the diversion routes.
- **How will emergency personnel come if help is needed?**
 - Both Police and Fire have been involved and notified about these diversion plans. Emergency services have planned routes around diversions to be able to access all areas in the city.
- **How will this impact my commute (walking, biking, driving, or public transit)?**
 - We ask that everyone in the area be aware of detour routes and follow all traffic signs. Detours may add several minutes to your commute. For pedestrians, we ask that you only use pedestrian crossings to get across the flood diversion, do not cross directly through the channel. UTA has been notified of the routes and they will make the necessary adjustments to keep services available.
- **How will this impact the school bus pick-ups and drop-offs?**
 - The Provo School District has been contacted. For the most part, school bus routes will remain the same with minor modification to the bus stop locations. The school district will notify parents of any minor modifications.

Provo's East Bench Canyons

- Little Rock Canyon Temporary Diversion Path

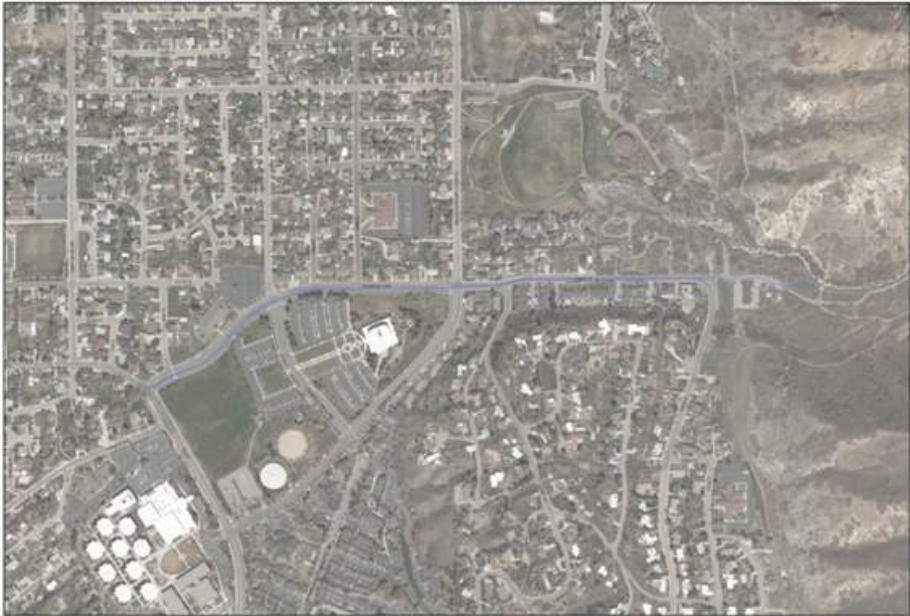


2023 Flood Diversion Route
Little Rock Canyon Diversion Path



Website

- Rock Canyon Temporary Diversion Path



2023 Flood Diversion Route
Rock Canyon Diversion Path



- Slate Canyon Temporary Diversion Path



2023 Flood Diversion Route
Slate Canyon Diversion Path



Website

Preparation Timeline

Post 1983

Provo has been upgrading its storm water infrastructure to handle increased runoff over the last forty years.



December 2022

Provo City Public Works Department ordered sandbags.



January 2023

Provo City Public Works Department began ordering sand.

January-March 2023

Provo City Public Works Department mapped out potential flood areas with varying severities of Spring run-off and identified potential sandbag areas.



March 2023

Provo City Public Works Department began filling sandbags for potential flooding and opened an area for citizens to begin filling 25 sandbags per household.



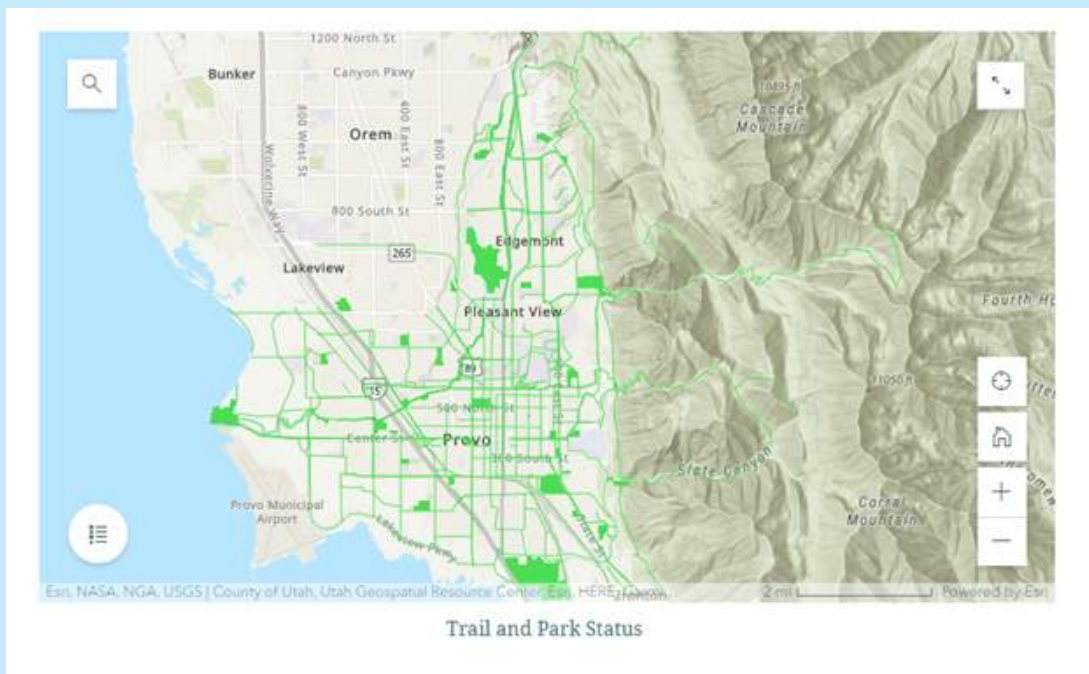
Website

April 2023

Provo City Public Works Department has opened up volunteer shifts (six days a week) for residents to help fill sandbags to stockpile for deployment, if necessary.

Additional Resources

- Be Ready Utah Flooding Info <https://beready.utah.gov/utah-hazards/flood/>
- Flood Hazard Info for Property Owners <https://floodhazards.utah.gov/property-owners/>
- Utah Division of Emergency Management Sandbag Tips <https://bit.ly/3MutBAu>
- Sandbag Tips Video <https://youtu.be/rj7aUwIHYlw>
- Floods: What You Should Know When Living in Utah <https://floodhazards.utah.gov/wp-content/uploads/2021/11/Utah-Flood-Handbook-2015.pdf>
- Trail and Park Closures: View the map below for updates on trails or parks closed in Provo.



Additional Photos











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PUBLIC WORKS



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