

BOUNTIFUL CITY COUNCIL MEETING

TUESDAY, December 14, 2021

6:00 – Work Session

7:00 p.m. - Regular Session

NOTICE IS HEREBY GIVEN that the City Council of Bountiful, Utah will hold its regular Council meeting at **City Hall, 795 South Main Street, Bountiful, Utah**, at the time and on the date given above. The public is invited to all meetings. Deliberations will occur in the meetings. Persons who are disabled as defined by the Americans With Disabilities Act may request an accommodation by contacting the Bountiful City Manager at 801.298.6140. Notification at least 24 hours prior to the meeting would be appreciated.

If you are not on the agenda, the Council will not be able to discuss your item of business until another meeting. For most items it is desirable for the Council to be informed of background information prior to consideration at a Council meeting. If you wish to have an item placed on the agenda, contact the Bountiful City Manager at 801.298.6140.

Bountiful City Council meetings, including this meeting, are open to the public. In consideration of the COVID-19 pandemic, the meeting is also available to view online. The link will be available on the Bountiful City website homepage (www.bountifulutah.gov) approximately one hour prior to the start of the meeting.

AGENDA

6:00 p.m. – Work Session

1. Washington Park Master Plan discussion – Mr. Lloyd Cheney p. 3
2. Proposal for bee sculpture art – Ms. Rebecca Hatch p. 7
3. Council Chambers art and signage – Ms. Rebecca Hatch p. 13

7:00 p.m. – Regular Session

1. Welcome, Pledge of Allegiance and Thought/Prayer
2. Public Comment – If you wish to make a comment to the Council, please use the podium and clearly state your name and address, keeping your comments to a maximum of two minutes. Public comment is limited to no more than ten minutes per meeting. Please do not repeat positions already stated. Public comment is a time for the Council to receive new information and perspectives.
3. Consider approval of minutes of previous meetings held on November 9 (two meetings) & 16, 2021 p. 17
4. Council Reports
5. BCYC Report
6. Consider approval of:
 - a. Expenditures greater than \$1,000 paid November 1, 8, 15 & 22 2021 p. 27
 - b. October 2021 financial report p. 33
7. Recognition of Mayor Randy Lewis and Councilman Chris Simonsen
8. Consider approval of the Washington Park Master Plan Concept – Mr. Lloyd Cheney p. 3
9. Consider approval of a construction agreement with REDD Engineering and Construction for the remodel of the café and associated spaces at the Bountiful Ridge Golf Course in the amount of \$174,100 – Mr. Brock Hill p. 47
10. Consider approval of Resolution 2021-23 which adopts the 2021 Davis County Pre-Disaster Mitigation Plan – Asst. Police Chief Dave Edwards p. 59
11. Consider approval of the purchase of 90 transformers from Irby in the amount of \$215,700 – Mr. Alan Farnes p. 361
12. Consider preliminary and final approval of the Deseret First Planned Unit Development – Mr. Lloyd Cheney p. 363
13. Consider preliminary and final architectural and site plan review for the proposed Deseret First rear indoor vehicle storage building – Mr. Francisco Astorga p. 367
14. Consider approval of the preliminary architectural and site plan review for the proposed apartment building at Renaissance Town Center – Mr. Francisco Astorga p. 381
15. Review of the 2021 Moderate Income Housing Report – Mr. Francisco Astorga p. 427
16. Consider approval of Resolution 2021-24 authorizing the participation in a potential opioid settlement – Mr. Clinton Drake p. 441
17. Consider approval of the Public Notice of Bountiful City Council Meetings in 2022 – Mr. Gary Hill p. 447
18. Adjourn to closed session to discuss the purchase, exchange or lease of real property, reasonably imminent litigation and/or to discuss the character and/or competency of an individual(s) (Utah Code §52-4-205).


City Recorder

City Council Staff Report

Subject: Washington Park Master Plan
Author: Lloyd Cheney, City Engineer
Department: Engineering, Parks
Date: 14 December 2021



Background

At the November 9, 2021 City Council Work Session, staff requested input from the City Council regarding the elements and layouts shown in the preliminary park designs. The following modifications were noted for inclusion the revised Master Plan:

1. Relocate the pickleball courts to the west side of the park.
2. Provide a third field with north-to-south orientation on the west side of the two proposed lacrosse fields. This field would be sized to fit the available space. The design team would also evaluate the extent of regrading necessary to construct the field.
3. As discussed, the following elements will be incorporated in to the design documents for the facility: fencing around the skate park; lighting in parking areas, pavilions and restrooms; lighting equipment on the pickleball courts, and the inclusion of security cameras in select locations.

Analysis

Master Plan

MGB+A has revised the Master Plan Concept drawing to reflect the Council's comments regarding field spaces and the location of the pickleball courts. After reviewing this layout, staff would suggest the addition of netting along the north sides of the lacrosse fields, and at the southeast corner of the east lacrosse field.

Timing and Fund Raising

A couple of residents have proposed postponing final design and construction of the park until fundraising efforts can be attempted. One suggested reason is so that the park budget does not exceed the \$2.5 million allocated from bond proceeds. It should be noted that while the \$2.5 million from the Parks and Trails Bond can only be used at Washington Park, there is no law or bond requirement that the park budget be limited to \$2.5 million.

Another suggested reason for fundraising is to raise enough money so that both the pickleball community and the skate park community can “both get what they are hoping for.” It’s unclear what this means exactly, but one such proponent has suggested this means moving the skate park to another location (no suggestions on where) and building enough pickleball courts at Washington to have tournaments, lessons, etc.

The question isn’t if fundraising is a good idea, but whether it’s worth postponing the project and redrafting a Master Plan before fundraising efforts are started. There are benefits and challenges with waiting for fundraising to occur before park plans are set. Some thoughts on the consequences of waiting are included as an attachment to this report.

Department Review

This report has been reviewed by the Parks Dept. Director and the City Manager.

Recommendation

Staff requests additional comments and/or recommendations from the City Council for the Master Plan Concept. The regular session of tonight’s City Council meeting also includes an agenda item for the Council to formally adopt the Master Plan Concept. This is Staff’s recommendation.

If the Council chooses to not adopt the Master Plan at this time, the topic can be rescheduled to a future City Council meeting.

Attachments

- 1- Revised Mater Plan Concept
- 2- Fundraising decision matrix



LEGEND

SYMBOL	DESCRIPTION
1	PICKLEBALL COURTS (60' X36')
2	2-5 PLAYGROUND
3	5-12 PLAYGROUND
4	SMALL PAVILION (15' X15')
5	MEDIUM PAVILION (30' X40')
6	LACROSSE FIELD (330' X180')
7	PRACTICE FIELD - 80% FULL FIELD SIZE
8	NEW RESTROOM
9	CONCRETE SIDEWALK
10	14,000 SF SKATEPARK
11	NEW PARKING LOT
12	EXISTING PARKING LOT
13	FUTURE ANGLED PARKING ALONG ROADWAY
14	LAWN
15	PLANTING AREA - LOW WATER
16	PARKING LOT EXPANSION AREA

PARKING REQUIREMENTS

LACROSSE (59 PER FIELD) - 118
 PICKLEBALL (2.5 PER COURT) - 20
 GENERAL PARK USE (3.7 PER ACRE) - 45
 SKATEPARK (2 PER 1000 SF) - 28

TOTAL PARKING REQUIRED - 211
 TOTAL PARKING PROVIDED - 213



Master Plan
 450 W 740 S, Bountiful UT
WASHINGTON PARK

Washington Park Master Plan

Master Plan Adoption on December 14th vs. waiting for Fundraising

Option	Public Process Implications	Fundraising Impacts	Next Steps	Impact on Timing	Observations
<p>1. Adopt the Washington Park Master Plan on December 14th.</p>	<ul style="list-style-type: none"> Consistent with the publicized public process the City just completed. 	<ul style="list-style-type: none"> Fundraisers will know exactly what they are asking supporters to contribute to. A final design before fundraising may be a disincentive for individuals who do not like the master plan. 	<ul style="list-style-type: none"> Staff and MGB+A finalize cost estimates. The Council begins the process of determining what is built (and when) in January. Construction documents are started. Project is bid out in March. 	<ul style="list-style-type: none"> This option would allow construction to begin, and possibly be completed in 2022. 	<p>This course of action favors commitment to the public process and beginning construction this year over the potential to raise funds.</p>
<p>2. Wait to adopt a Master Plan until fundraising efforts are attempted.</p>	<ul style="list-style-type: none"> Allowing special-interest groups to influence the final design of the park after the “official” public process may not be well received by residents. 	<ul style="list-style-type: none"> Donations could allow park items to be added, ameliorated, or built more quickly without additional City contributions. Fundraisers expect to “have a say” in the final design. 	<ul style="list-style-type: none"> Design work is halted. The City meets with fundraisers and gives them parameters and deadlines. Fundraising proceeds until the specified deadline. Fundraisers and City negotiate over which elements are included in the park based on how much funding is raised. Public input on the “new” master plan is sought. 	<ul style="list-style-type: none"> Design and construction would need to wait until fundraising is completed. That will be at least one construction year, possibly more. 	<p>This option will postpone construction for at least one year. It will likely also require much more public involvement to find an alternate location for the skate park.</p>

City Council Staff Report

Subject: Proposal for “Bee” sculpture art
Author: Rebecca Hatch Montealegre
Department: Executive
Date: December 14, 2021



Background

This proposal is in reference to the Council’s idea for public art with an inviting discovery-like aspect, inspired by “Mice on Main” in South Carolina. The Public Art Advisory Board recommends the subject of “Bees in Bountiful”, along with early renderings of the proposed sculpture art to be used.

Analysis

The use of bees as the subject matter for this project has had a unanimous positive response so far. One of the Advisory Board Members questioned a selection of Main Street Merchants and were all in favor and excited for the idea of Bee sculptures - some very much excited from their own personal interest in bees or local honey. The Public Art Advisory Board members all showed strong favor of bees.

The use of bronze is best for outdoor sculptures to be long lasting through weathering. After speaking with a few bronze artists, it may require every few years a gentle cleaning with soap and water scrubbing, and potentially a light waxing when needed.

At this time, we have compared a couple local artists and recommend one artist, Mike Call, for the bees. Mike Call grew up in Bountiful and is a local artist and bronze sculpture expert. He has years of experience as a sculptor, including works done for the Boy Scouts of America, Canadian Lacrosse Foundation, other various universities lacrosse’ programs, and private collectors, as well as awarded a prize from the National Sculpture Society for his work. He currently teaches Fine Art at Farmington High School.

Bronze sculptures take months to sculpt, cast, and prepare for installation. In order to prepare for the installation of the bees within 2022, the renderings of the bees must first be approved in order to move forward with other plans for project. Foundries are currently backed up with projects for casting in bronze and it is expected to be a minimum 3-4 month wait on new projects. Also to note, Mike Call’s schedule allows time for him to sculpt within the next month, whereas if these renderings are not approved and time is needed to redesign, his schedule past this month may delay the project further.

With his experience in realistic sculptures of people and animals, included below is both his early of the rendering of the bees as bronze sculptures, and the second rendering after the feedback given from the Public Art Advisory Board to create a softer look for the bee.

It is proposed to use the same design for each bee, as the cost is dramatically reduced to cast in bronze the same design multiple times than to create a different design for a small sculpture. Ideas on how to still make each bee unique will be proposed as the Public Art Advisory Board prepares their recommendation. If there are concerns beyond minor changes to these renderings, it will require going back to the design board and potentially delay the project into the end of 2022.

Estimate Cost per Bee: \$600-1200 dependent on finalized design with foundry's pricing

Estimate Total Cost for 6-8 Bees: \$3600-\$10,000

Estimate Time for finished products to be installed & opening event: Summer 2022

Department Review

Executive Department.

Recommendation

After review of photos, it is advised to approve moving forward with this artist's work for a "bee" sculpture and allow time for the final design, sculpting and casting. If there are suggestions for the artist to make minor changes, please provide the feedback.

Significant Impacts

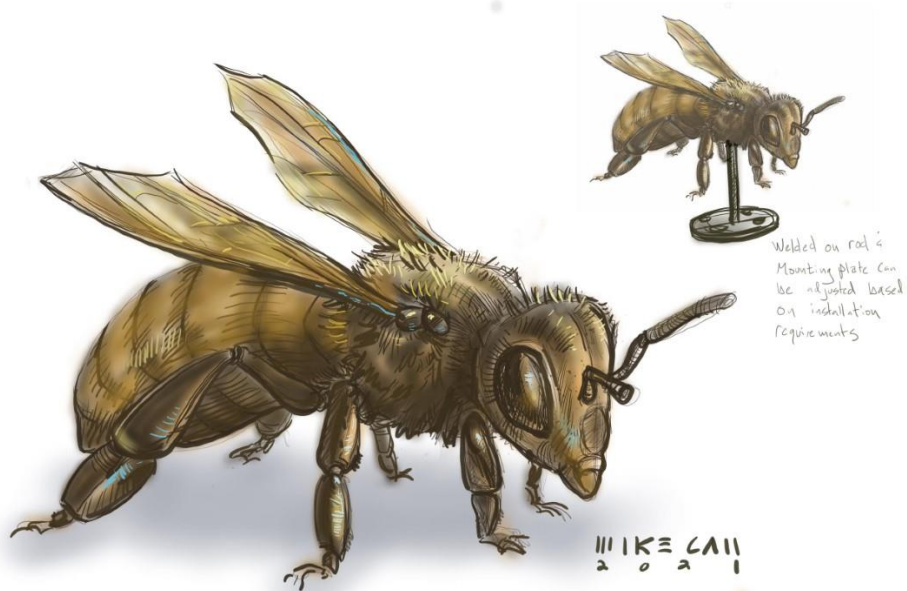
The estimate total cost would be under \$10,000 from public art fund.

Attachments

Second rendering of the Bee after feedback from Advisory Board:



Early rendering of Bee:



Other works by Mike Call:







City Council Staff Report

Subject: Update for Council Chamber Entrance Walls

Author: Rebecca Hatch Montealegre

Department: Executive

Date: December 14, 2021



Background

I would like to share the status of the Council Chambers Entrance Walls since our last report on this. We have been able to find some historic documents of Bountiful City from some of the original records books from the late 1800s, and created rendering of the walls of what the displays could look like.

Analysis

LEFT side as you enter:

-Historic Documents to be scanned, printed and framed:

-1st Ordinance of Bountiful City – The seal of the city. Jan 1893

-2nd Ordinance of Bountiful City – Frequency of Council Meetings . Jan 1893

-1st Recorded Minutes taken in Bountiful City Council Meeting. Dec 1892

-1st written ledger of Bountiful City. 18--

-Image: Early City map: Plat map from Bonneville Irrigation District showing lands allotted water. 1929. One of the earliest we have been able to track down.

-“In God We Trust” as a laser-cut sign silver color above the documents in two lines. About 30” long.

To note, I have also found other ordinances and minutes concerning the founding of certain departments of the City and interesting facts on the growth of Bountiful, but I will propose these documents for use of the Historic Hallway with the historic photos gathered. I plan to create a simple yet effective exhibit of some of Bountiful’s History, which I will report on in the future.

RIGHT side as you enter:

-Bountiful logo on vinyl, approx. 3ft wide. There are two renderings of this wall. It is proposed to use a gray scale for the look of inside the room, however there is another rendering with the original colors if Council chooses to do a full color print.

-Plaques of City Council members 8x10" each, to be given to Council Members at the end of their service.

Department Review

Executive Department.

Recommendation

It is recommended to approve the displays as shown in the renderings, and to choose which color of the logo is desired on the right side wall. Please provide any other preferences to change for these displays.

Significant Impacts

Attachments

LEFT side as you enter:



RIGHT side as you enter:



1 Minutes of the
2 BOUNTIFUL CITY FINANCE COMMITTEE

3 November 9, 2021 – 5:15 p.m.

4
5 Present: Mayor Randy Lewis
6 Councilmember Kate Bradshaw
7 Excused: Councilmember Millie Segura Bahr
8
9 Department Directors/Staff:
10 Finance Director Tyson Beck

11
12 Official notice of the City Council Meeting was given by posting an agenda at the City Hall
13 locations (795 South Main Street) and on the Bountiful City Website and the Utah Public Notice
14 Website.

15
16 **5:15 p.m.**
17 **City Hall Council Conference Room**
18

19 Mayor Randy Lewis chairs this committee, the meeting began at 5:28 p.m.

20
21 **REVIEW OF THE FISCAL YEAR 2021 ANNUAL COMPREHENSIVE FINANCIAL**
22 **REPORT (ACFR) – MR. TYSON BECK**

23 Tyson Beck, Finance Director, began by stating that the ACFR and independent financial
24 audit for the fiscal year 2021 were complete and will be submitted to the various regulatory and
25 statutory agencies.

26
27 Mr. Beck then reviewed with the committee the financial results for fiscal year 2021. This included a
28 review of each of the City’s operating fund’s net income or loss as well as their equity positions. The
29 cash and investment balances of the City were also reviewed.

30
31 It was noted that the Capital Projects, MBA, and Landfill & Sanitation funds had fairly significant net
32 losses during the year. The Capital Projects fund was a planned shortfall as fiscal year 2021 incurred
33 major project costs for the City Hall remodel, Washington Park, and North Canyon trailhead projects.
34 The MBA entity was dissolved during the fiscal year transferring its assets to the General Fund. The
35 Landfill & Sanitation fund forgave a \$2.46 million interfund loan to the Water fund.

36
37 The City’s General Fund and Water fund has significant net incomes in fiscal year 2021. The General
38 Fund’s large net income was due predominately to a large allocation of the City’s overall sales taxes
39 as the State Legislature amended the previous fund balance maximum percentage of total revenues
40 from 25% up to 35%. The Water fund large net income was mostly due to the interfund loan
41 forgiveness from the Landfill & Sanitation Fund.

42
43 Additionally, because of the cash outflows from the fiscal year 2021, the City’s overall cash and
44 investment balances decreased for the second consecutive fiscal year. It was discussed that the
45 decrease is not entirely unexpected as the City’s financial philosophy of ‘pay-as-you-go’ does
46 occasionally require the use of cash reserves for significant projects, as well as the Light & Power
47 fund paying off its outstanding bonds of \$9.3 million early.

1
2 The financial review also covered some of the Management’s Discussion and Analysis section of the
3 ACFR. That section compares and contrasts the statements of net position and revenues/expenses
4 from fiscal year 2020 to fiscal year 2021.

5
6 In compliance with the City’s newly adopted *Fund Balance & Reserves Policy*, there was a review of
7 all the required reserve balances and how they compared to the minimum reserve balances. All funds
8 complied with the policy with the exception of the Recycle fund. It was noted that the Recycle fund
9 qualifies for a policy exception due to City Council direction to subsidize those operations; however,
10 its fiscal year 2021 operations did improve as a rate increase was implemented and the recycle market
11 has improved. It was also noted by Mr. Beck that the Capital Projects fund and the Golf fund are
12 getting fairly close to the point where they will be using minimum reserves.

13
14 Mr. Beck specifically addressed some financial concerns with the Golf fund operations. There are no
15 easy answers to resolve the negative financial trends in these operations as this is believed to be due
16 to decreasing demand throughout the golf industry. The operations will continue to be monitored
17 closely.

18
19 **REVIEW OF THE FISCAL YEAR 2021 INDEPENDENT FINANCIAL STATEMENT**
20 **AUDIT**

21 Due to the need to move on to the scheduled City Council work session this discussion was
22 moved to the scheduled City Council agenda item.

23
24 The Finance Committee meeting was adjourned at 5:57 p.m.

25
26

Mayor Randy Lewis

City Recorder

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Minutes of the
BOUNTIFUL CITY COUNCIL

November 9, 2021 – 6:00 p.m.

Present:	Mayor	Randy Lewis
	Councilmembers	Millie Segura Bahr, Kate Bradshaw, Kendalyn Harris, Richard Higginson, Chris R. Simonsen
	City Manager	Gary Hill
	City Attorney	Clinton Drake
	City Engineer	Lloyd Cheney
	Planning Director	Francisco Astorga
	Finance Director	Tyson Beck
	Streets Director	Charles Benson
	Parks Director	Brock Hill
	Recording Secretary	Maranda Hilton

Official notice of the City Council Meeting was given by posting an Agenda at City Hall and on the Bountiful City Website and the Utah Public Notice Website and by providing copies to the following newspapers of general circulation: Davis County Journal and Standard Examiner.

Work Session – 6:00 p.m.
City Council Chambers

Mayor Lewis called the meeting to order at 6:02 p.m. and welcomed those in attendance.

WASHINGTON PARK MASTER PLAN DISCUSSION – MR. LLOYD CHENEY

Mr. Lloyd Cheney explained that, as promised, they conducted a very robust public process to obtain feedback from the community about the proposed park design. He said that the room was filled to capacity at each meeting. He introduced Mr. Bret Nielsen from MGB+A, who is here to give an overview of what the public input was and to offer potential designs. He explained that the purpose of tonight’s meeting is to receive guidance from the Council so they can solidify a design and bring it back for approval.

Mr. Nielsen went over the details of the public process and the results of the survey. He noted that they had over 1,000 responses to the survey, which showed great participation from the community. The results from the public process led them to use Concept A as a backbone for designing a master plan for the park. The master plan is designed with everything that residents, the school district and the City want, but it is overbudget by around \$900K. The idea is that some of the more expensive elements could be added later, as funds for them become available. The master plan includes a skate park, six pickleball courts (with room to add two-four more courts), two lacrosse fields, one practice field, two small pavilions, one medium pavilion, a restroom, a playground for two- to five-year-olds, a playground for five- to 12-year-olds, an open lawn area, a new parking lot and walking trails. He also presented two alternative plans, which are within the budget, based on either installing pickleball courts upfront or a skate park upfront. Installing pickleball courts would require taking out the small pavilions and the skate park. Installing the skate park would mean losing pickleball courts, the playground for younger children, the small pavilions, the medium pavilions, and shrinking the parking lot a little bit.

1 Councilwoman Bahr asked about the possibility of reconfiguring the layout to have the
2 practice field run N-S instead of E-W. Mr. Nielsen said he was not sure a lacrosse field would fit that
3 way, but a soccer field or little league football field would work in that space. Councilman Higginson
4 asked about the plans to grade that field and said he hoped it would be level. Mr. Cheney agreed and
5 said they would regrade it and that he will need to compare the layout with the ground survey.

6 Mayor Lewis asked about the possibility of using private funding to build the pickleball
7 courts and the skate park. Mr. Gary Hill agreed that it should be discussed; that private funding could
8 accelerate the timeline for getting some of the elements that residents want. The Mayor felt that
9 private funding would help residents feel a sense of ownership over the park.

10 Mr. Hill noted that the six pickleball courts will cost around \$200K and the skate park will
11 cost around \$680K.

12 Councilman Simonsen encouraged the two groups (pickleball players and skateboarders) to
13 have passion enough to go out and fundraise for what they want, just as the Veterans Park Foundation
14 did for the Veteran's Park. He advised them to set goals, get organized, and be creative.

15 Mr. Cheney added that although he does not advocate spending contingency money from the
16 outset, there will be a contingency fund that could potentially be reallocate toward one of these
17 elements, once the budget is better understood.

18 Councilman Higginson said his recommendation is to move forward with a skate park that is
19 more budget-friendly than the one outlined in the master plan. He thinks the City should plan for the
20 park that is wanted, but maybe incorporate some cheaper elements so that can be done. He felt
21 pickleball courts should be along the west side, he loves all the walking trails and wants a third field.

22 Mr. Hill added that they can ask residents to reauthorize the RAP Tax in three years, which
23 would generate another \$600K per year if the economy stays the same. RAP Tax funds could be used
24 for some of the more expensive elements as well.

25 Councilwoman Harris said she appreciated all the work that residents did to help get the bond
26 passed for the park. She noted that Mr. Mike Nielsen, a Bountiful resident, has a lot of experience in
27 designing pickleball courts, and that he should be used when the time comes to make changes there.
28 She agreed that if private funding is an option, it cannot hurt to explore that avenue, since there is a
29 gap between what is wanted and what is affordable. She also asked about the possibility of the Rec
30 District Board helping to fund or facilitate the pickleball courts.

31 Mr. Hill answered that the idea behind a joint funding with the Rec District was that other
32 cities would donate their RAP Tax money to the Rec District, who would then pay for and operate the
33 courts. He explained that there would need to be a discussion about what the intention for the courts
34 are, whether they will be used for tournaments or residential play. He also said that, as yet, he has not
35 seen any interest from the surrounding cities in using their tax money for courts in Bountiful.

36 Councilman Simonsen said that he really liked the layout of the master plan design, and that it
37 allows these two groups to get what they want. But, he added, he thinks they should come up with the
38 funds themselves.

39 Councilwoman Bradshaw said how passionate she is about having more parks in Bountiful to
40 alleviate the crowded fields. She complimented Councilman Simonsen and his fundraising prowess
41 but cautioned that the City should be realistic and recognize the differences in the demographics of
42 the two specialty groups. She said that the kids who want a skate park do not have money to donate,
43 and that asking the groups to fundraise for their wants would not present an equal burden. She said
44 that her opinion about moving forward probably best aligns with Councilman Higginson's remarks,
45 with the added suggestion that the City help facilitate finding grants and donors for the park.

1 Mr. Cheney pointed out some other elements that have not been discussed yet, like lighting,
2 fencing around the skate park, parking and security cameras. He explained that they will take the
3 Council's comments from the meeting and come back with a more refined design.

4 Councilman Higginson added that he would like more details about exactly what is included
5 in a \$600K skate park, and that he believes something can be built that will serve the community for
6 less than that.

7
8 The meeting ended at 6:59 p.m.
9

10
11 **Regular Meeting – 7:00 p.m.**
12 **City Council Chambers**
13

14 Mayor Lewis called the meeting to order at 7:02 p.m. and welcomed those in attendance. Mr.
15 Jesse Bell led the Pledge of Allegiance, and Pastor Robin Swope, Bountiful Community Church,
16 offered a prayer.
17

18 **PUBLIC COMMENT**

19 The public comment section was opened at 7:05 p.m.
20

21 Ms. Julie Hattabaugh (3894 Bountiful Blvd) thanked the Council and Mayor Lewis for their
22 service on behalf of her family. She also thanked them for their support of the Veterans Park.
23

24 Ms. Heidi Perry (812 South 300 West) suggested keeping the bus drop off from Washington
25 Elementary and connecting it to the south parking lot in order to keep more cars from using 740
26 South, which is narrow. She explained that the neighbors to the park are concerned about fire and
27 emergency vehicles being able to get down their street. She added that she would like to see a nine-
28 square-in-the-air game go into the new park, which she has brought before the Council previously,
29 with signatures.
30

31 Mr. Eric Hattabaugh (3894 Bountiful Blvd) also thanked the Council and Mayor for their
32 service and help with the Veterans Park. He feels strongly that the pickleball courts and skate park
33 should be privately funded. He said, although he is a pickleball player, he doesn't believe those who
34 do not play should pay for the courts. The same should go for the skate park. He encouraged those
35 groups to partner with the City to submit designs, fundraise and pay for part of it. He believes they
36 can raise it.
37

38 The public comment section was closed at 7:11 p.m.
39

40 **CONSIDER APPROVAL OF MINUTES OF PREVIOUS MEETING HELD ON OCTOBER**
41 **26, 2021**

42 Councilwoman Bradshaw made a motion to approve the minutes and Councilwoman Harris
43 seconded the motion. The motion was approved with Councilmembers Bahr, Bradshaw, Harris,
44 Higginson and Simonsen voting "aye".
45

46 **COUNCIL REPORTS**

1 Councilwoman Bradshaw did not have a report.

2 Councilman Simonsen thanked the City for installing a WWI/WWII monument at a historical
3 site on Main Street after it had been removed from the Cemetery. He announced that they will be
4 holding a wreath-laying ceremony at the Veteran’s Park on Veteran’s Day at 11:00 a.m. and
5 encouraged everyone to attend. Congressman Chris Stewart and a few others will be speaking, along
6 with an elementary school choir performance.

7 Ms. Julie Hattabaugh explained that an organization called “Wreaths Across America” honors
8 veterans in cemeteries and other venues, and if you purchase a wreath from them, \$5 of the profit
9 goes toward the Veteran’s Park Fund.

10 Councilwoman Harris thanked the Hattabaughs and Councilman Simonsen for their work on
11 the Veteran’s Park, saying how lucky she felt to have it in Bountiful City. She also thanked
12 Councilwoman Bradshaw for her work with the state legislature and said she would love to know if
13 there was anything of interest from the special session.

14 Councilwoman Bahr did not have a report.

15 Councilman Higginson did not have a report.

16
17 **CONSIDER APPROVAL OF:**

18 **A. EXPENDITURES GREATER THAN \$1,000 PAID OCTOBER 18 & 25, 2021**

19 **B. SEPTEMBER 2021 FINANCIAL REPORT**

20 Councilwoman Harris made a motion to approve the expenditures and the September
21 financial report and Councilwoman Bahr seconded the motion. The motion passed with
22 Councilmembers Bahr, Bradshaw, Harris, Higginson and Simonsen voting “aye”.

23
24 **BCYC REPORT**

25 Ms. Libby Anderson reported that they had 21 youth volunteers, 175 cans of donated food,
26 and 150 attendees at their Pumpkin Patch activity on October 9th. She also reported that they have
27 planned upcoming activities at the Bountiful History Museum and the Bountiful Food Pantry. They
28 also ordered t-shirts and asked that anyone with volunteer opportunities please reach out to them.

29
30 **CONSIDER APPROVAL OF THE APPOINTMENT OF MR. ALAN BOTT TO THE**
31 **BOUNTIFUL PLANNING COMMISSION – MR. FRANCISCO ASTORGA**

32 Mayor Lewis mentioned that he and Mr. Astorga interviewed five candidates for this Planning
33 Commission spot and were very impressed with all of them.

34 Mr. Astorga agreed, adding that Mr. Bott has a background in development and is especially
35 concerned with helping with RDA development as the City looks at projected growth.

36 Councilwoman Harris made a motion to approve the appointment of Mr. Alan Bott to the
37 Bountiful Planning Commission and Councilman Higginson seconded the motion. The motion passed
38 with Councilmembers Bahr, Bradshaw, Harris, Higginson and Simonsen voting “aye”.

39
40 **FICAL YEAR 2021 ANNUAL COMPREHENSIVE FINANCIAL REPORT (ACFR) – MR.**
41 **TYSON BECK**

42 **A. PRESENTATION OF THE FY 2021 ACFR – MR. TYSON BECK**

43 Mr. Tyson Beck explained that although the name of the annual report has changed from the
44 Comprehensive Annual Financial Report (CAFR) to the Annual Comprehensive Financial Report
45 (ACFR), nothing else about it is different.

1 Mr. Beck first went over the net position of the City, which increased \$12.6M from FY2020.
2 There has been an increase in the net position over the last five fiscal years, which is a wonderful
3 trend and means the City is in a good position financially. He also noted that the Light and Power
4 Fund paid off its power bond during FY2021, which was \$9.3M outstanding, and as of June 2021 the
5 City had no bonded debt.

6 Mr. Beck gave an overview of revenues and expenses. All governmental activities were
7 funded by sales tax (39%), grants and contributions (25%), property tax (11%), franchise tax (14%),
8 charges for service (7%), investment earnings (2%) and other (2%). Those funds were used for public
9 safety (48%), highways and streets (23%), general government (16%), parks and recreation (8%),
10 planning and engineering (4%), and redevelopment (1%).

11 Mr. Beck then explained that all business activities run by the City (Light and Power, Water,
12 Landfill, etc.) are funded by charges for services (93.57%), grants and contributions (4.38%),
13 investment earnings (1.03%) and other (1.02%). The funds were used for Light and Power (69%),
14 Water (12%), Landfill and Sanitation (8%), Golf Course (5%), Storm Water (3%), Recycling (2%),
15 and Cemetery (1%). He explained that the City's enterprise funds are not subsidized by the City,
16 which means that the enterprise fees charged cover the cost of operations.

17 Mr. Beck went over the cash and investment balance and explained that it has been trending
18 upward since 2009, but in FY2020 and FY2021 the City had intentional use of cash for some capital
19 projects which has decreased the overall cash position. He reassured that the City still has what is
20 needed to operate and is not in a bad position.

21 Next, Mr. Beck went over the net income/loss and equity positions for each fund. The General
22 Fund had a net income of \$2.6M and an equity position of \$6.5M, the Capital Projects Fund had a net
23 loss of \$5.3M and an equity position of \$24.4M, the Redevelopment Agency Fund had a net income
24 of \$820k and an equity position of \$8.2M, the Landfill Closure Fund had a net income of \$4k and an
25 equity position of \$888k, the RAP Tax Fund had a net income of \$149k and an equity position of
26 \$526k, the Municipal Building Authority (which was dissolved in FY2021 and assets were
27 transferred to the General Fund) had a net loss of \$368k and an equity position of \$0, the Cemetery
28 Perpetual Care Fund had a net income of \$120k and an equity position of \$2.2M, and the Debt
29 Service Fund had a net income of \$211 and an equity position of \$21k.

30 For the enterprise funds, the net incomes/losses and equity positions are as follows; Light and
31 Power Fund had a net income of \$1.5M and an equity position of \$63.7M, the Water Fund had a net
32 income of \$4.4M and an equity position of \$31.6M, the Landfill and Sanitation Fund had a net loss of
33 \$2M and an equity position of \$16M, the Storm Water Fund had a net income of \$898k and an equity
34 position of \$8.8M, the Golf Course had a net income of \$57k and an equity position of \$3.9M, the
35 Recycling Fund had a net income of \$14k and an equity position of \$23k, and the Cemetery Fund had
36 a net income of \$280k and an equity position of \$6.6M. He explained every fund was in a good
37 position as far as equity is concerned.

38 Mr. Beck said that due to a loan forgiveness between the Water and Landfill Funds, the Water
39 Fund showed an abnormally large net income, and the Landfill showed a net loss, but it was
40 completely intended.

41 Mr. Beck explained that due to a change the state legislature made regarding max fund
42 balances, the City can now increase the balance of our General Fund from 25% to 35% of total
43 revenues. This change will be beneficial to the City from a bond rating standpoint and allows the City
44 to keep more sales tax revenue in the General Fund. The City's sales tax revenue increased 15%
45 (\$1.3M) from the previous year, which was unexpected, and most of that was used to help bring the
46 General Fund balance up to 35%.

1 Mr. Beck added that the City also received \$1.6M in CARES Act revenue, \$540k of which
2 was sub-granted to other districts. The windstorm that occurred in September 2020 did significant
3 damage to City infrastructure and the City was awarded a total of \$1M from FEMA for reparations;
4 \$314k of that went to the General Fund. The General Fund also received \$707k more than the
5 previous year in transfer revenue. \$370k came from a one-time MBA-closure transfer with the
6 remaining increase stemming from an increase in the Light and Power Fund transfer, due to the
7 Power Department having a record year in electric metered sales.

8 Mr. Beck went over the Capital Projects Fund, which saw a \$5.3M net loss. It received \$1.5M
9 less in sales tax funds, which were diverted to the General Fund, and a total of \$9.1M was spent on
10 large and infrequent capital projects during FY2021.

11 Next, Mr. Beck went over the reserve balances of each fund. All funds are meeting or
12 exceeding their target reserve balances except the Recycling Fund which still has a deficiency of
13 \$303k. Councilwoman Harris asked about the recycling industry and if things are looking up yet. Mr.
14 Charles Benson answered that there has been a definite improvement in the market, and the City has
15 gone from paying \$55/ton for recyclables to actually being paid \$5-\$10/ton some months. The City
16 still pays for the contamination fees, but now only pay \$1,100/month instead of the usual
17 \$12,000/month. Mr. Beck also mentioned that the reserves for the Capital Projects Fund and the Golf
18 Fund are being monitored closely as they are close to having to use minimum reserve balances to
19 operate.

20 The Council thanked Mr. Beck for his report and making the content easy to understand.

21
22 **B. INDEPENDENT FINANCIAL STATEMENT AUDIT PRESENTATION FOR FY**
23 **2021 – MR. MARCUS ARBUCKLE**

24 Mr. Marcus Arbutckle presented the results of the independent financial audit. He said there
25 were three reports contained in the audit: internal controls, state compliance, and compliance with
26 major programs. The report states that the City’s internal controls are adequate and there were no
27 findings or recommendations. Concerning state compliance, the report found one instance where staff
28 failed to notice a budgeted fund transfer approval by the City Council after the approving public
29 meeting was held. The report on how money was spent from major programs found that the City
30 complied with all spending of awarded funds from the CARES Act and from FEMA.

31 Mr. Arbutckle added that they had an easy time working with City staff to accomplish the
32 audit and thanked the staff for all they do.

33
34 **CONSIDER APPROVAL OF THE PURCHASE OF A SUPERVISOR TRUCK FROM**
35 **PERFORMANCE FORD IN THE AMOUNT OF \$36,449 – MR. KRAIG CHRISTENSEN**

36 Mr. Kraig Christensen explained that this truck will be replacing one of their supervisor
37 trucks, as they try to keep their vehicles on a five-year rotation plan. They tried to get three bids for
38 vehicles, but GM and Ram were not accepting any government orders. They were able to get bids
39 from two Ford dealerships, and are recommending the truck from Performance Ford, which is the low
40 bid and is under-budget.

41 Councilwoman Harris thanked him for his efforts to get the lowest price possible.

42 Councilwoman Harris made a motion to approve the truck purchase from Performance Ford
43 and Councilman Higginson seconded the motion. The motion passed with Councilmembers Bahr,
44 Bradshaw, Harris, Higginson and Simonsen voting “aye”.

1 **CONSIDER APPROVAL OF AWARDING A CONTRACT FOR BOUNTIFUL TRAIL**
2 **CORRIDOR ALIGNMENTS TO IMBA TRAIL SOLUTIONS IN THE AMOUNT OF \$39,215**
3 **– MR. FRANCISCO ASTORGA**

4 Mr. Astorga explained that as he, Mr. Brock Hill and Mr. Todd Christensen have worked on
5 the trails project, they have come to the conclusion that in order to be eligible for grant money they
6 will need to narrow down the proposed trail corridors and move from a concept into an alignment. He
7 explained that IMBA comes highly recommended, and they request that the Council award the
8 contract to IMBA.

9 Councilman Higginson made a motion to approve the contract with IMBA and
10 Councilwoman Bradshaw seconded the motion. The motion passed with Councilmembers Bahr,
11 Bradshaw, Harris, Higginson and Simonsen voting “aye”.

12
13 **ADJOURN**

14 Councilwoman Bahr made a motion to adjourn the meeting and Councilwoman Bradshaw
15 seconded the motion. The motion passed with Councilmembers Bahr, Bradshaw, Harris, Higginson
16 and Simonsen voting “aye”.

17
18 The regular session was adjourned at 7:59 p.m.

Mayor Randy Lewis

City Recorder

1 Minutes of the
2 BOUNTIFUL CITY COUNCIL
3 Meeting as the Bountiful City Board of Canvassers
4 November 16, 2021 – 5:00 p.m.
5

6 Present: Mayor Randy Lewis
7 Councilmembers Kate Bradshaw, Millie Segura Bahr, Kendalyn Harris,
8 Richard Higginson
9 City Manager Gary Hill
10 City Attorney Clinton Drake
11 City Recorder Shawna Andrus
12 Recording Secretary Maranda Hilton
13 Excused: Councilman Chris R. Simonsen
14

15 Official notice of the City Council Meeting was given by posting an Agenda at City Hall and on
16 the Bountiful City Website and the Utah Public Notice Website and by providing copies to the
17 following newspapers of general circulation: Davis County Journal and Standard Examiner.
18
19

20 **Regular Meeting – 5:00 p.m.**
21 **City Council Chambers**
22

23 Mayor Lewis opened the meeting at 5:00 p.m. and welcomed those in attendance. Ms. Cecilee
24 Price-Huish led the Pledge of Allegiance.
25

26 **CONSIDER APPROVAL OF THE BOUNTIFUL CITY MUNICIPAL GENERAL**
27 **ELECTION RESULTS AS PREPARED BY THE DAVIS COUNTY CLERK/AUDITOR’S**
28 **OFFICE – MS. SHAWNA ANDRUS**
29

30 Ms. Shawna Andrus reviewed the general election results with the Council. Bountiful voter
31 turnout was close to 50%, which she attributed to the candidates’ well-run campaigns. Total votes
32 cast for Mayor were 13,179; 8,736 for Kendalyn Harris and 4,443 for Mayor Lewis. Total votes cast
33 for Councilmembers were 23,899; 7,307 for Jesse Bell and 6,826 for Cecilee Price-Huish.

34 Councilwoman Bahr made a motion to approve the general election results and Councilman
35 Higginson seconded the motion. The motion passed with Councilmembers Bahr, Bradshaw, Harris
36 and Higginson voting “aye”.

37 **ADJOURN**

38 Councilman Higginson made a motion to adjourn and Councilwoman Bradshaw seconded the
39 motion. The motion passed with Councilmembers Bahr, Bradshaw, Harris and Higginson voting
40 “aye”.
41

42 The meeting was closed at 5:07 p.m.

Mayor Randy Lewis

City Recorder

City Council Staff Report



Subject: Expenditures for Invoices > \$1,000 paid
November 1, 8, 15 & 22, 2021
Author: Tyson Beck, Finance Director
Department: Finance
Date: December 14, 2021

Background

This report is prepared following the weekly accounts payable run. It includes payments for invoices hitting expense accounts equaling or exceeding \$1,000.

Payments for invoices affecting only revenue or balance sheet accounts are not included. Such payments include: those to acquire additions to inventories, salaries and wages, the remittance of payroll withholdings and taxes, employee benefits, utility deposits, construction retention, customer credit balance refunds, and performance bond refunds. Credit memos or return amounts are also not included.

Analysis

Unless otherwise noted and approved in advance, all expenditures are included in the current budget. Answers to questions or further research can be provided upon request.

Department Review

This report was prepared and reviewed by the Finance Department.

Significant Impacts

None

Recommendation

Council should review the attached expenditures.

Attachments

Weekly report of expenses/expenditures for invoices equaling or exceeding \$1,000, paid November 1, 8, 15 & 22 2021.

Expenditure Report for Invoices (limited to those outlined in staff report) >\$1,000.00

Paid November 1, 2021

<u>VENDOR</u>	<u>VENDOR NAME</u>	<u>DEPARTMENT</u>	<u>ACCOUNT</u>	<u>ACCOUNT DESC</u>	<u>AMOUNT</u>	<u>CHECK NO</u>	<u>INVOICE</u>	<u>DESCRIPTION</u>
1164	ANIXTER, INC.	Light & Power	535300 474820	CIP 12 Dist Sys Feeder #575	1,280.00	224558	5010825-00	Wall Mount Arm - Customer # 6000052
1212	ASPLUNDH TREE EXPERT	Light & Power	535300 448632	Distribution	5,712.26	224559	75G44721	Tree Trimming - Customer # 025450
1212	ASPLUNDH TREE EXPERT	Light & Power	535300 448632	Distribution	5,805.20	224559	75G44621	Tree Trimming - Customer # 025450
13120	BOUNTIFUL MATTRESS	Landfill	575700 448000	Operating Supplies	1,965.00	224562	10302021	131 units Recycled 10/19-10/30/2021
13120	BOUNTIFUL MATTRESS	Landfill	575700 448000	Operating Supplies	2,715.00	224562	10162021	181 Mattresses Picked Up 10/04-10/16/21
1615	CENTURYLINK	PSAP - E911	104219 428000	Telephone Expense	3,522.28	224572	10222021	Acct # 801-578-0401 452B
1716	CMT ENGINEERING LABO	Streets	454410 473500	Road Reconstruction	2,238.00	224575	97881	Project 017061 1000 N Reconstruction- Acct CB600
1889	DAVIS COUNTY GOVERNMENT	Police	104210 431600	Animal Control Services	10,559.33	224583	115794	Oct. 2021 Animal Control
2003	DUNCAN ELECTRIC SUPP	Light & Power	535300 448632	Distribution	1,565.48	224586	169958-1	Meter Temps - Customer Acct # 021350
2003	DUNCAN ELECTRIC SUPP	Light & Power	535300 448639	Substation	1,609.46	224586	169903-1	CAD Weld Shots - Customer Acct # 021350
7212	ENTELLUS INC	RAP Tax	838300 426100	Special Projects	1,860.00	224593	53151	Project # 1190016 -N Canyon Trail Head
11702	ENVIRO-CLEAN GROUP	Storm Water	494900 425000	Equip Supplies & Maint	1,638.42	224594	21-7520	Brooms and Filter
11008	GOODFELLOW CORP	Streets	104410 425000	Equip Supplies & Maint	30,423.07	224597	INV113868	Misc. Parts and Supplies -Road Mills Repairs
2329	GORDON'S COPYPRINT	Legislative	104110 422000	Public Notices	2,096.80	224598	B 30099	Printed Nov.2021 Newsletter for Bountiful City
2564	I-D ELECTRIC INC	Water	515100 474500	Machinery & Equipment	6,720.00	224609	110495	UFD Replacement
8137	LAKEVIEW ASPHALT PRO	Streets	104410 441200	Road Matl Patch/ Class C	2,739.36	224615	7765	Patching - Customer # BOUN02610
8137	LAKEVIEW ASPHALT PRO	Streets	104410 441200	Road Matl Patch/ Class C	3,294.72	224615	7742	Patching - Customer # BOUN02610
8137	LAKEVIEW ASPHALT PRO	Streets	104410 441200	Road Matl Patch/ Class C	4,234.23	224615	7754	Patching - Customer # BOUN02610
2886	LAKEVIEW ROCK PRODUC	Water	515100 461300	Street Opening Expense	2,931.44	224616	397634	Road Base - Customer # BCTY07399
5553	PURCELL TIRE AND SER	Storm Water	494900 425000	Equip Supplies & Maint	1,305.00	224635	2849138	Tires and Service - Acct # 2801867
13228	REDD ENGINEERING	Cemetery	595900 473100	Improv Other Than Bldgs	16,500.00	224639	21512-02	Maintenance on Shop Expansion at Cemetery
4229	TOM RANDALL DIST. CO	Streets	104410 425000	Equip Supplies & Maint	1,936.00	224655	0332480	Triton Bulk - Acct # 000275
4509	WASATCH STEEL	Golf Course	555500 426100	Special Projects	1,207.20	224667	176225	Flat Bar - Customer # 1850
13259	WILKINSON SUPPLY	Parks	104510 425000	Equip Supplies & Maint	3,420.00	224671	371168	13 HP Honda 26" Brush Cutter- Customer # 27860
7732	WINGFOOT CORP	Police	104210 426000	Bldg & Grnd Suppl & Maint	2,095.00	224672	107638	Janitorial Services for October 2021
TOTAL:					<u>119,373.25</u>			

Expenditure Report for Invoices (limited to those outlined in staff report) >\$1,000.00

Paid November 8, 2021

<u>VENDOR</u>	<u>VENDOR NAME</u>	<u>DEPARTMENT</u>	<u>ACCOUNT</u>	<u>ACCOUNT DESC</u>	<u>AMOUNT</u>	<u>CHECK NO</u>	<u>INVOICE</u>	<u>DESCRIPTION</u>
1212	ASPLUNDH TREE EXPERT	Light & Power	535300 448632	Distribution	3,652.80	224679	76J87821	Tree Trimming - Customer # 10000236
1212	ASPLUNDH TREE EXPERT	Light & Power	535300 448632	Distribution	4,566.00	224679	75R53821	Tree Trimming - Customer # 025450
1212	ASPLUNDH TREE EXPERT	Light & Power	535300 448632	Distribution	4,566.00	224679	75R53921	Tree Trimming - Customer # 025450
1212	ASPLUNDH TREE EXPERT	Light & Power	535300 448632	Distribution	4,813.84	224679	76J87921	Tree Trimming - Customer # 025450
5499	BIG T RECREATION	Parks	104510 426000	Bldg & Grnd Suppl & Maint	4,692.00	224681	4933	Maple Mountain Benches with Logo
5281	DOMINION ENERGY UTAH	Police	104210 427000	Utilities	1,685.57	224703	11012021F	Acct # 3401140000
13265	ENVIRONMENTAL ABATEMENT	Cemetery	595900 473100	Improv Other Than Bldgs	4,810.00	224707	U3465	Disposal of Asbestos - Customer # 21-090

5458 HANSEN, ALLEN & LUCE	Landfill	575700	431300	Environmental Monitoring	5,824.45	224715	45351	Professional Fees for 9/16-10/15/2021
6959 JANI-KING OF SALT LA	Light & Power	535300	424002	Office & Warehouse	1,775.00	224728	SLC11210054	November Cleaning Services - Cust # 065075
2886 LAKEVIEW ROCK PRODUC	Water	515100	461300	Street Opening Expense	1,750.67	224733	397660	Road Base - Customer # BCTY07399
8635 LARSEN LARSEN NASH &	Legal	104120	431100	Legal And Auditing Fees	1,950.00	224735	10312021	Legal Fees for 10/31/2021
3105 MHL SYSTEMS	Streets	104410	425000	Equip Supplies & Maint	25,926.00	224742	21-15531	Misc. Parts and Supplies
3195 MOUNTAINLAND SUPPLY	Water	515100	448400	Dist Systm Repair & Maint	4,808.30	224744	S104388170.001	Misc. Parts and Supplies - Customer # 18498
5553 PURCELL TIRE AND SER	Streets	104410	425000	Equip Supplies & Maint	5,258.01	224759	2850801	Tires for Street Trucks - Acct # 2801867
3832 SALT LAKE MAILING &	Treasury	104143	429050	Util Billing Supplies	50,000.00	224766	11032021	Printing and Mailing of Utility Bills
3835 SALT LAKE WHOLESALE	Police	104210	445100	Public Safety Supplies	14,645.20	224767	76775	Misc. Parts and Supplies
4217 TITLEIST	Golf Course	555500	448240	Items Purchased - Resale	4,131.94	224778	912076976	Golf Balls - Acct # US00021802
4369 UTAH DEPT OF WORKFOR	Police	104210	413060	Unemployment Reimb	1,747.67	224784	11082021	10/21 UNEMPLOYMENT CLAIMS
4450 VERIZON WIRELESS	Police	104210	428000	Telephone Expense	4,440.60	224787	9891238471	Acct # 771440923-00001
TOTAL:					<u>151,044.05</u>			

***Expenditure Report for Invoices (limited to those outlined in staff report) >\$1,000.00
Paid November 15, 2021***

<u>VENDOR</u>	<u>VENDOR NAME</u>	<u>DEPARTMENT</u>	<u>ACCOUNT</u>	<u>ACCOUNT DESC</u>	<u>AMOUNT</u>	<u>CHECK NO</u>	<u>INVOICE</u>	<u>DESCRIPTION</u>
5368	ACE DISPOSAL INCORPO	Recycling	484800 431550	Recycling Collectn Service	36,778.68	224791	11012021	October 2021 Recycling Can Fees
1105	ALTEC INDUSTRIES, IN	Light & Power	535300 448635	Vehicles	1,011.29	224795	50868704	Truck 5046 Inspection - Customer # 98370
1105	ALTEC INDUSTRIES, IN	Light & Power	535300 448635	Vehicles	1,138.17	224795	50868014	Truck 5002 Inspection - Customer # 98370
1105	ALTEC INDUSTRIES, IN	Light & Power	535300 448635	Vehicles	1,141.73	224795	50868658	Truck 5933 Inspection - Customer # 98370
1105	ALTEC INDUSTRIES, IN	Light & Power	535300 448635	Vehicles	1,141.73	224795	50868663	Truck 5923 Inspection - Customer # 98370
1105	ALTEC INDUSTRIES, IN	Light & Power	535300 448635	Vehicles	1,184.50	224795	50868022	Truck 5071 Inspection - Customer # 98370
1105	ALTEC INDUSTRIES, IN	Light & Power	535300 448635	Vehicles	1,189.59	224795	50868005	Truck 5061 Inspection - Customer # 98370
13094	AMERICAN STONE	Cemetery	595900 426000	Bldg & Grnd Suppl & Maint	1,499.97	224796	SAJ/2021/23552	Storm Mountain 4' Bench
1230	AUTOMATED ACCOUNTING	Light & Power	535300 431000	Profess & Tech Services	1,015.00	224799	17374	Professional Accounting Services
1428	BOUNTIFUL IRRIGATION	Streets	104410 427000	Utilities	2,217.37	224801	03-2137	2021 Non-taxable assessment
1428	BOUNTIFUL IRRIGATION	Parks	104510 461400	Purchase Of Water	40,273.24	224801	03-2137	2021 Non-taxable assessment
1428	BOUNTIFUL IRRIGATION	Water	515100 426000	Bldg & Grnd Suppl & Maint	6,297.79	224801	03-2137	2021 Non-taxable assessment
1428	BOUNTIFUL IRRIGATION	Light & Power	535300 424002	Office & Warehouse	1,362.69	224801	03-2137	2021 Non-taxable assessment
1428	BOUNTIFUL IRRIGATION	Light & Power	535300 448613	Power Plant Operating Costs	3,673.53	224801	03-2137	2021 Non-taxable assessment
1428	BOUNTIFUL IRRIGATION	Light & Power	535300 448639	Substation	1,597.41	224801	03-2137	2021 Non-taxable assessment
1428	BOUNTIFUL IRRIGATION	Golf Course	555500 426000	Bldg & Grnd Suppl & Maint	26,429.87	224801	03-2137	2021 Non-taxable assessment
1428	BOUNTIFUL IRRIGATION	Cemetery	595900 426000	Bldg & Grnd Suppl & Maint	12,024.05	224801	03-2137	2021 Non-taxable assessment
13120	BOUNTIFUL MATTRESS	Landfill	575700 448000	Operating Supplies	2,640.00	224802	11042021	176 units Recycled
9585	C & C MANUFACTURING	Landfill	575700 425000	Equip Supplies & Maint	3,343.37	224804	21010	Controller
4806	CHEMTECH-FORD, INC	Water	515100 431000	Profess & Tech Services	1,209.00	224807	2110627	Sampling Lab Fees
13268	CHRISTENSEN & HYMAS	Liability Insuranc	636300 451150	Liability Claims/Deductible	130,000.00	224808	11092021	Agreement RE: Mediation Scott LeFevre - City
1716	CMT ENGINEERING LABO	Streets	454410 473500	Road Reconstruction	3,649.50	224811	98115	Project: 017061 1000 No. Reconstruction
2055	ELECTRICAL CONSULTAN	Light & Power	535300 448639	Substation	5,249.50	224819	97145	RTAC Programming for SE Substation
10255	ELECTRICAL RELIABILI	Light & Power	535300 448639	Substation	9,500.00	224820	51060627	Maintenance Testing - Customer # 150344764
2104	ESRI-ENVIRONMENTAL S	Light & Power	535300 429300	Computer	16,500.00	224824	94129871	Annual GIS License - Cust #596824

11059 INTELLIRENT	Light & Power	535300	448639	Substation	5,523.94	224834	OR93541-01	Rent Test Equipment
2657 ITRON CORPORATE BUIL	Light & Power	535300	429300	Computer	4,386.35	224836	606071	Annual Maintenance - Customer # 1480
2727 JOHNSON, ALLEN R	Light & Power	535300	423000	Travel & Training	3,780.66	224838	11152021	Hot Stick School, Travel and Training
5549 JRCA ARCHITECTS,INC	Light & Power	535300	472100	Buildings	1,750.00	224841	21023-01	Updated Master Plans- Project 21023
2931 LES OLSON COMPANY	Streets	104410	424000	Office Supplies	1,485.00	224846	EA1075903	Copier Maintenance - Customer # 01-BOUCI
2987 M.C. GREEN & SONS IN	Streets	454410	473500	Road Reconstruction	407,265.34	224848	4508	Application 5 - 1000 N Reconstruction
6330 MGB+A INC	Legislative	454110	473100	Improv Other Than Bldgs	2,942.50	224849	2021-349	Project Washington Park
13269 MORGAN, MINNOCK, RIC	Liability Insuranc	636300	431000	Profess & Tech Services	1,005.00	224851	16291	Mediator Services - Invoice # 16291
3193 MOUNTAIN STATES INDU	Light & Power	535300	474600	Vehicles	195,480.00	224852	1422-29166	New Tree Truck
3862 SCHWEITZER ENGINEERI	Light & Power	535300	423000	Travel & Training	3,000.00	224869	INV-000647057	Train on Relays for Substation - Cust # CN-100533
3916 SIGNATURE EQUIPMENT	Sanitation	585800	425000	Equip Supplies & Maint	2,138.82	224870	9211326	Parts for Labrie Garbage Trucks
4229 TOM RANDALL DIST. CO	Streets	104410	425000	Equip Supplies & Maint	31,143.90	224881	0332996	Fuel Purchases - Acct # 000275
4229 TOM RANDALL DIST. CO	Golf Course	555500	425100	Special Equip Maintenance	2,219.22	224881	0333073	Fuel - Acct # 000276
6545 TRISTAR RISK MANAGE	Workers' Comp li	646400	435500	Admin Services - W/C	1,300.00	224884	114159	Replenish Workers Compensation
4307 UNITED SERVICE & SAL	Parks	104510	425000	Equip Supplies & Maint	2,179.15	224889	69772	Blade for Plow - Customer # 100545
4450 VERIZON WIRELESS	Engineering	104450	428000	Telephone Expense	3,601.80	224895	9891799215	Acct # 342313927-00001
4450 VERIZON WIRELESS	Light & Power	535300	448641	Communication Equipment	1,688.63	224895	9891803583	Acct # 371517689-00001
12358 WADMAN CORPORATION	Streets	454410	472100	Buildings	5,291.53	224896	11	PROJECT #WC-20-103 PERIOD TO 10-31-21
4536 WEBER-BOX ELDER	Light & Power	535300	448628	Pineview Hydro Operating Cost	7,136.62	224898	11102021	3Q-4Q 2021 Generation Fees
					TOTAL:			
								995,386.44

**Expenditure Report for Invoices (limited to those outlined in staff report) >\$1,000.00
Paid November 22, 2021**

<u>VENDOR</u>	<u>VENDOR NAME</u>	<u>DEPARTMENT</u>	<u>ACCOUNT</u>	<u>ACCOUNT DESC</u>	<u>AMOUNT</u>	<u>CHECK NO</u>	<u>INVOICE</u>	<u>DESCRIPTION</u>
1212	ASPLUNDH TREE EXPERT	Light & Power	535300 448632	Distribution	4,566.00	224906	76U32021	Tree Trimming - Customer # 025450
1212	ASPLUNDH TREE EXPERT	Light & Power	535300 448632	Distribution	5,309.52	224906	76U32121	Tree Trimming - Customer # 025450
2126	FAIRBANKS SCALES	Landfill	575700 426000	Bldg & Grnd Suppl & Maint	1,527.75	224936	1571091	Scale Maintenance - Customer # 95481
2164	FERGUSON ENTERPRISES	Water	515100 448400	Dist Systm Repair & Maint	15,000.00	224940	1171116	Misc.Parts and Supplies - Customer # 48108
2329	GORDON'S COPYPRINT	Legislative	104110 461000	Miscellaneous Expense	2,221.00	224945	B 52360	FY2022 Operating and Capital Budget
2523	HONNEN EQUIPMENT COM	Water	515100 425000	Equip Supplies & Maint	1,020.00	224952	1322542	John Deere Bucket - Acct # 104112
12942	HYDRO VAC EXCAVATION	Streets	104410 473400	Concrete Repairs	6,851.00	224954	11182021	Work Completed in Oct. 2021
12942	HYDRO VAC EXCAVATION	Water	515100 461300	Street Opening Expense	1,464.00	224954	11182021	Work Completed in Oct. 2021
3924	JOHNSON CONTROLS	Police	104210 426000	Bldg & Grnd Suppl & Maint	2,062.93	224962	22595224	Bntfl Districts Courts Contract 12/1/21-11/30/26
4996	KEDDINGTON & CHRISTE	Finance	104140 431100	Legal And Auditing Fees	3,766.85	224965	4098	3rd InterimBill AuditServices for yr end 6/30/21
4996	KEDDINGTON & CHRISTE	Light & Power	535300 431100	Legal And Auditing Fees	5,786.91	224965	4098	3rd InterimBill AuditServices for yr end 6/30/21
8137	LAKEVIEW ASPHALT PRO	Streets	104410 441200	Road Matl Patch/ Class C	1,091.22	224967	7855	Patching - Customer # BOUN02610
8137	LAKEVIEW ASPHALT PRO	Streets	104410 441200	Road Matl Patch/ Class C	1,167.66	224967	7835	Patching - Customer # BOUN02610
8137	LAKEVIEW ASPHALT PRO	Streets	104410 441200	Road Matl Patch/ Class C	1,583.79	224967	7869	Patching - Customer # BOUN02610
8137	LAKEVIEW ASPHALT PRO	Streets	104410 441200	Road Matl Patch/ Class C	1,641.12	224967	7791	Patching - Customer # BOUN02610
8137	LAKEVIEW ASPHALT PRO	Streets	104410 441200	Road Matl Patch/ Class C	2,177.76	224967	7822	Patching - Customer # BOUN02610
8137	LAKEVIEW ASPHALT PRO	Streets	104410 441200	Road Matl Patch/ Class C	2,183.61	224967	7788	Patching - Customer # BOUN02610
8137	LAKEVIEW ASPHALT PRO	Streets	104410 441200	Road Matl Patch/ Class C	3,287.31	224967	7810	Patching - Customer # BOUN02610

8137 LAKEVIEW ASPHALT PRO	Streets	104410	441200	Road Matl Patch/ Class C	4,291.17	224967 7779	Patching - Customer # BOUN02610
8137 LAKEVIEW ASPHALT PRO	Streets	104410	441200	Road Matl Patch/ Class C	5,998.59	224967 7802	Patching - Customer # BOUN02610
3195 MOUNTAINLAND SUPPLY	Water	515100	448400	Dist Systm Repair & Maint	1,581.39	224979 S104403221.001	Misc.Parts and Supplies - Customer # 18498
3195 MOUNTAINLAND SUPPLY	Water	515100	448400	Dist Systm Repair & Maint	7,215.67	224979 S104397699.001	Misc.Parts and Supplies - Customer # 18498
5553 PURCELL TIRE AND SER	Streets	104410	425000	Equip Supplies & Maint	1,966.48	224998 2851555	Tire Service - Acct # 2801867
3812 SAFETY SUPPLY & SIGN	Streets	104410	441300	Street Signs	6,161.18	225004 178974	School Flash Lights - Customer # UT1005
3835 SALT LAKE WHOLESALE	Police	104210	445100	Public Safety Supplies	2,828.80	225006 76842	Ammo
3835 SALT LAKE WHOLESALE	Police	104210	445100	Public Safety Supplies	6,114.24	225006 9612	Ammo
3835 SALT LAKE WHOLESALE	Police	104210	445100	Public Safety Supplies	7,582.16	225006 9594	Ammo
4171 THATCHER COMPANY	Water	515100	448000	Operating Supplies	2,860.06	225016 2021100102915	Flouride for Treatment Plant
4229 TOM RANDALL DIST. CO	Streets	104410	425000	Equip Supplies & Maint	1,450.75	225019 0333817	Bulk Oil - Acct # 000275
4229 TOM RANDALL DIST. CO	Streets	104410	425000	Equip Supplies & Maint	29,899.62	225019 0333876	Fuel - Acct # 000275
5000 U.S. BANK CORPORATE	Executive	104130	423000	Travel & Training	3,677.58	225021 11102021GH	MngRetreat,UCMA Conf-Acct# 4246-0445-5571-8851
5000 U.S. BANK CORPORATE	Streets	104410	425000	Equip Supplies & Maint	2,062.50	225021 11102021JE	ShopSupplies,Emission-Acct# 4246-0445-5571-8851
5000 U.S. BANK CORPORATE	Streets	104410	448000	Operating Supplies	1,509.00	225021 11102021JE	ShopSupplies,Emission-Acct# 4246-0445-5571-8851
5000 U.S. BANK CORPORATE	Parks	104510	448000	Operating Supplies	1,081.83	225021 11102021BH	Misc. Supplies - Acct# 4246-0445-5571-8851
4522 WATERFORD SYSTEMS	Water	515100	448000	Operating Supplies	2,301.51	225027 191108	Control Box SCADA
4533 WEBER BASIN WATER CO	Water	515100	461400	Purchase Of Water	118,270.00	225028 0067613	Annual Water Charges - Customer # 0090002
13321 ZOHO CORP	Computer Maint	616100	429200	Computer Software	1,195.00	225032 2315878	Helpdesk Software Licensing
TOTAL:					<u>270,755.96</u>		

City Council Staff Report

Subject: October 2021 Financial Reports
Author: Tyson Beck, Finance Director
Department: Finance
Date: December 14, 2021



Background

These reports include summary revenue, expense, and budget information for all City funds. Both revenues and expenses, including capital outlay, have been included. These financials are presented to the City Council for review.

Analysis

Data within the reports and graphs presented provide detail of revenue, expense, and budget results for the associated period. Additional revenue and expense graphs are provided that give comparative data for FY2022 through October as compared to the past three fiscal year periods through that same timeframe.

The FY2022 budget portion of these reports is the originally adopted FY2022 budget approved by the City Council in October of 2021.

Department Review

These reports were prepared and reviewed by the Finance Department.

Significant Impacts

Financial information to aid in legislative and operational decision making.

Recommendation

Council should review the attached revenue, expense, and budget reports.

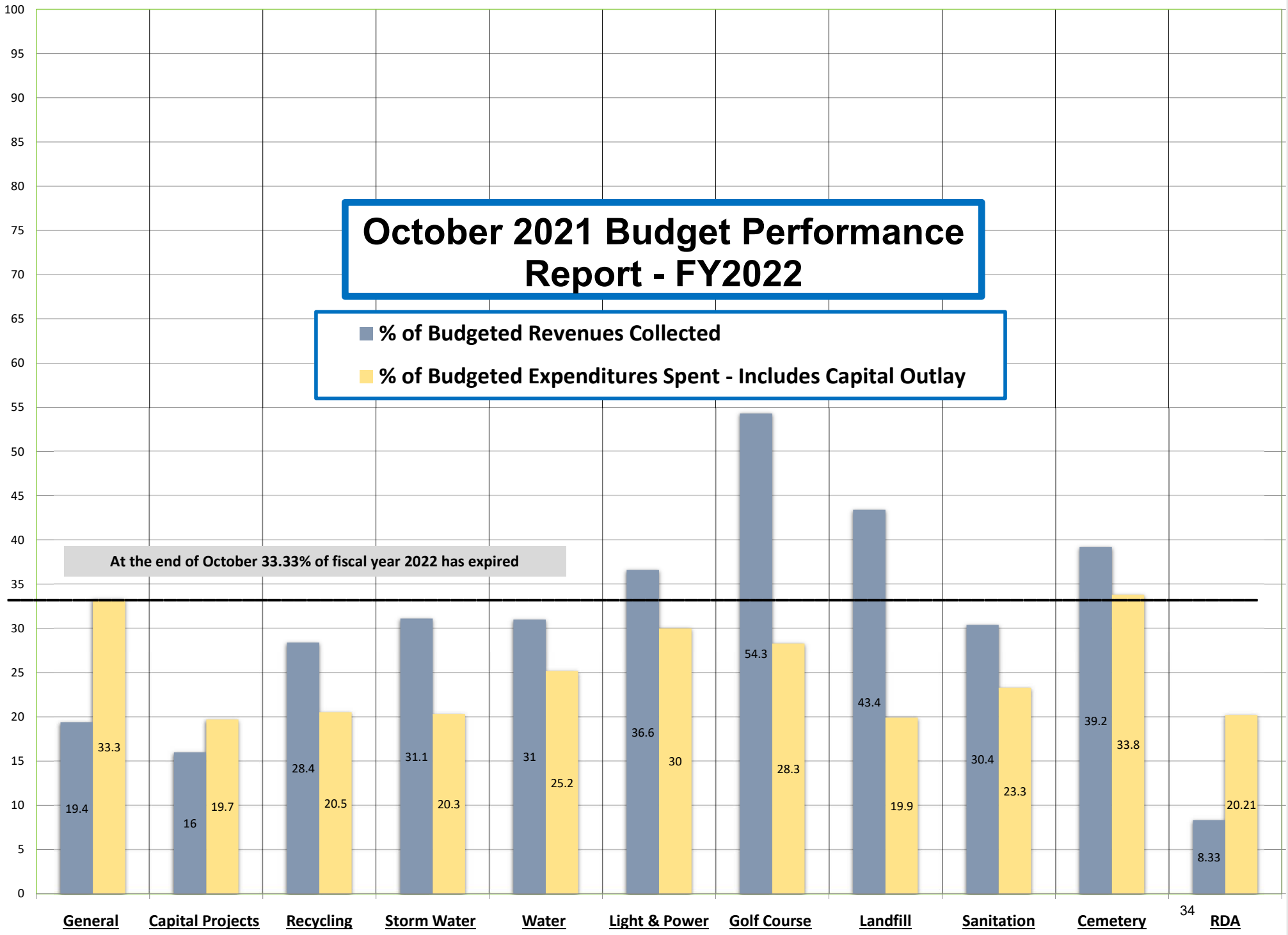
Attachments

- October 2021 Revenue & Expense Reports – Fiscal 2022 YTD

October 2021 Budget Performance Report - FY2022

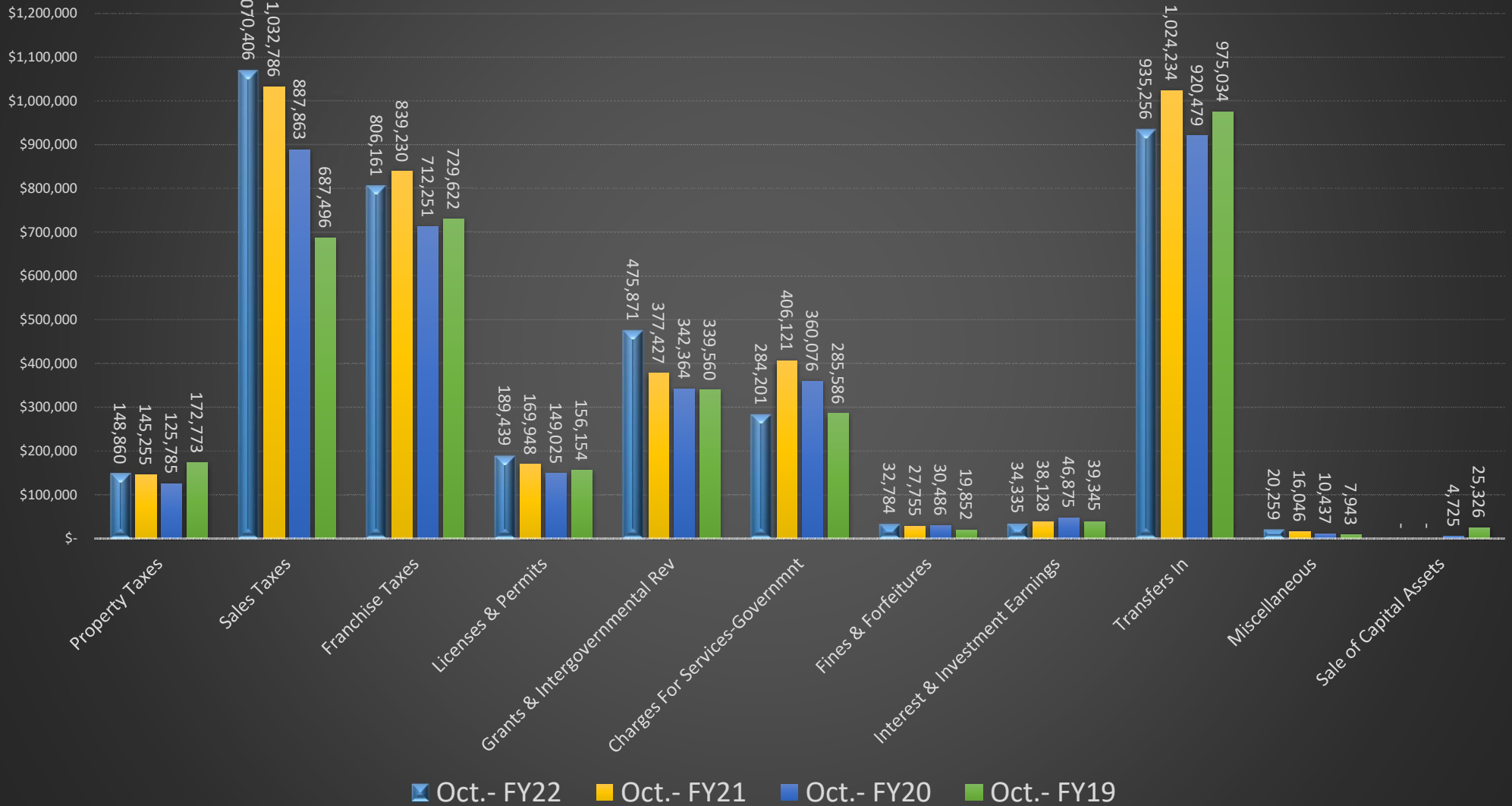
■ % of Budgeted Revenues Collected
 ■ % of Budgeted Expenditures Spent - Includes Capital Outlay

At the end of October 33.33% of fiscal year 2022 has expired

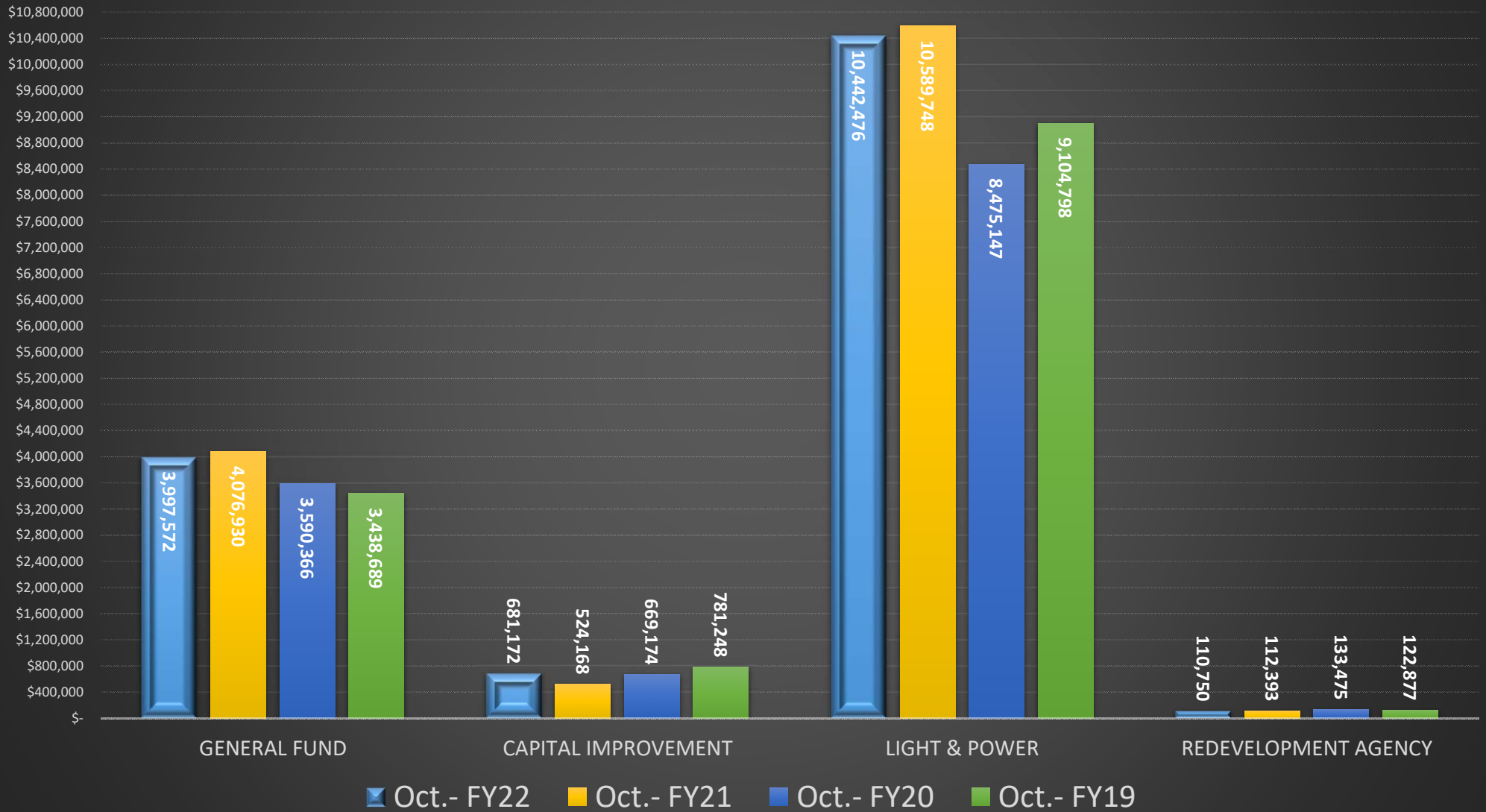


General Fund Detailed Revenues - October 2021

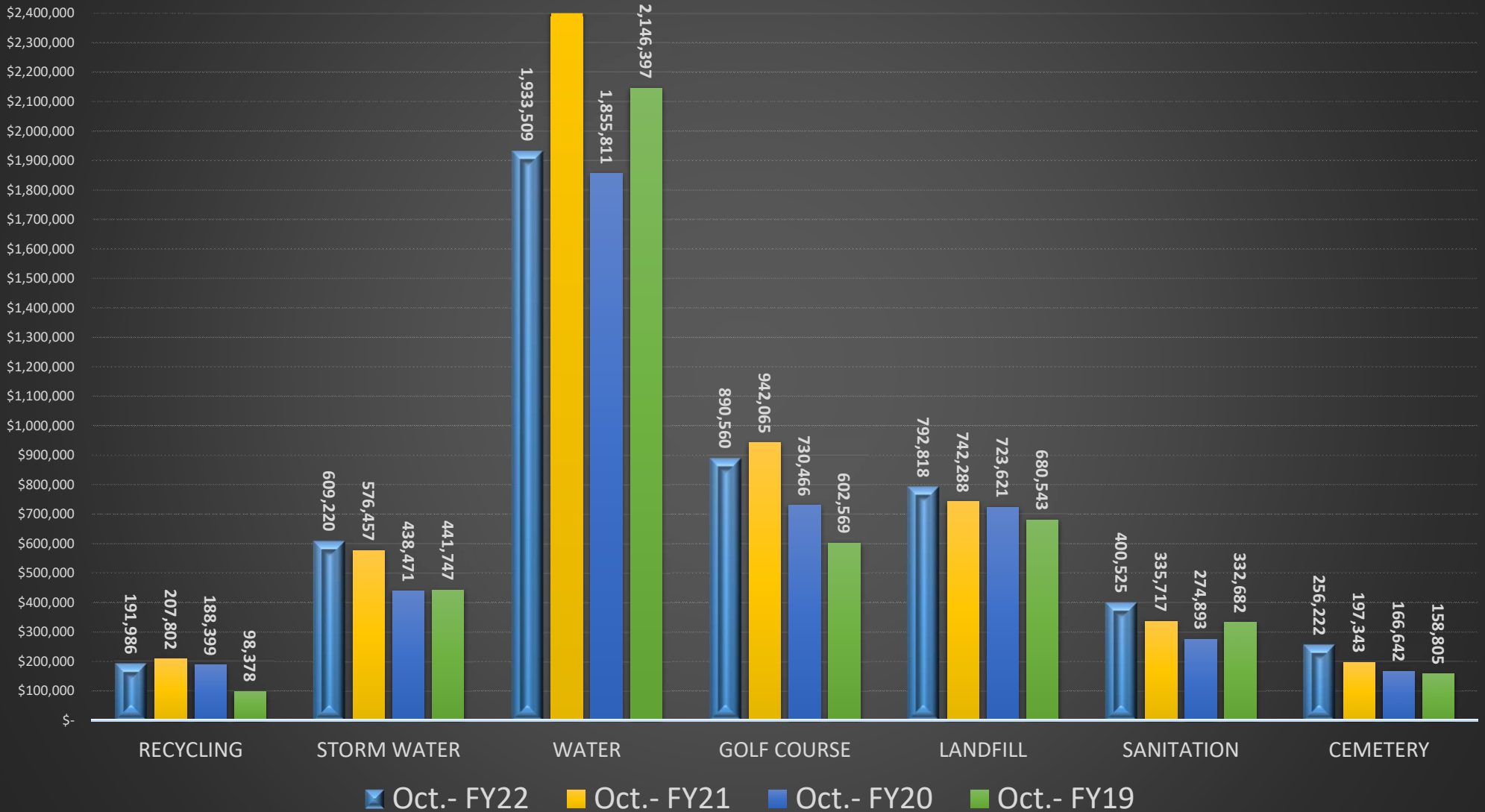
YTD Revenues (Fiscal Year 2022) Compared to the Revenues of the Same Timeframe of the Past Three Fiscal Years



October 2021 YTD Revenues (Fiscal 2022) Compared to The Revenues of Same Timeframe of the Past Three Fiscal Years



October 2021 YTD Revenues (Fiscal 2022) Compared to The Revenues of Same Timeframe of the Past Three Fiscal Years



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City of Bountiful, UT
OCTOBER 2021 YTD REVENUES - FY2022

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FOR 2022 04

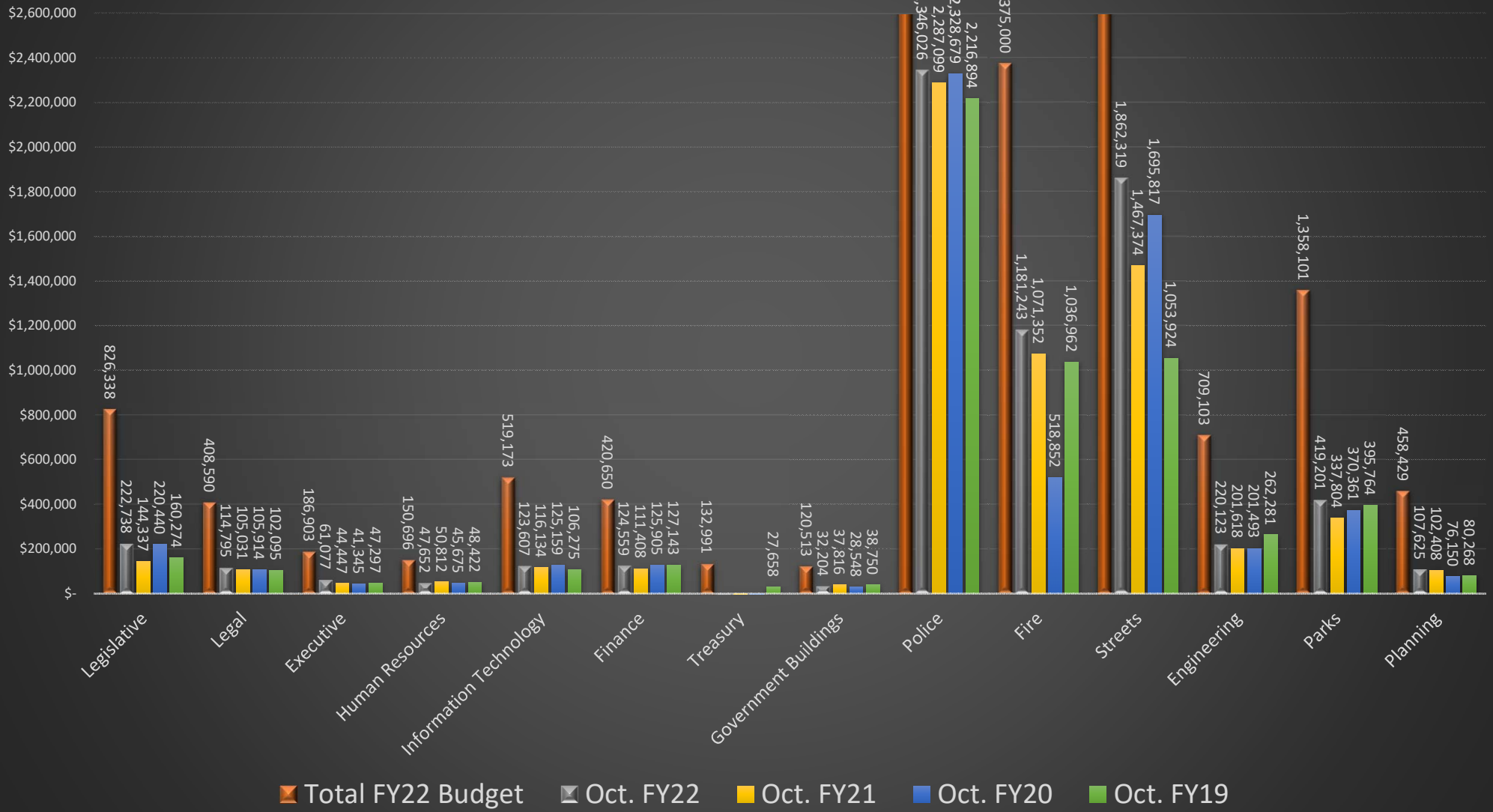
JOURNAL DETAIL 2021 1 TO 2021 6

	ORIGINAL APPROP	REVISED BUDGET	YTD EXPENDED	MTD EXPENDED	ENCUMBRANCES	AVAILABLE BUDGET	PCT USED
10 GENERAL FUND	-20,604,915	-20,604,915	-3,997,571.50	-1,292,605.54	.00	-16,607,343.50	19.4%
30 DEBT SERVICE	-200	-200	-38.95	-10.60	.00	-161.05	19.5%
45 CAPITAL IMPROVEMENT	-4,249,534	-4,249,534	-681,171.67	-369,345.42	.00	-3,568,362.33	16.0%
48 RECYCLING	-676,915	-676,915	-191,985.88	-48,667.94	.00	-484,929.12	28.4%
49 STORM WATER	-1,960,265	-1,960,265	-609,220.35	-162,828.59	.00	-1,351,044.65	31.1%
51 WATER	-6,238,000	-6,238,000	-1,933,508.62	-436,755.16	.00	-4,304,491.38	31.0%
53 LIGHT & POWER	-28,568,220	-28,568,220	-10,442,475.62	-2,132,023.84	.00	-18,125,744.38	36.6%
55 GOLF COURSE	-1,640,500	-1,640,500	-890,559.74	-123,677.66	.00	-749,940.26	54.3%
57 LANDFILL	-1,826,186	-1,826,186	-792,817.66	-179,358.03	.00	-1,033,368.34	43.4%
58 SANITATION	-1,315,806	-1,315,806	-400,525.02	-109,538.18	.00	-915,280.98	30.4%
59 CEMETERY	-654,000	-654,000	-256,221.82	-89,575.50	.00	-397,778.18	39.2%
61 COMPUTER MAINTENANCE	-70,514	-70,514	-42.79	-8.49	.00	-70,471.21	.1%
63 LIABILITY INSURANCE	-466,530	-466,530	-554,183.38	-803.25	.00	87,653.38	118.8%
64 WORKERS' COMP INSURANCE	-318,727	-318,727	-90,351.47	-23,112.79	.00	-228,375.53	28.3%
72 RDA REVOLVING LOAN FUND	-254,729	-254,729	-64,977.89	-22,892.19	.00	-189,751.11	25.5%
73 REDEVELOPMENT AGENCY	-1,074,717	-1,074,717	-45,772.48	-39,760.07	.00	-1,028,944.52	4.3%
74 CEMETERY PERPETUAL CARE	-90,000	-90,000	-48,655.35	-19,124.80	.00	-41,344.65	54.1%
78 LANDFILL CLOSURE	-4,600	-4,600	-1,002.69	-250.18	.00	-3,597.31	21.8%
83 RAP TAX	-649,639	-649,639	-113,691.01	-62,119.55	.00	-535,947.99	17.5%
92 OPEB TRUST	0	0	-667.80	-180.37	.00	667.80	100.0%
99 INVESTMENT	0	0	144,416.44	79,096.69	.00	-144,416.44	100.0%
GRAND TOTAL	-70,663,997	-70,663,997	-20,971,025.25	-5,033,541.46	.00	-49,692,971.75	29.7%

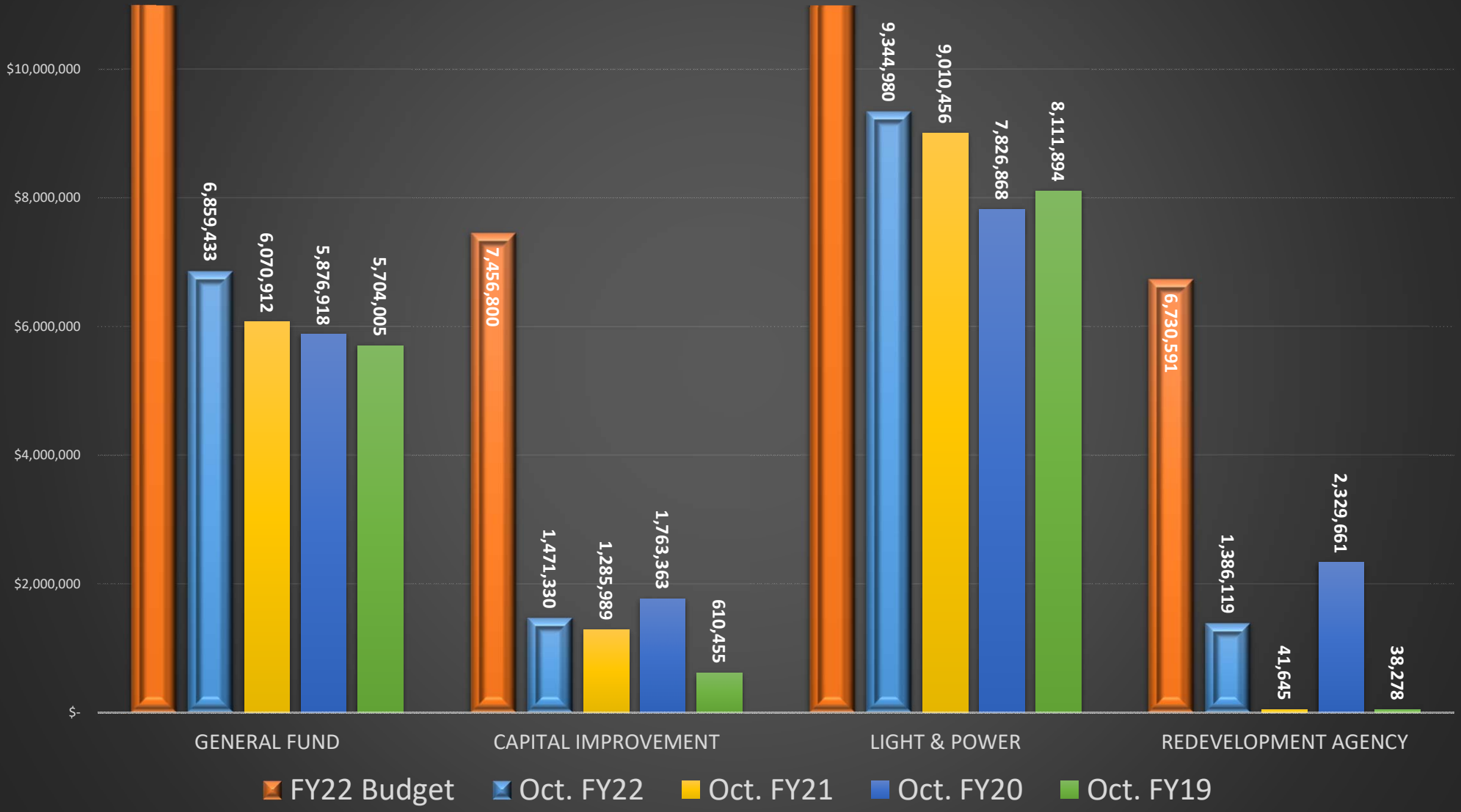
** END OF REPORT - Generated by Tyson Beck **

General Fund Detailed Expenditures - October 2021

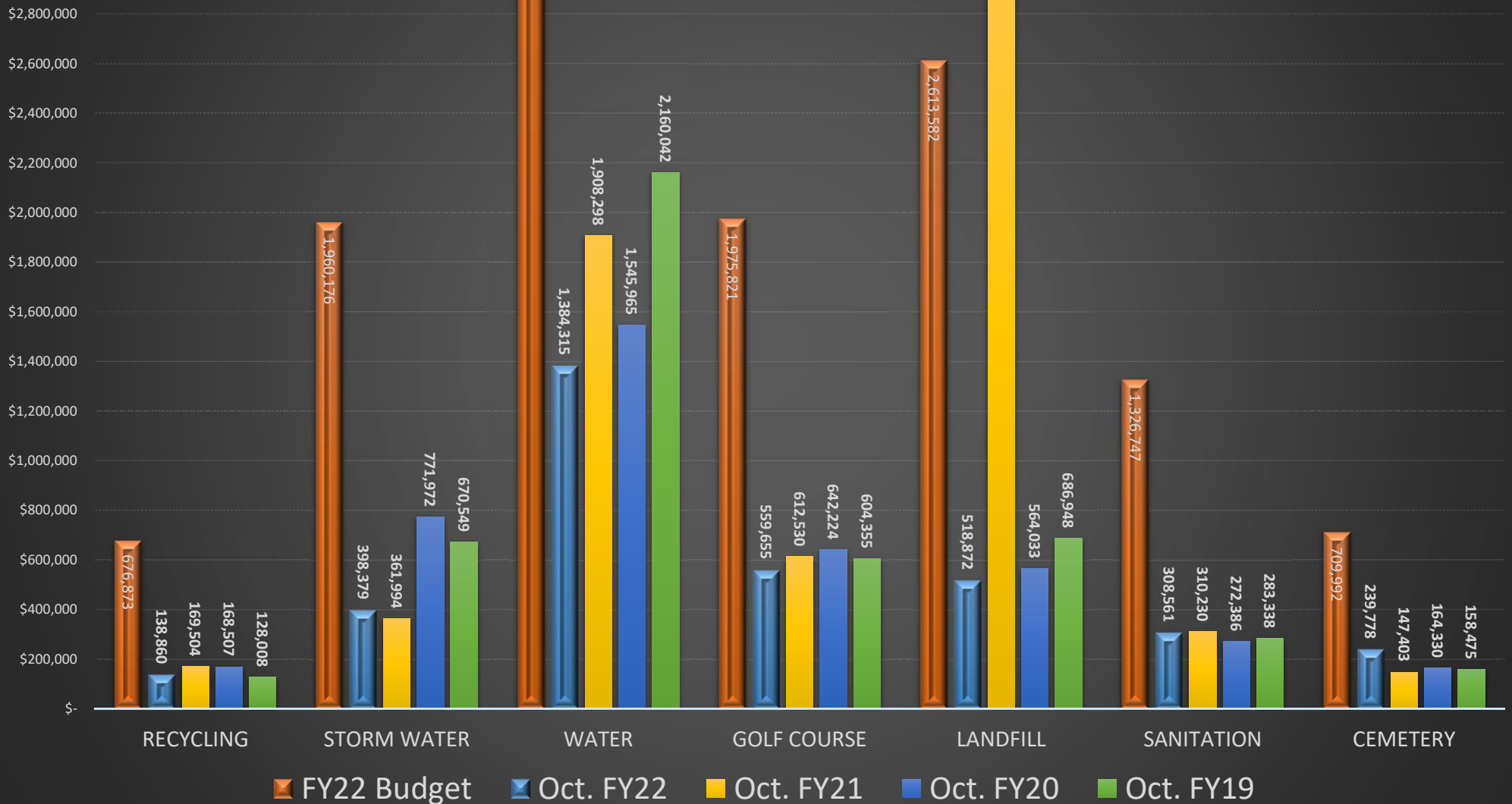
Fiscal 2022 YTD Expenditures Compared to the Expenditures of the Same Timeframe of the Past Three Fiscal Years



October 2021 YTD (Fiscal 2022) Expenditures Compared to the Expenditures of the Same Timeframe of the Past Three Fiscal Years



October 2021 YTD (Fiscal 2022) Expenses Compared to the Expenses of the Same Timeframe of the Past Three Fiscal Years



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City of Bountiful, UT
OCTOBER 2021 YTD EXPENSES - FY2022

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FOR 2022 04

JOURNAL DETAIL 2021 1 TO 2021 6

	ORIGINAL APPROP	REVISED BUDGET	YTD EXPENDED	MTD EXPENDED	ENCUMBRANCES	AVAILABLE BUDGET	PCT USED
10 GENERAL FUND							
4110 Legislative	826,338	826,338	222,737.62	88,229.61	.00	603,600.38	27.0%
4120 Legal	408,590	408,590	114,795.32	30,217.39	.00	293,794.68	28.1%
4130 Executive	186,903	186,903	61,076.77	11,414.36	.00	125,826.23	32.7%
4134 Human Resources	150,696	150,696	47,651.94	7,992.61	.00	103,044.06	31.6%
4136 Information Technology	519,173	519,173	123,607.26	34,111.17	.00	395,565.74	23.8%
4140 Finance	420,650	420,650	124,559.00	28,712.32	.00	296,091.00	29.6%
4143 Treasury	132,991	132,991	-3,736.97	-4,953.96	.00	136,727.97	-2.8%
4160 Government Buildings	120,513	120,513	32,204.24	7,529.40	.00	88,308.76	26.7%
4210 Police	6,359,907	6,359,907	1,725,493.21	428,822.98	.00	4,634,413.79	27.1%
4215 Reserve Officers	10,000	10,000	34.00	34.00	.00	9,966.00	.3%
4216 Crossing Guards	151,049	151,049	27,424.72	12,602.72	.00	123,624.28	18.2%
4217 PROS	380,697	380,697	158,902.34	40,980.01	.00	221,794.66	41.7%
4218 Liquor Control	36,359	36,359	4,259.06	833.33	.00	32,099.94	11.7%
4219 PSAP - E911	1,527,964	1,527,964	429,913.07	109,574.79	.00	1,098,050.93	28.1%
4220 Fire	2,375,000	2,375,000	1,181,243.00	.00	.00	1,193,757.00	49.7%
4410 Streets	4,472,459	4,472,459	1,862,318.93	544,893.56	.00	2,610,140.07	41.6%
4450 Engineering	709,103	709,103	220,122.72	50,507.27	.00	488,980.28	31.0%
4510 Parks	1,358,101	1,358,101	419,201.24	92,862.39	.00	938,899.76	30.9%
4610 Planning	458,429	458,429	107,625.08	16,458.25	.00	350,803.92	23.5%
TOTAL GENERAL FUND	20,604,922	20,604,922	6,859,432.55	1,500,822.20	.00	13,745,489.45	33.3%
30 DEBT SERVICE							
4710 Debt Sevice	25	25	5.09	1.22	.00	19.91	20.4%
TOTAL DEBT SERVICE	25	25	5.09	1.22	.00	19.91	20.4%
45 CAPITAL IMPROVEMENT							
4110 Legislative	3,272,800	3,272,800	82,434.17	62,957.57	.00	3,190,365.83	2.5%
4140 Finance	0	0	5,609.08	1,357.99	.00	-5,609.08	100.0%
4210 Police	857,000	857,000	.00	.00	.00	857,000.00	.0%
4410 Streets	3,227,000	3,227,000	1,317,528.77	374,790.66	.00	1,909,471.23	40.8%
4510 Parks	100,000	100,000	65,758.00	.00	.00	34,242.00	65.8%
TOTAL CAPITAL IMPROVEMENT	7,456,800	7,456,800	1,471,330.02	439,106.22	.00	5,985,469.98	19.7%

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City of Bountiful, UT
OCTOBER 2021 YTD EXPENSES - FY2022

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FOR 2022 04		JOURNAL DETAIL 2021 1 TO 2021 6						
48	RECYCLING	ORIGINAL APPROP	REVISED BUDGET	YTD EXPENDED	MTD EXPENDED	ENCUMBRANCES	AVAILABLE BUDGET	PCT USED
<hr/> 48 RECYCLING <hr/>								
4800	Recycling	676,873	676,873	138,859.94	43,984.65	.00	538,013.06	20.5%
	TOTAL RECYCLING	676,873	676,873	138,859.94	43,984.65	.00	538,013.06	20.5%
<hr/> 49 STORM WATER <hr/>								
4900	Storm Water	1,960,176	1,960,176	398,379.31	186,169.05	.00	1,561,796.69	20.3%
	TOTAL STORM WATER	1,960,176	1,960,176	398,379.31	186,169.05	.00	1,561,796.69	20.3%
<hr/> 51 WATER <hr/>								
5100	Water	5,499,942	5,499,942	1,384,315.30	385,159.27	.00	4,115,626.70	25.2%
	TOTAL WATER	5,499,942	5,499,942	1,384,315.30	385,159.27	.00	4,115,626.70	25.2%
<hr/> 53 LIGHT & POWER <hr/>								
5300	Light & Power	31,169,320	31,169,320	9,344,979.51	1,816,575.18	.00	21,824,340.49	30.0%
	TOTAL LIGHT & POWER	31,169,320	31,169,320	9,344,979.51	1,816,575.18	.00	21,824,340.49	30.0%
<hr/> 55 GOLF COURSE <hr/>								
5500	Golf Course	1,975,821	1,975,821	559,654.50	127,547.62	.00	1,416,166.50	28.3%
	TOTAL GOLF COURSE	1,975,821	1,975,821	559,654.50	127,547.62	.00	1,416,166.50	28.3%
<hr/> 57 LANDFILL <hr/>								

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City of Bountiful, UT
OCTOBER 2021 YTD EXPENSES - FY2022

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FOR 2022 04		JOURNAL DETAIL 2021 1 TO 2021 6						
57	LANDFILL	ORIGINAL APPROP	REVISED BUDGET	YTD EXPENDED	MTD EXPENDED	ENCUMBRANCES	AVAILABLE BUDGET	PCT USED
5700	Landfill	2,613,582	2,613,582	518,871.95	149,469.94	.00	2,094,710.05	19.9%
	TOTAL LANDFILL	2,613,582	2,613,582	518,871.95	149,469.94	.00	2,094,710.05	19.9%
<hr/> 58 SANITATION								
5800	Sanitation	1,326,747	1,326,747	308,561.17	68,322.28	.00	1,018,185.83	23.3%
	TOTAL SANITATION	1,326,747	1,326,747	308,561.17	68,322.28	.00	1,018,185.83	23.3%
<hr/> 59 CEMETERY								
5900	Cemetery	709,992	709,992	239,778.34	84,971.74	.00	470,213.66	33.8%
	TOTAL CEMETERY	709,992	709,992	239,778.34	84,971.74	.00	470,213.66	33.8%
<hr/> 61 COMPUTER MAINTENANCE								
6100	Computer Maintenance	87,902	87,902	13,649.83	1,063.78	.00	74,252.17	15.5%
	TOTAL COMPUTER MAINTENANCE	87,902	87,902	13,649.83	1,063.78	.00	74,252.17	15.5%
<hr/> 63 LIABILITY INSURANCE								
6300	Liability Insurance	652,957	652,957	595,568.36	10,671.61	.00	57,388.64	91.2%
	TOTAL LIABILITY INSURANCE	652,957	652,957	595,568.36	10,671.61	.00	57,388.64	91.2%
<hr/> 64 WORKERS' COMP INSURANCE								
6400	Workers' Comp Insurance	318,677	318,677	139,804.94	20,816.27	.00	178,872.06	43.9%
	TOTAL WORKERS' COMP INSURANCE	318,677	318,677	139,804.94	20,816.27	.00	178,872.06	43.9%
<hr/> 72 RDA REVOLVING LOAN FUND								

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City of Bountiful, UT
OCTOBER 2021 YTD EXPENSES - FY2022

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FOR 2022 04		JOURNAL DETAIL 2021 1 TO 2021 6						
72	RDA REVOLVING LOAN FUND	ORIGINAL APPROP	REVISED BUDGET	YTD EXPENDED	MTD EXPENDED	ENCUMBRANCES	AVAILABLE BUDGET	PCT USED
7200	RDA Revolving Loans	502,200	502,200	1,350,819.21	1,350,139.46	.00	-848,619.21	269.0%
	TOTAL RDA REVOLVING LOAN FUND	502,200	502,200	1,350,819.21	1,350,139.46	.00	-848,619.21	269.0%
<hr/>								
73	REDEVELOPMENT AGENCY							
7300	Redevelopment Agency	6,228,391	6,228,391	35,299.42	10,244.98	.00	6,193,091.58	.6%
	TOTAL REDEVELOPMENT AGENCY	6,228,391	6,228,391	35,299.42	10,244.98	.00	6,193,091.58	.6%
<hr/>								
74	CEMETERY PERPETUAL CARE							
7400	Cemetery Perpetual Care	1,540	1,540	571.99	145.74	.00	968.01	37.1%
	TOTAL CEMETERY PERPETUAL CARE	1,540	1,540	571.99	145.74	.00	968.01	37.1%
<hr/>								
83	RAP TAX							
8300	RAP Tax	839,849	839,849	122,702.27	150.07	.00	717,146.73	14.6%
	TOTAL RAP TAX	839,849	839,849	122,702.27	150.07	.00	717,146.73	14.6%
<hr/>								
92	OPEB TRUST							
9200	OPEB Trust	0	0	8,462.10	2,114.01	.00	-8,462.10	100.0%
	TOTAL OPEB TRUST	0	0	8,462.10	2,114.01	.00	-8,462.10	100.0%
GRAND TOTAL		82,625,716	82,625,716	23,491,045.80	6,197,475.29	.00	59,134,670.20	28.4%

** END OF REPORT - Generated by Tyson Beck **

City Council Staff Report

Subject: Golf Course Cafe Remodel

Author: Brock Hill

Department: Golf Course

Date: 14 December 2021



Background

Bountiful Ridge Golf Course has been listed and ranked as one of the best courses in Davis County and Northern Utah. The staff at Bountiful Ridge is dedicated to the long time established values of personalized customer service, sustainable and consistent maintenance practices, and well trained and engaged employees.

Bountiful Ridge Golf Course was built in 1975 with the main portion of the clubhouse being built soon after. The original building consisted of the current entrance, pro-shop, a small kitchen/service area, small dining space, basement restrooms, cart storage and utility rooms. In 1988, an addition to the building was constructed, on the north side. This consisted of the northwest meeting space, extended kitchen/utility areas, storage areas, and the basement warm-up space. In 2012, the entrance, stairs, basement bathrooms and back entrance were part of a partial building remodel, with plans to continue future remodel projects in the pro-shop and café sides of the building. The latest work to be done on the building was in the fall of 2020. The HVAC systems, network/internet wiring, outdoor future, front landscaping, and north patio areas were all updated.

Over the past several years, there have been plans to remodel the pro-shop side of the building. However, due to fewer rounds of golf being played and low revenue years, those plans have been postponed. Over the past 2 years, we have seen a rebound in the golf industry, more rounds being played, and higher revenues at the golf course, which gives us an opportunity to conservatively remodel a portion of the clubhouse.

Analysis

After an extensive analysis of the clubhouse, it was determined that the café side of the building is in need of a remodel before other portions of the building. The walls are old pink wallpaper that in some areas is peeling from the walls. The carpet is worn and stained. The electrical system: including light fixtures, switches, plugs, and covers are in disrepair, inefficient, and some don't work. The windows are single pane 1/4" thick glass with shrinking wood framing. The steel exterior doors have rusting, decaying frames and hardware that is worn and difficult to lock and operate. The accordion curtain is off the track, broken and non-functioning. The wood trim and areas of wall covering is cedar and discolored with some missing. The kitchen and storage areas have sheetrock that is cracked and peeling. The ceilings tiles are water stained and peeling and there is a missing deck with railing is missing on the side of the building.

The scope of this project is to remove three non-bearing 2x4 walls at the front service desk, remove all carpeting, all cedar trim around doors, windows, baseboards, and walls; the exterior windows, the exterior doors, worn out, broken or non-functioning finishes, i.e., the peeling wallpaper and paint and any broken drywall; the according door, the non-functioning track, recessed can, fluorescent lighting fixtures, and chandelier; remove all switches, plugs, and cover plates, and the rusting HVAC grills and vent covers, All finishes including drywall, paint, trim including window/door casing and base, carpeting, light

fixtures, switches, plugs, cover plates, exterior windows and doors, HVAC grates and grills, etc. will be replaced. The ceiling tiles in the dining and meeting areas will be covered with sheetrock, textured and painted. All walls through-out the dining and meeting areas, including the front service area of the kitchen, will be textured and painted with a faux finish. The accordion door will be replaced. The kitchen, utility, and storage area drywall will be patched or replaced and painted. The tile floors and walls in the kitchen and utility areas will be preserved, repaired and steam cleaned. A new service counter will be built-in to better serve our customers. A small office area will be built to accommodate the business needs of the concession's vendor, and a small deck with railing will be built at the north service door. All finishes, fixtures, paint, wood stain, wood trim, drywall texture, carpet, and colors will match the completed work in the recent remodeled area of the front entrance.

Staff contacted four construction companies with whom we have past working relationships or who come highly recommended. The companies are CenterPoint Construction based in Morgan, REDD Engineering and Construction based in North Salt Lake, Hansen Homes based in Bountiful, and Trek Construction based in Logan. All four contractors were present at an on-site pre-construction meeting where bid and construction schedules were discussed, plans were distributed, and questions answered. The bids are as follows:

CenterPoint Construction:	No bid submitted
REDD Engineering and Construction:	\$174,100.00
Hansen Homes:	No bid submitted
Trek Construction:	No bid submitted

It is important to note that the windows, chandelier light fixtures, and door hardware are not included in the bid price. Staff will be responsible for finding, purchasing, and supplying these items. The contractor will be responsible for installation as a part of this contract if funding is available.

Significant Impacts

The bid amount and noted additional items, exceed the \$150,000 budget in the FY2022 Long-Term Golf Course Capital Project Plan. However, there are sufficient funds in the Golf Course reserve fund to cover, by budget amendment, the additional costs of the bid, windows, light fixtures, and door hardware. The project needs to get started right away to be finished for the 2022 season, and we don't believe rebidding the project in the next few weeks will result in lower bids.

Department Review

The review was completed by the Parks, Golf, and Executive Departments

Recommendation

Staff recommends that City Council authorize Bountiful Ridge Golf Course staff to enter into a remodel construction agreement with REDD Engineering and Construction, for the remodel of the café and associated spaces at Bountiful Ridge Golf Course, in the amount of \$174,100.00 and amend the project budget to cover the additional costs of the windows, chandelier lighting fixtures, and door hardware.

Attachments

- REDD Engineering and Construction café remodel bid
- Bountiful Ridge café remodel plans and written description



Bountiful Ridge Golf Course – Clubhouse Café Remodel

Bid Schedule

Bid Schedule

A. The following schedule constitutes the base bid:

Schedule 1: 2021 Bountiful Ridge Golf Course Café Remodel

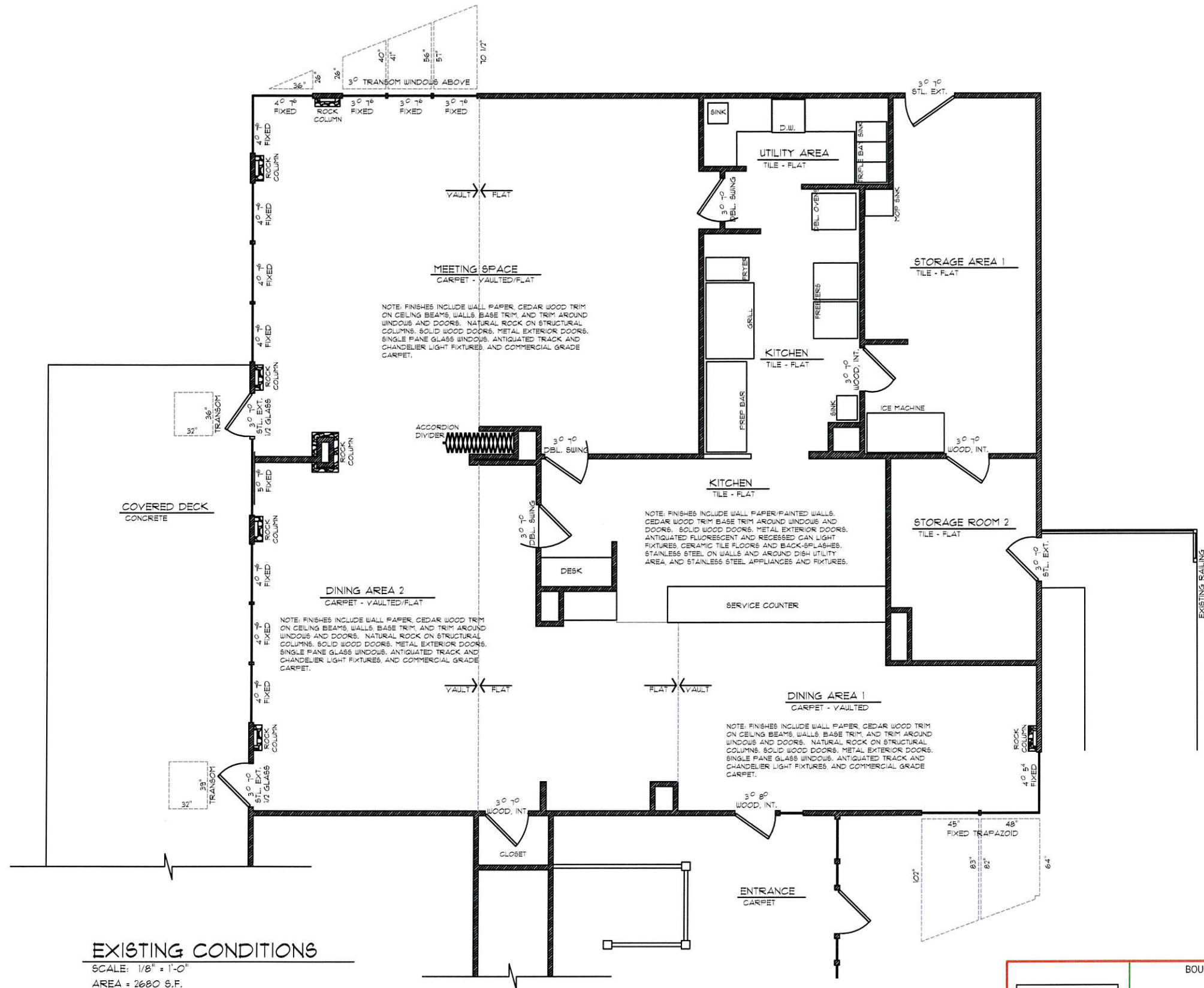
Item No.	Description of Work	<u>Quantity</u> Unit	Amount
1	Demolition of Existing	Lump Sum	\$9,793.00
2	Transport of debris	Lump Sum	\$659.00
3	Framing (materials and labor)	35 s.f.	\$2,242.00
4	Electrical (install Fixtures, switches, plugs)	Lump Sum	\$17,146.00
5	HVAC (grills/grates)	Lump Sum	\$659.00
6	Plumbing (mop sink, hand sink)	Lump Sum	\$3,297.00
7	Drywall	Lump Sum	\$23,741.00
8	Finish Work (Labor and Materials)	Lump Sum	\$39,568.00
9	Steel Exterior Doors (4)	Each	\$13,189.00
10	Painting/wood stain/wood door re-finish	Lump Sum	\$27,210.00
11	Accordion Door	Lump Sum	\$9,914.00
12	Flooring – Cleaning (tile, wall tile, stainless steel)	950 s.f.	\$3,957.00
13	Flooring - Carpet	1700 s.f.	\$8,481.00
14	Deck and Stairs	50 s.f.	\$5,671.00
15	Hand Rail – Wrought Iron, (stairs and storage room #2 entrance, match existing)	48 l.f.	\$8,573.00
16			

Total, Schedule 1 = \$ 174,100.00

Bountiful City will provide the following. Do not include these items in the bid.

- Storage of existing appliances, storage racks, coolers, tables/chairs, furniture, etc.
- Disposal fees at Bountiful Landfill
- Light Fixtures
- Door Hardware

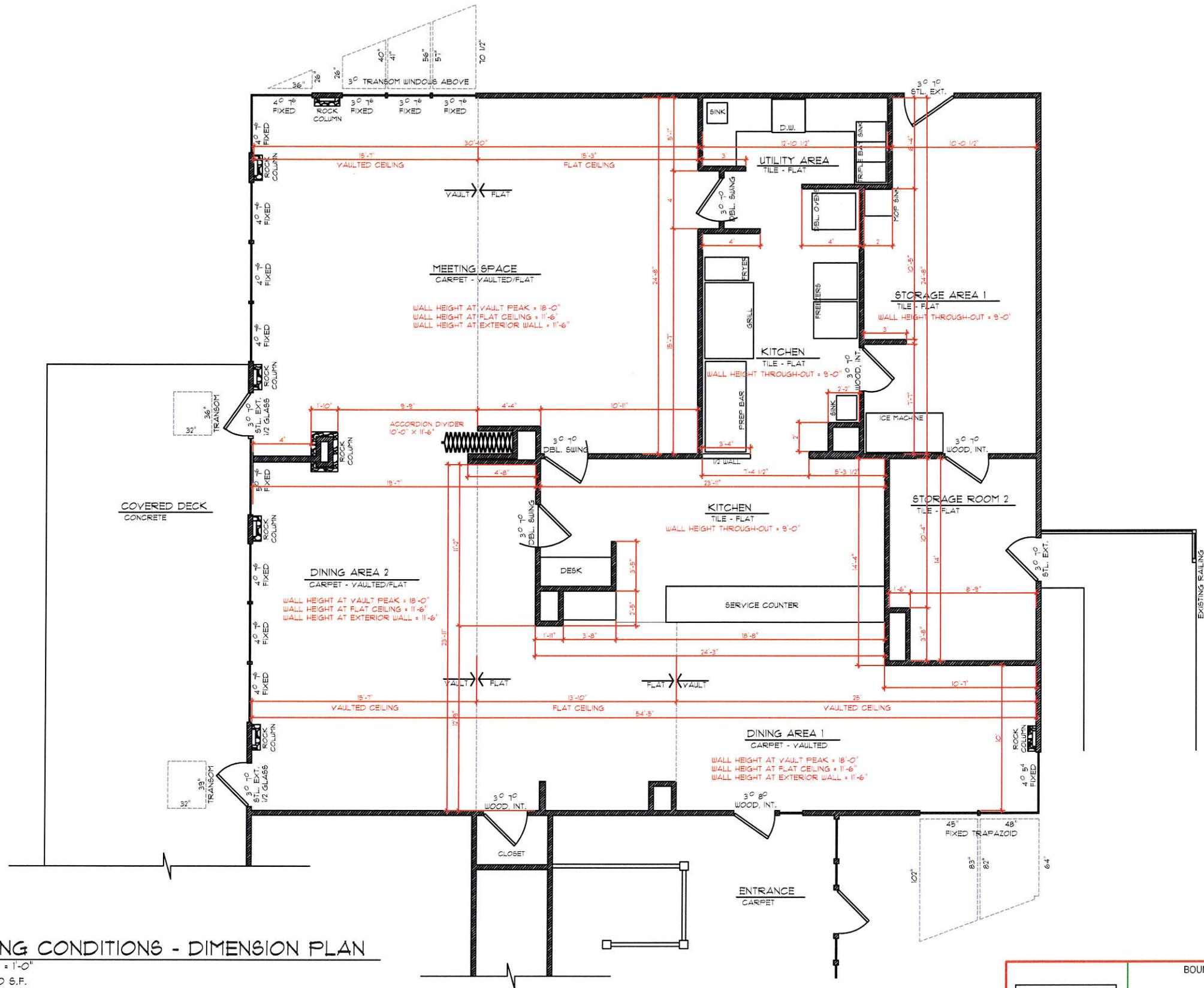
BID OPTIONS	
Description	Price
Adder to remove and install new VCT in storage areas (approx 450 SF)	\$ 3,800.00
Adder to remove and install new ceramic floor tile in kitchen areas (approx 600 SF)	\$ 9,000.00
Adder to provide all recessed and surface mounted light fixtures (not chandeliers)	\$ 6,250.00
BID CLARIFICATIONS	
Pricing based on bid documents provided by Bountiful City.	
Excludes any required engineering or architecture costs.	
Excludes any permit fees.	
Assumes working times Monday-Friday 7am-5pm.	
Assumes Bountiful City will remove and store all existing kitchen equipment prior to starting work.	
Assumes demolished materials can be dumped free of charge at the Bountiful landfill.	
Electrical pricing excludes light fixtures, to be provided by Bountiful City per bid documents.	
Finish work item includes \$10k allowance for new custom service counter/bar; we will work with Bountiful City evaluate layout options, materials of construction, and pricing.	
Excludes door hardware, to be provided by Bountiful City per bid documents.	
Handrail pricing includes powder coating.	
We are confident this project can be completed by the end of March pending availability of materials and timely completion of tasks being performed by Bountiful City.	



EXISTING CONDITIONS

SCALE: 1/8" = 1'-0"
 AREA = 2680 S.F.

		BOUNTIFUL RIDGE GOLF COURSE BOUNTIFUL, UTAH 2430 Bountiful Blvd., Bountiful, Utah 84010 (801)298-6040 ph.			
		2021 CAFE REMODEL - EXISTING CONDITIONS			
DESIGN	BWH	BOOK		DATE	16NOV2021
DRAWN	BWH	SCALE		SHEET	1 OF 2
CHECK		AS NOTED		No	DATE BY DESCRIPTION
				REVISIONS	



EXISTING CONDITIONS - DIMENSION PLAN

SCALE: 1/8" = 1'-0"
AREA = 2680 S.F.

	BOUNTIFUL RIDGE GOLF COURSE BOUNTIFUL, UTAH 2430 Bountiful Blvd., Bountiful, Utah 84010 (801)298-6040 ph.							
	2021 CAFE REMODEL - EXISTING CONDITIONS							
DESIGN	BWH	BOOK	DATE	16NOV2021	No.	DATE	BY	DESCRIPTION
DRAWN	BWH	SCALE	SHEET	1 OF 2				
CHECK		AS NOTED						REVISIONS

Bountiful Ridge Golf Course – Clubhouse Café Remodel

Existing Interior

- Knotty Alder trim materials
- Door/Window casing and trim style
- Use same material on Ceiling Beams
- Stain color



- Wall Treatment – drywall texture
- Ceiling Treatment – drywall texture
- Color and Paint Style



- Chandelier Fixture Style
- Recessed Cans -white trim





Bountiful Ridge Golf Course – Clubhouse Café Remodel

Written Description/List of Work to be Performed

Description #1 - Dining Area #1

- Remove all wallpaper
- Remove all Cedar wood door and window trim, base, beam wrap, wall treatment
- Remove light fixtures
- Remove single pane windows, cedar trim
- Remove existing carpet
- Remove switches, plugs, cover plates
- Preserve rock on columns



- Repair sheet rock as needed, apply drywall mud in textured patterns through-out to match existing
- Paint walls to match existing; color and style
- Sheetrock ceilings; texture and paint to match walls
- Trim doors and windows, ceiling beams, and base using Knotty Alder finish materials. Match existing treatment, style, and color
- Install new recessed can light fixtures
- Install new switches, plugs, cover plates
- Replace HVAC grills/grates
- Install new double-pane glass windows
- Install new carpet

Description #2 - Dining Area #2

- Remove all wallpaper
- Remove all cedar wood door and window trim, base, beam wrap, wall treatment
- Remove chandelier, recessed, and track lighting light fixtures
- Remove switches, plugs, cover plates
- Remove single pane windows, cedar trim
- Remove existing carpet
- Remove steel door
- Remove T.V.
- Preserve 3' interior wooden door
- Preserve rock on columns



- Repair sheet rock as needed, apply drywall mud in textured patterns through-out to match existing
- Paint walls to match existing; color and style

- Sheetrock ceilings; texture and paint to match walls
- Trim doors and windows, ceiling beams, and base using Knotty Alder finish materials. Match existing treatment, style, and color
- Refinish/restain solid wood door to match new wood trim stain color
- Install new chandelier and recessed can light fixtures
- Install new switches, plugs, cover plates
- Relocate T.V. and cables to south wall
- Replace HVAC grills/grates
- Install new double-pane glass windows
- Install new steel exterior door – paint
- Install new locks (keyed alike to match exiting)
- Install new carpet

Description #3 – Meeting Space

- Remove all wallpaper
- Remove cork-board and frames
- Remove all cedar wood door and window trim, base, beam wrap, wall treatment
- Remove track and recessed light fixtures
- Remove switches, plugs, cover plates
- Remove single pane windows, cedar trim
- Remove existing carpet
- Remove steel door
- Remove Accordion Door
- Preserve double-swing door
- Preserve rock on columns



- Repair sheet rock as needed, apply drywall mud in textured patterns through-out to match existing
- Paint walls to match existing; color and style
- Sheetrock ceilings; texture and paint to match walls
- Trim doors and windows, ceiling beams, and base using Knotty Alder finish materials. Match existing treatment, style, and color
- Refinish/re-stain double-swing door to match new wood trim stain color
- Install new recessed can light fixtures
- Install new switches, plugs, cover plates
- Replace HVAC grills/grates
- Install new double-pane glass windows
- Install new Accordion Door
- Install new steel exterior door – paint
- Install new locks (keyed alike to match exiting)
- Install new carpet

Description #4 – Kitchen and Utility

- Preserve all appliances
- Preserve stainless steel hood
- Preserve stainless steel backsplashes
- Preserve dishwasher, sinks, and counters
- Preserve prep and utility area wall tile
- Preserve floor tile throughout Kitchen and Utility areas
- Remove small hand washing sink
- Remove all Cedar wood door and base trim, ceiling wall trim
- Remove all surface mounted florescent light fixtures
- Remove switches, plugs, cover plates
- Remove non-bearing walls and double swing door around desk and snack display area
- Remove and preserve stainless steel service counter
- Preserve north double-swing door

- Build new service counters at front of Kitchen
- Repair sheet rock as needed through-out kitchen and utility areas, no texture on walls
- Paint walls to match existing; color and style
- Sheetrock ceilings; texture and paint to match walls
- Trim doors and base using Knotty Alder finish materials. Match existing treatment, style, and color
- Refinish/re-stain double-swing door to match new wood trim stain color
- Install new recessed florescent light fixtures
- Install new switches, plugs, cover plates
- Replace HVAC grills/grates
- Install new hand washing sink
- Steam clean existing wall and floor tile through-out kitchen and utility areas
- Steam clean all stainless steel, (walls, hood, sinks, etc.)
- Build new office/desk area
- Build new service/display counter at front of Kitchen (match Pro-Shop check-in desk)



Description #4 – Storage Areas 1&2

- Preserve all appliances and ice machine
- Preserve stainless steel racks
- Preserve wood door between kitchen and storage #1
- Preserve wood door between storage area #1 and #2
- Preserve floor tile throughout storage areas
- Preserve all surface mounted florescent light fixtures



- Remove switches, plugs, cover plates
- Remove north exterior steel door
- Remove east exterior steel door
- Remove railing at Storage Room #2 entrance
- Repair sheet rock as needed through-out storage areas, no texture on walls
- Paint walls to match existing; color and style
- Sheetrock ceilings; texture and paint to match walls
- Trim doors and base using Knotty Alder finish materials. Match existing treatment, style, and color
- Refinish/re-stain wood doors (2) to match new wood trim stain color
- Install new surface mounted florescent light fixtures
- Install new switches, plugs, cover plates
- Install new mop sink
- Replace HVAC grills/grates
- Steam clean existing floor tile through-out storage areas
- Replace steel exterior doors - paint
- Install new locks (keyed alike to match exiting)
- Build deck and stairs at the north exterior door (Composite material)
- Install Railing on deck and stairs
- Install railing at Storage Room #2 entrance

City Council Staff Report

Subject: Resolution 2021-23 adopting 2021 Davis County PDM

Author: Asst. Chief Dave Edwards

Department: Police

Date: 11-4-21



Background

In 2021, Bountiful City participated with Davis County and other municipalities in creating a Pre-Disaster Mitigation Plan (296 pages) addressing risks occurring in Davis County and providing plans to mitigate those risks.

Executive Summary

FEMA requires Bountiful City to adopt the 2021 Davis County PDM Plan by formal resolution.

Analysis

To be eligible for Federal funds through grant applications, or for post-disaster funding, Bountiful City must maintain compliance with eligibility requirements set forth by FEMA and other Federal grant funding sources.

Department Review

Police

Legal

Executive

Significant Impacts

Approving this resolution may result in additional funding to Bountiful City through future Federal grant applications or Federal disaster assistance funds following any future natural disasters.

Recommendation

It is recommended Bountiful city adopt resolution 2021-23, formally adopting the 2021 Davis County Pre-Disaster Mitigation Plan.

Attachments

Resolution 2021-23

2021 Davis County PDM Plan (included in electronic packet only)



BOUNTIFUL

BOUNTIFUL CITY, UTAH RESOLUTION NO. 2021-23

MAYOR
Randy C. Lewis
CITY COUNCIL
Kate Bradshaw
Millie Segura Bahr
Kendalyn Harris
Richard Higginson
Chris R. Simonsen

CITY MANAGER
Gary R. Hill

A RESOLUTION ADOPTING THE DAVIS COUNTY 2021 NATURAL HAZARD PRE-DISASTER MITIGATION PLAN UPDATE, AS REQUIRED BY THE FEDERAL DISASTER MITIGATION AND COST REDUCTION ACT OF 2000.

WHEREAS, President William J. Clinton signed H.R. 707, the Disaster Mitigation and Cost Reduction Act of 2000, into law on October 30, 2000; and,

WHEREAS, the Disaster Mitigation Act of 2000 requires all jurisdictions to be covered by a Pre-Disaster Hazard Mitigation Plan to be eligible for Federal Emergency Management Agency post-disaster funds; and,

WHEREAS, the Natural Hazard Pre-Disaster Mitigation Plan has been prepared in accordance with FEMA requirements at 44 C.F.R. 201.6; and,

WHEREAS, Bountiful City is within Davis County and participated in the update of the multi-jurisdictional Plan, the Natural Hazard Pre-Disaster Mitigation Plan; and,

WHEREAS, Bountiful City is a local unit of government that has afforded its citizens an opportunity to comment and provide input in the Plan and the actions in the Plan; and,

WHEREAS, Bountiful City is concerned about mitigating potential losses and has determined that it is in the best interest of the community to adopt the Natural Hazard Pre-Disaster Mitigation Plan;

NOW THEREFORE, BE IT RESOLVED by Bountiful City Council that Bountiful City adopts the Davis County 2021 Natural Hazard Pre-Disaster Mitigation Plan as this jurisdiction's Multi-Hazard Mitigation Plan.

**APPROVED, PASSED AND ADOPTED BY THE BOUNTIFUL CITY COUNCIL THIS
14TH DAY OF DECEMBER 2021.**

Randy C. Lewis, Mayor

ATTEST:

Shawna Andrus, City Recorder

Davis County, Utah
Pre-Disaster Mitigation Plan
2021 Update



Davis
COUNTY

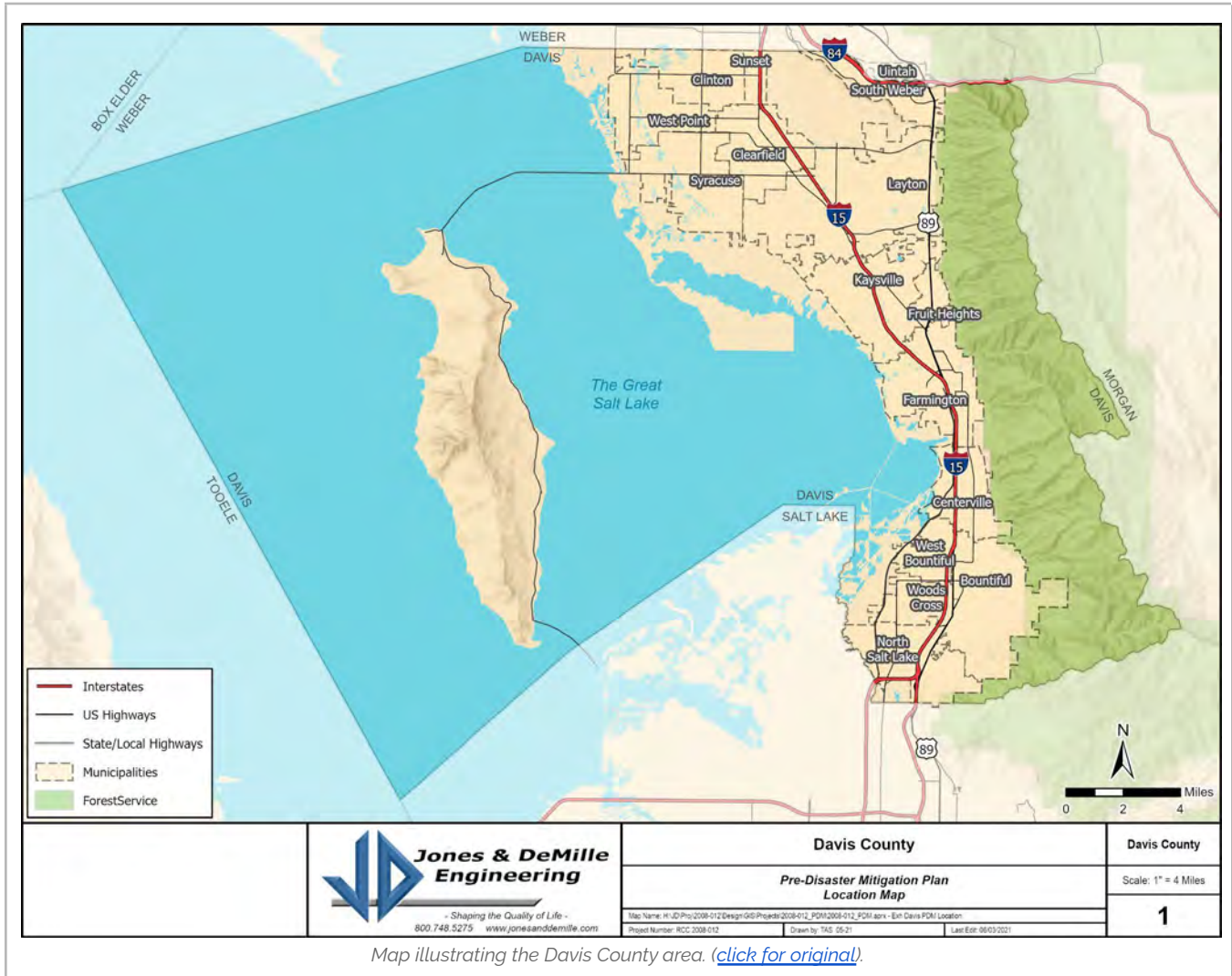
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Executive Summary - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

EXECUTIVE SUMMARY



Davis County Overview

With a total area of 630 square miles and only 223 square miles of usable land, Davis County is the second smallest county in Utah. Antelope Island in the Great Salt Lake adds another 42 square miles to the land area with the remaining portion part of the Great Salt Lake. Davis County is the third most populous county in the state with a population density of roughly 933 people per square mile. Morgan County bounds the county to the east, Salt Lake County to the south, Tooele County to the west, and to the north, Weber County. The western half of Davis County consists of the Great Salt Lake, while the eastern edge of the County is the front of the Wasatch Mountains, much of that in the Wasatch National Forest.

Executive Summary - Davis Co PDMP

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Davis County includes 15 municipalities: Bountiful, Centerville, Clearfield, Clinton, Farmington, Fruit Heights, Kaysville, Layton, North Salt Lake, South Weber, Sunset, Syracuse, West Bountiful, West Point, and Woods Cross. Unincorporated areas with significant populations are limited to Hill Air Force Base, the Val Verda area between the communities of North Salt Lake and Bountiful and the Mutton Hollow area between Kaysville and Layton. The percent of land ownership within the county is 10.9% Federal, 12.0% State, 24.9% Private and Local Government, and 52.2% under the Great Salt Lake (also owned by the State).

Most of the early settlers in Davis County were ranchers and farmers. The fertile ground produced sugar beets, tomatoes, alfalfa, grain, corn, potatoes, onions and extensive fruit orchards were developed on the bench areas. Cattle ranching and dairy farming were also leading agricultural activities.

As the county population continued to grow, Davis County developed a commercial and industrial base. The military became an important part of the County economy with the development of the Naval Supply Depot and Hill Air Force Base. The Naval Supply Depot was sold to private developers in the 1960's and it became Freeport Center, which is the largest distribution center in the United States. Hill Air Force Base has been the economic backbone of Davis County for many years and is a fundamental economic component of the community. The current economy has many components including manufacturing, trade, services and government. Some of the largest employers include Hill Air Force Base, Davis County School District, Lifetime Products Inc., Smith's Marketplace, Utility Trailer Manufacturing and Wal-Mart (UDWS 2007b). Davis County's population is large and growing and the housing and community demands are high. Mean household income in 2014 was \$70,388 and the 2014 per capita income was \$26,309.

Hazard History

Within the mitigation planning process, it is important to remember that the past is the key to the future. Identifying past hazard events provides a starting point for predicting where future events could occur. The following historical hazard event statistics were consolidated from the Spatial Hazard Events and Losses Database for the United States (SHELDUS) of the Hazards and Vulnerability Research Institute. This database records reported natural hazard events which cause greater than \$50,000 in damages.

Risk Assessment

The risk assessment process revealed the following for Drought, Earthquake, Flood, Infestation, Landslide/Slope Failure, Severe Weather, and Wildland Fire. Drought, Infestation and Severe Weather are regional hazards and can be found in Part VII. Refer to Part VI for an explanation of the risk assessment methodology. According to this data, there are a total of 130 identified critical facilities within Davis County. For the complete list, refer to Appendix D.

Table Exec.1 - Davis County, Structures with Moderate or Greater Vulnerability, 2020

	TOTAL	Ground Shaking	Liquefaction	Flood	Problem Soils	Wildfire	Soil Failure	Dam Failure
Amateur Radio Repeaters	12	12 (100%)	5 (42%)	2 (17%)	0 (0%)	12 (100%)	1 (8%)	1 (8%)
Public Safety Repeaters	9	9 (100%)	1 (11%)	0 (0%)	0 (0%)	6 (67%)	1 (11%)	0 (0%)
Electric Generation Facilities	1	1 (100%)	1 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (100%)

Executive Summary - Davis Co PDMP

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Emergency Operations Centers	1	1 (100%)	1 (100%)	1 (100%)	0 (0%)	0 (0%)	0 (0%)	1 (100%)
Fire Stations	16	15 (100%)	9 (60%)	1 (7%)	0 (0%)	1 (6%)	0 (0%)	2 (13%)
Hospitals	3	2 (100%)	1 (50%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Oil Facilities	7	7 (100%)	7 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (14%)
Police Stations	14	14 (100%)	12 (86%)	2 (14%)	0 (0%)	0 (0%)	0 (0%)	3 (21%)
Schools	88	88 (100%)	69 (78%)	3 (3%)	0 (0%)	0 (%)	1 (1%)	14 (17%)
Water Treatment Facilities	3	3 (100%)	3 (100%)	1 (33%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)

Risk Potential

The FEMA National Risk Index identifies Davis County Utah as an area with an overall risk index of 6.92. This is lower than the average for counties in Utah (7.25), and the national average (10.70). However, emergency management is a priority to Davis County because the same matrix identifies Davis County as having a much higher score for “Expected Annual Loss” (23.83) - almost double the average in Utah (12.95) and counties throughout the nation (13.47). One of the main reasons for this is because of the population density and building values in Davis County.

Development Trends

Davis County’s residential growth will continue to infill previous agricultural and industrial fringe. Some of the residential growth is occurring on more sensitive lands such as hillsides and low lying areas towards the Great Salt Lake, and in northern Davis County. The opening of the Legacy Parkway in 2008 provided a much needed alternate north/south transportation expressway through the county. The planned North Davis Highway will further facilitate transportation from Weber, through Davis, to Salt Lake County.

Davis County's population is projected to continue to increase significantly. This will result in housing cost increases greater than the rate of inflation. Higher population densities are projected to be concentrated in currently developed areas with recent development occurring at lower densities in the outlying areas.

Executive Summary - Davis Co PDMP

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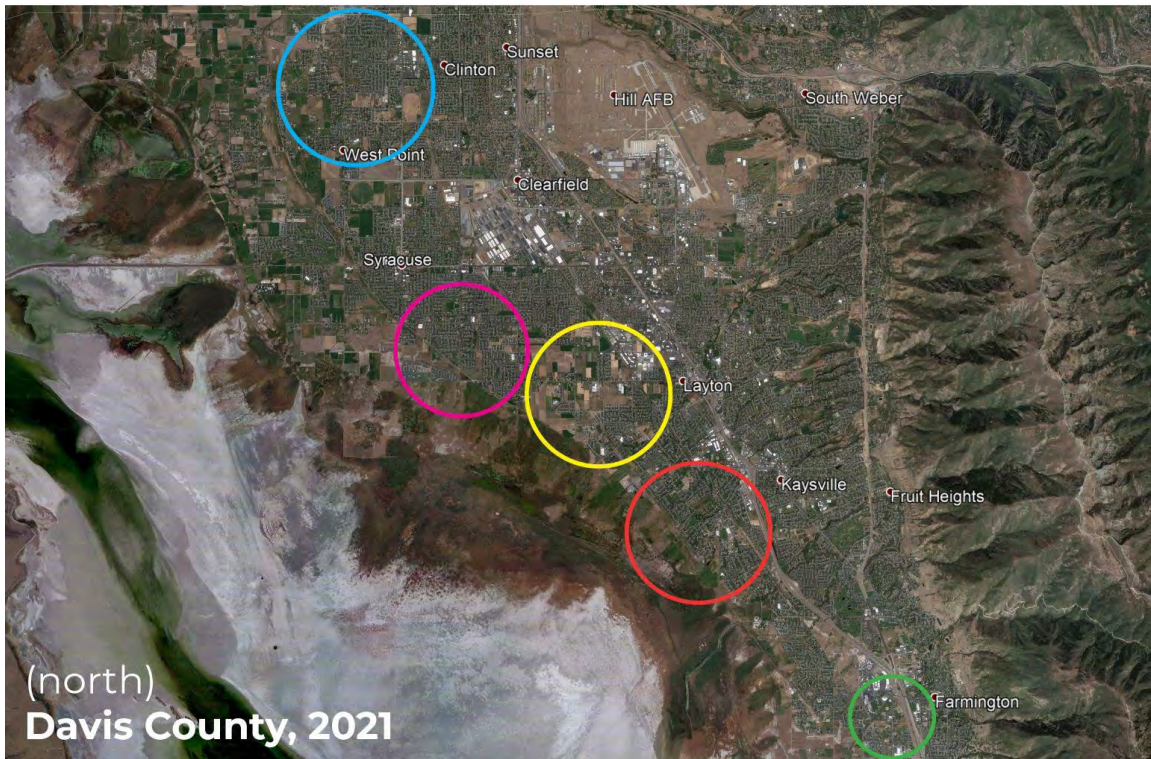


Illustration of areas that are likely to see growth in the next 5 years. (Source: local county and municipal planners).

Executive Summary - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Plan Mission

Davis County developed this PDM Plan in partnership with the jurisdictions it serves to substantially and permanently reduce the County's vulnerability to natural hazards. The Plan is intended to promote sound public policy and protect or reduce the vulnerability of the citizens, critical facilities, infrastructure, private property and the natural environment within the County. This can be achieved by increasing public awareness, documenting resources for risk reduction and loss-prevention and identifying activities to guide the development of a less vulnerable and more sustainable community.

Plan Update

This Plan represents an update of the PDM Plan that was approved by the cities, county, the State and by FEMA in 2016. All of the demographic data, maps, vulnerability assessments and mitigation strategies have been revised to reflect the constant growth throughout Davis County. Development pressures in hazard areas will continue to increase the risk to residents. The entire plan was reviewed and analyzed by the planning team throughout the planning process and again at the final draft stage before submission to the state and FEMA.

Plan Organization

The Plan was developed and organized within the rules and regulations established under 44 Code of Federal Regulations (CFR), Section 201.6. The Plan contains a discussion on the purpose and methodology used to develop the Plan, a profile on communities within Davis County, as well as a hazard identification study and a vulnerability analysis of eight hazards. To assist in the explanation of the above-identified contents there are several appendices included which provide more detail on specific subjects. This is intended to improve the ability of communities within Davis County to respond to emergencies and disasters. It will also document valuable local knowledge on the most efficient and effective ways to reduce loss.

Plan Funding

The Plan has been funded and developed under the PDM Program provided by the Federal Emergency Management Agency (FEMA) and the Utah Department of Public Safety, Division of Emergency Management (DEM).

Plan Participation

Plan participation was completed as a result of a collaborative effort between Davis County, DEM, city and county emergency managers, fire departments, sheriff's office, public works departments, planning commissions, assessor's office, city and county geographic information systems (GIS) departments, special service districts, school district, elected officials, public employees and citizens of the cities in Davis County.

Interviews were conducted with stakeholders from the communities and workshops were conducted during the Plan development phase. Additionally, through public hearings, workshops and draft Plan displays, ample opportunity was provided for public participation. Any comments, questions and discussions resulting from these activities were given strong consideration in the development of this Plan.

Hazards Identification

The PDM Plan addresses earthquake, flood, landslide, problem soils, wildfire, dam failure, and severe weather. The hazard identification study recognized the following natural hazards as being the most prevalent and posing the most potential risk to Davis County. It is recognized that dam failure is not a natural hazard. However, the impact from a catastrophic dam failure would likely be so severe that it warrants inclusion into the Plan.

Executive Summary - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.



Acknowledgements

Davis County would like to extend their appreciation to the following agencies, which assisted in the development of this Plan.

- Utah Division of Emergency Management
- Federal Emergency Management Agency
- National Weather Service
- National Climate Data Center
- Utah Army Corps of Engineers
- Utah Geologic Survey
- Utah Division of Forestry, Fire and State Lands
- Utah Department of Agriculture
- Utah Avalanche Center
- Utah Automated Geographic Resource Center
- University of Utah
- University of Utah Seismic Station
- Utah State University
- Wasatch Front Regional Council (WFRC)
- Associations of Governments
- Davis County
- Bountiful City
- Centerville City
- Clearfield City
- Clinton City

Executive Summary - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

- Farmington City
- Fruit Heights City
- Kaysville City
- Layton City
- North Salt Lake City
- South Weber City
- Sunset City
- Syracuse City
- West Bountiful City
- West Point City
- Woods Cross City
- Davis County elected officials
- Davis County Emergency Manager Sgt. Ellis Bruch, Davis County Sheriff's Office
- Rural Community Consultants and Jones & DeMille Engineering, Consultant
- Davis County agencies including;
 - Public Works
 - Local Emergency Planning Committee (LEPC)
 - Fire Departments
 - Davis School District
 - Special Service Districts
 - Weber Basin Water Conservancy District

Part I - INTRODUCTION

Utah is vulnerable to natural and technological (human-caused) hazards that threaten the health, welfare and security of our citizens. The cost of response to and recovery from potential disasters can be substantially reduced when attention is turned to mitigating their impacts and effects before they occur.

Hazard mitigation is defined as any cost-effective action that has the effect of reducing, limiting, or preventing vulnerability of people, property, and/or the environment to potentially damaging, harmful, or costly hazards. Hazard mitigation actions, which can be used to eliminate or minimize the risk to life and property, fall into three categories: first, those that keep the hazard away from people, property and structures; second, those that keep people, property and structures away from the hazard; and third, those that do not address the hazard at all but rather reduce the impact of the hazard on the victims such as insurance. This mitigation Plan has strategies that fall into all three categories.

Hazard mitigation actions must be practical, cost effective, environmentally and politically acceptable. Actions taken to limit the vulnerability of society to hazards must not in themselves be more costly than the anticipated damages.

Capital investment decisions must be considered in conjunction with natural hazard vulnerability. Capital investments can include homes, roads, public utilities, pipelines, power plants, chemical plants, warehouses and public works facilities. These decisions can influence the degree of hazard vulnerability of a community. Once a capital facility is in place, few opportunities will present themselves over the useful life of the facility to correct any errors in location or construction with respect to hazard vulnerability. It is for these reasons that zoning ordinances, which could restrict development in high vulnerability areas, and building codes, which could ensure that new buildings are built to withstand the damaging forces of hazards, are the most useful mitigation approaches that a county or city can implement.

Often, hazard mitigation may be a neglected aspect within emergency management. When local governments place a low priority on mitigation implementation activities relative to the perceived threat, some important mitigation measures may be neglected in favor of higher priority activities. Mitigation success can be achieved, however, if accurate information is portrayed through complete hazard identification and impact studies, followed by effective mitigation management. Hazard mitigation is the key to greatly reducing long-term risk to people and property from natural hazards and their effects. Preparedness for all hazards includes response and recovery plans, training, development, management of resources and the need to mitigate each jurisdictional hazard.

A. Purpose

The purposes of this Plan are (1) identify threats to the community, (2) create mitigation strategies to address those threats, (3) develop long-term mitigation planning goals and objectives, and (4) to fulfill federal, state and local hazard mitigation planning obligations.

Mitigation actions would serve to minimize threats that have an undesirable impact on the citizens, economy, and the environment of Davis County. This Plan is intended to enhance the awareness and to provide mitigation strategies for elected officials, agencies and the public of these hazards and their associated threat to life and property. The Plan also details what actions can be taken to help prevent or reduce hazard vulnerability to each jurisdiction.

Introduction - Davis Co PDMP

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B. Scope

The Davis County Natural Hazards Pre-Disaster Mitigation (PDM) Plan was developed in accordance with the requirements of the FEMA Section 322 regulations, the Utah Division of Emergency Management (DEM) and local planning agencies. The goal of this Plan is to assist Davis County in reducing the costs of natural disasters by providing comprehensive hazards identification, risk assessment, vulnerability analysis, mitigation strategy and implementation schedule. Regulations set forth by FEMA were followed during the development of this Plan. All participating jurisdictions are listed. Future monitoring, evaluating, updating and implementation will occur annually or following any natural disaster. A major revision will occur every five years. Annual or any interim Plan review, updates and revisions will be the responsibility of each adopting jurisdiction.

C. Authority

1. Federal

Public Law (PL) 93-288 as amended, established the basis for federal hazard mitigation activity in 1974. A section of this Act requires the identification, evaluation and mitigation of hazards as a prerequisite for state receipt of future disaster assistance outlays. Since 1974, many additional programs, regulations and laws have expanded on the original legislation to establish hazard mitigation as a priority at all levels of government. When PL 93-288 was amended by the Stafford Act, several additional provisions were added that provide for the availability of significant mitigation measures in the aftermath of Presidential declared disasters. Civil Preparedness Guide 1- 3, Chapter 6- Hazard Mitigation Assistance Programs, places emphasis on hazard mitigation planning directed toward hazards with high impact and threat potential.

President Clinton signed the Disaster Mitigation Act of 2000 (DMA 2000) into law on October 30, 2000. Section 322 defines mitigation planning requirements for state, local and tribal governments. Under Section 322, states are eligible for an increase in the federal share of hazard mitigation, if they submit a mitigation plan (which is a summary of local and/or regional mitigation plans) that identifies natural hazards, risks, vulnerabilities and actions to mitigate risks.

2. State

Some examples of legislation enhancing the ability of government and persons to mitigate, respond and recover from natural disasters include the Governor's Emergency Operation Directive, The Robert T. Stafford Disaster Relief and Emergency Assistance Act, amendments to Public Law 93-288, as amended, Title 44, CFR, Federal Emergency Management Agency Regulations, as amended, State Emergency Management Act of 1981, Utah Code 53-2a-101, Disaster Response Recovery Act, 53-2a-201, Executive Order of the Governor 2020-1, and the Emergency Interim Succession Act, 53-2a-801.

3. Local

Local governments play an essential role in implementing effective mitigation. For the purposes of this Plan, local governments include not only cities and counties, but also special service districts with elected boards. Each local government will review all present or potential damages, losses and related impacts associated with natural hazards to determine the need or requirement for mitigation action and planning. In the cities making up Davis County, the local executives responsible for carrying out plans and policies are the county commissioners and city or mayors and administrators. Local governments must be prepared to participate in the post-disaster hazard mitigation team process and pre-mitigation planning as outlined in this document in order to effectively protect their citizens. All jurisdictions in Davis County participated in the development of this plan.

Introduction - Davis Co PDMP

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D. Goals and Objectives

The goals and objectives of the PDM Plan include coordinating with local governments to develop a County planning process that meets each planning component identified in the FEMA Region VIII Crosswalk document, Utah Division of Emergency Management (DEM) planning expectation and local input. Another goal is to meet the need of reducing risk from natural and technological hazards in Utah through the implementation of and updating of County plans.

1. Short Term Local Goals

The following general goals were used in the development of the PDM Plan. They are shown from highest to lowest priority.

1. Life safety protection.
2. Eliminate and/or reduce property damage.
3. Protect emergency response capabilities (critical infrastructure).
4. Protect/create communication and warning systems.
5. Protect emergency medical services and medical facilities.
6. Ensure mobile resource survivability.
7. Protect critical facilities.
8. Ensure government continuity.
9. Protect developed property, homes, businesses, industry, education opportunities and the cultural fabric of a community. Combine hazard loss reduction efforts with the environmental, social and economic needs of the community.
10. Protect natural resources and the environment.
11. Promote public awareness through education of community hazards and mitigation measures.
12. Preserve and/or restore natural features.

2. Long Term Local Goals

1. Eliminate or reduce long-term risk to human life and property.
2. Aid private and public sectors in understanding the risks they may be exposed to and identify mitigation strategies to reduce those risks.
3. Avoid risk of exposure to natural and technological hazards.
4. Minimize the impacts of risks that cannot be avoided.
5. Mitigate the impacts of damage as a result of identified hazards.
6. Accomplish mitigation strategies in such a way that negative environmental impacts are minimized.
7. Provide a basis for prioritizing and funding mitigation projects.
8. Establish a County platform to enable the community to take advantage of shared goals and resources.

Introduction - Davis Co PDMP

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3. Objectives

The following objectives are meant to serve as a measure upon which individual hazard mitigation strategies can be evaluated. These objectives become especially important when two or more projects are competing for limited resources.

1. Identify persons, agencies or organizations responsible for implementation.
2. Project a time frame for implementation.
3. Explain how the project will be financed including the conditions for financing and implementation (as information is available).
4. Identify alternative measures, should financing not be available.
5. Be consistent with, support, and help implement the goals and objectives or hazard mitigation plans already in place.
6. Projects should significantly reduce potential damages to public and/or private property and/or reduce the cost of state and federal recovery for future disasters.
7. Projects should be practical, cost-effective and environmentally sound after consideration of the options.
8. Projects should address a repetitive problem, or one that has the potential to have a major impact on an area or population.
9. Projects should meet applicable permit requirements.
10. Discourage development in hazardous areas.
11. Projects should contribute to short and long term solutions.
12. Project benefits should outweigh the costs.
13. Projects should have manageable maintenance and modification costs.
14. Projects should accomplish multiple objectives when possible.
15. Projects should be implemented using existing resources, agencies and programs when possible.

Adoption Process - Davis Co PDMP

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Part II - ADOPTION PROCESS + DOCUMENTATION

Participating Jurisdictions

The Davis County Plan was developed as a multi-jurisdictional Plan. Therefore, to meet the requirements of Section 322 of the local hazard planning regulations, the final Plan must be adopted by each of the municipalities as well as the County. This section documents the adoption process of each local government in order to demonstrate compliance with this requirement.

The Plan will be adopted by the County following FEMA Region VIII approval. Table 2-1 identifies the communities and authorities that participated in the planning process and will adopt the Plan. All of these jurisdictions are seeking plan approval. Each of these jurisdictions also participated in and adopted the previous PDM Plan in 2009 and 2016.

A sample of the adoption resolution is given at the end of this section, and links to the individual support and adoption resolutions are available in Appendix H - Stakeholder Support. Also in Appendix H - Stakeholder Support, is a matrix of who attended meetings, completed assignments, etc. A list of invited special service districts, local agencies, non-governmental organizations, etc. and a sample of the invite is available in Appendix G.

Table 2.1: Community Representatives

Jurisdiction	Contact Name and Information	2021 Participation (Yes/No)	Resolution Adoption Date
Davis County	Chad Monroe Emergency Manager cmonroe@co.davis.ut.us	Yes	
Bountiful	Dave Edwards Assistant Chief of Police edwards@bountifulutah.gov	Yes	
Centerville	Paul Child Chief of Police pechild@centervilleut.com Louisa McDonald Assistant Emergency Manager lmcdonald@centervilleut.com	Yes	
Clearfield	John Meek Emergency Manager john.meek@clearfieldcity.org	Yes	
Clinton	Dave Olsen Fire Chief dolsen@clintoncity.com	Yes	
Farmington	Brigham Mellor Assistant City Manager bmellor@farmington.utah.gov	Yes	

Adoption Process - Davis Co PDMP

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Fruit Heights	Brandon Green City Manager bgreen@fruitheightscity.com	Yes	
Kaysville	Paul Erickson Fire Chief perickson@kaysvillecity.com	Yes	
Layton	Doug Bitton Fire Marshal dbitton@laytoncity.org	Yes	
North Salt Lake	Ken Leetham City Manager, kenl@nslcity.org Ali Avery City Planner, alia@nslcity.org	Yes	
South Weber	Derek Tolman Fire Chief dtolman@southwebercity.com	Yes	
Sunset	Jason Monroe Director of Public Works Worksjmonroe@sunset-ut.com	Yes	
Syracuse	Erin Behm Emergency Management Coordinator ebehm@syracuseut.com	Yes	
West Bountiful	Jason Meservy Volunteer (Emergency Services) jason.meservy@imail.org	Yes	
West Point	Ryan Harvey Administrative Services Director rharvey@westpointcity.org	Yes	
Woods Cross	Sam Christiansen Director of Public Works schristiansen@woodscross.com	Yes	

Adoption Process - Davis Co PDMP

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Sample Resolution of Support

The following language was provided to local emergency managers. They were asked to convert it into the format of their municipal resolutions. Copies of enacted resolutions were sent back to the PDM planning team.

//date//

WHEREAS the health, safety and welfare of the citizens of ___*jurisdiction*___ are matters of paramount importance to the City Council; and

WHEREAS the ___*jurisdiction*___ City Council recognizes the threat that natural hazards pose to people and property within their jurisdiction; and

WHEREAS, the Federal Emergency Management Agency (“FEMA”) has required that municipalities review and revise their local multi-hazard mitigation plan every five years to reflect changes in development, progress in local hazard mitigation efforts, and changes in mitigation priorities and submit their revised multi-hazard mitigation plan for review and approval by FEMA to remain eligible for pre-disaster mitigation grant funding; and

WHEREAS the Emergency Services Division of Davis County has received a grant from FEMA to prepare a multi-jurisdictional hazard mitigation plan in accordance with the requirements of 44.C.F.R. 201.6 and the FEMA “Local Mitigation Planning Handbook”; and

WHEREAS these requirements include obtaining formal resolutions of participation and support from stakeholder jurisdictions.

NOW THEREFORE, BE IT RESOLVED that the City Council of ___*jurisdiction*___ hereby intends to support the Plan update initiative by participating with the committee intended to develop revisions and updates to the Davis County Pre-Disaster Mitigation Plan.

This Resolution shall take effect upon passage.

//s// _____

Planning Process - Davis Co PDMP

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Part III - PLANNING PROCESS

This updated Plan was prepared by the Davis County Emergency Services staff and consultant Rural Community Consultants, with support from the planning committee, and other local and state personnel. Additional county and municipal agencies that have aided in the planning process include; city and county geographic information systems (GIS) departments, elected officials, local officials, emergency managers, fire, planning departments, public works departments, and local governmental agencies. The planning process was based on Section 322 requirements of the Disaster Mitigation Act of 2000 (DMA 2000) and supporting guidance documents developed by FEMA and the Utah DEM.

The planning process included the following steps:

Step 1: Organize Resources

Davis County received a FEMA Pre-Disaster Mitigation grant to update the Davis County 2016 Mitigation Plan and to develop a 2020 Davis County Pre-Disaster Mitigation Plan under the planning guidelines included in the FEMA guidance materials (published in 2011). The 2009 Wasatch Front Region's Pre-Disaster Mitigation Plan was the result of a 2006 Pre-Disaster Mitigation grant that the Wasatch Front Region received from FEMA.

Davis County designated a core planning team made up of members outlined in Table 3-1. These members were the main constituents of the planning process from the initiation of the Plan, to the development and coordination, and resolution of the Plan's adoption. In addition to the core planning team, a planning committee was created to review the 2016 PDM Plan and recommend revisions. The planning team was also instrumental in guiding the Plan's overall revision process and content. Every jurisdiction in Davis County, plus representatives from special service districts were invited to provide a representative to serve on the planning team. Some jurisdictions were not able to provide a representative; however, relevant input was solicited and obtained from every jurisdiction in the county.

Table 3-1: Core Planning Team

Contact	Organization
Chad Monroe	Davis County Emergency Manager
Alexandra Lindgren	Davis County Emergency Preparedness Planner
Mike Hansen, AICP	Rural Community Consultants

Table 3-2: Planning Committee

Contact Name and Information	Organization
Eric Martineau	Utah Division of Emergency Management
Chad Monroe	Davis County Emergency Manager
Alexandra Lindgren	Davis County Emergency Preparedness Planner

Planning Process - Davis Co PDMP

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Mike Hansen, AICP	Rural Community Consultants
Kent Anderson	Davis County Community & Economic Devt
Loretta Cole	Davis County Citizens Corps
Cheryl Larsen	Davis County GIS
Paul Child	Centerville City
John Meek	Clearfield City
Derek Tolman	South Weber City
Dave Olsen	Clinton City
Sam Christiansen	Woods Cross City
Jason Meservy	West Bountiful City
Brigham Mellor	Farmington City
Doug Bitton	Layton City
Scott Paxman	Weber Basin Water Conservancy District
Brian Law	Davis Hospital
Tami Timothy	Lakeview Hospital
Kimberly Giles	Utah DEM
Michelle Villegas	Davis Hospital Medical Center
Ryan Perkins	Layton Hospital

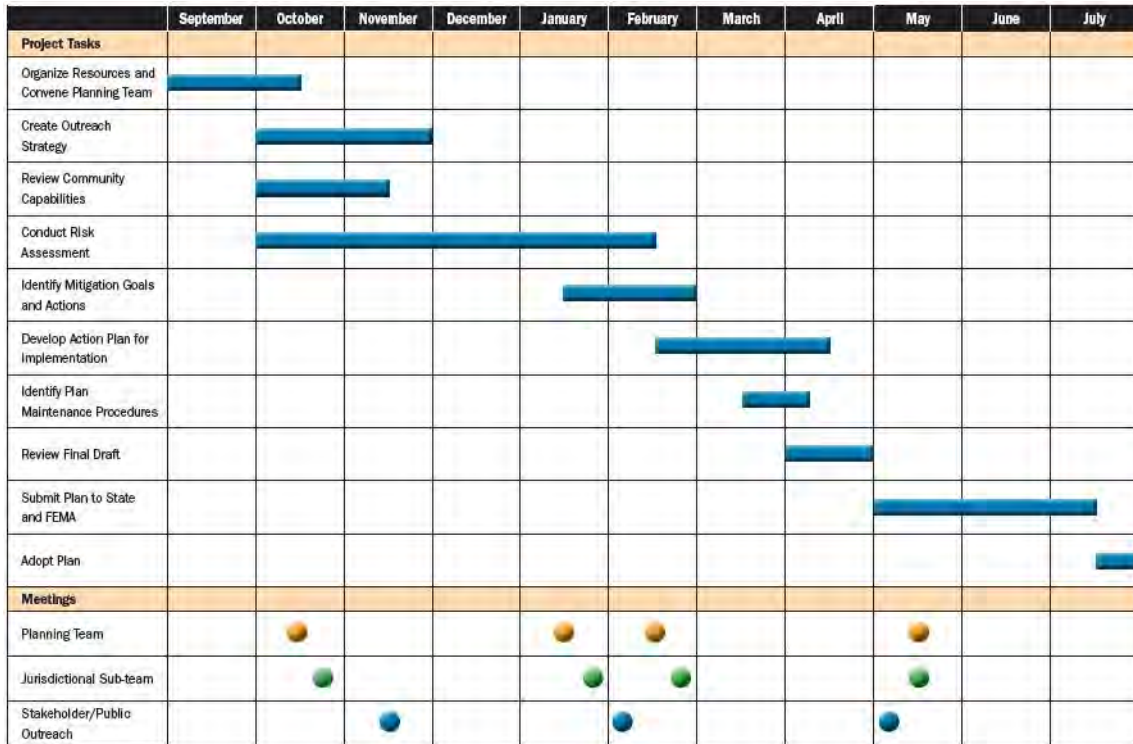
Step 2: Planning Process Timeline

To ensure the public and County officials were supportive of the planning process, a series of public meetings were conducted throughout the planning period. Additionally, the Davis County Emergency Manager and/or the project consultant attended and briefed the County Commission on the progress at several Commission meetings. The Davis County Emergency Manager and/or the project consultant also briefed the jurisdiction Mayors and Councils on this process.

The schedule below represents the roadmap that Davis County utilized to develop the 2020 update.

Planning Process - Davis Co PDMP

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The chart below provides PDM meetings associated with the planning process. Please see Appendix G: Stakeholder Participation for more detailed information on attendance.

Table 3-3: Planning Process Timeline

Date	Activity	Participants	Purpose
2020.10.20	Presentation to Davis County Council of Governments	Elected officials	Brief introduction to the initiative. Provide handout and explain that formal support is needed.
2020.10.21	Presentation to Davis County Emergency Managers	Planning Committee	Team introduction. Explanation of process and expectations.
2020.11.11	Team meeting	Core Planning Team Members	Walkthrough of initiative website.
2020.11.19	Working meeting with Davis County Emergency Managers	Planning Committee	Provide project update. Explain initial assignments.
2021.01.06	Team meeting	Core Planning Team Members	Provide project update. Discuss information roadblocks.
2021.02.23	Team meeting	Core Planning Team	Provide project update. Explain new

Planning Process - Davis Co PDMP

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		Members	assignments.
2021.02.25	Team meeting	Core Planning Team Members	Provide project update. Discuss next steps.
2021.03.05	Team meeting	Core Planning Team Members	Provide project update. Discuss next steps.
2021.03.07	Team meeting	Core Planning Team Members	Discussion of 'assignment 4'.
2021.04.01	Team meeting	Core Planning Team Members	Provide project update. Discuss next steps.
2021.04.27	Team meeting	Core Planning Team Members	Status report.
2021.05.13	Emergency Managers update meeting	Planning Committee	Follow-up on information gathering assignments.
2021.06.17	Working meeting with Davis County Emergency Managers	Planning Committee	Project update and discussion.
2021.07.07	Team meeting	Core Planning Team Members	Provide project update. Discuss next steps.
2021.08.04	Team meeting	Core Planning Team Members + Clinton City	Discussion of responsibilities and potential to leverage the new Clinton EOP to help Davis PDM.
2021.08.26	Team meeting	Core Planning Team Members	Review draft document. Provide project update. Discuss next steps.
2021.09.03	Public marketing campaign and comment period.	Core Planning Team Members	Announce public comment opportunities, connect with Special Districts and other stakeholders.
2021.10.04	Report to Emergency Managers on public survey responses.	Planning Committee	Results are available at: https://tinyurl.com/DavisPDMSurveyResponses
2021.10.05	Information request(s) for details on local goals.	Planning Committee	Respond to State comments on early draft.

Planning Process - Davis Co PDMP

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Step 3: Public Officials Outreach

To ensure the public and their officials were supportive of the Plan, the Davis County Emergency Manager and/or the project consultant attended County Councils of Government meetings. These public meetings have representation from each chief elected official in the County. Additionally, some communities recommended meeting with their city council to better inform the community.

Step 4: Establish Continuity in the Planning Process

To meet the requirements set forth by DMA 2000, Davis County was contracted by DEM to update this multi-jurisdictional PDM Plan.

Step 5: Data Review and Acquisition

The 2016 WFRC PDM Plan was reviewed by the Davis County Working Group and it was determined that all Plan sections would need to be updated and revised. Contact was made with the County GIS technician and/or planning commission staff in cities to assess available data at the local level.

Agreements were made to allow for the exchange of data between the local jurisdictions and Davis County. Mapping data layers obtained included some or all of the following: local roads, plot maps, county tax assessor's data, hazard data, flood maps, topographic data, aerial photographs and land development data.

Step 6: County Hazard Identification and Profile

These steps were conducted by gathering data on the hazards that threaten the planning region. This information was gathered from local, state and federal agencies, organizations, newspapers and other local media accounts, state and local weather records, conversations with the public and local officials, surveys, interviews and meetings with key personnel within the planning area. County-level mitigation planning meetings were held during this process. During these meetings, attendees had the opportunity to review hazard information and provide comments. These meetings also provided a forum for discussion on the background information that was needed to gain a general understanding of the geography, geology, recreation and natural resources of the planning region.

Step 7: County Vulnerability Assessment

This step was conducted through a review of local base maps, topographical maps, floodplain maps, United States Geological Survey (USGS) and Utah Geological Survey (UGS) maps, Automated Geographic Reference Center (AGRC) maps, FEMA hazard maps and climate maps from the National Climatic Data Center (NCDC). A detailed vulnerability assessment was completed with the use of GIS software for each county within Davis County. The FEMA modeling program Hazards United States – Multi-Hazards (HAZUS-MH) was used to determine vulnerability to earthquakes and floods. Loss estimation methodology was developed by the core planning team, with assistance from the technical team, to determine vulnerability from each identified hazard. Transportation Analysis Zone (TAZ) and Census 2010 data (including the American Community Survey estimates) were used to estimate the number of residents and households that could be affected by the hazard. Utah State sales tax and Equifax Business data were used to find the total number of businesses and annual sales vulnerable to hazards. HAZUS-MH infrastructure data was used to analyze the amount of infrastructure vulnerable to hazards.

Planning Process - Davis Co PDMP

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Step 8: Review Existing Local Mitigation Actions

This step was conducted through a review of the governing documents of the county, as well as, conversations, interviews and meetings with interested community leaders and members. This step identified what goals are already established and adopted for the county.

Step 9: Form Local Working Groups

Davis County organized a working group. The working group was composed of individuals with an interest in hazards mitigation, as well as technical experts from the public sector having mitigation expertise. The committee included city planners, city engineers, county and city GIS staff, floodplain managers, sheriff and fire staff, and city and county emergency managers. Each completed section of the updated Plan was reviewed and analyzed for accuracy by the working groups, individual county emergency managers and Davis County staff. Every section of the Plan was updated and revised as part of the planning process.

Step 10: Risk Assessment Review

The working groups were tasked with reviewing county risk assessments for accuracy and completeness and with developing mitigation strategies for all natural hazards threatening the county. Changes or additions were conveyed to the Core Planning Team for revision.

Step 11: Mitigation Strategy Development

Developing the mitigation strategies was a process in which all of the previous steps were taken into account. The County evaluated, identified and profiled the hazards, and vulnerability assessment. Each Mitigation Strategy developed underwent a cost/benefit analysis to determine the best action to take given limited budgets allocated to hazard mitigation efforts at the local level.

Step 12: Prioritization of Identified Mitigation Strategies

DMA 2000 requires state, tribal, and local governments to show how mitigation actions were evaluated and prioritized. The prioritization process was completed by the core planning team, the technical team and the local planning teams over a series of planning meetings. Prioritization was accomplished using the STAPLEE method as explained in the [FEMA How to Guide](#), Document 386-3. This process resulted in each Mitigation Strategy given a High, Medium, or Low priority by the planning teams.

Step 13: State Review

DEM created a formal PDM Plan review committee to ensure local plans met the requirements of DMA 2000. This committee reviewed the Plans during September, 2021 subsequent to submission to FEMA for final review and acceptance.

Step 14: Adoption

The Plan went through a public adoption process from September to December 31, 2021, and was adopted by the cities and counties listed in Table 2-1 of Part II, Adoption Process and Documentation.

Planning Process - Davis Co PDMP

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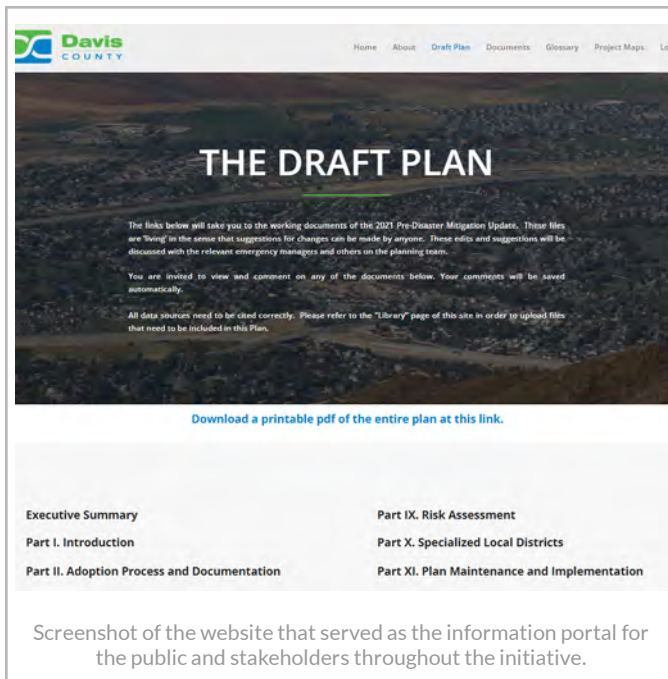
Table 3-4: Adoption Timeline

Date	Adoption Action	Purpose
2021.09.27	Submitted Plan to State DEM for initial review and comment	FEMA requirement
2021.10.07	Submitted refined Plan to State DEM with comments addressed.	

Public Involvement

Public involvement opportunities were available and incorporated throughout the development of this Plan. Such opportunities included a public website (DavisHazardPlan.org), social media campaigns, and public meetings for comment review. The development of this plan was conducted during the 2020-2021 Covid-19 pandemic, so online interaction was the preferred method.

Emergency managers, fire and sheriff departments, state and local agencies, business leaders, educators, non-profit organizations, private organizations, and other interested members that could be affected by a hazard within the region or other interested members, were all a part of the planning process.



Screenshot of the website that served as the information portal for the public and stakeholders throughout the initiative.



Screenshot of the GIS storymap that was compiled with hazard-related information for the area.

Planning Process - Davis Co PDMP

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The draft of this PreDisaster Mitigation Plan was developed publicly on the initiative website and Davis County websites. Once the draft was compiled, a focused advertisement for a public comment and review period was conducted (in September, 2021). The initiative website was visited 1,360 times by residents, and there were 12 public surveys received on that draft of the Plan. Members of the public and elected officials from each jurisdiction were notified of the public comments at county Council of Government meetings.

The screenshot shows the Facebook ad creation interface. On the left, there are sections for 'Stories and Reels, IGTV' (4 Placements), 'Search Results, Instant Articles' (2 Placements), and 'Primary Text' (1 of 5). The primary text reads: 'The Pre-Disaster Mitigation Plan for Davis County has been updated. The plan is now available for a 30-day public comment period ending on October 4, 2021 at 5:00 PM. The plan identifies potential natural hazards, estimates vulnerability to those hazards, and documents mitigation strategies for all participating jurisdictions located within the Davis County area. To view the plan and take the public survey, visit the website at <https://DavisHazardPlan.org/>.' Below this, there are options to 'Add Options' and 'Add a website URL'. The 'Headline - Optional' (1 of 5) is 'Davis County Hazard Plan Survey'. The 'Description - Optional' includes the text 'Include additional details'. At the bottom, there is a note: 'clicking the "Publish" button, you agree to Facebook's Terms and Advertising Guidelines.' and a 'Publish' button.

On the right, there is a 'Preview On' toggle and a '13 Placements' section. The main preview shows a Facebook feed with a sponsored post from 'Rural Community Consultants'. The post text is: 'The Pre-Disaster Mitigation Plan for Davis County has been updated. The plan is now available for a 30-day public ...See More'. The image shows a person in blue pants and black boots walking through muddy water. Below the image, the text reads: 'DAVISHAZARDPLAN.ORG Davis County Hazard Plan Survey' with a 'LEARN MORE' button. The post has 'Like', 'Comment', and 'Share' options. To the right of the main preview, there are sections for 'Feeds', 'Stories and Reels', and 'In-Stream'.

Information Sources

Background information and data for this Plan was obtained from the sources listed below. From these sources, the Planning Consultant extracted relevant information and data. That information and data was subsequently submitted to the County Work Groups for their consideration and approval for inclusion into the Plan.

- Federal Emergency Management Agency (How-to Guides)
- National Weather Service (hazard profile)
- National Climate Data Center (drought, severe weather)

Planning Process - Davis Co PDMP

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- Utah Division of Emergency Management (Salt Lake City Mitigation Plan, GIS data, flood data, HAZUS data for flood and earthquake)
- Utah Geologic Survey (GIS data, geologic information)
- Utah Division of Forestry Fire and State Lands (fire data)
- Utah Avalanche Center, Snow and Avalanches,
- Utah Department of Transportation (traffic data)
- Utah Automated Geographic Resource Center (GIS data)
- University of Utah Seismic Station (earthquake data)
- Utah State University (climate data)
- Councils or Government
- Association of Governments
- Utah Association of Special Districts
- State Office of Education
- Davis County and municipalities (Emergency Operations Plan, histories, mitigation actions, public input, data: GIS, assessor, transportation, property, and infrastructure)
- Earthquake Safety in Utah
- Utah Natural Hazard Handbook
- Utah Statewide Fire Risk Assessment Project
- A Strategic Plan for Earthquake Safety in Utah
- State of Utah Wildfire Plan 2008
- State of Utah Drought Plan 2007

Part IV - 2016 COUNTY GOAL REVIEW

The Davis County Mitigation Strategies Working Group developed the following Mitigation Strategies. The Working Group revised and expanded on strategies implemented in the 2016 PDM Plan.



Earthquake

Earthquake Problem Identification (1): Davis County is located in the heart of the Wasatch Fault between the shores of the Great Salt Lake and the foothills of the Wasatch Mountain Range. The majority of the population lives within 5 miles of the fault. The only major traffic artery runs north and south, and numerous water and petroleum pipelines either cross over or run within ½ mile of the fault. Five moderately sized petroleum refineries located in the southern end of the county are subject to severe damage from ground movement and liquefaction. A major earthquake in the area would result in hundreds of millions of dollars in damage to residential structures, industry, and of critical infrastructure, and likely some loss of life. Several public safety facilities and schools are seismically unsafe throughout the county. The Davis County Historical Courthouse in Farmington continues to house county offices and host other public events. These facilities pose a significant threat to those who regularly work and attend school in them, and are in need of seismic retrofitting.

Goal 1: Provide public education on seismic hazards and mitigation.

Objective 1.1: Conduct community preparedness fairs, community outreach events, and promote resident participation in the annual “ShakeOut” earthquake exercise.

Action A: Provide earthquake public education outreach.

Status (as of 2021): Participated in the South Davis Preparedness Fair in 2018. The bi-annual fair was set to take place again in 2020, but was cancelled due to the COVID-19 Pandemic. The annual “ShakeOut” earthquake exercise has continued to be promoted each year.

Objective 1.2: Improve seismic resilience for public facilities including the Davis County Historical Courthouse.

Action A: Conduct seismic reviews of the Davis County Historical Courthouse and actively seek mitigation project funding to retrofit and/or rebuild this structure.

Status (as of 2021): Completed

Action B: Implement structural engineering recommendations to meet seismic standards.

Status (as of 2021): Currently in process with a projected completion date of March 2022.

Objective 1.3: Increase quality and quantity of available natural hazards data to facilitate better decision-making.

2016 Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Action A: Revise and update the county emergency operations plan with the updated seismic information and maps.

Status (as of 2021): This action has not begun.

Earthquake Problem Identification (2): Communities need to revise and update their Emergency Operations Plans (EOP) and Standard Operating Guidelines (SOG) to reflect these changes.

Goal 2: Update and revise local jurisdictions EOPs and SOGs to enhance emergency response capabilities and critical facilities.

Objective 2.1: Explore ways Davis County can help its jurisdictions comply with the requirements of

Action A: Develop and administer an RFP for help to create a Davis County EOP that may or may not include each municipality as an appendix.

Status (as of 2021): Scoping requirements are being discussed with private sector consultants.



Flooding

Flooding Problem Identification (1): FEMA has, over the past several years, updated and revised flood hazard maps throughout Davis County. As a result, an increased number of residences are currently located in flood plains. Most of these residents are not fully aware of the change in flood hazard. The County needs to reach out to citizens to provide them with this information.

Goal 1: Educate citizens of Davis County about flood hazards.

Objective 1.1: Increase the level of understanding in homeowners, city officials, permit authorities and title companies/realtors.

Action A: Develop and publicize about flood hazards and the National Flood Insurance Program (NFIP) and disseminate information on the County Emergency Management webpage.

Status (as of 2021): This action has not begun.

Flooding Problem Identification (2): Debris basins and other flood control infrastructure require regular inspection and maintenance. Stream channels may also change with heavy flow events. Proper flood control measures should be an ongoing priority.

Goal 2: Reduce flood hazard.

Objective 2.1: Increase the capacity of streams to better handle runoff.

Action A: Clean / maintain stream channels.

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Status (as of 2021): Ongoing. (The Flood Control Department continues to clean and maintain streams and channels daily).



Slope Failure

Slope Failure Problem Identification (1): Numerous canyons, large and small, exist along the east bench of Davis County. They were formed over thousands of years by debris flows and mudslides. Now, many hundreds of homes and other structures, pipelines, power lines and roadways have been constructed on top of or through the alluvial fans produced by these events. Nature continues to construct these canyons. Landslides and debris flows will continue to occur over time, thus threatening residents and critical infrastructure.

Goal 1: Improve regulation for new development in areas with potential slope issues.

Objective 1.1: Provide regional leadership by example and precept.

Action A: Continue to encourage cities to adopt a standard of requiring geotechnical studies in identified landslide and debris flow areas.

Status (as of 2021): This action has not begun.

Slope Failure Problem Identification (2): There are a number of canyons that do not currently have debris basins constructed to contain debris flows, and others are insufficient in size. These debris basins need to be built or reconstructed in order to provide protection to residents.

Goal 2: Reduce or eliminate landslide damage due to debris flows.

Objective 2.1: Reduce loss of life and damage to property by providing a means to control debris and water from debris flows.

Action A: Continue to identify and re-evaluate flood hazard areas. Develop additional debris basins and retrofit others that require it.

Status (as of 2021): Identification and re-evaluation of flood hazard areas is ongoing. At this time there are no plans for additional debris basins, but there is intention to create additional sediment basins.



Wildland Fire

Wildland Fire Problem Identification (1): Wildland fire has been a continuing challenge throughout Davis County's history. There are several areas in Davis County where there is an extreme danger of wildland-urban fire. Due to increased development into wildland areas, it is likely that any fire over 100 acres in size would threaten structures. North Salt Lake, Bountiful, Centerville, Farmington, Fruit Heights, Kaysville, Layton, and

2016 Goals - Davis Co PDMP

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South Weber, are cities within Davis County that have been classified as “at risk” for wildland fire. These communities are actively participating in the development of Community Wildland Protection Plans (CWPP) in cooperation with the County Fire Warden and the Utah Division of Forestry Fire & State Lands. The safety of the citizens of any community is a shared responsibility between property owners, developers or homeowners associations (HOA), and local, county, state and federal governments. The primary responsibility, however, remains with the property owner and HOA level.

Goal 1: Reduce or eliminate the threat of wildland fire, and the resulting loss of property and/or life.

Objective 1.1: Increase the level of wildfire knowledge for home and business owners by encouraging participation in the Firewise Communities Program, which provides homeowners and businesses with simple steps to reduce wildfire risk by preparing for wildland fire.

Action A: Participate in the “Utah, Let’s Do Our Part” campaign which is the result of an interagency effort to reach the public with fire prevention messages relevant to Davis County. The program goals are wildland fires; campfires, debris burning, and vehicle-caused fires. The goal of the program is to reach specific audiences with fire prevention messages to reduce the number of human-caused fires in the County. For example, many fires are started by unattended campfires left by those out for an evening of fun in the mountains. Even on cold nights, a small breeze can cause a campfire to smolder all night, possibly resulting in a wildfire. The same problem exists with debris burning in the spring and fall.

Vehicles are often the cause of wildland fires. Drivers will pull off the side of the road into the brush to get out of traffic and the heat of the engine is enough to start a fire without the driver ever knowing it. ATVs, trucks, and other vehicles that travel cross country are another major issue as exhaust sparks, dragging metal, hot engines, brake malfunctions, and more cause wildfires. The public will see billboards, flyers, posters, PSAs, news releases, and other products with this campaign logo on them.

Status (as of 2021): The County has supported, and will continue to participate in the program.

Action B: Host an annual community Firewise day.

Status (as of 2021): Events have been held as resources have been available.

Objective 1.2: Maintain fire breaks and provide for better access into wildland fire interface areas.

Action A: Routinely maintain fire breaks and improve wildland access roads.

Status (as of 2021): Ongoing improvement needed. Priority work is to develop proper easements and ongoing funding for maintenance.

Action B: Purchase new wildland fire apparatus.

Status (as of 2021): Ongoing partnerships are working to enhance equipment availability and response capabilities within the county. As funding opportunities and necessities are identified the county and partnering agencies will continue to work together on purchasing and staffing new fire apparatus and required equipment.

Wildland Fire Problem Identification (2): Given that wildland fire is a hazard that can be managed through effective fuel control and the lack of defensible space in one home could threaten other homes nearby in

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subdivisions, ordinances requiring residents to maintain defensible space around their respective homes would greatly reduce the fire hazard in these areas. Programs could be established to assist residents in performing this requirement or to encourage rebates for property insurance.

Goal 2: Assist homeowners to maintain defensible space around homes and businesses to more effectively mitigate the wildland fire hazard by conducting fuels reduction and chipper days.

Objective 2.1: Provide coordination and support to residents and homeowners associations (HOAs) for fuels reduction and defensible space.

Action A: Regularly conduct fuels reduction and chipper workshops.

Status (as of 2021): This action has not begun.

Action B: Educate citizens about defensible space requirements.

Status (as of 2021): Educational content continues to be disseminated via social media.



Problem Soils

The 2016 Plan did not contain goals specific to problem soil issues.



Dam Failure (Secondary Water System)

Secondary Water Problem Identification: Davis County has several secondary water system delivery systems. The Weber Basin Aqueduct transverses the County north to south, carrying several million gallons of water each day to virtually every community. Additionally, several water impoundment ponds provide for pressurized delivery of this water. The failure of either/or the aqueduct or the impoundments could result in a catastrophic flood event.

Goal 1: Reduce the potential impact of a failure of the Weber Basin aqueduct.

Objective 1.1: Assess the entire length of the aqueduct for potential points of failure.

Action 1: The Weber Basin aqueduct is more than 50 years old, and requires regular assessment and maintenance. Weber Basin water is also planning to install emergency shutoff valves throughout the system.

Status (as of 2021): Maintenance has been conducted to the level of resources available.

Action B: Retrofit high risk Weber Basin Water delivery system aqueduct along the east bench of the county. The Weber Basin Water Conservancy District (WBWCD) has been

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seismically retrofitting a large portion of their water delivery system, including; a Seismic Retrofit of Filter and Flocculation Basins and Seismic Retrofit of Pump Stations along the aqueduct along the east bench of the county. The WBWCD has received FEMA Mitigation Grant Funding for this project. Exact funding amounts are estimated to be \$4 million.

Status (as of 2021): Ongoing maintenance and upgrades continue as personnel and resources are available including seismic retrofitting. Additional funding sources are being explored and obtained for additional upgrades such as auto shut-off system



Drought

The 2016 Plan did not contain goals specific to drought issues.



Severe Weather

Severe Weather Problem Identification (1): Most presidential disaster declarations are the result of severe weather. Davis County is prone to the effects of severe weather, as are many other counties in the state. These are usually thunderstorms and snowstorms. However, we are also prone to extremely severe wind events referred to as “East Winds.” Historically, Davis County has experienced gusts of over 110 mph and sustained winds of 80+ mph. These severe wind events can result in millions of dollars in damage. On average, we experience at least one every 5-10 years. Severe storms result in secondary and tertiary problems mostly dealing with power, heating and travel. Severe weather has resulted and will continue to result in serious travel problems, as well as power and heating difficulties.

Goal 1: Assist residents in protecting themselves from the effects of severe weather and changing global climate.

Objective 1.1: Support programs to prepare residents and elected officials for adverse weather conditions.

Action A: Encourage all cities to participate in the Storm Ready program.

Status (as of 2021): Ongoing effort. Davis County recently became Storm Ready certified. Will encourage cities to participate as well.

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Severe Weather Problem Identification (2): Davis County cities near the mountain front are subject to strong easterly canyon winds. These high winds can result in serious disruption of essential public services and communications for emergency responders have been severely hampered in the past by high wind damage to communication infrastructure.

Goal 2: Improve public understanding of the potential impact of severe weather in the County.

Objective 2.1: To educate officials and the public on the impact that climate change has had on water supplies.

Action A: Develop and promote an educational outreach for elected officials and the public on the impact that global climate change has had on water supplies in Davis County. Regional weather summit meeting was held in April 2016.

Status (as of 2021): Action has not begun.

Goal 3: Improve emergency notification capabilities in the School District.

Objective 3.1: Provide consistent and timely emergency notification to the schools in the Davis School District.

Action A: In order to better ensure consistent emergency communications during any kind of emergency event, including severe weather, the School District has purchased an emergency alert and notification system that will be used to transmit emergency information via the internet, tablets, cell phones and radios to any of the schools in the District. The County Emergency Manager is also included in the system.

Status (as of 2021): Completed.

Part V - COUNTY MITIGATION STRATEGIES, OBJECTIVES, ACTIONS

Using the findings from the risk assessment and the capabilities assessment as a guide, several mitigation strategies and implementing actions were identified for Davis County. These priorities were reviewed and refined by local emergency managers and were made publicly available for comment as well. The following presents information regarding general priority goals for the county as a whole, including the County's unincorporated areas.



1. Earthquake

Earthquake Problem Identification: Davis County is located along the Wasatch Fault between the shores of the Great Salt Lake and the foothills of the Wasatch Mountain Range, with a majority of its population residing within 5 miles of the fault line. The major traffic infrastructures run north and south, and numerous water and petroleum pipelines either cross over or run within miles of the fault. Five moderately sized petroleum refineries located in the southern end of the county are subject to severe damage from ground movement and liquefaction. A major earthquake in the area would result in severe damage to residential structures, industry, critical infrastructure, and bodily injury and loss of life. With the advent of social media, misinformation on preparation and response to earthquakes has become more prevalent as was seen in the March 2020 earthquake.

Goal 1.1: Improve earthquake public education via credible science and government resources.

Action A: Promote the Utah Seismic Safety Commission via social media outlets.

Action B: Organize a field visit from the Utah Geologic Survey to identify and discuss earthquake hazards.

Action C: Provide education on preparation activities throughout the year but emphasizing them close to the annual "Great Shakeout" drill.

Goal 1.2: Educate property owners of seismic threats.

Action A: Provide online maps of earthquake faults and damage zones to residents.

Action B: Educate homeowners on structural safety techniques to follow during and after an earthquake.

Action C: Educate homeowners about structural and non-structural retrofitting of vulnerable homes and encouraging retrofit.

County Goals - Davis Co PDMP

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2. Flooding

Flooding Problem Identification (1): Property owners in Davis County are often unaware that their home or future home may be in a potentially hazardous area. Although federally regulated lending institutions are required to disclose to mortgage and other loan applicants whether a property is on a floodplain, they are only required to do so 10 days prior to closing at which point the applicant may be unable to back out of the purchase due to a myriad of circumstances.

Goal 2.1: Minimize injury, and loss of life and property from flooding through public education and government involvement in the NFIP.

Action A: Create floodplain awareness campaign in collaboration with the state, Davis County cities, NWS, and various Davis County departments. Campaign will include floodplain information dissemination via presentations, seminars, social media, and Davis County presence at public events.

Action B: Create a floodplain committee that includes Davis County Public Works, Davis County Emergency Management, Davis County Economic and Community Development, cities within Davis County, and private sector partners affiliated with property selling/buying that meets annually to discuss best collaborative efforts to bring awareness to floodplain properties.

Action C: Work with Davis County executive staff to continually enforce floodplain management ordinances that meet the minimum NFIP requirements.

Flooding Problem Identification (2): Debris basins and other flood control infrastructure require regular inspection and maintenance. Stream channels may also change with heavy flow events. Proper flood control measures should be an ongoing priority.

Goal 2.2: Implement and/or continue proper flood control measures to minimize injury and loss of life and property from flooding.

Action A: Develop and/or update community-wide stormwater management plan.

Action B: Complete a stormwater drainage study for known problem areas.

Action C: Install/upgrade stormwater pumping stations.

Action D: Perform regular drainage system maintenance including sediment and debris clearance; and detection and prevention of discharges into stormwater and sewer systems from home footing drains, downspouts, or sewer pumps.

County Goals - Davis Co PDMP

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3. Wildland Fire

Wildland Fire Problem Identification (1): Wildland fires continue to be a challenge for Davis County and its residents. There are several areas in Davis County where there is an extreme danger of wildland-urban fire. Due to increased development into wildland areas, it is likely that any fire over 100 acres in size would threaten structures. North Salt Lake, Bountiful, Centerville, Farmington, Fruit Heights, Kaysville, Layton, and South Weber, are cities within Davis County that have been classified as “at risk” for wildland fire. The safety of the residents in any community is a shared responsibility between property owners, developers or homeowners’ associations (HOA), and local, county, state and federal governments. The primary responsibility, however, remains with the property owner and HOA level.

Goal 3.1: Further Davis County residents’ knowledge of wildland fire mitigation and preparedness.

Action A: Sponsor Firewise workshops for local officials, developers, civic groups, and neighborhood/homeowners’ associations.

Action B: Work with Davis County fire agencies/departments to organize local fire department tours.

Action C: Work with Davis County cities to inform residents about proper evacuation procedures

Action D: Link wildfire safety with environmental protection strategies.

Action E: Sponsor local “slash and clean-up days” to reduce fuel loads along the wildland-urban interface.

Goal 3.2: Mitigate injury and the loss of life and property by performing wildland fire mitigation activities.

Action A: Create defensible zones around power lines, oil and gas lines, and other infrastructure systems.

Action B: Enhance and develop new water sources in wildfire-prone areas.

Action C: Work with Davis County fire departments/agencies to routinely inspect the functionality of fire hydrants.

Action D: Develop a vegetation management plan.

Action E: Continue the development and maintenance of firebreak road on the east bench in coordination with cities.

Wildland Fire Problem Identification (2): Davis County does not have a county fire department, but there are 9 fire agencies and departments within the county that serve Davis County residents. The responsibility of County Fire Warden lies on the shoulders of the County Emergency Manager. The Davis County Emergency Manager may not have prior fire experience; therefore, they might not be the best qualified to serve as the County Fire Warden.

Goal 3.3: Increase consistent information amongst all fire agencies/departments and the county.

County Goals - Davis Co PDMP

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Action A: Continue the development of the Community Wildland Protection Plan (CWPP) in coordination with the Utah Division of Forestry Fire & State Lands.

Action B: Meet with all fire agencies/departments bi-monthly during wildland fire season to share information on hazards, fireworks restrictions, and county and state ordinances and restrictions

Action C: Work with all fire agencies/departments and the Utah Division of Forestry Fire & State Lands to create an up-to-date centralized MOU/MOA file.

Goal 3.4: Ensure that County Fire Warden is experienced in wildland fire mitigation and response.

Action A: Create position (volunteer or paid) within the Davis County Emergency Management program to serve as County Fire Warden and require experience relating to wildland fires

Action B: If Action A cannot be completed, send the current County Fire Warden to extensive training to further their knowledge of wildland fires.



4. Severe Weather

Severe Weather Problem Identification (1): Most presidential disaster declarations are the result of severe weather. Davis County is prone to the effects of severe weather, as are many other counties in the state. These are usually thunderstorms and snowstorms. However, we are also prone to extremely severe wind events referred to as “East Winds.” Historically, Davis County has experienced gusts of over 110 mph and sustained winds of 80+ mph. These severe wind events can result in millions of dollars in damage. On average, Davis County experiences at least one of these severe wind events every 5-10 years. Severe storms result in secondary and tertiary problems mostly dealing with power, heating, and travel. Severe weather has resulted and will continue to result in serious travel problems, power and heating difficulties, and property damage.

Goal 4.1: Increase public awareness of severe weather information and best mitigation and preparedness strategies.

Action A: Work with the Davis County School District to include safety strategies for severe weather in driver education classes and materials.

Action B: Utilize awareness weeks for lightning, severe weather, winter weather, etc.

Action C: Promote community outreach to vulnerable populations that may need assistance if heating and power are impacted by severe weather.

Action D: Educate homeowners on the benefits of retrofitting homes.

Goal 4.2: Retrofit public buildings and critical infrastructures to better withstand severe weather events.

Action A: Anchor roof-mounted heating, ventilation, and air conditioning units.

Action B: Ensure critical facilities, public buildings, and high occupancy buildings have back-up generators.

Action C: Work with utility companies to inspect utility poles to ensure they meet specifications and are wind resistant.

County Goals - Davis Co PDMP

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Action D: Direct promotion towards utility companies to upgrade overhead utility lines and/or bury power lines to provide uninterrupted power after severe winds, considering both maintenance and repair issues.

Part VI - CITY MITIGATION STRATEGIES, OBJECTIVES, ACTIONS

Bountiful City

Background

Bountiful City is a picturesque community nestled on the foothills of the Wasatch Range in Davis County. With a population of about 44,000, and approximately 14,000 households, Bountiful offers a variety of housing options from view on the Bountiful Bench, townhomes, to homes with access to I-15 for commuters close to Salt Lake City. The city grew rapidly during the suburb growth of the late 1940s, 1950s, and 1960s and was Davis County's largest city until 1985 when it was surpassed by Layton. Bountiful is currently Utah's 15th largest city.

Although a part of the Ogden-Clearfield Metropolitan Statistical Area, it serves as a bedroom community to Salt Lake City and the surrounding area. However, due to the very narrow entrance into Salt Lake County, roads between the counties often reach near-gridlock traffic during rush hour. The FrontRunner commuter rail has been running since April 2008, and the Legacy Parkway was opened in 2008. These were built to help alleviate the traffic load on Interstate 15 through the Bountiful area.

Bountiful occupies an area of approximately 13.5 square miles. It is a gateway community to Salt Lake County for travelers going south on I-15.

Bountiful operates under a weak mayor form of government, with an elected Mayor and five Council Members. The day-to-day operations and the majority of executive authorities are delegated to a City Manager, who works hand-in-hand with the Mayor to ensure all city operations are well-run. City operations include a 24/7 police department, part-time animal services, a municipal court, water, garbage/recycling, streets, stormwater, snow removal, community development, and parks and recreation programming. Bountiful City is part of the South Davis Fire District which provides fire protection. Emergency management and pre-disaster mitigation responsibilities are coordinated by the Bountiful City Police Department.

Community Buildings and Infrastructure Status

Bountiful City is dedicated to the safety and quality of life for both its citizens and visitors. As part of this mission they actively work to upgrade critical and essential infrastructure. As funding, personnel, and resources become available, Bountiful City strives to maintain 2021 health and safety standards.

City Buildings:

City Hall - Seismic retrofit 2019-2021 Completed

Public Safety - Seismic compliant – completed in 1997

Water Dept - Seismic compliant – completed in 2018

Streets Dept. - Constructed in 1973

Power Department - Seismic compliant - Retrofit and remodel completed 2019

City Goals - Davis Co PDMP

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Infrastructure:

Power Dept is municipal and we house materials (poles and wire) to accomplish major emergency repairs

A fiber optic cable ring has been put in place to provide data redundancy across all city buildings

We comply with current building codes re seismic standards

Specific Community Hazards

- **Earthquake.** Bountiful’s proximity to the mountains and the Wasatch Fault puts it at high risk of earthquake damage.
- **Flooding.** Bountiful is located along the Wasatch Mountain Front. During the 1983 declared flooding disaster, City facilities, trails, and homes sustained significant damage.
- **Wildland Fire.** Much of Bountiful City is located in the foothills, increasing the risk for wildland fires.
- **Dam failure.** The secondary water system throughout the community has small storage reservoirs.

CRITICAL AREA FACILITIES + INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
Water Treatment Plant	Water contamination	Enhance security
Upper Reservoir	Water contamination, dam breach w/ flooding	Enhance security
Well	Water contamination	Enhance security
Bountiful power generation plant	Power interruption	Enhance security
Water Tanks	Water contamination, flooding from breach	Enhance security
Underground petroleum pipelines	Major Hazardous Materials release to include crude oil	Enhance security Increased protection from vehicles recently added
Irrigation Reservoirs	Water contamination, dam breach w/ flooding	Enhance security
MUNICIPAL BUILDINGS + INFRASTRUCTURE		

City Goals - Davis Co PDMP

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Facility	Hazard / Risk	Mitigation
City Offices	Loss of vital city records; communication vehicles; day to day functions	TBD
City Public Works building	Damage and destruction to facilities and vehicles from earthquake	Enhance structural integrity of infrastructure
Police Department	Loss of vital police records; impact to day to day functions	TBD
Public Works Building	Loss/damage to response equipment	N/A
IT Network and Server	Loss of communications	Enhance security
EOC	Loss of operability for EOC	Equip EOC; Complete connection to fiber/analog lines
Main Generator for City Office	Loss of power for critical operations	Enhance security
South Metro Davis Fire - Station #81	Loss/damage to response apparatus/personnel	Enhance structural earthquake resiliency
South Metro Davis Fire - Station #82	Loss/damage to response apparatus/personnel	Enhance structural earthquake resiliency
South Metro Davis Fire - Station #83	Loss/damage to response apparatus/personnel	Enhance structural earthquake resiliency
South Metro Davis Fire - Station #84	Loss/damage to response apparatus/personnel	Enhance structural earthquake resiliency
South Metro Davis Fire - Station #85	Loss/damage to response apparatus/personnel	Enhance structural earthquake resiliency
STORMWATER INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
Multiple storm water retention	Flooding	Dredge and de-silt

City Goals - Davis Co PDMP

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basins throughout the city		
ARTERIAL ROADS		
Corridor	Hazard / Risk	Mitigation
500 South	Destruction, evacuation and response concerns	N/A
Orchard Drive/400 East	Destruction, evacuation and response concerns	N/A
Bountiful Blvd	Destruction, evacuation and response concerns	N/A
500 West	Destruction, evacuation and response concerns	N/A
South Davis Blvd	Destruction, evacuation and response concerns	N/A

Mitigation Efforts Since the 2016 Plan

- Bountiful City is updating the City Emergency Operations Plan (EOP) - estimated completion 2022-23.
- Bountiful City has completed Action 2, having built the culinary reservoir.
- Bountiful City has completed Action 5.
- Investments were made to upgrade the high-pressure gas pipeline at a cost of \$2m (Action 3).
- Bountiful retrofitted its city hall for seismic and communications security at a cost of \$8m.

Mitigation Strategies (2021-2026)

Earthquake - Problem Identification: Critical facilities do not meet seismic standards.

Goal: Improve building resilience through construction standards and retrofitting.

Objective (Priority MEDIUM): Retrofit facilities to seismic standards.

Action 1: Replace the Mueller Park Culinary Water Treatment Plant equipment with a new treatment system and retrofit the building to bring it into compliance with current seismic code.

Time Frame: 2023

Funding: City funds + grants

Estimated Cost: \$2 million

Staff: City Administration, Public Works, Engineer, etc.

City Goals - Davis Co PDMP

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Jurisdictions: Bountiful City

Action 2: Replace ten aging high pressure gas lines which serve a large portion of Bountiful City (by Questar Gas). These gas lines cross several fault traces, and are subject to failure in the event of fault movement or a reasonably expected seismic event.

Time Frame: 2021-2023

Funding: City funds

Estimated Cost: unknown

Staff: City / Questar Gas

Jurisdictions: Bountiful City

Action 3: Bountiful City has an ongoing, annual program of replacing aging cast iron culinary water pipe, which is very susceptible to earth movement, with flexible PVC pipe, which is better able to withstand earth movement caused by a seismic event.

Time Frame: Ongoing through 2026

Funding: City funds

Estimated Cost: \$900,000/year

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Bountiful City

Action 4: Install critical facilities generators at different locations (i.e. water pumps).

Time Frame: (completion expected in 2021-23)

Funding: Mitigation grants, City funds

Estimated Cost: \$600,000

Staff: City Public Works

Jurisdictions: Bountiful City

Action 5: Seismic retrofit of critical bridge 600s and Davis Blvd.

Time Frame: (completion expected in 2021-23)

Funding: City transportation funds

Estimated Cost: \$1,000,000

Staff: City Public Works

Jurisdictions: Bountiful City

Landslide - Problem Identification: Landslides are the movements of a mass of rock, debris, or earth down a slope by force of gravity. Landslides occur when the slope or soil stability changes from stable to unstable, which may be caused by earthquakes, storms, volcanic eruptions, erosion, fire, or additional human-induced activities. With Bountiful City being located at the foothills of the Wasatch Range in Davis County, landslides are possible.

City Goals - Davis Co PDMP

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Goal: Mitigate the effects of landslides.

Objective (Priority LOW): Creating a plan to study areas where landslides may occur.

Action: Discuss using GIS Mapping to determine where landslides may occur.

Time Frame: Unknown, depending on funding

Funding: City funds

Estimated Cost: Minimal

Staff: City Administration, GIS, etc.

Jurisdictions: Bountiful City

Severe Weather - Problem Identification: Severe downslope winds from Wasatch Mountain Range.

Goal: Reduce the threat of severe weather damage to infrastructure.

Objective (Priority LOW): Encouraging wind-proofing measures and construction techniques.

Action: Encourage new construction to implement wind-proofing into building plans.

Time Frame: Ongoing

Funding: None

Estimated Cost: None

Staff: Community Development, Building Department, etc.

Jurisdictions: Bountiful City

Flooding - Problem Identification: Bountiful City is traversed by several creeks which may be subject to flooding in severe storm events. These creeks overtopped their banks in the 1983 flood disaster, resulting in thousands of dollars in damages. Significant funding following the 1983 flooding greatly reduced flood vulnerability in those areas. Ongoing maintenance of these floodways by the city will continue to mitigate this threat.

Goal: Mitigate the impact of flooding in high-threat areas.

Objective (Priority HIGH): Maintain identified flood threat areas.

Action: Annually inspect and remove debris in stream channels and debris basins.

Time Frame: Annually, ongoing

Funding: City funds

Estimated Cost: Minimal

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Bountiful City

Objective (Priority MEDIUM): Providing the public with knowledge about the possibility of flooding.

City Goals - Davis Co PDMP

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Action: Provide information to citizens about local flood hazard, flood insurance, and flood protection measures.

Time Frame: Ongoing

Funding: City Funds

Estimated Cost: Minimal

Staff: City Administration

Jurisdictions: Bountiful City

Wildland Fire - Problem Identification: A significant portion of Bountiful City is along the foothills creating an urban/wildland interface.

Goal: Mitigate the impact of wildfire in high-threat areas.

Objective #1 (Priority MEDIUM): Fuels mitigation

Action 1: Work in tandem with homeowners to remove fuels and create fire breaks.

Time Frame: Unknown, depending on funding

Funding: Federal, State and Local

Estimated Cost: Unknown

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Bountiful City

Action 2: Create a public service campaign to inform residents about fuels reduction, fire breaks, and other mitigation tactics.

Time Frame: Unknown, depending on funding

Funding: Federal, State and Local

Estimated Cost: Unknown

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Bountiful City

Dam Failure - Problem Identification: The Millcreek City culinary water system reservoir is aging and vulnerable, and is subject to damage/failure/collapse, resulting in flooding downstream neighborhoods.

Goal: Continue to conduct ongoing replacement programs of critical infrastructure.

Objective (Priority HIGH): Enhance the resiliency of Millcreek Reservoir, part of the city culinary water system.

Action: Replace the 60+ year old 3,000,000 gallon culinary water Millcreek Reservoir.

Time Frame: 2024

Funding: City funds/State/Federal grant

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Estimated Cost: \$1.9 million

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Bountiful City

Multi-Hazards - Problem Identification: The City does not have an emergency management plan in place and communication networks are vulnerable.

Goal: Maintain an effective operational strategy for hazards.

Objective #1 (Priority HIGH): Improve communications, mitigate the impacts of and be prepared for emergency situations and hazards.

Action 1: Create an Emergency Management Plan

Time Frame: 2022

Funding: Federal and Local

Estimated Cost: Unknown

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Bountiful City

Action 2: Enhance IT Network and Server Security

Time Frame: Unknown, depending on funding

Funding: Local and State

Estimated Cost: Unknown

Staff: City Administration, Public Works

Jurisdictions: Bountiful City

Centerville City

Background

Centerville City is located between Farmington and Bountiful, east of Interstate 15. The city has an estimated population of 17,404 (2024). It is located adjacent to the easternmost part of the Great Salt Lake.

Centerville operates under a weak mayor form of government, with an elected Mayor and five Council Members. The day-to-day operations and most executive authorities are delegated to a City Manager, who works closely with the Mayor to ensure all city operations are well-run. City operations include a full time Police, Fire, and Public Works Departments. Emergency management and pre-disaster mitigation responsibilities are coordinated by the Centerville City Manager.

Community Buildings and Infrastructure Status

Centerville City has spent extensive time and efforts on infrastructure improvements to help protect against earthquakes, wildfires, high wind events, flooding, and other disasters. Centerville City is

City Goals - Davis Co PDMP

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dedicated to the safety and quality of life of their citizens. Centerville City is continuously exploring new infrastructure projects and maintaining 2021 building standards and safety measures.

Buildings:

- City Hall - Built 1991 - Backup generator
- Public Works - Built 1990 - Backup generator
- Public Works Storage bldg. - Built 2005
- Parks & Rec - Built about 2000
- Museum (original part) - Built about 1912.

Infrastructure:

- Backup generators have been installed at all city well/pump houses of the water system.
- Water system isolation valves and hoses to jump across broken lines.
- Have access to a solar powered church water well.
- Emergency fuel storage for generators and vehicles.
- Debris dam and fence in Parish Canyon to catch/slow debris flow/landslide
- Redundant storm drain system and Bernard Street Canal at Bernard Creek for heavy run-off/flood
- Flood water/landslide detentions at Freedom Hills Park. Flood detention at Community Park, Jennie P Stewart Elementary, Frontage Road Swales, Market Place drive and west of Costa Vida & Centerville Commons Park.

Specific Community Hazards

- **Flooding.** Centerville is traversed by several creeks which may be subject to flooding in severe storm events and spring runoff.
- **Earthquakes.** Centerville’s proximity to a known trace of fault puts it at high risk of earthquake damage.
- **Wildland Fire.** A significant portion of Centerville City is along the foothills creating an urban / wildland interface.
- **Dam Failure.** Centerville houses several dams that could fail causing various levels of damage to the city.

CRITICAL AREA FACILITIES + INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
Culinary water storage tanks and secondary water reservoirs	The city has culinary water storage tanks and secondary water storage reservoirs that may experience water	Enhance security, upgrade water distribution system.

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	contamination, flooding and failure due to earthquakes	
Water main on Main St.	Improper installation/ground settling	As road construction occurs, or a pipe breaks, they are replaced with better materials, and better bedding (sand).
MUNICIPAL BUILDINGS + INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
City Offices/Eoc	Loss of vital city records; communication, vehicles; day to day functions. Loss of operability for EOC	Provide for city office/EOC survivability following an earthquake.
Public Works Building	Loss/damage to response equipment	N/A
STORMWATER INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
Stormwater detention basins	Flooding: excessive rainfall over filling banks	Downstream protection of property. See Goal 1
ARTERIAL ROADS		
Corridor	Hazard / Risk	Mitigation
Main Street	Destruction, evacuation and response concerns.	State Road
Frontage Road	Destruction, evacuation and response concerns.	Maintain
400 East	Destruction, evacuation and response concerns.	Maintain
Parrish Lane	Destruction, evacuation and response concerns.	Maintain (Partially State Road)

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Pages Lane	Destruction, evacuation and response concerns.	Maintain
Interstate 15	Destruction, evacuation and response concerns.	State Road
Legacy Highway	Destruction, evacuation and response concerns.	State Road

Mitigation Efforts Since the 2016 Plan

- Centerville City has just recently doubled the drainage fees in order to pay for repairs and upgrades to our drainage systems.
- South Davis Metro Fire will tear down and build a new fire station in Centerville.(Completed in 2024).
- Additional repairs and improvements on the firebreak road.
- Implementing a Wildland / Urban Fire Protection Plan.
- Centerville has developed a 45 year master plan to up-grade the water system. Work is currently in progress to make improvements in the system to keep up with this plan.
- Davis County has plans to put an open creek into a culvert along Porter Lane.(in the works)

Mitigation Strategies (2021-2026)

Earthquake - Problem Identification: Centerville is located on known traces of faults.

Goal: Educating citizens about safety during earthquakes.

Objective (Priority LOW): Making information available to citizens on safety techniques to follow during and after earthquakes.

Action 1: Providing information to citizens when requested.

Time Frame: Ongoing

Funding: City

Estimated Cost: Minimal

Staff: City Administration

Jurisdictions: Centerville City

Flooding - Problem Identification: Centerville is traversed by several creeks which may be subject to flooding in severe storm events and spring runoff. Significant funding towards a debris flow basin in the Deuel Creek area has greatly reduced flood vulnerability in this area. Ongoing work on upsizing water coverts are taking place under Frontage Road extending under the Freeway and in the area of Bernard Creek.

City Goals - Davis Co PDMP

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Goal: Minimize the impact of flood damage in high potential areas.

Objective (Priority HIGH): Maintain identified flood threat areas.

Action 1: Continue upsizing coverts in flood threat areas.

Time Frame: Annually

Funding: City

Estimated Cost: \$600,000

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Centerville City

Wildland Fire - Problem Identification: A significant portion of Centerville City is along the foothills creating an urban / wildland interface. Prevent Wildfires from coming into the City.

Goal: Minimize the impact of wildfire damage in high potential areas.

Objective (Priority MEDIUM): Fuels Mitigation.

Action 1: Work with homeowners to remove fuels and create defensible spaces and maintain fire break roads.

Time Frame: Ongoing

Funding: City funds/State/Federal grant

Estimated Cost: unknown

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Centerville City

Action 2: Create a public service campaign to inform residents about fuels reduction, fire breaks, defensible spaces and other mitigation tactics.

Time Frame: Estimated completion will be the fall of 2022.

Funding: City funds/State/Federal

Estimated Cost: unknown

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Centerville City

Action 3: Participate in the CWPP (Community Wildfire Protection Plan)

Time Frame: Documentation of man hours and community service will be done annually.

Funding: Federal, State, Local, citizen in-kind participation.

Estimated Cost: Unknown

Staff: City Administration, Public Works, Centerville community involvement, State workers

City Goals - Davis Co PDMP

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Jurisdiction: Centerville City

Dam Failure - Problem Identification: Multiple water containment systems located throughout Centerville are aging.

Goal: Prevent dam failures.

Objective (Priority LOW): Provide citizens within the flood area of dams with information on flash flooding and hazards associated with dam failure.

Action: Make information available to citizens about flash flooding and other hazards.

Time Frame: Ongoing

Funding: City funds

Estimated Cost: Minimal

Staff: City Administration

Jurisdictions: Centerville City

Severe Weather - Problem Identification: Severe downslope winds from Wasatch Mountain Range.

Goal: Reduce the threat of severe weather damage to infrastructure.

Objective (Priority MEDIUM): Encouraging wind-proofing measures in new construction.

Action: Encourage new construction to implement wind-proofing into building plans.

Time Frame: Ongoing

Funding: City Funds

Estimated Cost: Minimal

Staff: Community Development, Building Department, etc.

Jurisdictions: Centerville City

Landslide - Problem Identification: With Centerville being located at the foothills of the Wasatch Range in Davis County, landslides are possible.

Goal: Mitigate the effects of landslides.

Objective (Priority LOW): Creating a plan to study areas where landslides may occur.

Action: Discuss using GIS Mapping or other means to determine where landslides may occur and taking mitigative actions where necessary.

Time Frame: Unknown, depending on funding

Funding: City Funds

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Estimated Cost: Minimal

Staff: City Administration, GIS, etc.

Jurisdictions: Centerville City

Clearfield City

Background

Clearfield was one of the last communities to be settled in the northern part of Davis County (1877). Hunters and Native American Warriors knew this land before the first white man settled here. They referred to it as the land of wind and sand. But it was the roar of the train's engine that first awakened the area in 1869 and stirred the sleeping Sand Ridge, which it was once known as until the name was later changed to Clearfield in order to attract agricultural settlers

Clearfield City has a total land area of 7.8 square miles, and a population of 30,112 as of the 2010 Census, making it the third largest city in Davis County, behind Layton and Bountiful. Clearfield City has an average elevation of 4,327 feet above sea level. The lowest point within the boundaries of the city is 4,314 feet at the intersection of 1000 West and Antelope Drive on the city's western edge and the highest is 4,711 feet at a point that is within the city's northeast corner, but physically located on Hill Air Force Base property along Constitution Way in their housing area.

The City is in the north central portion of Davis County. The county is surrounded by the Great Salt Lake to the west and the steep Wasatch mountain range on the east, although neither of these notable natural landmarks is physically within the city boundaries. Directly encircling Clearfield are the cities/areas of Sunset City to the north, Clinton City to the northwest, Syracuse City and West Point City to the west, Layton City to the south and east, and Hill Air Force Base military installation to the northeast.

There are no major lakes or rivers within the city. There are a few small ponds, mostly at public parks or on privately owned property. The only significant waterway in the city is the Weber and Davis Canal along the east and northeast edge of the city that extends both north and south of the city boundaries. The Clearfield Canal Trail parallels the canal for a portion of its trip through Clearfield.

Community Buildings and Infrastructure Status

Clearfield City's geographical area holds a dense population. Dedicated to the quality of life for its residents, Clearfield City works in partnership with neighboring communities to better its infrastructure by developing partnerships when needed, exploring funding opportunities, and improving its critical and essential infrastructure, maintaining today's building and safety standards as personnel, funding, and resources allow.

City buildings:

City Hall – Built 1999 - backup generator, fire suppression system

Community Arts Center – Built 1969 - backup generator

Aquatic and Fitness Center – Built 2005 - backup generator, fire suppression system

Admin/Parks Building – Built 2018 - backup generator, fire suppression system

Mechanics Building – Built around 1945

City Goals - Davis Co PDMP

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Public Works Utility Building – Build mid1980’s

Several buildings have backup generators to run the key components of the building (partial power, servers, dispatch, partial HVAC/boiler, fuel station, etc.). Several more buildings have fire suppression systems. IT systems are backed up regularly, maintenance staff try to upkeep on preventative maintenance. The city is continually working to upgrade and replace major building system components. Food and water supplies are stored at multiple buildings around the area for when the EOC is activated. As the City updates/renovates or constructs new buildings, the goal is to bring them into alignment with current building codes. Clearfield City is currently working to complete the next phase of the MOC to finish the new Mechanic/Public Works Utility building so these buildings are safer and generally, more functional.

Specific Community Hazards

- **Earthquake.** Clearfield is in the portion of Davis County where it is near the low lying areas of the Great Salt Lake where the water table is near the surface and would be susceptible to liquefaction in addition to shaking.
- **Flooding.** Clearfield is located in relative proximity to the Great Salt Lake and has several smaller lakes, ponds, and streams that have the potential to flood during flash flooding or severe amounts of rain.
- **Critical Roads.** Critical Roadways for lifeline infrastructure. A seismic event could separate access routes between east Clearfield and west Clearfield due to failure of overpasses
- **Windstorm.** Severe downslope winds form Wasatch Mountain Range
- **Land Subsidence.** Several structures in the city have experienced various degrees of settlement and require further understanding / mitigation solutions.
- **Multi-Hazards.** The City does not have a detailed emergency management plan in place but it does have a All Hazard EOP and communication networks are vulnerable.

CRITICAL AREA FACILITIES + INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
Power & Gas Utilities	Complete loss of utilities	Enhance security
10.5 Million Gallon water tank	Damage and destruction, loss of water supply to city	Inspect and maintain
Main Generator for City Office	Loss of power for critical operations	Enhance security

City Goals - Davis Co PDMP

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Water Lines	Damage and destruction, loss of water supply to city	Replacing old 4"Cast iron Pipe with PVC 8-24"
City Public Works building	Damage and destruction to facilities and vehicles from earthquake	Enhance structural integrity of infrastructure
Police Department	Loss of vital police records; impact to day to day functions	TBD
Public Works Building	Loss/damage to response equipment	3 phase New building MOC
IT Network and Server	Loss of communications	Enhance security
MUNICIPAL BUILDINGS + INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
MOC Maintenance Operation Center	Earthquake collapse	New state of the art building Completed 2020
City Library	Earthquake Collapse	New state of the art Building Complete date Fall 2021
City Office	Loss of vital city records; communication vehicles; day to day functions	Provide for city office/EOC survivability following an earthquake
Public Works Building	Loss/damage to response equipment	N/A
EOC	Loss of operability for EOC	Secondary or replace EOC in MOC
Dispatch center	Loss of power for critical operations and communications	Installed IPU
City Public Works building	Damage and destruction to facilities and vehicles from earthquake	Enhance structural integrity of infrastructure

City Goals - Davis Co PDMP

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Police Department	Loss of vital police records; impact to day to day functions	TBD
Public Works Building	Loss/damage to response equipment	3 phase New building MOC
STORMWATER INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
Stormwater pipes and drains	Flooding	Inspect and maintain
ARTERIAL ROADS		
Corridor	Hazard / Risk	Mitigation
Interstate 15	Destruction, evacuation and response concerns	Maintenance and inspection
Utah state route 193	Destruction, evacuation and response concerns	Maintenance and inspection
State Street	Destruction, evacuation and response concerns	Maintenance and inspection
300 North	Destruction, evacuation and response concerns	Maintenance and inspection
1700 south/Antelope Dr	Destruction, evacuation and response concerns	Maintenance and inspection

Mitigation Efforts Since the 2016 Plan

- Clearfield city added a UPS uninterruptible Power System for our dispatch center and city building \$80K
- We built a new state of the art Maintenance Operations Center(MOC) which is up to code. Phase 1 and 2 Completed 2020 cost \$\$\$
- Clearfield City has updated the City Emergency Operations Plan (EOP)

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Mitigation Strategies (2021-2026)

Earthquake - Problem Identification: Clearfield is in the portion of Davis County where it is near the low-lying areas of the Great Salt Lake where the water table is near the surface and would be susceptible to liquefaction in addition to shaking. Liquefaction is a loss of strength in some saturated granular soil, which can result in slope failure or substantial settlement of structures. Most habitable land in the City is either moderately or highly susceptible to liquefaction. Most of this land is either covered with single or two story residential structures, manufacturing and business buildings that would likely suffer minor to moderate damage due to liquefaction. However, many underground utilities could be severely damaged. Summer flash flooding can cause flooding problems in Clearfield City. The loss of City Building and infrastructure would be likely.

Goal: Third phase to MOC with possible EOC

Objective #1 (Priority HIGH): Earthquake - Problem Identification: Critical facilities do not meet seismic standards.

Goal: Reduce the threat of earthquake damage in the city.

Objective (Priority HIGH): Retrofit facilities to seismic standards.

Action 1: Retrofit, modify and/or Replace the Maintenance Operation Center (MOC) building to bring into compliance with current seismic code. Three phases

Time Frame: 2025

Funding: City funds/State/Federal grant

Estimated Cost: unknown

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Clearfield city

Time Frame: 2025

Funding: City funds/State/Federal grant

Estimated Cost: \$unknown

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Clearfield City

Objective #2 (Priority MEDIUM): Educate the general public about earthquakes and the need to secure the contents of their homes and offices.

Action: Hold an Emergency Preparedness Fair to educate the public on the need to secure the contents of their homes and offices.

Time Frame: 2024

Funding: City funds

Estimated Cost: \$1,500

Staff: Emergency Management

Jurisdictions: Clearfield City

City Goals - Davis Co PDMP

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Objective #3 (Priority MEDIUM): Retrofit water lines and storm drain infrastructure to meet seismic standards.

Action 1: Upgrade existing roads and utilities infrastructure where growth has exceeded capacity.

Time Frame: 2021-2025

Funding: City funds

Estimated Cost: unknown

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Clearfield City

Action 2: Design and upgrade culinary water storage tanks for some time over the next 5 to 10 years.

Time Frame: 2021-2025

Funding: City funds/State/Federal grant

Estimated Cost: unknown

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Clearfield City

Action 3: The City performs continuous maintenance and repair to keep the system in good working order for both fire flow and earthquake resistance.

Time Frame: 2021-2025

Funding: City funds/State/Federal grant

Estimated Cost: \$ Unknown

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Clearfield City

Action 4: Clearfield City has an ongoing, annual program of replacing an aging 4" cast iron culinary water pipe, which is very susceptible to earth movement, with 8-24" flexible PVC pipe, which is better able to withstand earth movement caused by a seismic event.

Time Frame: Ongoing

Funding: City funds

Estimated Cost: UNKNOWN

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Clearfield City

City Goals - Davis Co PDMP

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Flooding - Problem Identification: Clearfield is located in relative proximity to the Great Lakes and has several smaller lakes, ponds, and streams that have the potential to flood during flash flooding or severe amounts of rain.

Goal: Mitigate the impact of flooding in high-threat areas.

Objective (Priority MEDIUM): Providing the public with knowledge about the hazards of flooding.

Action: When requested, providing information to citizens about local flood hazard, flood insurance, and flood protection measures.

Time Frame: Ongoing

Funding: City funds

Estimated Cost: Minimal

Staff: City Administration

Jurisdictions: Clearfield City

Clinton City

Background

Clinton City is located in the Northwest portion of Davis County, Utah. Clinton City is bordered by Sunset City to the east, Clearfield City to the southeast, and West Point City to the southwest. The northern border of Clinton is the Weber County line, with the city of Hooper to the northwest and Roy City to the north and northeast. Clinton City is part of the Ogden–Clearfield, Utah Metropolitan Statistical Area. Clinton City, then part of Layton City, was settled in the 1870's by James Hill and his family. Early settlers used it to graze their animals but, even though the land was fertile, culinary water had to be hauled in from the Weber River. The area was commonly called The Range, Sand Ridge, The Basin and The Summit. The first school was built in 1885 just south of the cemetery. Clinton would not become an official town until 1936, and its growth was relatively small until the 1960's. Clinton grew rapidly during the 1990s and continues to see rapid growth, with an estimated population of 22,499 in 2024.

Community Buildings and Infrastructure Status

As Clinton City continues to see substantial growth, they have focused much attention on the improvements of critical infrastructure. Clinton City maintains the utmost standards of public safety along with current construction methods and seismically sound structures. The goals of Clinton City moving forward demonstrate their commitment to maintaining essential infrastructure and the safety of its residents well into the future.

City Buildings:

Public Works Building - Built 1996 - addition in 2018

City Building - Built 2008

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Police Station - Built 2008

Fire Station - Built 2008

Recreation Building - Built 2008

At the time of construction, all city buildings were designed under current building, fire, and seismic codes. Currently, the fire station is the only building that has emergency backup power. In the future we will be looking at getting emergency generators for the City Building, Police Station. In order to help will better communication capabilities within the city. Clinton City has recently contracted with Connex to run high speed internet fiber throughout the city limits.

Specific Community Hazards

- **Earthquake:** Clinton proximity to the mountains and the Wasatch Fault puts it at high risk of earthquake damage.
- **Flooding:** Clinton is susceptible to flooding from storm events and runoff or failure of a critical area infrastructure.
- **Severe Weather:** Clinton City is susceptible to severe weather (rain, snow, wind, lightning, ect.)
- **Wildland Fire:** Clinton City has a walking/running/biking trail on the old Denver Rio Grande western Railroad track system. There is approximately 6,000' to 8,000' of trail that is covered with an abundance of natural fuels.

CRITICAL AREA FACILITIES + INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
Well Water (1800 N)	Water Contamination	Enhance security
Culinary Water Tanks (HAFB)	Water Contamination	Enhance security
Underground Petroleum Pipelines	Hazardous material release to include crude oil	Enhance security, Education
Rocky Mountain Power Plant Substation	Damage and destruction, loss of power to the city	Maintenance and inspection by Rocky Mountain Power
Dominion Natural Gas Substation (High pressure)	Damage and destruction; loss of natural gas to the city	Maintenance and inspection by Dominion Energy
Water lines	Damage and destruction, loss of water supply to city; flooding	Maintenance and inspections

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Sewer lines	Damage and destruction; flooding; groundwater contamination; bacteria and disease potential health risk	Maintenance and inspections
MUNICIPAL BUILDINGS + INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
City Offices	Loss of vital city records; communication vehicles; day to day functions	Add backup power generator
Public Works building	Loss/damage to response equipment	Add additional Fuel storage; Build a 60' x 60' salt storage building to increase the amount of salt storage for snow plowing operations in the winter months.
Fire Department/EOC	Loss of vital fire records; loss/damage to response equipment; Loss of operability for EOC	Enhance security
Police Department	Loss of vital police records; impact to day to day functions	Add backup power generator
IT Network and Server	Loss of communications	Enhance security
Fire Department generator	Loss of power	Enhance security
Sewer lift station	Sewer backup	Maintenance and inspections; Enhance security
Sewer lift station generator	Loss of power; sewer backup	Maintenance and inspections
STORMWATER INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
Multiple stormwater retention	Flooding	Maintenance and inspections
Stormwater lines	Damage and destruction;	Maintenance and inspections

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

	flooding	
ARTERIAL ROADS		
Corridor	Hazard / Risk	Mitigation
1800 North	Destruction, evacuation and response concerns	State Road
2000 West	Destruction, evacuation and response concerns	State Road
800 North	Destruction, evacuation and response concerns	Maintenance and inspections
1300 North	Destruction, evacuation and response concerns	Maintenance and inspections
2300 North	Destruction, evacuation and response concerns	Maintenance and inspections
3000 West	Destruction, evacuation and response concerns	Maintenance and inspections
1500 West	Destruction, evacuation and response concerns	Maintenance and inspections
1000 West	Destruction, evacuation and response concerns	Maintenance and inspections

Mitigation Efforts Since the 2016 Plan

- The City has maintained a capital improvements program to guide its infrastructure investments every year since 2016. One of core principles that help the city prioritize their projects is the impact to public safety and emergency preparedness.
- Clinton has recently started an initiative to update its EOP.

Mitigation Strategies (2021-2026)

Earthquake - Problem Identification: Davis County contains the highest density of faults in the state, yet no major earthquake has been recorded. According to geologists from the Utah Geological Society, Davis County could experience magnitude 7.0 to 7.5 earthquakes. Ground displacement and liquefaction-induced ground failure that could affect critical infrastructure and structures within our community.

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Goal: Work toward becoming more earthquake resilient.

Objective (Priority Medium): Mitigate the effects of earthquakes.

Action 1: Clinton City has an ongoing program of replacing aging cast iron culinary water pipe, which is very susceptible to earth movement, with flexible PVC pipe, which is better able to withstand earth movement caused by a seismic event.

Time Frame: ongoing

Funding: City funds

Estimated Cost: \$5 to 7 million

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Clinton City

Action 2: Clinton City is adding a new culinary water reservoir and deep well at 2200 North 730 West. This reservoir and deep well will be within city limits. The city's main culinary water system is currently stored on Hill Air Force Base. This will also give us a secondary culinary water supply if the main culinary water reservoirs or piping fail. This will increase city water storage and help Clinton City become more earthquake resilient. The land for this project has been purchased already by the City.

Time Frame: 2024

Funding: TBD

Estimated Cost: TBD

Staff: City Administration, Emergency Management, Public Works, Engineer, etc.

Jurisdictions: Clinton City

Action 3: Unreinforced Masonry Risk Reduction Program. Evaluate to determine if there are and how many structures in Clinton City were built with unreinforced masonry construction. Such structures can more easily succumb to the movement and shaking during an earthquake.

Time Frame: 2021-2025

Funding: TBD

Estimated Cost: TBD

Staff: City Administration, Emergency Management, Public Works, Engineer

Jurisdictions: Clinton City

Flooding - Problem Identification: Adding an additional storm drain in Cranefield subdivision to help with potential flooding problems in the area. The storm water dumps into the golf course pond and from there into a slough. Bad water flow issues and vegetation going to the slough have caused water backup problems.

Goal: Fix water flow issues and will help with flooding issues in the event of severe weather in that portion of the city.

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Objective (Priority Medium): Reduce risk of flooding in major subdivisions.

Action: Conduct infrastructure improvements.

Time Frame: Completed by June 2022

Funding: City funds

Estimated Cost: \$730,000.00

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Clinton City

Severe Weather - Problem Identification: Severe Weather: Clinton City is susceptible to severe weather (rain, snow, wind, lightning, ect.)

Goal: Reduce the threat of severe weather damage to infrastructure.

Objective (Priority MEDIUM): Encouraging weather-proofing measures in new construction.

Action: Encourage new construction to implement weather-proofing into building plans.

Time Frame: Ongoing

Funding: City Funds

Estimated Cost: Minimal

Staff: Community Development, Building Department, etc.

Jurisdictions: Clinton City

Wildfire - Problem Identification: Clinton City has a walking/running/biking trail on the old Denver Rio Grande western Railroad track system. There is approximately 6,000' to 8,000' of trail that is covered with an abundance of natural vegetation and fuels.

Goal: To reduce and maintain the amount of fire load and growth in the area.

Objective (Priority Medium):

Action: Cut, trim, remove, and maintain trees and other natural vegetation in the area. .

Time Frame: ongoing

Funding: City funds

Estimated Cost: \$10,000 every year

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Clinton City

Multi-Hazards - Problem Identification: Update Emergency Operations Plan (EOP) in place and improve communication networks that are vulnerable. Improve communications, mitigate the impacts of and be prepared for emergency situations and hazards.

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Goal: Have an updated and comprehensive Emergency Operations Plan (EOP)

Objective (Priority HIGH):

Action 1: Update an Emergency Management Plan.

Time Frame: 2021

Funding: City funds

Estimated Cost: \$10,000

Staff: All Departments etc.

Jurisdictions: Clinton City

Action 2: Enhance IT Network and Server Security.

Time Frame: TBD

Funding: City funds

Estimated Cost: TBD

Staff: City Administration

Jurisdictions: Clinton City

Action 3: Enhance Multi-hazard outreach program through city website, social media, and community training.

Time Frame: On-going

Funding: City funds

Estimated Cost: TBD

Staff: All Departments

Jurisdictions: Clinton City

Farmington City

Background

Farmington City is a picturesque community nestled on the foothills of the Wasatch Range in Davis County. With a population of about 22,500, and approximately 7,000 households, Farmington serves as the county seat and offers a variety of entertainment to include Utah's largest amusement park (Lagoon), Legacy Fairgrounds, Station Park Shopping Center, and various outdoor recreation opportunities to include nearly two-hundred miles of walking and hiking trails. Housing options include farming estates, dense residential communities, care of the aged centers, townhomes and homes with access to Interstate 15, Legacy Highway, and Highway 89 for commuters close to Ogden (to the north) and Salt Lake City (to the south). Farmington was settled in 1847 and remained a bedroom community regardless of being the county seat and location of Utah's largest amusement park. This changed in 2011 when commercial and residential development exploded and continues to expand at the time of this report. Farmington was recently ranked #14 of "Best Places to Live" in a nationwide probe performed by Money Magazine.

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Although a part of the Ogden-Clearfield Metropolitan Statistical Area, Farmington serves as a bedroom community to both Ogden City and Salt Lake City. However, due to the very narrow entrance into Salt Lake County, roads between the counties often reach near-gridlock traffic during rush hour. The FrontRunner commuter rail has been running since April 2008, and the Legacy Parkway was opened in 2008. These were built to help alleviate the traffic load on Interstate 15 through the Farmington area. Farmington City occupies an area of approximately 10 square miles; however, provides critical services for surrounding areas of unincorporated Davis County. Farmington is a gateway community to both North and South Davis County and acts as a main arterial pathway for ground and rail transportation.

Farmington operates under a weak mayor form of government, with an elected Mayor and five Council Members. The day-to-day operations and the majority of executive authorities are delegated to a City Manager, who works hand-in-hand with the Mayor to ensure all city operations are well-run. City operations include a 24-7 police department, 24-7 fire and ambulance department, water, garbage/recycling, streets, stormwater, snow removal, community development, parks and recreation programming. Emergency management and pre-disaster mitigation responsibilities are coordinated by the City Manager.

Community Buildings and Infrastructure Status

Over the last decade, Farmington City has exploded with both residential and commercial buildings. As this trend is projected to continue into the future, Farmington City has been focused on improving its infrastructure to protect its essential functions and maintaining critical services for its citizens and visitors. As the community grows, so do the standards of Farmington City in their recognized responsibility to their community. Farmington City is dedicated to upgrading infrastructure when needed and ensuring all new infrastructure meets currency safety, health, and building standards.

Specific Community Hazards

- **Earthquake.** Farmington's proximity to the mountains and the Wasatch Fault puts it at high risk of earthquake damage.
- **Flooding.** Farmington is located along the Wasatch Mountain Front. During 1983, city infrastructure, homes, and trails sustained significant damage from mudslides and flooding.
- **Land Subsidence.** Several structures in the city have experienced various degrees of settlement and require further understanding / mitigation solutions.
- **Wildland Fire.** Much of Farmington City is located against the foothills, increasing the risk (HIGH) for wildland fires. Farmington also provides initial fire and ambulance response to emergencies within and above Farmington Canyon areas that encompass over 30 structures.
- **Dam Failure.** Primary and secondary water systems throughout the community utilize multiple storage reservoirs. Certain components of this delivery and storage systems pose a high failure risk in the event of a seismic incident.
- **Severe Weather.** Severe downslope winds form Wasatch Mountain Range.
- **Chemical Release.** Potential crude oil release, ultra-high volume (52 gallons per second at 200 psi) within the center of Farmington City – Station Park and Legacy Center area. Interstate and heavy rail also passes through Farmington with countless quantities of hazardous materials.

City Goals - Davis Co PDMP

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- **Critical Roads.** Critical Roadways for lifeline infrastructure. A seismic event could separate access routes between east Farmington and west Farmington due to failure of overpasses.
- **Multi-Hazards.** The City does not have a detailed emergency management plan in place and communication networks are vulnerable.

CRITICAL AREA FACILITIES + INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
Well / Water Treatment Plants	Water contamination	Enhance security
Upper Reservoirs	Water contamination, dam breach w/ flooding	Enhance security
Well	Water contamination	Enhance security
Underground petroleum pipelines	Major Hazardous Materials release to include crude oil within critical city infrastructure and commerce area of town.	Enhance security Increased protection from new and ongoing construction
Irrigation Reservoirs	Water contamination, dam breach w/ flooding	Enhance security
Power & Gas Utilities	Complete loss of utilities	Enhance security
Critical Roadway & Bridges	Loss of emergency access / city split into two by I- 15, Legacy Hwy and Hwy 89.	Enhance security
MUNICIPAL BUILDINGS + INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
City Offices	Loss of vital city records; communication vehicles; day to day functions	TBD
City Public Works building	Damage and destruction to facilities and vehicles from earthquake	Enhance structural integrity of infrastructure
Police Department	Loss of vital police records; impact to day to day functions	TBD
Public Works Building	Loss/damage to response equipment	TBD

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

IT Network and Server	Loss of communications	Enhance security
EOC	Loss of operability for EOC	Equip EOC; Complete connection to fiber/analog lines
Main Generator for City Office	Loss of power for critical operations	Enhance security
Farmington Fire Station #71	Loss/damage to response apparatus/personnel	Enhance structural earthquake resiliency / perform study
Farmington Fire Apparatus Storage BLD (West Side) #72	Loss/damage to response apparatus/personnel	Enhance structural earthquake resiliency / perform study
Well Houses	Loss of municipal water supply	Enhance security
STORMWATER INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
Multiple storm water retention basins throughout the city	Flooding	Dredge and de-silt
ARTERIAL ROADS		
Corridor	Hazard / Risk	Mitigation
Main Street (North to South)	Destruction, evacuation and response concerns	N/A
Sheppard Lane (West to East)	Destruction, evacuation and response concerns	N/A
200 East (North to South)	Destruction, evacuation and response concerns	N/A
Park Lane (West to East)	Destruction, evacuation and response concerns	N/A
Clark Lane / State Street (East to West)	Destruction, evacuation and response concerns	N/A
Glovers Lane & 1525 West	Destruction, evacuation and response concerns	N/A

Mitigation Efforts Since the 2016 Plan

- Farmington City is updating the City Emergency Operations Plan (EOP).

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Mitigation Strategies (2021-2026)

Earthquake - Problem Identification: Critical facilities do not meet seismic standards.

Goal: Perform seismic engineering evaluation FY2022

Objective (Priority HIGH): Retrofit facilities to seismic standards.

Action 1: Retrofit Farmington City Fire Station #71 building to bring into compliance with current seismic code.

Time Frame: 2023

Funding: City funds/State/Federal grant

Estimated Cost: \$350,000

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Farmington City

Action 2: Identify / pre-plan the entire culinary water delivery network and reservoirs city-wide to determine earthquake survivability and modify accordingly.

Time Frame: 2022-2023

Funding: City funds/State/Federal grant

Estimated Cost: \$500,000

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Farmington City

Action 3: Replace multiple aging high pressure gas lines which serve a large portion of Farmington City (by Dominion Gas). These gas lines cross several fault traces, and are subject to failure in the event of fault movement or a reasonably expected seismic event.

Time Frame: 2022-2026

Funding: utility company, ARPA

Estimated Cost: minimal

Staff: City / Questar Gas.

Jurisdictions: Farmington City

Action 4: Farmington City has an ongoing, annual program of replacing aging cast iron culinary water pipe, which is very susceptible to earth movement, with flexible PVC pipe, which is better able to withstand earth movement caused by a seismic event.

Time Frame: ongoing

Funding: City funds

Estimated Cost: \$900,000/yr

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Farmington City

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Flooding - Problem Identification: Farmington City is located just off of the Farmington Bay and has smaller lakes, ponds, and streams that have the potential to flood during flash flooding or heavy rainfall.

Goal: Mitigate the impact of flooding in high-threat areas.

Objective (Priority MEDIUM): Providing the public with knowledge about the possibility of flooding.

Action: When requested, provide information to citizens about local flood hazard, flood insurance, and flood protection measures.

Time Frame: Ongoing

Funding: City funds

Estimated Cost: Minimal

Staff: City Administration

Jurisdictions: Farmington City

Landslide - Problem Identification: Several homes in the city have experienced substantial settlement.

Goal: Reduce the threat of earthquake damage in the city.

Objective (Priority MEDIUM): Conduct an analysis of why this is occurring and seek to discover mitigation solutions.

Action: Continue with residential inquiries, monitoring and evaluations of existing established benchmarks and boring when indicated.

Time Frame: 2023-2025

Funding: City funds

Estimated Cost: unknown

Staff: Engineer, consultants.

Jurisdictions: Farmington City

Wildland Fire - Problem Identification: A large portion of Farmington City is along the foothills with a significant history of urban/wildland interface fires.

Goal: Reduce the threat of wildfire damage in the city.

Objective (Priority HIGH): Fuels mitigation.

Action 1: Work in tandem with homeowners and government programs, via public education campaigns; such as, FireWise to educate and remove fuels to better facilitate defensible spaces.

Time Frame: unknown

Funding: City funds/State/Federal grant

Estimated Cost: unknown

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Farmington City

Action 2: Continue to utilize state and federal resources such as: Federal Excess Personal Property (FEPP) programs to help provide adequate equipment and assets to mitigate wildland / interface fires.

Time Frame: unknown

Funding: City funds/State/Federal grant

Estimated Cost: unknown

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Farmington City

Dam Failure - Problem Identification: Multiple water containment systems located throughout Farmington are aging and subject to various stages of decay. Based on assessment findings, these containment vessels will require different levels of repair and possible replacement.

Goal: Continue to conduct ongoing replacement programs of critical infrastructure.

Objective (Priority HIGH): Enhance the resiliency of Farmington city culinary water system.

Action: Repair and/or Replace various culinary water containment reservoirs.

Time Frame: 2024

Funding: City funds/State/Federal grant

Estimated Cost: unknown

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Farmington City

Severe Weather - Problem Identification: Severe downslope winds form Wasatch Mountain Range.

Goal: Reduce the threat of severe weather damage in the city.

Objective (Priority MEDIUM): Structural building integrity improvements.

Action: Review proper building and development codes.

Time Frame: 2024

Funding: City funds/State/Federal grant

Estimated Cost: \$2,500

Staff: Community Development, Building Department

Jurisdictions: Farmington City

City Goals - Davis Co PDMP

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Chemical Release - Problem Identification: Potential ultra-high volume crude oil release (52 gallons per second at 200 PSI) within the center of Farmington City – Station Park and Legacy Center area.

Goal: Reduce the threat of chemical release event damage in the city.

Objective (Priority MEDIUM): Continue working with pipeline vendors, ensuring that adequate training for all personnel and specialized equipment remains available.

Action: Ongoing / proper maintenance and training.

Time Frame: annually

Funding: City funds

Estimated Cost: \$5,000

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Farmington City

Critical Roads - Problem Identification: Critical Roadways for lifeline infrastructure.

Goal: Improve the resiliency of the local road systems.

Objective (Priority MEDIUM): Provide unrestricted access or critical roadways for all lifeline infrastructure.

Action: Identify & map lifeline infrastructure.

Time Frame: 2024

Funding: City funds/State/Federal grant

Estimated Cost: \$10,000

Staff: Public Works, Engineer, etc.

Jurisdictions: Farmington City

Multi-Hazards - Problem Identification: The City does not have a detailed emergency management plan in place and communication networks are vulnerable.

Goal: Develop a functional EOP and communication infrastructure.

Objective (Priority HIGH): Improve communications, mitigate the impacts of and be prepared for emergency situations and hazards.

Action 1: Create a detailed Emergency Management Plan.

Time Frame: 2023

Funding: Federal and Local

Estimated Cost: unknown

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Farmington City

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Action 2: Enhance IT Network and Server Security.

Time Frame: 2023

Funding: Federal and Local

Estimated Cost: unknown

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Farmington City

Fruit Heights City

Background

Fruit Heights City is located between Kaysville on the west and Farmington on the south. The community is located on the foothills of the Wasatch Range in Davis County. With an estimated population of 6221 (2024 Census) comprising approximately 1800 households, Fruit Heights is one of the more affluent communities in the state. The city grew rapidly during the 1970-1980's, but is nearing its "build out" stage with few open areas available for development.

Fruit Heights was originally known as Mountain Road. It was the first road between Salt Lake City and Ogden City. For nearly 50 years, Kaysville folks came to the Mountain Road, first to get their mail from Pony Express riders and later from stagecoach drivers. Early pioneer families settled along the Old Mountain Road around 1850.

John Bair had his own saw mill, located about where the Rock Loft is now. The mill furnished most of the wood for the early homes. Over the years settlers changed the area to beautiful farms and orchards. Water was very scarce. Ditches had to be dug. Some families were able to get water from springs in the mountains, but many had to use water from Haight's Creek, Baer Creek and irrigation ditches. It was used for culinary purposes, farm animals and irrigation. This situation continued until 1939.

It was then the people voted to incorporate and become a town, and what was known as the area along the "Old Mountain Road" was named Fruit Heights, because of the fruit industry.

Fruit Heights operates under a weak mayor form of government, with an elected Mayor and five Council Members. The day-to-day operations and the majority of executive authorities are delegated to a City Manager, who works closely with the Mayor to ensure all city operations are well-run. City operations include a full time Public Works Department. Fruit Heights City contracts with Kaysville for Fire and Emergency Medical Services (EMS) and with the Davis County Sheriff's Office for law enforcement and paramedic response. Emergency management and pre-disaster mitigation responsibilities are coordinated by the Fruit Heights City Manager.

Community Buildings and Infrastructure Status

Given the fact that Fruit Heights is close to the "build out" stage, as heretofore mentioned, much of the improvement strategies have been dedicated to existing infrastructure. Fruit Heights is dedicated to maintaining the quality of life for its citizens, therefore focusing time, funding, resources, and the highest level of standards on infrastructure improvements. These improvements are subject to the availability of funds, personnel and resources.

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Specific Community Hazards

- **Earthquake.** Fruit Heights proximity to the mountains and the Wasatch Fault puts it at high risk of earthquake damage.
- **Flooding.** Fruit Heights is located along the Wasatch Mountain Front. During the 1983 declared flooding disaster, City facilities, trails, and homes sustained significant damage.
- **Wildland Fire.** Much of Fruit Heights City is located in the foothills, increasing the risk for wildland fires.
- **Dam failure.** The secondary water system throughout the community has small storage reservoirs.

CRITICAL AREA FACILITIES + INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
Culinary water storage tanks	The city has 2 water storage tanks that may experience water contamination, flooding, and failure due to earthquake	Enhance security, and upgrade water distribution system
City's Culinary Water Main	Aging infrastructure, poor or improper installations, and ground settling	As road projects occur or as the water main breaks, they are repaired or replaced with better materials, and better installation methods to protect the piping and extend the life of the pipe.
MUNICIPAL BUILDINGS + INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
City Offices/EOC	Loss of vital city records; communication vehicles; day to day functions. Loss of operability for EOC	Provide for city office/EOC survivability following an earthquake
Public Works Building	Loss/damage to response equipment	N/A
Main Generator for City Office	Loss of power for critical operations	Enhance security
Culinary Water Pump House	Loss of power for critical operations	Enhance security
STORMWATER INFRASTRUCTURE		

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Facility	Hazard / Risk	Mitigation
Stormwater detention basins	Flooding: excessive rainfall overflowing banks	Downstream protection of property
ARTERIAL ROADS		
Corridor	Hazard / Risk	Mitigation
Mountain Road	Destruction, evacuation and response concerns	City and State Maintained
Nicholls Road	Destruction, evacuation and response concerns	City Maintained
Green Road	Destruction, evacuation and response concerns	City Maintained
400 North	Destruction, evacuation and response concerns	City & State maintained
Highway 89	Destruction, evacuation and response concerns	State Maintained
Country Lane	Destruction, evacuation and response concerns	City Maintained
Lloyd Road	Destruction, evacuation and response concerns	City Maintained

Mitigation Efforts Since the 2016 Plan

- Fruit Heights City evaluates and updates each year its StormWater Capital Facilities plan and identifies storm water projects that have been completed or where improvements have been made.
- The Stormwater Facility Fee has had incremental increases over the year to help pay for repairs and upgrades to the system.
- Fruit Heights City’s capital facility plan has identified aging culinary watterlines that need to be repaired. Fruit Heights City continues to replace these aging water lines with major road reconstruction projects.
- Fruit Heights City has adopted a Wildland/Urban Fire Protection Plan.

Mitigation Strategies (2021-2026)

Earthquake - Problem Identification: Critical facilities do not meet seismic standards.

Goal: Reduce the threat of earthquake damage in the city.

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Objective (Priority MEDIUM): Retrofit water lines and storm drain infrastructure to meet seismic standards.

Action 1: Replace culinary water line (Asbestos Cement) and upsize Mountain Road and Nicholls Road to 1000 South Mountain Road to bring into compliance with current seismic code.

Time Frame: 2023

Funding: City funds/State/Federal grant

Estimated Cost: \$420,000

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Fruit Heights City

Action 2: Loop the 1800 East to Eastoaks Drive water line increasing city water earthquake survivability.

Time Frame: 2023-2024

Funding: City funds/State/Federal grant

Estimated Cost: \$59,000

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Fruit Heights City

Action 3: Install storm drain and detention basin below Eastoaks Drive to bring into compliance with current seismic code.

Time Frame: 2023-2024

Funding: City funds/State/Federal grant

Estimated Cost: \$189,000

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Fruit Heights City

Action 4: Install and line the storm drain pipe underneath Green Road to bring into compliance with current seismic code.

Time Frame: 2021-2022

Funding: City funds/State/Federal grant

Estimated Cost: \$120,000

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Fruit Heights City

Action 5: Install a drainpipe in an open ditch along Mahogany Drive to bring into compliance with current seismic code.

Time Frame: 2023-2025

Funding: City funds/State/Federal grant

City Goals - Davis Co PDMP

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Estimated Cost: \$35,000

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Fruit Heights City

Action 6: Upgrade and install a storm drain along South Mountain Road to bring into compliance with current seismic code.

Time Frame: 2023-2025

Funding: City funds/State/Federal grant

Estimated Cost: \$180,000

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Fruit Heights City

Earthquake - Problem Identification: Fruit Heights City is located on known traces of faults.

Goal: Educating citizens about safety during earthquakes.

Objective (Priority LOW): Making information available to citizens on safety techniques to follow during and after earthquakes.

Action 1: Provide information to citizens about response to earthquakes and protective measures for themselves, families, and property.

Time Frame: Annual

Funding: City Funds

Estimated Cost: Minimal

Staff: City Administration

Jurisdictions: Fruit Heights City

Flooding - Problem Identification: Fruit Heights is situated between the Great Lakes and the Wasatch Range in Davis County. Fruit Heights City also has several smaller lakes, ponds, and streams that have the potential to flood and runoff from the Wasatch Mountain Range during flash flooding or severe amounts of rainfall.

Goal: Mitigate the impact of flooding in high-threat areas.

Objective (Priority MEDIUM): Providing the public with knowledge about the possibility of flooding.

Action: Provide information to citizens about local flood hazard, flood insurance, and flood protection measures.

Time Frame: Ongoing

Funding: City funds

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Estimated Cost: Minimal

Staff: City Administration

Jurisdictions: Fruit Heights City

Wildland Fire - Problem Identification: A significant portion of Fruit Heights City is along the foothills creating an urban/wildland interface.

Goal: Mitigate the impact of wildfires in high-threat areas.

Objective (Priority MEDIUM): Including considerations of wildfire hazards in land use, public safety, and other elements of the comprehensive plan.

Action 1: In future city plans, encourage the mitigation of wildfires.

Time Frame: Ongoing

Funding: City Funds

Estimated Cost: Minimal

Staff: City Administration, Community Development, Building Department, etc

Jurisdictions: Fruit Heights City

Dam Failure - Problem Identification: There are a few water containment systems like Baer Canyon and Little Canyon located in Fruit Heights, these bring the potential for failure, leading to flooding.

Goal: Mitigate the effects of dam failures.

Objective (Priority LOW): Provide citizens within the flood area of dams with information on flash flooding.

Action: Provide the local population with information on possible flooding.

Time Frame: Ongoing

Funding: City funds

Estimated Cost: Minimal

Staff: City Administration

Jurisdictions: Fruit Heights City

Severe Weather - Problem Identification: Severe Weather: Fruit Heights City is susceptible to severe weather (rain, snow, wind, lightning, ect.)

Goal: Reduce the threat of severe weather damage to infrastructure.

Objective (Priority MEDIUM): Encouraging weather-proofing measures in new construction.

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Action: Encourage new construction to implement weather-proofing into building plans.

Time Frame: Ongoing

Funding: City Funds

Estimated Cost: Minimal

Staff: Community Development, Building Department, etc.

Jurisdictions: Fruit Heights City

Multi-Hazards - Problem Identification: The city Emergency Operations Plan (EOP) is overdue for an update and revision.

Goal: Maintain an effective EOP.

Objective (Priority MEDIUM):

Action 1: Update the Emergency Operations Plan (EOP).

Time Frame: 2022

Funding: City funds/State/Federal grant

Estimated Cost: unknown

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Fruit Heights City

Action 2: Enhance IT Network and Server Security.

Time Frame: 2023-2024

Funding: City funds/State/Federal grant

Estimated Cost: unknown

Staff: City Administration

Jurisdictions: Fruit Heights City

Kaysville City

Background

Kaysville is located approximately 20 miles north of Salt Lake City between the Wasatch Mountain Range and the Great Salt Lake. Stream channels with dense vegetation run through the City from the mountains to the lake. The community enjoys panoramic views and the appropriate use of these many features.

Kaysville was originally settled as a farming community and grew to a place of residence between the employment centers of Salt Lake City and Ogden. Steady growth continues today, making Kaysville a destination of choice for a safe residential community with supporting businesses and public facilities.

Kaysville operates under a weak mayor form of government, with an elected Mayor and five Council Members. The day-to-day operations and most executive authorities are delegated to a City Manager,

City Goals - Davis Co PDMP

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who works closely with the Mayor to ensure all city operations are well-run. City operations include a full time Police, Fire, and Public Works Departments. Emergency management and pre-disaster mitigation responsibilities are coordinated by the Kaysville City Manager.

Community Buildings and Infrastructure Status

Kaysville City maintains the highest level of building standards in their community and focuses much attention on infrastructure development. The goal of providing a safe community for their residents drives them to continually be engaged in and planning for additional critical and essential infrastructure projects.

Specific Community Hazards

- **Earthquake.** Kaysville proximity to the mountains and the Wasatch Fault puts it at high risk of earthquake damage and liquefaction activity.
- **Flooding.** Kaysville is located along the Wasatch Mountain Front. During the 1983 declared flooding disaster, City facilities, trails, and homes sustained significant damage.
- **Wildland Fire.** Much of Kaysville City is located in the foothills, increasing the risk for wildland fires.
- **Landslide.** Kaysville City has a significant landslide potential, and danger of slides exists from the extreme northern border near the Weber River Basin to the southern end of the county.
- **Dam failure.** The secondary water system throughout the community has small storage reservoirs.

CRITICAL AREA FACILITIES + INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
Culinary water storage tanks and secondary water reservoirs	The city has culinary water storage tanks and secondary water storage reservoirs that may experience water contamination, flooding, and failure due to earthquake	Enhance security, and upgrade water distribution system
Main Substation	Loss of power following earthquake	Upgrade infrastructure to current seismic standards
West Substation	Loss of power following earthquake	Upgrade infrastructure to current seismic standards
Burton Substation	Loss of power following earthquake	Upgrade infrastructure to current seismic standards
Schick Substation	Loss of power following earthquake	Upgrade infrastructure to current seismic standards
MUNICIPAL BUILDINGS + INFRASTRUCTURE		

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Facility	Hazard / Risk	Mitigation
City Offices/EOC	Loss of vital city records; communication; vehicles; day to day functions. Loss of operability for EOC	Provide for city office/EOC survivability following an earthquake
Public Works Building	Loss/damage to response equipment	N/A
Kaysville City Power Department	Disruption in electrical service to residents following earthquakes	Upgrade infrastructure to current seismic standards
Main Generator for City Office	Loss of power for critical operations	Enhance security
STORMWATER INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
Stormwater detention basins	Flooding: excessive rainfall overflowing banks	Downstream protection of property
ARTERIAL ROADS		
Corridor	Hazard / Risk	Mitigation
Main Street	Destruction, evacuation and response concerns	N/A
200 North	Destruction, evacuation and response concerns	N/A
Angel Street	Destruction, evacuation and response concerns	N/A
Crestwood Drive	Destruction, evacuation and response concerns	N/A
Highway 89	Destruction, evacuation and response concerns	N/A
Interstate 15	Destruction, evacuation and response concerns	N/A

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Mitigation Efforts Since the 2016 Plan

- Mutton Hollow water line was upgraded in 2016 to add redundancy to the system and better fire flow.
- Updated City Hall facility.

Mitigation Strategies (2021-2026)

Earthquake - Problem Identification: Critical facilities do not meet seismic standards.

Goal: Reduce the threat of earthquake damage in the city.

Objective (Priority MEDIUM): Retrofit water lines and storm drain infrastructure to meet seismic standards.

Action 1: Design and upgrade culinary water storage tanks for some time over the next 5 to 10 years, and add a second pump house in the next 1-3 years that will equalize the water in the tanks.

Time Frame: 2022-2027

Funding: City funds/State/Federal grant

Estimated Cost: unknown

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Kaysville City

Action 2: The City performs continuous maintenance and repair to keep the system in good working order for both fire flow and earthquake resistance.

Time Frame: 2021-2021

Funding: City funds/State/Federal grant

Estimated Cost: \$10,000/yr

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Kaysville City

Action 3: The City is collaborating with the Utah State University experimental facility to upgrade their ponds to better facilitate storm drain function.

Time Frame: 2021-2022

Funding: City funds/State/Federal grant

Estimated Cost: \$120,000

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Kaysville City

Action 4: Fill an open ditch with a storm drain pipe along Angel Street.

Time Frame: 2022-2023

Funding: City funds

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Estimated Cost: unknown

Staff: City Administration, Public Works, Engineer, USU, etc.

Jurisdictions: Kaysville City

Action 5: Reconstruct water and flood control channel through Barnes Park.

Time Frame: 2014-2015

Funding: City funds

Estimated Cost: unknown

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Kaysville City

Action 6: Stormwater retention pond construction on Nature Conservancy land.

Time Frame: 2023-2024

Funding: City funds

Estimated Cost: unknown

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Kaysville City

Action 7: Stormwater retention pond construction on 200 North and Wellington.

Time Frame: 2023-2024

Funding: City funds

Estimated Cost: unknown

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Kaysville City

Action 8: Storm drain upsize and replacement on 100 North.

Time Frame: 2015-2021

Funding: City funds

Estimated Cost: unknown

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Kaysville City

Action 9: Storm drain upsize and replacement on 600 East to include new boxes and pipe replacement.

Time Frame: 2015-2021

Funding: City funds

Estimated Cost: unknown

Staff: City Administration, Public Works, Engineer, etc.

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Jurisdictions: Kaysville City

Flooding - Problem Identification: Kaysville is located between Great Salt Lake and the Wasatch Mountain Range, it houses several lakes, ponds, streams and rivers that have the potential to flood during flash flooding and heavy rainfall.

Goal: Mitigate the impact of flooding in high-threat areas.

Objective (Priority MEDIUM): Providing the public with knowledge about the possibility of flooding.

Action: When requested, provide information to citizens about local flood hazard, flood insurance, and flood protection measures.

Time Frame: Ongoing

Funding: City funds

Estimated Cost: Minimal

Staff: City Administration

Jurisdictions: Kaysville City

Dam Failure - Problem Identification: Multiple dams and water containment systems located throughout Kaysville City. These are prone to aging, which can lead to structural failure.

Goal: Prevent dam failure.

Objective (Priority LOW): Mitigate the effects of dam failure, by educating the public.

Action: Provide the local population with information on flooding.

Time Frame: Ongoing

Funding: City Funds

Estimated Cost: Minimal

Staff: City Administration

Jurisdictions: Kaysville City

Severe Weather - Problem Identification: Severe Weather: Kaysville is susceptible to severe weather (rain, snow, wind, lightning, ect.)

Goal: Reduce the threat of severe weather damage to infrastructure.

Objective (Priority MEDIUM): Encouraging weather-proofing measures in new construction.

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Action: Encourage new construction to implement weather-proofing into building plans.

Time Frame: Ongoing

Funding: City Funds

Estimated Cost: Minimal

Staff: Community Development, Building Department, etc.

Jurisdictions: Kaysville

Wildland Fire - Problem Identification: A significant portion of Kaysville City is considered to be in the Urban-Wildland Fire Interface.

Goal: Reduce the threat of wildfire damage in the city.

Objective (Priority HIGH): Decrease wildfire hazard in the Urban-Wildland Fire Interface area of the city due to fireworks use.

Action 1: Develop and support a permanent firework ordinance to restrict use and the Urban-Wildland Fire Interface through City Council adoption.

Time Frame: 2021

Funding: City funds

Estimated Cost: minimal

Staff: Fire Department, Parks Department

Jurisdictions: Kaysville City

Action 2: Complete and adopt Community Wildfire Protection Plan

Time Frame: 2022-2023

Funding: City funds/State

Estimated Cost: unknown

Staff: Fire Department.

Jurisdictions: Kaysville City / County Fire Marshall

Landslide - Problem Identification: With Kaysville being located at the foothills of the Wasatch Range in Davis County, landslides are possible.

Goal: Mitigate the effects of landslides.

Objective (Priority LOW): Creating a plan to study areas where landslides may occur.

Action: Discuss using GIS Mapping or other means to determine where landslides may occur.

Time Frame: Unknown, depending on funding

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Funding: City Funds

Estimated Cost: Minimal

Staff: City Administration, GIS, etc.

Jurisdictions: Kaysville

Multi-Hazards - Problem Identification: The city Emergency Operations Plan (EOP) is overdue for an update and revision.

Goal: Develop and maintain an EOP.

Objective (Priority HIGH): Improve communications, mitigate the impacts of and be prepared for emergency situations and hazards.

Action 1: Update the Emergency Operations Plan (EOP).

Time Frame: 2022

Funding: City funds/State/Federal grant

Estimated Cost: unknown

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Kaysville City

Action 2: Enhance IT Network and Server Security.

Time Frame: 2023-2024

Funding: City funds/State/Federal grant

Estimated Cost: unknown

Staff: City Administration

Jurisdictions: Kaysville City

Action 3: Kaysville City owns and maintains its own power supply system for city residents. The city performs an annual ongoing system-wide inspection, which includes: Pole inspection, line clearance, tree trimming, voltage upgrades as required, and replacement of poles/equipment on voltage upgrade as needed. All of the above will help prevent loss of power/system damage, enhance reliability from all types of natural hazards.

Time Frame: 2021-2021

Funding: City funds

Estimated Cost: \$15,000/year

Staff: City Administration

Jurisdictions: Kaysville City

City Goals - Davis Co PDMP

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Layton City

Background

Layton City is located in Davis County, 25 miles north of Salt Lake City. Layton City has a current estimated population of 81,000 (2020) making it the largest city in Davis County and 9th most populous in the State of Utah. It is located adjacent to Hill Air Force Base to the north, Syracuse to the west, Kaysville to the south, Clearfield to the west/northwest, South Weber to the northeast and the Uintah/Wasatch/Cache National Forest to the east. The City covers approximately 24 square miles.

Layton City continues to experience substantial residential growth in both the single family and multi-family housing market and even more significantly in the retail market. Layton City is home to Weber State University-Davis.

Layton City is an economic hub of the county with a large regional mall, numerous hotels, restaurants, large conference center, and several large business parks. The City is bisected by I-15 and very active rail lines, including the UTA FrontRunner Commuter line. The Union Pacific line handles a large amount of hazardous materials transportation on a daily basis.

Layton City operates with a six-member council form of government. Major city departments include Police, Fire, Public Works, Parks and Recreation, Legal, Finance, Management services, and Community and Economic Development. Emergency management functions are coordinated through the Assistant City Manager, Risk Management and Fire Department with various assigned roles relating to NIMS training, emergency operations plan maintenance, citizen outreach, continuity of operations, and LEPC/State DEM involvement.

Community Buildings and Infrastructure Status

As the largest community in Davis County Layton strives to lead from the front with a standard of excellence. Layton City maintains the highest level of building and infrastructure standards. Layton City is committed to improving its infrastructure and is constantly exploring new sources of funding and resources to better its community. Critical and essential infrastructure is always being improved as funds, personnel, resources, and needs are identified.

Specific Community Hazards

- **Earthquake.** Layton City's proximity to the mountains and the Wasatch Fault puts it at high risk of earthquake damage.
- **Flooding.** The potential for flooding is mostly related to dam breach, however the west areas of the City could have flooding due to proximity to the Great Salt Lake. Additionally, there is the potential for flooding related to debris flows, following any significant wildfire.
- **Landslide.** There are portions of Layton City deemed 'sensitive lands' and the City has experienced destructive landslides in the past decades.
- **Wildland Fire.** Layton City is in the Wasatch Front, increasing the risk for large wildland urban interface fires. Within the City are several trail systems, such as the Kays Creek Trail and Bonneville Shoreline Trail. The existence of trails increases the wildfire potential.
- **Dam failure.** Layton City has three reservoirs with various dam failure potential.

City Goals - Davis Co PDMP

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CRITICAL AREA FACILITIES + INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
Weber Basin Water Treatment Plant SR193 & HWY89	Water contamination,	Enhance security
Hobbs Reservoir 2360 E. Canyon View	Water contamination, dam breach w/ flooding	Enhance security, inspections
Sandridge well boosters	Water contamination	Enhance security Provide redundant power source to ensure transfer of water to tanks system
Power plant substation 3050 N.	Power interruption	Enhance security
Fairfield Well	Water contamination	Enhance security
HAFB runway SR193/Fort Ln.	Flight interruption	Enhance security
Power plant substation Fort Ln. & 1000 N.	Power interruption	Enhance security
Fort Lane Well	Water contamination	Enhance security
City Shop Well	Water contamination	Enhance security
Water Tank Oak Hills & HWY89	Water contamination, flooding from breach	Enhance security
Underground petroleum pipeline valve Tanglewood & HWY89	Major Hazardous Materials release to include crude oil	Enhance security Increased protection from vehicles recently added
Holmes Reservoir 2800 E. Gentile Rd	Water contamination, dam breach w/ flooding	Enhance security
Adams Reservoir 1500 E. 900 N.	Water contamination, dam breach w/ flooding	Enhance security
Questar Natural Gas substation	Hazardous materials release	Enhance security
Power plant substation 600 N. Sugar St.	Power interruption	Enhance security

City Goals - Davis Co PDMP

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Power plant substation 3100 W. 1000 N.	Power interruption	Enhance security
Water pump station	Water contamination	Enhance security
Davis Hospital 1600 W. Antelope	Loss of critical medical facilities	Enhance security
Layton Intermountain Hospital 201 W Layton Parkway	Loss of critical medical facilities	Enhance security
Laytona Well	Water contamination	Enhance security
Green Leaf water pump & well	Water contamination	Enhance security
Church Street Well	Water contamination	Enhanced security
Church Street Boosters	Water Contamination	Enhanced security
Valley View Boosters North East Tank Boosters Twin Peaks Boosters Fairfield Boosters Oakridge Boosters Oakridge Tank Valley View Tank	Water Contamination	Enhanced security Provide redundant power source to ensure transfer of water to tanks system
MUNICIPAL BUILDINGS + INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
City Offices	Loss of vital city records; day to day functions	Enhance seismic resiliency as needed
Police Department	Loss of vital police records; impact to day to day functions	Enhance seismic resiliency as needed
Public Works Building	Loss/damage to response equipment	Enhance seismic resiliency as needed
IT Network and Server	Loss of communications	Enhance security, redundancy

City Goals - Davis Co PDMP

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EOC (Located in Police Department)	Loss of operability for EOC	Ensure communication improvements are made as required; secondary EOC
Main Generator for City Office	Loss of power for critical operations	Enhance security
Fire Station 51 (Alternate EOC)	Loss/damage to response apparatus/personnel	Enhance structural earthquake resiliency as needed
Fire Station 52	Loss/damage to response apparatus/personnel	Enhance structural earthquake resiliency as needed
Fire Station 53 Fire Station 54 (Under Construction)	Loss/damage to response apparatus/personnel	Enhance structural earthquake resilience as needed (seismic retrofit was done in 2006 with PDMG)
Parks Building	Loss/damage to potential response equipment	
Auxiliary Communications Center	Loss/damage to potential response equipment	Enhanced with backup power and redundant radio capabilities.
Layton Emergency Dispatch Center	Loss/damage to potential response equipment	Enhanced with backup power and redundant radio capabilities.
STORMWATER INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
Multiple storm water retention basins throughout the city	Flooding	Dredge and de-silt
ARTERIAL ROADS		
Corridor	Hazard / Risk	Mitigation
Highway 193	Destruction, evacuation and response concerns	n/a
Antelope Drive	Destruction, evacuation and response concerns	n/a
Main Street	Destruction, evacuation and response concerns	n/a

City Goals - Davis Co PDMP

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Hill Field Road	Destruction, evacuation and response concerns	n/a
Highway 89	Destruction, evacuation and response concerns	n/a
Oak Hills/Gentile	Destruction, evacuation and response concerns	n/a
Interstate 15	Destruction, evacuation and response concerns	n/a
Fairfield Rd	Destruction, evacuation and response concerns	n/a
2200 W.	Destruction, evacuation and response concerns	n/a
Fort Lane Rd	Destruction, evacuation and response concerns	n/a
Church St.	Destruction, evacuation and response concerns	n/a
Layton Parkway	Destruction, evacuation and response concerns	n/a
Gordon Avenue	Destruction, evacuation and response concerns	n/a
Cherry Lane	Destruction, evacuation and response concerns	n/a

Mitigation Efforts Since the 2016 Plan

- Layton City has updated the Emergency Operations Plan (EOP) and City Continuity of Operations Plan (COOP), both are being revised.
- Layton City has worked with the US Forest Service and completed a fuel mitigation project at the fire break road and the Shoreline trail.
- Fuel reduction projects completed at the trail system around Hobbs reservoir with mowing operations by our Parks department.
- Summerwood residential area had volunteer and EM District fuel reductions projects with support of our Public Works Department hauling off debris to the local green waste facility.
- Numerous Wildland Severity Surveys were conducted with potential residential developments within our mapped Wildland Urban Interface areas.

City Goals - Davis Co PDMP

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- Continued Wildfire prevention and mitigation education was presented for three faith based groups in the City and all Emergency Management Districts.

Mitigation Strategies (2021-2026)

Earthquake - Problem Identification: Layton City is located along known fault lines.

Goal: Educating citizens about preparing for and safety during earthquakes.

Objective (Priority LOW): Making information available to citizens on preparation for, and safety techniques to follow during and after earthquakes.

Action: When requested, providing information to citizens.

Time Frame: Ongoing

Funding: City Funds

Estimated Cost: Minimal

Staff: City Administration

Jurisdictions: Layton City

Flooding - Problem Identification: Layton City is located in relative proximity to the Great Salt Lake and has several lakes and streams that have the potential to flood during flash flooding or severe amounts of rainfall.

Goal: Mitigate the impact of flooding in high-threat areas.

Objective (Priority MEDIUM): Providing the public with knowledge about the possibility of flooding.

Action: When requested, provide information to citizens about local flood hazard, flood insurance, and flood protection measures.

Time Frame: Ongoing

Funding: City Funds

Estimated Cost: Minimal

Staff: City Administration

Jurisdictions: Layton City

Wildland Fire - Problem Identification: A significant portion of Layton City is considered to be in the wildland urban interface.

Goal: Provide severity study for all potential land use development within the defined Wildland Urban Interface Map. This is subject to all developers being engaged in requesting and receiving this severity

City Goals - Davis Co PDMP

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study based on the adopted Wildland Urban Interface Code by a member of the Fire Marshal Office prior to the structural permitting process.

Objective 1 (Priority HIGH): Severity Study on private/public land in the Wildland Urban Interface (City).

Action 1: Work with the Developers and landowners to accomplish a severity study in developable areas within the city boundaries or annexed areas.

Time Frame: 2021

Funding: City funds

Estimated Cost: varies

Staff: Fire Department, CED

Jurisdictions: Layton City

Objective 2 (Priority HIGH): Fuels mitigation on public land (City & Federal).

Action 1: Work with the Parks Department to accomplish fuel reduction in city trails, most significantly on the Kay Creek Trail.

Time Frame: 2021

Funding: City funds

Estimated Cost: varies

Staff: Fire Department, Parks Department

Jurisdictions: Layton City

Action 2: Work with the United States Forest Service and other service groups to improve fuel reduction along the Bonneville Shoreline Trail.

Time Frame: 2021

Funding: USFS

Estimated Cost: Minimal. Work will be performed by the Weber Basin Hand Crew as part of their annual assignments and training.

Staff: Fire Department

Jurisdictions: USFS / Layton City

Objective 3 (Priority MEDIUM): Fuels mitigation on private land.

Action 1: Work with private landowners on fuel reduction programs and education.

Time Frame: 2021

Funding: Local (with possible State grant funds). Otherwise costs will be for the Wildland Fire Mitigation & Suppression city assessment per SB122 according to the UWRAP (Utah Wildfire Risk Assessment Portal).

Estimated Cost: varies

Staff: Fire Department, Parks Department

City Goals - Davis Co PDMP

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Jurisdictions: Layton City

Action 2: Implement the “Ready, Set, Go!” and “Evacuation Levels plan” for the wildland urban interface education program for citizens in accordance with the adopted “Community Wildfire Protection Plan”.

Time Frame: 2021-2022

Funding: City / State / Federal

Estimated Cost: unknown

Staff: Fire Department

Jurisdictions: USFS / Layton City

Dam Failure - Problem Identification: Multiple water containment systems located throughout Layton are aging and bring the possibility of failure.

Goal: Prevent dam failures.

Objective (Priority Medium): Provide citizens within the flood area of dams with information on flash flooding.

Action: When requested, provide citizens with information on flash flooding.

Time Frame: Ongoing

Funding: City Funds

Estimated Cost: Minimal

Staff: City Administration

Jurisdictions: Layton City

Multi-Hazards - Problem Identification: The Layton City Continuity of Operations Plan (COOP) and Emergency Operations Plan are in need of review and revision.

Goal: Establish review and revisions to 90 percent of the all organizational COOP plans.

Objective (Priority HIGH): Review and update the Layton City Continuity of Operations Plan (COOP).

Action 1: Have each City department review their individual COOP and make revisions as needed.

Time Frame: 2022

Funding: City funds/State/Federal grant

Estimated Cost: unknown

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Layton City

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Action 2: Have each City Department review and revise its individual department plan and respective roles and assignments within each assigned ESF.

Time Frame: 2022

Funding: City funds/State/Federal grant

Estimated Cost: unknown

Staff: City Administration

Jurisdictions: Layton City

Action 3: Fire Department will coordinate the development of a Layton City employee Emergency Response Handbook with action guides for various types of emergencies for use by office staff as a quick reference.

Time Frame: 2022

Funding: City funds

Estimated Cost: \$15,000/year

Staff: City Administration

Jurisdictions: Layton City

Multi-Hazards - Problem Identification: The Layton City has evaluated and has planned with grant assistance to establish fixed site generators at culinary water pump stations to feed elevated tank systems. This need was identified at the September 8, 2020 windstorm event where the electrical grid in the area was impaired and water could not be transferred to the tanks.

Goal: Through grant and other funds means providing fixed site generators and means to transfer culinary water.

Objective (Priority HIGH): BRIC grant and State funding sources proceed with plans to construct fixed site generators and all necessary components.

Action 1: City Engineering establishes grant proposals. First attempt with BRIC funding was denied. Continued to submit or seek other means.

Time Frame: 2022

Funding: City funds/State/Federal grant

Estimated Cost: unknown

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Layton City

Action 2: Continued assessment of the project costs and needs and update overall costs.

Time Frame: 2022

Funding: City funds/State/Federal grant

Estimated Cost: unknown

Staff: City Administration

Jurisdictions: Layton City

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Action 3: Review and establish all needed requirements directed by grant guidelines for this project.

Time Frame: 2022

Funding: City funds

Estimated Cost: unknown

Staff: City Administration

Jurisdictions: Layton City

Severe Weather - Problem Identification: Layton City is susceptible to severe weather (rain, snow, wind, lightning, ect.)

Goal: Reduce the threat of severe weather damage to infrastructure.

Objective (Priority MEDIUM): Encouraging weather-proofing measures in new construction.

Action: Encourage new construction to implement weather-proofing into building plans.

Time Frame: Ongoing

Funding: City Funds

Estimated Cost: Minimal

Staff: Community Development, Building Department, etc.

Jurisdictions: Layton City

Landslide - Problem Identification: With a significant part of Layton City being located at the foothills of the Wasatch Range in Davis County, landslides are possible.

Goal: Mitigate the effects of landslides.

Objective (Priority LOW): Creating a plan to study areas where landslides may occur.

Action: Discuss using GIS Mapping or other means to determine where landslides may occur.

Time Frame: Unknown, depending on funding

Funding: City Funds

Estimated Cost: Minimal

Staff: City Administration, GIS, etc.

Jurisdictions: Layton City

City Goals - Davis Co PDMP

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North Salt Lake City

Background

The City of North Salt Lake is in southern Davis County; it is bordered to the north by Woods Cross, to the northeast by Bountiful and unincorporated Davis County, and to the south by Salt Lake City. North Salt Lake has a total area of 8.6 square miles. The city has approximately 23,000 residents.

North Salt Lake operates under a Council-Manager form of government, with an elected Mayor and five Council Members. The day-to-day operations and most executive authorities are delegated to a City Manager, who works closely with the Mayor and City Council to ensure all city operations are well-run. City operations include full time Police and Public Works Departments. Emergency management and pre-disaster mitigation responsibilities are coordinated by the North Salt Lake City Manager.

Community Buildings and Infrastructure Status

The City of North Salt Lake engages in many sources of funding including grants to better their overall infrastructure. Maintaining and providing a safe and healthy place to live is the City of North Salt Lake's top priority. North Salt Lake is always looking for ways to better their infrastructure and is actively engaged in projects year round to achieve these goals.

Specific Community Hazards

- **Earthquake.** North Salt Lake's proximity to the mountains and the Wasatch Fault puts it at high risk of earthquake damage.
- **Flooding.** North Salt Lake is located along the Wasatch Mountain Front. During the 1983 declared flooding disaster, City facilities, trails, and homes sustained significant damage.
- **Landslides.** The hillside, in North Salt Lake, is prone to landslides. Both the Springhill and Eaglepointe Landslides caused significant property damage.
- **Severe Weather.** The City is experiencing an increase in severe storms, particularly wind storms, that are causing power outages, property damage, flooding, etc. The state of Utah has also been experiencing years of extreme drought.
- **Wildland Fire.** Much of North Salt Lake City is located in the foothills abutting U.S. Forest Service property, increasing the risk for wildland fires.

CRITICAL AREA FACILITIES + INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
Culinary water storage tanks, pump houses, and secondary water reservoirs	The city has culinary water storage tanks and secondary water storage reservoirs that may experience water contamination, flooding, and failure due to earthquake	Enhance security, and upgrade water distribution system

City Goals - Davis Co PDMP

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Water Distribution System	Age of system, risk of failure during earthquake event.	Upgrade infrastructure to current seismic standards
Storm Water Distribution System	Age of system, flooding, risk of failure during earthquake event.	Upgrade infrastructure to current seismic standards
MUNICIPAL BUILDINGS + INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
City Offices/EOC	Loss of vital city records; communication vehicles; day to day functions. Loss of operability for EOC	Provide for city office/EOC survivability following an earthquake
Public Works Building	Loss/damage to response equipment	N/A
South Davis Metro Fire - Station #82	Loss/damage to response apparatus/personnel	Enhance structural earthquake resiliency
South Davis Metro Fire - Station #85	Loss/damage to response apparatus/personnel	Enhance structural earthquake resiliency
STORMWATER INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
Stormwater detention basins	Flooding: excessive rainfall overflowing banks	Downstream protection of property
ARTERIAL ROADS		
Corridor	Hazard / Risk	Mitigation
Main Street	Destruction, evacuation and response concerns	n/a
Highway 89	Destruction, evacuation and response concerns	n/a
Orchard Drive	Destruction, evacuation and response concerns	n/a
Redwood Road	Destruction, evacuation and response concerns	n/a

City Goals - Davis Co PDMP

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Eaglewood Drive	Destruction, evacuation and response concerns	n/a
Interstate 15	Destruction, evacuation and response concerns	n/a
Eagleridge Drive	Destruction, evacuation and response concerns	n/a
Interstate 215	Destruction, evacuation and response concerns	n/a

Mitigation Efforts Since the 2016 Plan

- Continued to provide Emergency Preparedness education and support to our Community.
- Continued monitoring of existing landslide areas and control of nearby development.
- Adopted a Geologic Hazards Ordinance to require extensive geologic studies prior to development on lands designated as sensitive areas.
- Stabilization of the Eaglepointe Landslide.
- Upgraded culinary water and storm drain lines to meet seismic standards.

Mitigation Strategies (2021-2026)

Earthquake - Problem Identification: Critical facilities do not meet seismic standards.

Goal: Reduce the threat of earthquake damage in the city.

Objective (Priority HIGH): Upgrade culinary water and storm drain infrastructure to meet seismic standards.

Action 1: Upgrade culinary water line on 300 North.

Time Frame: 2021-2022

Funding: City funds

Estimated Cost: \$225,000

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: City of North Salt Lake

Action 2: Upgrade culinary water lines on 75 East, 125 East, and 175 East

Time Frame: 2022-2023

Funding: City funds

Estimated Cost: \$440,000

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: City of North Salt Lake

City Goals - Davis Co PDMP

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Action 3: Upgrade culinary water line on Lacey Way (Valley View Dr to Gary Way)

Time Frame: 2022-2023

Funding: City funds, state, federal

Estimated Cost: \$880,000

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: City of North Salt Lake

Action 4: Upgrade culinary water line on 150 North

Time Frame: 2022-2023

Funding: City funds

Estimated Cost: \$165,000

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: City of North Salt Lake

Action 5: Upgrade culinary water line on north Frontage Road (Wilson Road to Cobble Creek Road)

Time Frame: 2022-2023

Funding: City funds

Estimated Cost: \$325,000

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: City of North Salt Lake

Action 6: Upgrade culinary water line on 475 North & Cloverdale Road

Time Frame: 2023-2024

Funding: City funds

Estimated Cost: \$360,000

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: City of North Salt Lake

Action 7: Upgrade culinary water line adjacent to The Pointe at Northridge Apartments

Time Frame: 2023-2024

Funding: City funds, state, federal

Estimated Cost: \$475,000

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: City of North Salt Lake

Action 8: Upgrade culinary water line on 400 West (500 North to 1100 North)

Time Frame: 2023-2024

City Goals - Davis Co PDMP

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Funding: City funds

Estimated Cost: unknown

Staff: City Administration, Public Works, Engineer, etc.

Jurisdiction: City of North Salt Lake

Action 9: Upgrade culinary water line on Freedom Drive

Time Frame: 2024-2025

Funding: City funds

Estimated Cost: unknown

Staff: City Administration, Public Works, Engineer, etc.

Jurisdiction: City of North Salt Lake

Action 10: Upgrade culinary water lines on 850 North, 900 North, 950 North, Madsen Lane, and 400 East

Time Frame: 2025-2026

Funding: City funds

Estimated Cost: \$365,000

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: City of North Salt Lake

Action 11: Upgrade culinary water line on 900 North

Time Frame: 2025-2026

Funding: City funds

Estimated Cost: \$615,000

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: City of North Salt Lake

Action 12: Upgrade culinary water line on 400 West

Time Frame: 2026-2027

Funding: City funds

Estimated Cost: unknown

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: City of North Salt Lake

Action 13: Upgrade culinary water lines on Raygene Way and Marialana

Time Frame: 2026-2027

Funding: City funds

Estimated Cost: unknown

Staff: City Administration, Public Works, Engineer, etc.

City Goals - Davis Co PDMP

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Jurisdictions: City of North Salt Lake

Action 14: Upgrade culinary water lines on Liberty Road and Bunker Hill

Time Frame: 2026-2027

Funding: City funds

Estimated Cost: unknown

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: City of North Salt Lake

Action 15: Design and upgrade culinary water storage tanks for some time over the next 5 to 10 years, and add a second pump house in the next 1-3 years that will equalize the water in the tanks.

Time Frame: 2022-2027

Funding: City funds/State/Federal grant

Estimated Cost: unknown

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: North Salt Lake City

Action 16: Perform any necessary seismic upgrades to the pump houses and well buildings that support the delivery of culinary water.

Time Frame: 2021-2026

Funding: City funds/State/Federal grant

Estimated Cost: unknown

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: City of North Salt Lake

Action 17: Perform an analysis of the structural stability of the stormwater detention/retention ponds to prevent downhill flooding in the event of a failure.

Time Frame: 2021-2026

Funding: City funds

Estimated Cost: unknown

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: City of North Salt Lake

Flooding - Problem Identification: Storm water facilities do not meet flood control standards.

Goal: Reduce the threat of flood damage in the City.

Objective (Priority HIGH): Upgrade stormwater infrastructure to prevent downhill flooding.

Action 1: Construct stormwater detention/retention ponds where needed.

Time Frame: 2021-2026

City Goals - Davis Co PDMP

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Funding: City funds

Estimated Cost: unknown

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: City of North Salt Lake

Action 2: Perform an analysis of the structural stability of the stormwater detention/retention ponds to prevent downhill flooding in the event of a failure.

Time Frame: 2021-2026

Funding: City funds

Estimated Cost: unknown

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: City of North Salt Lake

Action 3: Upgrade storm drain lines at Hole #14 of Eaglewood Golf Course

Time Frame: 2021-2022

Funding: City funds

Estimated Cost: \$90,000

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: City of North Salt Lake

Action 4: Upgrade storm drain lines in the canyon near David and Raygene Way

Time Frame: 2021-2022

Funding: City funds

Estimated Cost: \$350,000

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: City of North Salt Lake

Action 5: Upgrade storm drain lines in the canyon on Constitution Way

Time Frame: 2023-2025

Funding: City funds

Estimated Cost: \$1,000,000

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: City of North Salt Lake

Action 6: Upgrade storm drain line on Freedom Lane

Time Frame: 2024-2025

Funding: City funds

Estimated Cost: \$100,000

Staff: City Administration, Public Works, Engineer, etc.

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Jurisdictions: City of North Salt Lake

Action 7: Upgrade storm drain line at 480 North Cutler Drive and install a silt trap

Time Frame: 2024-2025

Funding: City funds

Estimated Cost: \$230,000

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: City of North Salt Lake

Action 8: Upgrade storm drain line along I-215 ramp south of Center Street

Time Frame: 2025-2026

Funding: City funds

Estimated Cost: \$360,000

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: City of North Salt Lake

Action 9: Perform preventative maintenance on storm water facilities regularly

Time Frame: 2021-2026

Funding: City funds

Estimated Cost: \$150,000 annually

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: City of North Salt Lake

Landslides - Problem Identification: Roughly half of the City's geographical area is located on hillside areas.

Goal: Reduce the threat of landslide damage in the City.

Objective (Priority MEDIUM): Decrease landslide occurrences on the hillside of the City.

Action 1: Continue to monitor the Springhill and Eaglepointe Landslides for movement.

Time Frame: 2021-2026

Funding: City funds

Estimated Cost: unknown

Staff: Engineering

Jurisdictions: City of North Salt Lake, UGS

Action 2: Continue to require that all developments, particularly in sensitive areas, meet the requirements of the Geologic Hazards Ordinance

Time Frame: 2021-2026

Funding: City funds

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Estimated Cost: unknown

Staff: Community Development, Engineering

Jurisdictions: City of North Salt Lake

Dam Failure - Problem Identification: Multiple water containment systems located throughout North Salt Lake are aging and have the potential to fail in the future.

Goal: Mitigate against dam failures.

Objective (Priority MEDIUM): Reduce the effects of dam failures, by educating the public

Action: Provide citizens with information on flash flooding.

Time Frame: Ongoing

Funding: City Funds

Estimated Cost: Minimal

Staff: City Administration

Jurisdictions: North Salt Lake

Severe Weather - Problem Identification: North Salt Lake has experienced increasingly more frequent instances of severe weather causing power outages, drought, property damage from wind, etc.

Goal: Reduce the threat of severe weather in the City.

Objective (Priority HIGH): Protect critical facilities from failure or property damage due to severe weather such as windstorms and drought.

Action 1: Install permanent generators at all wells and pump houses.

Time Frame: 2021-2026

Funding: City funds/State/Federal

Estimated Cost: \$1,630,000

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: City of North Salt Lake

Action 2: Acquire additional water rights for secondary water and make secondary water lines accessible to the entire City.

Time Frame: 2021-2026

Funding: City funds

Estimated Cost: unknown

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: City of North Salt Lake

Action 3: Promote water conservation efforts to residents and businesses in the City.

City Goals - Davis Co PDMP

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Time Frame: 2021-2026

Funding: City funds

Estimated Cost: unknown

Staff: City Administration

Jurisdictions: City of North Salt Lake

Wildland Fire - Problem Identification: A significant portion of the City of North Salt Lake is considered to be in the Urban-Wildland Fire Interface.

Goal: Reduce the threat of wildfire damage in the city.

Objective (Priority HIGH): Decrease wildfire hazard in the Urban-Wildland Fire Interface area of the city.

Action 1: Establish defensible space around critical facilities.

Time Frame: 2021-2026

Funding: City funds/State/Federal

Estimated Cost: unknown

Staff: Fire, Public Works

Jurisdictions: City of North Salt Lake, South Davis Metro Fire

Action 2: Complete and adopt a Community Wildfire Protection Plan

Time Frame: 2021-2026

Funding: City funds/State

Estimated Cost: unknown

Staff: Fire, Community Development

Jurisdictions: City of North Salt Lake, South Davis Metro Fire

Multi-Hazards - Problem Identification: The city's Emergency Operations Plan (EOP) is overdue for an update and revision.

Goal: Develop and maintain an effective EOP.

Objective (Priority HIGH): Improve communications, mitigate the impacts of and be prepared for emergency situations and hazards.

Action 1: Update the Emergency Operations Plan (EOP).

Time Frame: 2021-2026

Funding: City funds/State/Federal grant

Estimated Cost: unknown

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: City of North Salt Lake

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Action 2: Enhance IT Network and Server Security.

Time Frame: 2021-2026

Funding: City funds/State/Federal grant

Estimated Cost: unknown

Staff: City Administration

Jurisdictions: City of North Salt Lake

Action 3: Install Wi-Fi hotspots and security cameras at all City parks and facilities

Time Frame: 2021-2026

Funding: City funds

Estimated Cost: unknown

Staff: City Administration, Police, Public Works

Jurisdictions: City of North Salt Lake

South Weber City

Background

The town of South Weber was originally incorporated in 1938 and on March 16, 1971 it became a Third Class City. South Weber City is located in northeast Davis County at the mouth of Weber Canyon, bounded by the Weber River on the north and Layton City on the south. US Highway 89 and Interstate 84 are the two major transportation corridors that pass through the City. The 2010 census determined a population of 6,051 persons.

South Weber operates under a council-manager form of government, with an elected Mayor and five Council Members. The day-to-day operations and the majority of executive authorities are delegated to a City Manager, who works hand-in-hand with the Mayor to ensure all city operations are well-run. City operations include a municipal court, water, streets, storm water, sanitary sewer, snow removal, community development, parks and recreation programming, and a volunteer Fire Department. South Weber contracts for garbage services, animal control services, and law enforcement services.

Community Buildings and Infrastructure Status

South Weber loves its small community and is adamant about keeping the highest standards for the residents. South Weber has a decent amount of building and population growth happening, and is continuously working on improving their critical and essential infrastructure. Maintaining the highest level of safety for its employees and residents is of top priority, and South Weber is continually striving to improve as funding, personnel, and resources are made available.

Specific Community Hazards

- **Earthquake.** South Weber's proximity to the mountains and the Wasatch Fault puts it at high risk of earthquake damage.
- **Flooding.** South Weber's northern boundary is located along the Weber River.

City Goals - Davis Co PDMP

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- **Wildland Fire.** The southern and eastern city boundaries are located on the foothills and are subject to increased risk of wildland fires.
- **Dam failure.** The City is at the mouth of Weber Canyon which contains several dams including Echo, Rockport and East Canyon.
- **Severe Weather.** South Weber is at the mouth of Weber Canyon, which produces consistent high winds.

CRITICAL AREA FACILITIES + INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
Water Tanks	No culinary water	Shut off valve(s)
Pump Stations	No culinary water	Back - up generator
Major sewer trunk lines	Backup/flooding/health	Regular maintenance
Culinary water well	No culinary water	Back - up generator
Sewer lift station (serves 4 homes)	Backup/flooding/health	Regular maintenance and replacement
MUNICIPAL BUILDINGS + INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
City Offices	Loss of vital city records; communication; vehicles; day to day functions	TBD
Public Works Building	Loss/damage to response equipment/supplies/materials	TBD
Fire Station	Loss/damage to response equipment	TBD
IT Network and Server	Loss of communications	Enhance security
EOC	Loss of operability for EOC	TBD
Main Generator for City Office	Loss of power for critical operations	TBD
Family Activity Center	Loss of day to day functions	TBD
STORMWATER INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation

City Goals - Davis Co PDMP

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Detention basins	Flooding	Dredge & de-silt / clean outlet control structures
ARTERIAL ROADS		
Corridor	Hazard / Risk	Mitigation
South Weber Dr.	Destruction, evacuation and response concerns	Redundancy in connecting street network
Interstate 84/ U.S. 89	Destruction, evacuation and response concerns	Redundancy in connecting street network
475 East	Destruction, evacuation and response concerns	Redundancy in connecting street network
1900 East	Destruction, evacuation and response concerns	Redundancy in connecting street network
2100 East	Destruction, evacuation and response concerns	Redundancy in connecting street network
Deer Run Drive	Destruction, evacuation and response concerns	Redundancy in connecting street network

Mitigation Efforts Since the 2016 Plan

- South Weber City is updating the City Emergency Operations Plan (EOP).
- Replaced old cast iron and led-joint pipe in the water system.

Mitigation Strategies (2021-2026)

Earthquake - Problem Identification: South Weber’s proximity to the mountains and the Wasatch Fault puts it at high risk of earthquake damage. The amount of damage, and what infrastructure or facilities would be damaged would depend on the magnitude of the earthquake. As mentioned, there is some potential for flooding from the Weber River due to an earthquake. A second likely risk is damage to the City’s culinary water system. Damage to other utility lines (petroleum, gas, communication, power, irrigation), roads and homes is also likely to occur in varying degrees due to the magnitude of the earthquake.

Goal: Reduce the threat of earthquake damage in the city.

Objective (Priority MEDIUM): Protect the City water system where feasible.

Action: Replace the waterline at the East Bench Reservoir to Cornia Dr. This line is cast iron and more susceptible to rupture than other lines in the system.

Time Frame: 2023-2024

Funding: City funds

City Goals - Davis Co PDMP

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Estimated Cost: \$220,000

Staff: City Administration, Public Works, Private Contractor

Jurisdictions: South Weber City

Flooding - Problem Identification: If the south bank of the Weber River were to rupture at a location adjacent to the Staker & Parson Companies Gravel Pit, it would fill the pit with water. Once the pit was full, the river would flow out of the pit area and run along the south side of I-84 rather than back into the existing river channel. This is due to the elevation of the river channel being higher than the lowest elevations around the pit at that location. The flood waters would run in the lowest lying areas along I-84 (which is higher in elevation than the adjacent property on the south) until it got to Riverdale City and/or a location where it would run back into the existing river channel. This scenario could happen due to an earthquake or high flood waters in the river itself which exceeded the river bank at that location.

Goal: Reduce the threat of flooding damage in the city.

Objective (Priority HIGH): Prevent flooding along the south side of I-84 (in the lower lying areas) from the Stake & Parson Companies Gravel Pit west until the Riverdale City boundary.

Action: Build a berm around the Staker & Parsons Co. gravel pit at an elevation higher than the banks of the river adjacent to the Weber River in that area.

Time Frame: unknown

Funding: City funds/State/Federal grant

Estimated Cost: \$300,000 to \$600,000

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: South Weber City

Wildland Fire - Problem Identification: A significant portion of South Weber City is considered to be in the wildland urban interface.

Goal: Reduce the threat of wildfire damage in the city.

Objective (Priority MEDIUM): Fuels mitigation.

Action 1: Work in tandem with homeowners to remove fuels and create fire breaks.

Time Frame: unknown

Funding: City funds, private property owners

Estimated Cost: varies

Staff: Fire Department, Parks Department

Jurisdictions: South Weber City

Dam Failure - Problem Identification: If the East Canyon Dam were to break, it may cause flooding in South Weber. The dam is located approximately 28 miles upstream as a feeder into the Weber River. The likelihood that flood waters would overtop the existing banks of the river by the time it reached South

City Goals - Davis Co PDMP

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Weber is very low. However, the mitigation is the same as for Flooding below because the source of the flooding in both scenarios is the Weber River.

Goal: Reduce the threat of dam failure damage in the city.

Objective (Priority MEDIUM): Prevent flooding along the south side of I-84 (in the lower lying areas) from the Stake & Parson Companies Gravel Pit west until the Riverdale City boundary.

Action: Build a berm around the Staker & Parsons Co. gravel pit at an elevation higher than the banks of the river adjacent to the Weber River in that area.

Time Frame: unknown

Funding: City funds/State/Federal grant

Estimated Cost: \$300,000 to \$600,000

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: South Weber City

Severe Weather- Problem Identification: The City is at the mouth of Weber Canyon which produces continual moderate winds, but has the potential at times of very high winds. High winds from the east are also possible in general along the whole mountainside area.

Goal: Reduce the threat of severe weather damage in the city.

Objective 1 (Priority MEDIUM): To secure critical infrastructure.

Action: Put an emergency backup generator at Church St. pump station.

Time Frame: 2022-2023

Funding: City funds

Estimated Cost: \$98,000

Staff: Public Works, Engineer, etc.

Jurisdictions: South Weber City

Objective 2 (Priority MEDIUM): To minimize debris and potential compromised access for emergency vehicles due to fallen trees across streets.

Action: Work in tandem with homeowners to trim or remove tall trees that are susceptible to falling over and causing damage to homes, other facilities or across streets.

Time Frame: unknown

Funding: City funds, private property owners

Estimated Cost: minimal

Staff: Public Works

Jurisdictions: South Weber City

City Goals - Davis Co PDMP

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Landslide - Problem Identification: With South Weber being located at the foothills of the Wasatch Range in Davis County, landslides are possible.

Goal: Mitigate the effects of landslides.

Objective (Priority LOW): Creating a plan to study areas where landslides may occur.

Action: Discuss using GIS Mapping or other means to determine where landslides may occur.

Time Frame: Unknown, depending on funding

Funding: City Funds

Estimated Cost: Minimal

Staff: City Administration, GIS, etc.

Jurisdictions: South Weber City

Sunset City

Background

Sunset is a city in Davis County, Utah, United States. It is part of the Ogden–Clearfield, Utah Metropolitan Statistical Area. The population was 5,122 at the 2010 census. Sunset emerged as a distinct place in 1916. Sunset is located in northern Davis County. It is bordered by Hill Air Force Base to the east, Clearfield to the south, Clinton to the west, and Roy in Weber County to the north.

Community Buildings and Infrastructure Status

According to the United States Census Bureau, the city of Sunset has a total area of 1.3 square miles, all of it land. Sunset is the smallest community in Davis County and as such does not often have the financial capabilities of larger communities. Nonetheless, Sunset makes critical and essential infrastructure projects a top priority. These projects are handled as funding, personnel, and resources are available.

Specific Community Hazards

- **Earthquake.** Sunset’s proximity to the Wasatch Fault puts it at high risk of earthquake damage.
- **Flooding.** Sunset is susceptible to flooding from runoff and storm events.

CRITICAL AREA FACILITIES + INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
Pump Stations	No culinary water	Back-up generator
Major sewer trunk lines	Backup/flooding/health	Regular maintenance

City Goals - Davis Co PDMP

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Culinary water well	No culinary water	Back-up generator
MUNICIPAL BUILDINGS + INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
City Offices	Loss of vital city records; communication; vehicles; day to day functions	TBD
Public Works Building	Loss/damage to response equipment/supplies/materials	TBD
Fire Station	Loss/damage to response equipment	TBD
IT Network and Server	Loss of communications	Enhance security
EOC	Loss of operability for EOC	TBD
STORMWATER INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
City-wide detention basin (16.5 acres)	Flooding	Dredge & de-silt / clean outlet control structures
ARTERIAL ROADS		
Corridor	Hazard / Risk	Mitigation
Highway 126 (Main St)	Destruction, evacuation, and response concerns	Maintain
2300 North	Destruction, evacuation, and response concerns	Maintain
1800 North	Destruction, evacuation, and response concerns	Maintain
800 North	Destruction, evacuation, and response concerns	Maintain

City Goals - Davis Co PDMP

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Mitigation Efforts Since the 2016 Plan

- The City has maintained a capital improvements program to guide its infrastructure investments every year since 2016. One of core principles that help the city prioritize their projects is the impact to public safety and emergency preparedness.

Mitigation Strategies (2021-2026)

Earthquake - Problem Identification: Public facilities may not meet seismic standards due to age of structure.

Goal: Reduce the threat of earthquake damage in the city.

Objective (Priority MEDIUM): Develop critical facilities.

Action 1: Build a new Public Works shop.

Time Frame: 2023-2029

Funding: City funds/State/Federal grant

Estimated Cost: \$1.5 million

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Sunset City

Action 2: Build a new Fire Station.

Time Frame: 2023-2029

Funding: City funds/State/Federal grant

Estimated Cost: \$1.5 million

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Sunset City

Flooding - Problem Identification: 450 W from 2137 N to 2300 N these properties are lower than the roadway. During periods of heavy rains the water will go over the curb and sidewalk towards the homes.

Goal: Reduce the threat of flooding damage in the city.

Objective (Priority HIGH): Install stormwater catch basins to catch the water flow before it has a chance to accumulate to the point of overflow.

Action 1: Engineer the new catch basins to ensure water is taken care of.

Time Frame: 2022

Funding: City funds

Estimated Cost: \$100,000

Staff: Public Works, Engineer

Jurisdictions: Sunset City

City Goals - Davis Co PDMP

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Dam Failure - Problem Identification: Multiple water containment systems located throughout Sunset City are aging and present the potential for failure in the future.

Goal: Reduce the threats associated with dam failures.

Objective (Priority MEDIUM): Educate citizens within the possible flood areas of dams with information about flooding and other dam failure hazards.

Action: Provide citizens with information as necessary.

Time Frame: Ongoing

Funding: City Funds

Estimated Cost: Minimal

Staff: City Administration

Jurisdictions: Sunset City

Severe Weather - Problem Identification: Severe weather (rain, snow, wind, lightning, ect.) is a possibility in Sunset City.

Goal: Reduce the threat of severe weather damage to infrastructure.

Objective (Priority MEDIUM): Encouraging weather-proofing measures in new construction.

Action: Encourage new construction to implement weather-proofing into building plans.

Time Frame: Ongoing

Funding: City Funds

Estimated Cost: Minimal

Staff: Community Development, Building Department, etc.

Jurisdictions: Sunset City

Syracuse City

Background

Syracuse City is located 30 miles north of Salt Lake City, UT. The city footprint covers 9.5 sq. miles.

Since 2000 the city's population has more than tripled with a current population of 31,458. Syracuse has many young working families as well as older native residents. The commercial base continues to develop, with the addition of a new sixty-acre industrial park, and the planned construction of the West Davis Highway..

City Goals - Davis Co PDMP

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Due to the growth in Davis County, one new highway project (State Highway 193), has recently been completed, and another (the West Davis Corridor) is in the construction phase with an expected completion in 2023..

Syracuse City proper has all of the amenities of a suburban community, including: City Hall, Syracuse Justice Court, Syracuse Public Safety Department, six elementary grade schools, two Jr. High (secondary) Schools, and Syracuse High School. Syracuse City also offers gas stations, grocery stores, restaurants, office buildings, medical and dental practices, childcare facilities, one of the largest indoor fun centers in the state, and various other types of businesses.

Syracuse City is also home to the North Davis Sewer District which processes sewer for over 200,000 people in Davis County. The sewer district and public utilities like culinary water, natural gas, and electricity distribution, are considered as critical infrastructure within the community.

If impacted by disaster, the loss of this infrastructure would result in significant economic impact, and potentially the loss of life.

Syracuse operates under a six-member council form of government, with an elected Mayor and five Council Members. The day-to-day operations and the majority of executive authorities are delegated to a City Manager, who works closely with the Mayor to ensure a continuous performance of all city operations.

City operations include 24-7 police, fire, and public works departments, a municipal court, water, streets, stormwater evacuation, snow removal, community development, and parks and recreation programming. Emergency management and pre-disaster mitigation responsibilities are coordinated by the Syracuse City Manager.

Specific Community Hazards

- **Earthquake.** Syracuse proximity to the Wasatch Fault puts it at high risk of earthquake damage.
- **Flooding.** Syracuse is located west of the Wasatch Mountain Front, and just East of the Eastern shore of the Great Salt Lake. Flooding from heavy rain that overwhelms storm drainage systems and impacts sewer and water infrastructure is a potential hazard, as well as flooding from rising lake levels or seismic events caused by earthquakes.
- **Severe Weather.** Syracuse City is west of the Wasatch Mountain Range where several downslope and canyon wind events have potential for property damage.
- **Chemical Spill.** Syracuse City is adjacent to the North Davis Wastewater Treatment Facility, which uses extremely hazardous chemicals. These chemicals are routinely delivered by truck to the facility via Syracuse City streets.
- **Water System Contamination.** Syracuse City operates its own culinary water well, and has heavy construction activity as it grows. This growth requires frequent connections into the City's water system and presents opportunities for error and cross-contamination.

CRITICAL AREA FACILITIES + INFRASTRUCTURE

Facility

Hazard / Risk

Mitigation

City Goals - Davis Co PDMP

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Streets / Transportation	Earthquake; Destruction/disruption of system	Regular Maintenance
Culinary Water System	Earthquake; Contamination	Planned Upgrades
Sanitary Sewer	Earthquake;	Regular Maintenance
Electrical Grid – (Rocky Mountain Power)	Earthquake / Wind	Back-up Generators for critical infrastructure
Natural Gas Grid – (Dominion Energy Gas)	Earthquake / Flood	Explore Alternative Fuel Sources for critical infrastructure
North Davis Sewer District Major Facilities and Sewer Lines	Earthquake/Chemical Spill	Pre-planning, regular updates
MUNICIPAL BUILDINGS + INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
City Offices	Loss of vital city records; communication vehicles; day to day functions	Explore Back-up of records Off- site
Police Department	Loss of vital police records; impact to day to day functions	Explore Satellite Station Feasibility/Need
Fire Department	Reduced Ability to Respond	Explore Satellite Station Feasibility/Need
Public Works Building	Loss/damage to response equipment	N/A
Community Center	Loss of Sheltering Ability and Volunteer Response	Explore Alternate Sheltering options
IT Network and Server	Loss of communications	Enhance security
EOC (Fire Station)	Loss of operability for EOC	Equip secondary location for use as EOC
Museum	Loss of artifacts	Improve storage
STORMWATER INFRASTRUCTURE		

City Goals - Davis Co PDMP

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Facility	Hazard / Risk	Mitigation
StormWater Retention Basins	Flooding	Routine maintenance.
ARTERIAL ROADS		
Corridor	Hazard / Risk	Mitigation
Antelope Drive	Destruction, evacuation and response concerns	State Highway
Highway 193	Destruction, evacuation and response concerns	State Highway
Bluff Road	Destruction, evacuation and response concerns	Maintain
700 South	Destruction, evacuation and response concerns	Maintain
2700 South (Gordon)	Destruction, evacuation and response concerns	Maintain
3700 South (Gentile)	Destruction, evacuation and response concerns	Maintain
1000 West	Destruction, evacuation and response concerns	Maintain
2000 West	Destruction, evacuation and response concerns	State/City Maintain
3000 West	Destruction, evacuation and response concerns	Maintain

Mitigation Efforts Since the 2016 Plan

- Syracuse has updated the City Emergency Operations Plan (EOP), and created an Disaster Preparedness Committee that meets monthly.
- Syracuse has installed back-up generators for all public buildings, including Police, Fire, Public Works, Community Center (shelter), and Administration. This will enable efforts to maintain services during long-term power outages or other infrastructure emergencies.
- Syracuse City has constructed a 3 million gallon water tank to accommodate new growth and better provide culinary water availability.
- Syracuse City has created a part-time Emergency Management Coordinator position to help facilitate EOC training and improvements to City readiness.

City Goals - Davis Co PDMP

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- Syracuse City has replaced several miles of older water, sewer, storm drain, and street infrastructure with newer materials with better seismic standards.

Mitigation Strategies (2021-2026)

Earthquake - Problem Identification: Critical facilities may not meet seismic standards. Due to geography, liquefaction may occur.

Goal: Maximize resiliency of functions provided by critical facilities

Objective (Priority MEDIUM): Retrofit facilities to seismic standards and provide alternate means to provide functionality where possible.

Action 1: Syracuse City has an ongoing, annual program of replacing aging sewer, water, pipe, which is very susceptible to earth movement, with PVC pipe, which is better able to withstand earth movement caused by a seismic event.

Time Frame: ongoing

Funding: City funds

Estimated Cost: \$250,000/mile

Staff: Public Works, Engineer, etc.

Jurisdictions: Syracuse City

Action 2: Provide remote working and communication ability for staff, which will be necessary if City buildings are rendered unusable.

Time Frame: ongoing

Funding: City funds/State/Federal grant

Estimated Cost: Unknown, but feasible

Staff: Administration

Jurisdictions: Syracuse City

Goal: Mitigation against effects of earthquakes like loss of life and homes.

Objective (Priority LOW): Making information available to citizens on safety techniques to follow before, during, and after an earthquake.

Action: Provide information to the public about ways to protect themselves and their belongings during an earthquake.

Time Frame: Ongoing

Funding: City Funds

Estimated Cost: Minimal

Staff: City Administration

Flooding - Problem Identification: Syracuse City is established in western Davis County near the Bluff of the Great Salt Lake which may be subject to flooding in severe storm events or earthquake-caused wave

City Goals - Davis Co PDMP

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events. Upstream drainage has potential to exceed capacity, resulting in thousands of dollars in damages. Ongoing maintenance of these drainage canals and pipelines by the City will continue to mitigate this threat.

Goal: Maximize capacity to manage flood events

Objective (Priority MEDIUM): Upgrade and maintain drainage systems.

Action 1: Annually inspect and remove debris in stream channels and detention basins and storm drains.

Time Frame: Annually

Funding: City funds

Estimated Cost: minimal

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Syracuse City

Action 2: Stormwater Master Plan includes design to connect and activate the 4000 West Outfall Project (60-inch diameter storm-water pipeline on the city's South side) that terminates along the Bluff into the Great Salt Lake.

Time Frame: 2025

Funding: City funds

Estimated Cost: \$300,000

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Syracuse City

Action 3: Coordinate with the State of Utah on the ongoing Great Salt Lake floodplain delineation study.

Time Frame: ongoing

Funding: State and Federal Funds

Estimated Cost: Unknown

Staff: Public Works, Engineer, etc.

Jurisdictions: Syracuse City and State of Utah

Wildland Fire - Problem Identification: A significant portion of Syracuse City meets a natural environment to the west where an urban/wildland interface is created.

Goal: Mitigate the impact of wildfires in high-threat areas.

Objective (Priority MEDIUM): Including considerations of wildfire hazards in land use, public safety, and other elements of the comprehensive plan.

Action: In future city plans, encourage the mitigation of wildfires.

Time Frame: Ongoing

City Goals - Davis Co PDMP

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Funding: City Funds

Estimated Cost: Minimal

Staff: City Administration, Community Development, Building Department, etc

Jurisdictions: Syracuse City

Severe Weather - Problem Identification: Syracuse City is down-slope of the Wasatch Mountain Range where seasonally strong winds have caused damage to structures and the urban forest.

Goal: Maximize community resiliency to high-wind events

Objective (Priority MEDIUM): Building Code Enforcement

Action 1: Work in tandem with project developers and homeowners to follow standardized codes and maintain structural integrity of commercial and residential buildings.

Time Frame: Ongoing

Funding: City funds

Estimated Cost: minimal

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Syracuse City

Action 2: Create a public service campaign to inform residents about tree species and varieties that are more likely to endure high wind events without failure, causing damage to utilities, landscape and buildings.

Time Frame: Ongoing

Funding: City funds, local volunteers

Estimated Cost: minimal

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Syracuse City

Multi-Hazards - Problem Identification: City-wide communications infrastructure is vulnerable, creating a need to mitigate failure of communications abilities during various types of disasters.

Goal: Maximize ability to communicate during various types of disasters

Objective (Priority MEDIUM): Update and maintain existing communications infrastructure, and mitigate the impacts of damaged communications facilities during various types of disasters.

Action 1: Ensure cellular-based devices are updated

Time Frame: Ongoing

Funding: City funds

Estimated Cost: minimal

City Goals - Davis Co PDMP

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Staff: City Administration

Jurisdictions: Syracuse City

Action 2: Update satellite-based communications equipment

Time Frame: 2025

Funding: City funds

Estimated Cost: \$3,000 per year

Staff: Administration

Jurisdictions: Syracuse City

Action 3: Update radio equipment

Time Frame: 2025

Funding: City funds, state/federal grants

Estimated Cost: \$15,000

Staff: Administration, Public Safety

Jurisdictions: Syracuse City

Action 4: Maintain relationships and conduct training with community-based emergency organizations.

Time Frame: Ongoing

Funding: City, state/federal assistance

Estimated Cost: minimal

Staff: Administration

Jurisdictions: Syracuse City

West Bountiful City

Background

West Bountiful was first located in 1848 when pioneers made their way into the territory. It was incorporated as a town on January 28, 1949. The City is located about eight miles north of Salt Lake City and twenty-nine miles south of Ogden.

West Bountiful is a City of the fifth class and operates under a six-council member form of government, with an elected Mayor and five Council Members. The day-to-day operations are delegated to a City Administrator, who works hand-in-hand with the Mayor to ensure all city operations are well-run. City operations include a 24-7 police department, water, garbage/recycling, streets, storm water, snow removal, community development, and an Arts Council. West Bountiful City is part of the South Davis Fire District which provides fire protection. Emergency management and pre-disaster mitigation responsibilities are coordinated by the West Bountiful City Police Department in partnership with local citizens that are appointed to the Emergency Preparedness Advisory Committee (EmPAC). Sanitary

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Sewer services are provided by the South Davis Sewer District. Animal Care and Control services are provided by Davis County.

Community Buildings and Infrastructure Status

The 5300 residents enjoy a quiet, rural, equestrian lifestyle. Many opportunities for cultural events are provided through a monthly concert series and arts displays. Major events include 4th of July celebration, Founders' Day celebration, and special activities for Halloween, Easter and Christmas. The City benefits from a vibrant commercial district along 500 West between 400 North and 500 South, with a variety of goods and services from restaurants and deli's to home improvement and savings club businesses. The FrontRunner commuter rail has been running since April 2008, and the Legacy Parkway was opened in 2008. These were built to help alleviate the traffic load on Interstate 15 through the West Bountiful area. West Bountiful is a gateway community to Salt Lake County for travelers going south on I-15 and Legacy Parkway.

Specific Community Hazards

- **Earthquake.** West Bountiful's proximity to the mountains and the Wasatch Fault puts it at high risk of earthquake damage.
- **Flooding.** West Bountiful is located along the Wasatch Mountain Front. City facilities, trails, and homes sustained significant damage during the 1983 flooding disaster.
- **Severe Weather.** West Bountiful is subject to high winds. December, 2011 West Bountiful was subjected to extreme winds that caused significant damage to houses, trees, and other infrastructure.

CRITICAL AREA FACILITIES + INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
500 South Water Tank	Water contamination, flooding, tank failure	New main line connection into tank. New main line from tank into West Bountiful
400 North Water Tank	Water contamination, flooding, tank failure	New main line from tank into West Bountiful
Bountiful Water Connection	Line Failure	
MUNICIPAL BUILDINGS + INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
City Offices	Loss of vital city records; communication vehicles; day to day functions	Transfer paper records to digital and secondary backup off site. Update heavy equipment.

City Goals - Davis Co PDMP

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Police Department	Loss of vital police records; impact to day to day functions	Update servers and security.
Public Works Building	Loss/damage to response equipment	Developing plans to construct a new maintenance yard.
IT Network and Server	Loss of communications, Cyber Attacks	Enhance security, Contract with professional IT Services, new servers.
EOC	Loss of operability for EOC	Equip EOC; Preplanned secondary EOC and mobile EOC Trailer with equipment
Main Generator for City Office	Loss of power for critical operations	Enhance security and maintenance.
South Metro Davis Fire - Station #81	Loss/damage to response apparatus/personnel	Enhance structural earthquake resiliency
South Metro Davis Fire - Station #82	Loss/damage to response apparatus/personnel	Enhance structural earthquake resiliency
South Metro Davis Fire - Station #83	Loss/damage to response apparatus/personnel	Enhance structural earthquake resiliency
South Metro Davis Fire - Station #84	Loss/damage to response apparatus/personnel	Enhance structural earthquake resiliency
South Metro Davis Fire - Station #85	Loss/damage to response apparatus/personnel	Enhance structural earthquake resiliency
STORMWATER INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
Storm Water Ditches	Flooding	Dredge and de-silt
Storm Water Lines	Flooding	New lines in many areas of city
ARTERIAL ROADS		
Corridor	Hazard / Risk	Mitigation
500 South	Destruction, evacuation and response concerns	N/A
400 North	Destruction, evacuation and	New road from 800 West to

City Goals - Davis Co PDMP

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	response concerns	1100 West
1100 West	Destruction, evacuation and response concerns	Proper maintenance, chip seal etc
800 West	Destruction, evacuation and response concerns	New areas a road and proper maintenance.
Pages Lane	Destruction, evacuation and response concerns	New road, curb and gutter, and below ground infrastructure

Mitigation Efforts Since the 2016 Plan

- West Bountiful City is updating the City Emergency Operations Plan (EOP).
- West Bountiful City created the Emergency Preparedness Advisory Committee (EmPAC). West Bountiful City assigned the city’s emergency planning to the police department.
- West Bountiful City purchased a mobile trailer that was converted into a mobile command trailer. West Bountiful City purchased new vehicle and handheld police radios to replace outdated equipment and bring the radios into compliance with projected UCA changes.
- West Bountiful City has purchased secondary radios for police, public works, and CERT. West Bountiful City has started to store water and food supplies for city incident command. West Bountiful City increased emergency preparedness training, eg. Spontaneous Volunteer Management.
- West Bountiful City takes part in emergency drills, eg. The Utah Great Shake-Out.
- West Bountiful’s CERT works in conjunction with the city government and has a representative on the EmPAC board.
- West Bountiful City purchased a new backhoe and loader that will be used in the event of a disaster.

Mitigation Strategies (2021-2026)

Earthquake - Problem Identification: Critical facilities do not meet seismic standards. Water tanks supplying water to the city.

Goal: Reduce the threat of earthquake damage in the city.

Objective (Priority HIGH): Replace main water line from 500 South water tank to city. Replace aging water lines supplying water to the city. Replace Questar gas lines that supply gas to the city.

Action 1: Replace main water line from 500 South water tank to the City.

Time Frame: 2021

Funding: City / Holly Refining

Estimated Cost: \$1.0 million

Staff: City Administration, Public Works, Engineer, etc.

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Jurisdictions: West Bountiful City

Action 2: Replace aging high pressure gas lines which serve a large portion of West Bountiful City (by Questar Gas). These gas lines cross several fault traces, and are subject to failure in the event of fault movement or a reasonably expected seismic event.

Time Frame: ongoing

Funding: City funds

Estimated Cost: unknown

Staff: City / Questar

Jurisdictions: West Bountiful City

Action 3: West Bountiful City has an ongoing, annual program of replacing aging cast iron culinary water pipe, which is very susceptible to earth movement, with flexible PVC pipe, which is better able to withstand earth movement caused by a seismic event.

Time Frame: ongoing

Funding: City funds

Estimated Cost: \$500,000/yr

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: West Bountiful City

Flooding - Problem Identification: West Bountiful City is traversed by several canals which may be subject to flooding in severe storm events. These canals overtopped their banks in the 1983 flood disaster, resulting in thousands of dollars in damages. Significant funding following the 1983 flooding greatly reduced flood vulnerability in those areas. Ongoing maintenance of these floodways by the county will continue to mitigate this threat.

Goal: Reduce the threat of flooding damage in the city.

Objective (Priority HIGH): Maintain identified flood threat areas.

Action: Annually inspect and remove debris in stream channels and debris basins.

Time Frame: annual

Funding: City funds

Estimated Cost: minimal

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: West Bountiful City

Multi-Hazards - Problem Identification: West Bountiful City's emergency operations plan is in the process of being updated.

Goal: Reduce the threat of wildfire damage in the city.

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Objective (Priority HIGH): Improve communications, mitigate the impacts of and be prepared for emergency situations and hazards.

Action: Update Emergency Operations Plan.

Time Frame: 2022

Funding: City funds / federal

Estimated Cost: unknown

Staff: City Administration, Police, Public Works, Engineer, EmPAC, etc.

Jurisdictions: West Bountiful City

Wildland Fire - Problem Identification: A significant portion of West Bountiful City meets only a natural environment to the northwest where an urban/wildland interface is created.

Goal: Mitigate the impact of wildfires in high-threat areas.

Objective (Priority LOW): Including considerations of wildfire hazards in land use, public safety, and other elements of the comprehensive plan.

Action: In future city plans, encourage the mitigation of wildfires.

Time Frame: Ongoing

Funding: City Funds

Estimated Cost: Minimal

Staff: City Administration, Community Development, Building Department, etc

Jurisdictions: West Bountiful City

Dam Failure - Problem Identification: Water containment systems located throughout West Bountiful are aging and bring the possibility to fail in the future.

Goal: Mitigate effects of dam failures by the education of the public.

Objective (Priority MEDIUM): Reduce damage to life and property by educating the population on the possible effects of dam failures.

Action: Provide the public with information about flash flooding and dam failures.

Time Frame: Ongoing

Funding: City Funds

Estimated Cost: Minimal

Staff: City Administration

Jurisdictions: West Bountiful City

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Severe Weather - Problem Identification: West Bountiful City is susceptible to severe weather (rain, snow, wind, lightning, ect.)

Goal: Reduce the threat of severe weather damage to infrastructure.

Objective (Priority MEDIUM): Encouraging weather-proofing measures in new construction.

Action: Encourage new construction to implement weather-proofing into building plans.

Time Frame: Ongoing

Funding: City Funds

Estimated Cost: Minimal

Staff: Community Development, Building Department, etc.

Jurisdictions: West Bountiful City

Holly Frontier Refinery - Problem Identification: Potential Fire, Explosion, Chemical Leak.

Goal: Continue a good working relationship with Holly to include quality communication and collaboration on projects that affect the city.

Objective (Priority HIGH): Mitigate potential fire and explosion damage.

Action: Replace main waterline on 500 South to improve water flow to the refinery in the event of fire or explosion.

Time Frame: 2021

Funding: Holly Refining

Estimated Cost: \$500,000

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: West Bountiful City

Landslide - Problem Identification: West Bountiful City is located in the foothills, therefore landslides are possible.

Goal: Mitigate the effects of landslides.

Objective (Priority LOW): Creating a plan to study areas where landslides may occur.

Action: Discuss using GIS Mapping or other means to determine where landslides may occur.

Time Frame: Unknown, depending on funding

Funding: City Funds

Estimated Cost: Minimal

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Staff: City Administration, GIS, etc.

Jurisdictions: West Bountiful City

West Point City

Background

West Point is a city in Davis County, Utah, United States. It is part of the Ogden–Clearfield, Utah Metropolitan Statistical Area. The population was 9,511 at the 2010 census, up from 6,033 at the 2000 census. The estimated population in 2014 was 10,204. The city has experienced quick growth centered primarily around single-family residential construction.

West Point is located along the eastern shoreline of the Great Salt Lake, and an extensive network of wetlands is strung along the western boundaries. These areas are essential to migrating birds. The cities of Clinton and Hooper are located to the north, Clearfield is to the east, and the city of Syracuse is to the south.

Community Buildings and Infrastructure Status

West Point is a fast growing community with many newer facilities and homes. The city of West Point has taken great care in ensuring the infrastructure of the city is being constructed safely and using sound practices. Older infrastructure is cared for as needed and newer projects are held to the highest of development standards. West Point is dedicated to the safety and security of its employees, visitors, and residents and will continue to explore resources, partnerships, funding, and personnel to make such projects successful.

Specific Community Hazards

- **Earthquake.** West Point's proximity to the Wasatch Fault puts it at high risk of earthquake damage.
- **Flooding.** West Point is susceptible to flooding from runoff and storm events.

CRITICAL AREA FACILITIES + INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
Water Tanks	No culinary water	Shut off valve(s)
Pump Stations	No culinary water	Back-up generator
Major sewer trunk lines	Backup/flooding/health	Regular maintenance
Culinary water well	No culinary water	Back-up generator
MUNICIPAL BUILDINGS + INFRASTRUCTURE		

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Facility	Hazard / Risk	Mitigation
City Offices	Loss of vital city records; communication; vehicles; day to day functions	TBD
Public Works Building	Loss/damage to response equipment/supplies/materials	TBD
Fire Station	Loss/damage to response equipment	TBD
IT Network and Server	Loss of communications	Enhance security
STORMWATER INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
Stormwater Ditches	Flooding	Dredge and de-silt
Detention basins	Flooding	Dredge & de-silt / clean outlet control structures
ARTERIAL ROADS		
Corridor	Hazard / Risk	Mitigation
West Davis Corridor (proposed)	n/a	n/a
2000 West (SR-108)	Destruction, evacuation and response concerns	Maintain
300 North	Destruction, evacuation and response concerns	Maintain
800 North	Destruction, evacuation and response concerns	Maintain
4500 West	Destruction, evacuation and response concerns	Maintain

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Mitigation Efforts Since the 2016 Plan

- The City has maintained a capital improvements program to guide its infrastructure investments every year since 2016. One of core principles that help the city prioritize their projects is the impact to public safety and emergency preparedness.

Mitigation Strategies (2021-2026)

Earthquake - Problem Identification: Critical facilities may not meet seismic standards. Due to geography, liquefaction may occur.

Goal: Reduce the threat of earthquake damage in the city.

Objective 1 (Priority HIGH): Make sure the City is up-to-date with building codes.

Action: Adopt and enforce updated building code provisions to reduce earthquake damage risk.

Time Frame: 2022

Funding: City funds

Estimated Cost: unknown

Staff: City Inspector

Jurisdictions: West Point City

Objective 2 (Priority HIGH): Know what locations within the City are most vulnerable to seismic events.

Action: Use GIS to map hazard areas, at-risk structures, and associated hazards to assess high-risk areas, and then offer the mapping online for residents and design professionals.

Time Frame: unknown

Funding: unknown

Estimated Cost: unknown

Staff: Public Works, City Engineer

Jurisdictions: West Point City

Objective 3 (Priority HIGH): Have an educated citizenry when it comes to earthquake protocol.

Action: Develop an outreach program about earthquake risk and mitigation activities in homes, schools, and businesses, and educate homeowners on safety techniques to follow during and after an earthquake.

Time Frame: ongoing

Funding: City

Estimated Cost: unknown

Staff: Administration

Jurisdictions: West Point City

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Flooding - Problem Identification: The City has many Sewer and Storm Drain Manholes that often get filled with debris which could potentially cause flooding.

Goal: Reduce the threat of flooding damage in the city.

Objective (Priority MEDIUM): Maintain Sewer and Storm Drain Manholes.

Action: Annually inspect and remove debris in city sewer and storm drain manholes.

Time Frame: annual

Funding: City funds

Estimated Cost: minimal

Staff: Public Works

Jurisdictions: West Point City

Severe Weather - Problem Identification: West Point is susceptible to severe weather (rain, snow, wind, lightning, ect.)

Goal: Reduce the threat of severe weather damage to infrastructure.

Objective (Priority MEDIUM): Encouraging weather-proofing measures in new construction.

Action: Encourage new construction to implement weather-proofing into building plans.

Time Frame: Ongoing

Funding: City Funds

Estimated Cost: Minimal

Staff: Community Development, Building Department, etc.

Jurisdictions: West Point City

Multi-Hazards - Problem Identification: West Point City has had traces of Chloroform in the water in recent months and the Chlorine residuals are perpetually low.

Goal: Position the city to provide better support in multi-hazard situations.

Objective 1 (Priority HIGH): Maintain the City water to State Standards.

Action: Add Chlorine Booster to the Water System.

Time Frame: 2022

Funding: City funds

Estimated Cost: \$30,000

Staff: Public Works, City Engineer

Jurisdictions: West Point City

Objective 2 (Priority HIGH): Have AEDs available in case of emergency in public places.

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Action: Acquire seven AEDs, one for each park, the Municipal Building, the Public Works Building, and two portables for the Public Works Director and the Recreation Director.

Time Frame: 2022

Funding: unknown

Estimated Cost: \$14,000

Staff: Public Works Department

Jurisdictions: West Point City

Objective 3 (Priority HIGH): The City has not adopted an emergency management plan. Improve communications, mitigate the impacts of and be prepared for emergency situations and hazards.

Action: Finalize and adopt an Emergency Management Plan.

Time Frame: 2022

Funding: unknown

Estimated Cost: unknown

Staff: City Administration

Jurisdictions: West Point City

Objective 4 (Priority MEDIUM): Maintain City fire hydrants.

Action: Annually inspect all City fire hydrants to ensure proper water pressure.

Time Frame: Annually

Funding: City

Estimated Cost: unknown

Staff: Public Works Department

Jurisdictions: West Point City

Objective 4 (Priority MEDIUM): Reduce hazards by completing risk assessments.

Action: When new construction is being proposed, consider the use of a risk assessment to identify possible hazards, risks, and disasters.

Time Frame: Ongoing

Funding: City Funds

Estimated Cost: Minimal

Staff: Public Works, City Engineer

Jurisdictions: West Point City

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Woods Cross City

Background

Woods Cross City is a community located in Davis County along the valley of the Wasatch Range. With a population of about 11,500 and approximately 2,800 households, Woods Cross offers a variety of housing options for commercial and industrial businesses with access to I-15 and Legacy Parkway for commuters close to Salt Lake City.

Although a part of the Ogden-Clearfield Metropolitan Statistical Area, it serves as a bedroom community to Salt Lake City and the surrounding area. However, due to the very narrow entrance into Salt Lake County, roads between the foothills and wetlands often reach near-gridlock traffic during rush hour.

The FrontRunner commuter rail has been running since April 2008, and the Legacy Parkway was opened in 2008. These facilities have helped alleviate the traffic load on Interstate 15 through the South Davis County Area. Woods Cross occupies an area of approximately six square miles.

Woods Cross City operates with an elected Mayor and five Council Members. The day-to-day operations and the majority of executive authorities are delegated to a City Administrator, who works hand-in-hand with the Mayor and Council to ensure all city operations are well-run. City operations include a 24-7 police department, a municipal court, water, garbage/recycling, street, stormwater, snow removal, community development, and parks facilities. Woods Cross City is part of the South Davis Fire District which provides fire protection. Emergency management and pre-disaster mitigation responsibilities are coordinated by the City Administrator. Woods Cross has many 24/7 services including a municipal police department. Fire services are handled by South Davis Metro Fire District.

Community Buildings and Infrastructure Status

Woods Cross takes great pride in its city and residents. Woods Cross focuses a good deal of attention each year to maintaining and upgrading essential services and critical infrastructure. Woods Cross ensures they are utilizing the highest standards of health and safety in these projects bringing their to city the highest of 2021 standards. Woods Cross plans to continue this trend as funding, resources, and personnel allow.

Specific Community Hazards

- **Earthquake:** Woods Cross City's proximity to the Wasatch Fault puts it at a high risk of earthquake damage.
- **Flooding:** Woods Cross City is located along the eastern edge of the Great Salt Lake wetlands thus making the ground water suitable to many locations.
- **Landslides:** Homes in a specific geographical area experience substantial settlement issues after many years of being constructed.
- **Wildland Fire:** Western portion of Woods Cross City borders a nature preserve scenic by way and trail which has a potential for wildfires.
- **Severe Weather:** Woods Cross City lies on the western edge of the Wasatch from which have severe down slope wind events.
- **Railways:** Two major railroad tracks and an industrial rail track cross through the community.
- **Chemical Release:** Three petroleum facilities reside within Woods Cross City and others in very close proximity make probability of explosions or air contamination.

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

- **Pipeline:** Woods Cross City has 12 pressure petroleum pipelines that run through the city in roughly one mile wide corridor which encompass the majority of the City.

CRITICAL AREA FACILITIES + INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
Wells #3, #4 & #5	Water contamination Low water level Power loss	Proper source protection SCADA Monitoring Standby generators. Complete
Storage reservoirs	Water Contamination Earthquake	Proper security control Design & constructed for earthquake. In process
Treatment Plant	Earthquake Power loss	Designed & constructed for earthquake standby generator. Complete
MUNICIPAL BUILDINGS + INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
City Offices	Loss of vital city records; communication vehicles; day to day functions	Backup of vital records and storage
Police Department	Loss of vital police records; impact to day to day functions	Backup of vital records and storage
Public Works Building	Loss/damage to response equipment	Relocate and construct a new facility to meet earthquake standards.
IT Network and Server	Loss of communication	Enhance security. Inprocess
EOC	Loss of operability for EOC	Complete connection to fiber/analog lines: develop second EOC location Second Location Complete
Standby Generator for City Office and Water system facilities	Loss of power for critical operations	Enhance security; proper maintenance of generators In Process
South Metro Davis Fire - Station #81	Loss/damage to response apparatus/personnel	Enhance structural earthquake resiliency

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

South Metro Davis Fire - Station #82	Loss/damage to response apparatus/personnel	Enhance structural earthquake resiliency
South Metro Davis Fire - Station #83	Loss/damage to response apparatus/personnel	Enhance structural earthquake resiliency
South Metro Davis Fire - Station #84	Loss/damage to response apparatus/personnel	Enhance structural earthquake resiliency
South Metro Davis Fire - Station #85	Loss/damage to response apparatus/personnel	Enhance structural earthquake resiliency
STORMWATER INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
1500 South & 1950 South Detention basins	Flooding: excessive rainfall overflowing banks	Downstream protection of property
ARTERIAL ROADS		
Corridor	Hazard / Risk	Mitigation
1500 South	Destruction, evacuation and response concerns, bridge collapse, train derailment	UDOT rebuilt I- 15 bridge in 2014
800 West	Destruction, evacuation and response concerns	
1100 West	Destruction, evacuation and response concerns, train derailment	
Redwood Road	Destruction, evacuation and response concerns	
2600 South	Destruction, evacuation and response concerns, train derailment, bridge collapse	UDOT rebuilt I- 15 bridge in 2014

Mitigation Efforts Since the 2016 Plan

- Woods Cross City has updated the City Emergency Operations Plan (EOP)
- Drinking Water Well drilled and equipped with standby power - \$1.5 million
- 3.1 million gallon reservoir designed and constructed for earthquake resilience - \$3 million
- 2,000 gpm Water Treatment Facility - \$5 million

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

- Upgrade to radio system with additional frequencies for city to district's communication - \$5,000
Air monitoring equipment set up within the City - Business paid approximately \$100,000 to Health Department for implementation
- Woods Cross Public Works Mutual Aid Agreements – UTWARN and UPWEMA

Mitigation Strategies (2021-2026)

Earthquake - Problem Identification: Public Works facility does not meet seismic standards.

Goal: New Public Works Building Built and completed in 2023

Objective (Priority HIGH): Retrofit facilities to seismic standards.

Action 1: Construct a new Public Works Facility.

Time Frame: 2022-2023

Funding: City funds, utility fees

Estimated Cost: \$6.5 million

Staff: City Administration, Public Works

Jurisdictions: Woods Cross City

Action 2: Replace Aging Waterlines.

Time Frame: annually

Funding: City funds, utility fees

Estimated Cost: \$300,000/yr

Staff: Public Works, Engineering

Jurisdictions: Woods Cross City

Flooding - Problem Identification: Basement flooding.

Goal: City Development ordinance adopted pertaining to water elevations

Objective (Priority HIGH): Determine elevations of high water elevations. Establish benchmarks for surveyor to utility.

Action: Set lowest dwellable elevation and benchmarks.

Time Frame: 2021

Funding: City funds

Estimated Cost: \$10,000

Staff: City Administration, Public Works, Engineer, etc.

Jurisdictions: Woods Cross City

Wildland Fire - Problem Identification: Fire potential areas are located in the city limits.

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Goal: Reduce the threat of wildfire damage in the city.

Objective (Priority LOW): Fuel mitigation.

Action 1: Maintain a reduction of fuel along the trail system.

Time Frame: annually

Funding: City funds

Estimated Cost: \$5,000

Staff: Public Works

Jurisdictions: Woods Cross City

Action 2: Participate with South Davis Metro Fire District on a Community Wildfire Protection Plan.

Time Frame: 2022

Funding: Woods Cross City, South Davis Metro Fire District

Estimated Cost: \$10,000

Staff: City Administration, City Citizen Corp Council, Fire District

Jurisdictions: Woods Cross City, South Davis Metro Fire District

Objective (Priority MEDIUM): Including considerations of wildfire hazards in land use, public safety, and other elements of the comprehensive plan.

Action: In future city plans, encourage the mitigation of wildfires.

Time Frame: Ongoing

Funding: City Funds

Estimated Cost: Minimal

Staff: City Administration, Community Development, Building Department, etc

Jurisdictions: Woods Cross City

Dam Failure - Problem Identification: Many water containment systems are located in the area and they each have the potential to fail, which would affect Woods Cross.

Goal: Prevent dam failures.

Objective (Priority MEDIUM): Provide citizens within the flood area of dams with information on flash flooding.

Action: When requested, provide citizens with information on flash flooding.

Time Frame: Ongoing

Funding: City Funds

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Estimated Cost: Minimal

Staff: City Administration

Jurisdictions: Woods Cross City

Landslide - Problem Identification: Several homes in the city have experienced substantial settlement.

Goal: Established CDBG grants to help residents with subsidence. (Ongoing).

Objective (Priority MEDIUM): Conduct an analysis of why this is occurring and seek to discover mitigation solutions.

Action: Continue with residential inquiries, monitoring and evaluations of existing established benchmarks and boring.

Time Frame: 2021-2023

Funding: City funds

Estimated Cost: \$50,000

Staff: City Staff, consultants

Jurisdictions: Woods Cross City

Goal: Mitigate the effects of landslides by conducting studies.

Objective (Priority LOW): Creating a plan to study areas where landslides may occur.

Action: Discuss using GIS Mapping or other means to determine where landslides may occur.

Time Frame: Unknown, depending on funding

Funding: City Funds

Estimated Cost: Minimal

Staff: City Administration, GIS, etc.

Jurisdictions: Woods Cross City

Multi-Hazards - Problem Identification: Lack of electronic storage and communication equipment that is vulnerable.

Goal: Performed an RFP for IT services and hire ETS to upgrade and secure Servers, computers and phones

Objective (Priority MEDIUM): Improve storage capacity and duplicate critical communication as needed for operations.

Action 1: Develop a team to assess the need and determine critical components.

Time Frame: 2023

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Funding: City funds

Estimated Cost: \$1,000

Staff: City Staff

Jurisdictions: Woods Cross City

Action 2: Enhance the storage and communication equipment.

Time Frame: 2024

Funding: City funds

Estimated Cost: \$10,000

Staff: City Staff

Jurisdictions: Woods Cross City

Railways - Problem Identification: Potential for HAZMAT spill.

Goal: Continual

Objective (Priority MEDIUM): Train on hazardous material response.

Action: First responder training.

Time Frame: annually

Funding: state/federal grants

Estimated Cost: unknown

Staff: South Davis Metro Fire

Jurisdictions: Woods Cross City, South Davis Metro Fire

Chemical Release - Problem Identification: Air quality impacts from chemical/petroleum releases.

Goal: Reduce the threat of chemical release damage in the city.

Objective (Priority MEDIUM): Educate the public and maintain existing monitoring equipment installed.

Action 1: Proper maintenance and training.

Time Frame: annually

Funding: Private business, County Health Dept

Estimated Cost: \$5,000

Staff: County Health Department

Jurisdictions: County Health Department

Action 2: Public notification.

Time Frame: annually

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Funding: Private business

Estimated Cost: \$500

Staff: Air quality committee

Jurisdictions: Woods Cross City

Pipeline - Problem Identification: Petroleum pipelines that impact the community.

Goal: Continual

Objective (Priority LOW): Support improvements to infrastructure.

Action: Educate community of pipeline awareness.

Time Frame: annually

Funding: Pipeline owners, City

Estimated Cost: \$250

Staff: Pipeline owners, City Staff

Jurisdictions: Pipeline owners, Woods Cross City

Critical Roads - Problem Identification: Critical Roadways for lifeline infrastructure.

Goal: Maintain critical transportation corridor capabilities.

Objective (Priority LOW): Provide unrestricted access or critical roadways for all lifeline infrastructure.

Action: Educate community of pipeline awareness.

Time Frame: 2022-2024

Funding: City

Estimated Cost: \$10,000

Staff: Public Works, Engineering, Community Development

Jurisdictions: Woods Cross City

Davis County (Unincorporated)

Background

Davis County is Utah's smallest county in land area. It is a narrow strip of land only 223 square miles but is the third largest county in population. The territorial legislature created Davis County in 1852. During its first half-century, Davis County grew slowly. In 1940 the population was barely 16,000. The small family farms and local businesses could support no greater increase. However, the County doubled in population between 1940 and 1950, and doubled again in the next decade. Between 1960 and 1980, the population more than doubled again, from 65,000 to 147,000. By 1990 the population had reached

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188,000 and the 2000 census recorded 238,994. Being the fastest growing of the four major urban communities along the Wasatch Front, Davis County is projected to build out with a population near 390,000 by the year 2030.

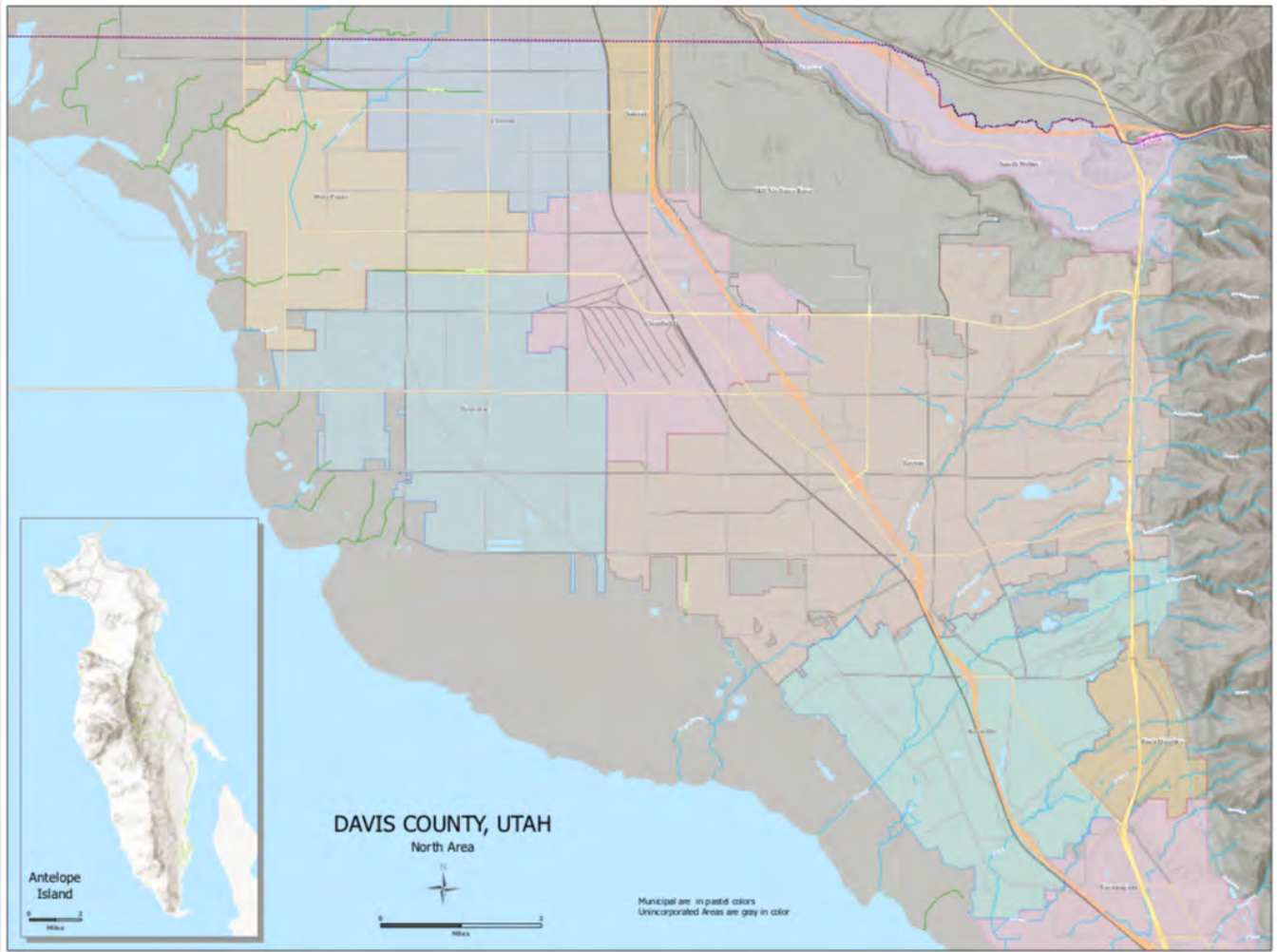
Accompanying this growth has been a diversification of population and a new prosperity. Davis County now enjoys a wide mix of people representing many ethnic, cultural, and religious backgrounds. The County has moved from its traditional agricultural dependency to an interlocking network of suburban communities around a core of original towns with closeness in proximity to downtown Salt Lake City. The communications age has tied Davis County to the world. Its citizens today are part of an economic and social pattern that reaches far beyond the County's tiny geographical limits.

Today, many nationally known commercial, industrial, recreational, and service companies provide diversified employment opportunities for residents of Northern Utah. The Freeport Center is located in Clearfield and is the largest distribution center in the State of Utah with more than seven million square feet of covered storage and five million square feet of open storage occupied by more than 70 renowned companies employing some 7,000 employees.

The County's current general plan (adopted 2006) explains that "*Davis County acknowledges that the main purpose of municipalities is to provide urban services and a public voice in local affairs. The role of the County should be to coordinate and assist the municipalities in addressing issues of regional significance*"(p.1-2). While the unincorporated areas are small and have a limited population, for the purposes of this plan, the goals and strategies that affect the unincorporated areas of the County are incorporated into the neighboring municipal elements (i.e. Val Verda is a small area surrounded by Bountiful City). These unincorporated municipalities appear in the maps below in grey.

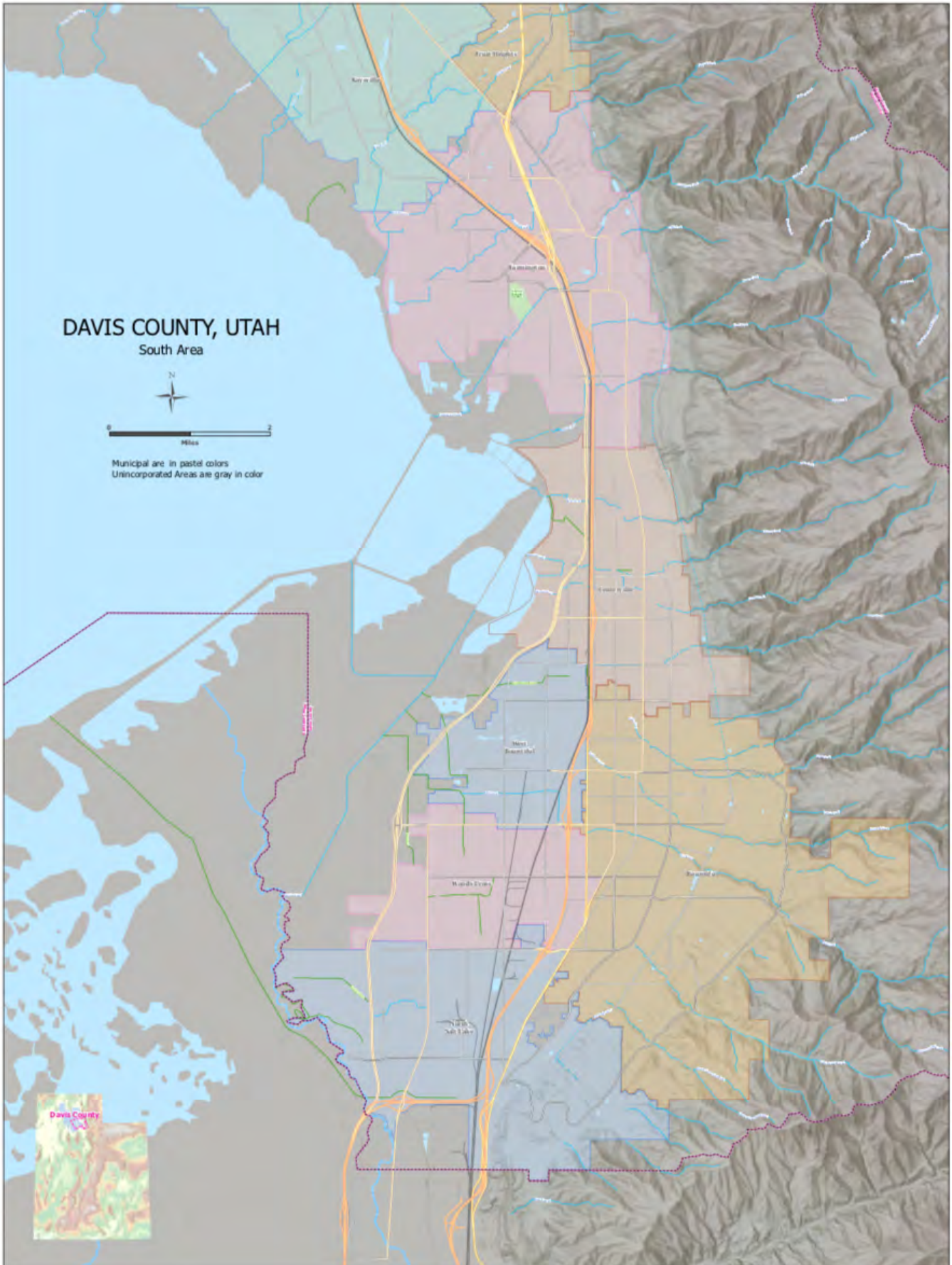
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Specific Community Hazards

- **Earthquake:** Davis County's proximity to the Wasatch Fault puts it at a high risk of earthquake damage.
- **Flooding:** Davis County is located along the eastern edge of the Great Salt Lake wetlands thus making the ground water suitable to many locations.
- **Dam Failure:** There are several water containment systems within the cities of Davis County, each of these are at various levels of decay. Each of them has the potential to fail.
- **Landslides:** Homes in a specific geographical area experience substantial settlement issues after many years of being constructed.
- **Wildland Fire:** Parts of Davis County borders a nature preserve scenic by way and trail which has a potential for wildfires.
- **Severe Weather:** Davis County lies on the western edge of the Wasatch from which have severe down slope wind events.
- **Chemical Release:** There are several locations and transport systems throughout the county. While these are directed to and around cities, the possibility of a chemical release is possible around Farmington and Syracuse Cities, as well as interstate and heavy rail transits.
- **Railways:** There are three railroad tracks that cross through the community. One of these transports materials, and others are used for commuter transit.
- **Pipeline:** The County has 8 pressure pipelines that run through the areas in the county.

Mitigation Efforts Since the 2016 Plan

- Began conducting community preparedness fairs, community outreach events, and promoting resident participation in the annual "ShakeOut" earthquake exercise. The yearly drill has consistently been promoted through county social media posts and education to county employees.
- Conducted seismic reviews of the Davis County Historical Courthouse and actively sought mitigation project funding to retrofit and/or rebuild this structure. The project is currently underway with restoration and seismic retrofitting already completed. - \$12 Million.
- Implemented structural engineering recommendations to meet seismic standards. Any new construction of county facilities has met or exceeds current seismic standards.
- Retrofitted the Weber Basin Water delivery system aqueduct along the east bench of the county for seismic occurrences. This is a continual project due to the magnitude. Currently retrofitting is taking place along with additional work in seeking funding for auto shutoff valve systems. - \$5 Million.
- Increasing the capacity of streams to better handle runoff. Both natural and man made streams have been enlarged to handle downflow more efficiently.

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- Routinely maintain fire breaks and improve wildland access roads. Maintenance continues on this project. Given the length of the fire break roads in the county as well as sharing the space with private property owners this is a complicated ongoing project. Additionally, a new firebreak road/hiking trail (Bonneville Shoreline Trail) is currently under construction on the east bench of the county.
- Performed regular drainage system maintenance including sediment and debris clearance; and detection and prevention of discharges into stormwater and sewer systems from home footing drains, downspouts, or sewer pumps. Davis County has increased the size of their culvers therefore increasing their capacity. They also clear vegetation and manage the debris and sediment by conducting routine maintenance.
- Working with Davis County cities to inform residents about proper evacuation procedures. A county wide fire evaluation plan has been developed with color codes. This has been adopted by the county and all fire agencies within the county. A public campaign is moving forward to include the residents including evacuation routes from certain neighborhoods.
- Meeting with all fire agencies/departments bi-monthly during wildland fire season to share information on hazards, fireworks restrictions, and county and state ordinances and restrictions. All fire agencies and the county fire marshal meet on a regular basis, more than bimonthly. New ordinances have been implemented and discussed along with unified decisions made on fireworks, unincorporated area fire services, and equipment availability.
- Work with all fire agencies/departments and the Utah Division of Forestry Fire & State Lands to create an up-to-date centralized MOU/MOA file. Updated contracts for fire related services are currently being explored by county, city, and state officials.
- Hired a County Fire Warden and required experience relating to wildland fires. Sent the County Fire Warden to extensive training to further their knowledge of wildland fires. The county has contracted with Utah State Department of Forestry and Fire for a wildland fire warden position. The county fire marshal as well as all fire chiefs in the county are working together with the warden on project and wildland related matters.
- Continued to promote community outreach to vulnerable populations that may need assistance if heating and power are impacted by severe weather. Mass notification systems have been used in emergency situations to notify the population of possible hazardous situations. Also, county and city partnerships have been used to access as many social media users as possible to educate them on severe weather warnings and help with heat or cold related matters. Davis County is also working to improve their involvement in the 211 (United Way) system and the Special Needs Registry to ensure better education and safety measures.
- Back up generators have been installed in the county health department and main senior center. Backups have also been installed or upgraded in the county administration building, conference center, jail, sheriff's station, and memorial court house. Any new facilities or those under renovation are evaluated for essential functionality and if they require backup power capabilities.

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Mitigation Strategies (2021-2026)

Earthquake - Problem Identification: Davis County is located in the heart of the Wasatch Fault between the shores of the Great Salt Lake and the foothills of the Wasatch Mountain Range. The majority of the population lives within 5 miles of the fault. A major traffic artery runs north and south, and numerous water and petroleum pipelines either cross over or run within 1/2 mile of the fault. Several petroleum refineries are located in the southern end of the county and are subject to severe damage from ground movement and liquefaction. A major earthquake in the area would result in hundreds of millions of dollars in damage to residential structures, industry, and of critical infrastructure, and likely some loss of life. Several public safety facilities and schools are seismically unsafe throughout the county. These facilities pose a significant threat to those who regularly work and attend school in them, and are in need of seismic retrofitting.

Goal: Provide public education on seismic hazards and mitigation.

Objective (Priority HIGH): Conduct community preparedness fairs, community outreach events, and promote resident participation in the annual “ShakeOut” earthquake exercise.

Action 1: Provide earthquake public education outreach.

Time Frame: Ongoing

Funding: County and City Emergency Management

Estimated Cost: Minimal

Staff: County and City Emergency Management

Jurisdictions: Countywide

Action 2: Recommend implementation of structural engineering to meet seismic standards.

Time Frame: Ongoing

Funding: Local, FEMA PDM, State Earthquake Program Grant

Estimated Cost: TBD when solutions are determined

Staff: County operations, County engineer, consulting engineer

Jurisdictions: Davis County/Cities

Flooding - Problem Identification: Problem Identification: FEMA has, over the past several years, updated and revised flood hazard maps throughout Davis County. As a result, an increased number of residences are currently located in flood plains. Most of these residents are not fully aware of the change in flood hazard.

Goal: Educate citizens of Davis County about flood hazard.

Objective (Priority HIGH): Increase the level of understanding in homeowners, city officials, permit authorities and title companies/realtors.

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Action: Develop and publicize about flood hazards and the National Flood Insurance Program (NFIP) and disseminate information on the County Emergency Management webpage.

Time Frame: Ongoing

Funding: County

Estimated Cost: Minimal

Staff: County Emergency Management

Jurisdictions: County and Cities

Dam Failure - Problem Identification: Multiple water containment systems located throughout the County are aging and have the potential to fail in the future.

Goal: Prevent dam failures.

Objective (Priority MEDIUM): Provide citizens within the flood area of dams with information on flash flooding.

Action: Provide the population with information and training opportunities about the possibility of and how to respond to flash flooding.

Time Frame: Ongoing

Funding: City Funds

Estimated Cost: Minimal

Staff: County Administration

Jurisdictions: Davis County

Landslide - Problem Identification: Numerous canyons and mountains, large and small exist around and in Davis County. Currently, hundreds of buildings, pipelines, power lines and roadways have been constructed on top of or through these natural formations. Nature continues to construct these canyons and mountains. Landslides and debris flows will continue to occur over time, thus threatening residents and critical infrastructure.

Objective (Priority LOW): Reduce the effects of landslides by way of studying these areas and education.

Action: Continue to encourage cities to adopt a standard of requiring geo-technical studies in identified landslide and debris flow areas.

Time Frame: 1-6 years

Funding: County and city funds

Estimated Cost: Minimal

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Staff: County/City Emergency Management

Jurisdictions: Countywide

Wildland Fire - Problem Identification: Wildland Fire has been a continuing challenge throughout Davis County's history. There are several areas in Davis County where there is an extreme danger of wildland-urban fire. Davis County has been classified as "at risk" for wildland fire. Various cities are actively participating in the development of Community Wildland Protection Plans (CWPP) in cooperation with the County Fire Warden and the Utah Division of Forestry Fire & State Lands

Goal #1: Reduce or eliminate the threat of wildland fire, and the resulting loss of property and/or life.

Objective (Priority HIGH): Increase the level of wildfire knowledge for home and business owners by encouraging participation in The "Utah, Let's Do Our Part" campaign, which provides homeowners and businesses with simple steps to reduce wildfire risk by preparing for wildland fire.

Action: Participate in the "Utah, Let's Do Our Part" campaign which is the result of an interagency effort to reach the public with fire prevention messages relevant to Davis County. The goal of the program is to reach specific audiences with fire prevention messages to reduce the number of human-caused wildfires in the County.

Time Frame: Ongoing

Funding: County Funds

Estimated Cost: TBD

Staff: County and City Fire Departments, Emergency Management

Jurisdictions: Davis County

Problem Identification: Given that wildland fire is a hazard that can be managed through effective fuel control, ordinances requiring residents to maintain defensible space around their respective homes would greatly reduce the fire hazard in these areas. Programs could be established to assist residents in performing this requirement or to encourage rebates for property insurance.

Goal #2: Assist homeowners to maintain defensible space around homes and businesses to more effectively mitigate the wildland fire hazard by conducting fuels reduction and chipper days.

Objective (Priority HIGH): Provide information to residents and homeowners associations (HOAs) about the importance of fuels reduction and defensible spaces.

Action 1: Regularly conduct fuels reduction and chipper workshops.

Time Frame: Ongoing

Funding: Community Fire Departments

Estimated Cost: Minimal

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Staff: Emergency Manager, City/County Fire and Wildland Interface Residents

Jurisdictions: Countywide

Action 2: Educate citizens about defensible space requirements.

Time Frame: Ongoing

Funding: Local

Estimated Cost: Minimal

Staff: Emergency Manager, City/County Fire and Wildland Interface Residents

Jurisdictions: Countywide

Severe Weather - Problem Identification: Most presidential disaster declarations are the result of severe weather. These are usually thunderstorms and snowstorms. However, we are also prone to extremely severe wind events referred to as “East Winds.” Historically, Davis County has experienced gusts of over 110 mph and sustained winds of 80+ mph. These can result in millions of dollars in damage. On average we experience at least one every year. Severe storms result in secondary and tertiary problems mostly dealing with power, heating and travel. Severe weather has resulted and will continue to result in serious travel problems, as well as power and heating difficulties.

Goal: Assist residents protect themselves from the effects of severe weather and changing global climate.

Objective (Priority HIGH): Support programs to prepare residents and elected officials for adverse weather conditions.

Action 1: Encourage all cities to participate in the Storm Ready program.

Time Frame: annually

Funding: County and City Funds

Estimated Cost: Minimal

Staff: County/City Emergency Management

Jurisdictions: Countywide

Action 2: Encourage avalanche preparedness for county backcountry users.

Time Frame: Immediate

Funding: County

Estimated Cost: Minimal

Staff: County Emergency Management

Jurisdictions: Countywide

Problem Identification: Davis County cities near the mountain front are subject to strong easterly canyon winds. These high winds can result in serious disruption of essential public services and

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communications for emergency responders have been severely hampered in the past by high wind damage to communication infrastructure.

Objective 1.2 (Priority HIGH): To educate officials and the public on the impact that climate change has had on water supplies.

Action: Promote education about the impact of global climate change.

Timeframe: Immediate

Funding: Federal, State and Local grants

Estimated Cost: Minimal

Staff: Emergency Manager and local jurisdiction Emergency Management Directors

Jurisdictions: Countywide

Chemical Release - Problem Identification: Air quality impacts from chemical/petroleum releases.

Goal: Reduce the threat of chemical release damage in the city.

Objective (Priority MEDIUM): Educate the public and maintain existing monitoring equipment.

Action 1: Proper maintenance and training.

Time Frame: annually

Funding: Private businesses, County Health Dept.

Estimated Cost: Minimal

Staff: County Health Department

Jurisdictions: County Health Department

Action 2: Public notification of air quality.

Time Frame: annually

Funding: Private businesses

Estimated Cost: \$1000

Staff: County Emergency Management

Jurisdictions: Countywide

Railways - Problem Identification: Potential for HAZMAT spill.

Goal: Have trained personnel available to respond to a possible HAZMAT spill.

Objective (Priority MEDIUM): Continual training on hazardous material response.

Action: First responder training.

City Goals - Davis Co PDMP

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Time Frame: annually

Funding: state/federal grants

Estimated Cost: TBD

Staff: City Fire Departments, Emergency Management

Jurisdictions: Countywide

Pipeline - Problem Identification: Petroleum pipelines that could impact the community if ruptured.

Goal: Support cities in their mitigation and response efforts.

Objective (Priority LOW): Support cities efforts with improvements to infrastructure.

Action: Educate city leadership of pipeline hazards and how to respond if a release occurs.

Time Frame: annually

Funding: Pipeline owners, County

Estimated Cost: Minimal

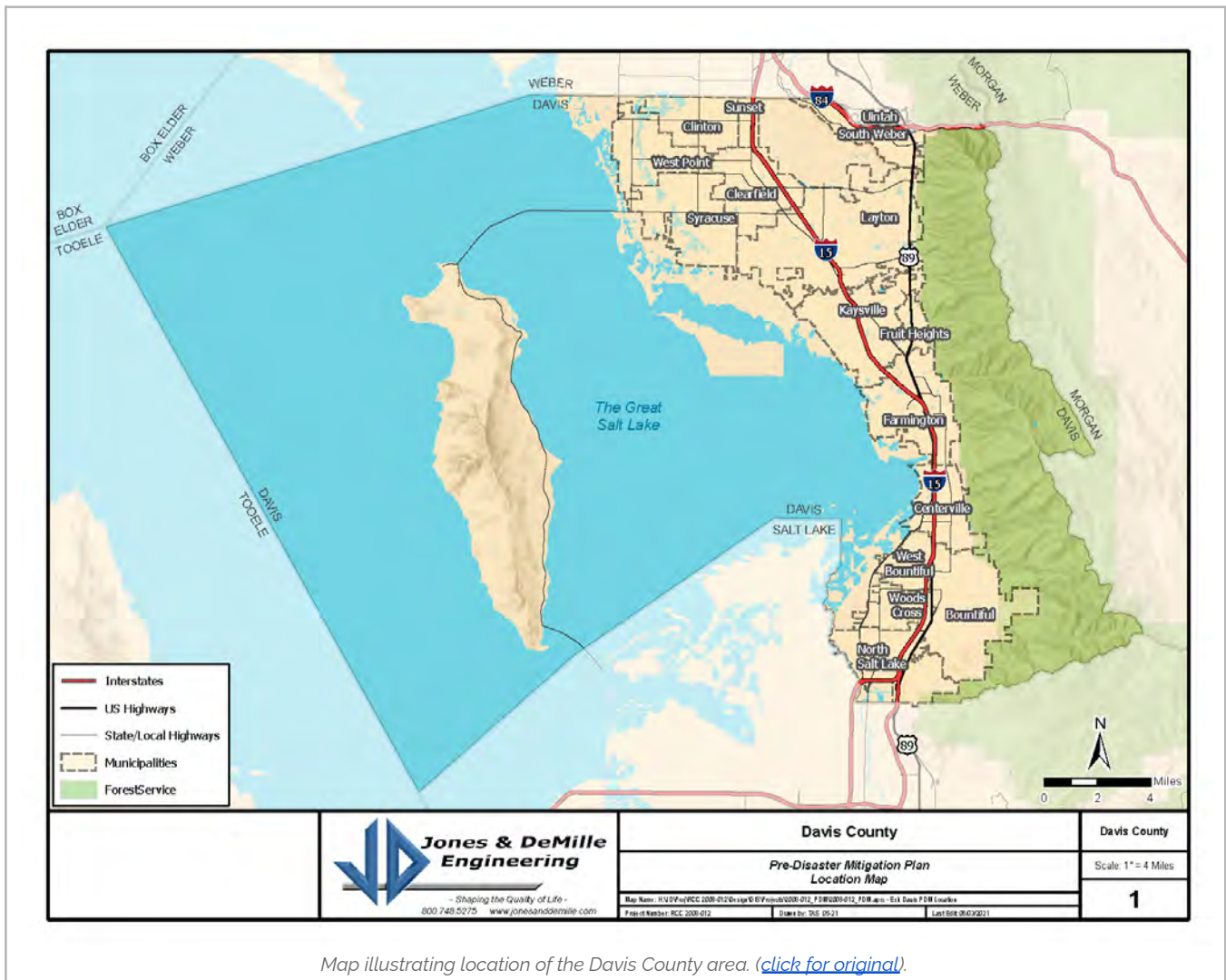
Staff: Pipeline owners, City Staff

Jurisdictions: Pipeline owners, County Emergency Management

Part VII - GEOGRAPHIC SETTING

A. Geographic and Physiographic Background

Davis County is located in northern Utah with an area of approximately 633 square miles. Two thirds of the county is covered by the Great Salt Lake, allowing for only 233 square miles of developable land, much of which is National Forest. The Great Salt Lake is the largest water body within the state and was named due to its high salt content. The elevation ranges from 4,200 feet at the Great Salt Lake to 9,547 feet at Francis Peak. Davis County is bordered by Morgan County to the east, Weber County and the Weber River to the northeast, Tooele County to the west, and Salt Lake County to the south (Davis County 2003).



B. Geology

Davis County is located along the Wasatch Mountain Range. The Wasatch Mountain Range runs north-south and is the eastern border of the valley region of the Great Basin, which is part of the much larger Basin and Range Province.

The geology of this area is a product of Miocene Epoch faulting and folding followed by a period of upheaval. The upheaval raised the valley 3,000 to 5,000 feet in a dome-like manner during the Tertiary Period. This disturbance of the valley floor created tension and a build-up of stress. To accommodate for the change, “block-faulting” occurred that allowed for the uplift of the mountain ranges and depression of the valley floor. This depression extends to the lowest portion of the Wasatch Front Region: the Great Salt Lake. Erosion is now the main geologic process of this area.

The Wasatch Range consists mainly of tertiary lake deposits and tertiary and quaternary volcanic rocks as well as younger Precambrian sedimentary rocks. To the north of Salt Lake City on the Wasatch Front, the hardest, highly altered metamorphosed rocks of schist and gneiss are found and date back about 2.6 billion years. Paleozoic marine sedimentary rocks surround the Precambrian areas of the Range. The Paleozoic sedimentary rocks have a very weak make-up and, in conjunction with Utah’s heavy precipitation during the winter and summer months, many landslides, avalanches, debris flows, and rockfalls occur.

C. Climate

Northern Utah has a cold desert climate. Utah has hot dry summers and cold winters. However, Utah’s climate is variable, wet in some areas of the state and dry in others. This variability is a function of latitude, elevation, topography, and distance from moisture sources. The Davis County region’s climate borders a semi-arid, mid-latitude steppe climate that occurs along the perimeter of the Great Basin Desert, and a humid continental climate found at slightly higher elevations in the Rocky Mountain foothills (Critchfield, 1974).

Northern Utah has four seasons, low annual precipitation, convective and frontal storms, dry summers, low humidity, and large annual and diurnal temperature extremes. The Wasatch Mountain Range brings most of the precipitation to the valley floor. The winter months bring heavy snow accumulation over the mountains that are favorable for winter sport activities.

Spring runoff is at its peak from April through June and can cause flooding along the lower streams. Flash flooding from summer thunderstorms affects smaller more localized areas in the county from summer thunderstorms.

The average annual precipitation in the Wasatch Mountain Range can be more than 40 inches. The average annual precipitation at the Salt Lake International Airport is 15.3 inches, with an average of 58.9 inches of snowfall. Utah is the second driest state in the nation.

The surrounding mountain ranges act as a barrier to the cold continental arctic masses. This also insulates the area during the day and cools the area rapidly at night. On clear nights, the colder air accumulates on the valley floor, while the foothills and benches remain relatively warm.

During the fall and winter months, smoke, haze, and fog can accumulate in the lower levels of stagnant air over the valley floor and can last for several weeks at a time. This is caused by areas of sinking air or high-pressure anticyclones settling over the Great Basin.

Average wind speeds are usually light to moderate, usually below 20 miles per hour. Strong winds can occur in Davis County, mainly in canyon mouths along the western slopes of the Wasatch Mountains. Tornadoes have occurred in this region but are uncommon. Severe hailstorms have also occurred in the region during the spring and summer months.

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D. Major Rivers

Most of Davis County's water is from Wasatch Range snowmelt that occurs during the spring and summer. Larger drainages or river basins are formed from the mountain ravines or depressions that merge into perennial rivers and then meet forming the larger drainages. Davis County has a short stretch of the Weber River Basin.

Agricultural irrigation is the primary use of developed water in Utah, but municipal, industrial, environmental and recreational uses are increasing and this competition will reform the way water is utilized. With the growing population, agricultural land has decreased, with residential and commercial development on the rise. According to the Utah Water Plan, the Weber River Basins is projected to lose a significant amount of agricultural lands over the next few decades.

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Map illustrating drainage basins in the Davis County area. ([click for original](#)).

E. Water and Drought

Utah is the second driest state in the nation and ranks second in per capita water use of public supplies. According to the Utah Division of Water Resources, Utah experienced drought conditions from 1999 to 2004, and from 2014 to 2015 on a statewide level. Decreased flow from major rivers has led to a decline in most of the reservoir levels and in the Great Salt Lake. The 2015 water year was one of the driest ever recorded (Utah Division of Water Resources 2015).

F. Development Trends

Davis County will continue to grow. Despite nationwide trends, Utah continues to develop. In general, the “developable” areas are in the western portion of the county bounded by the Great Salt Lake.

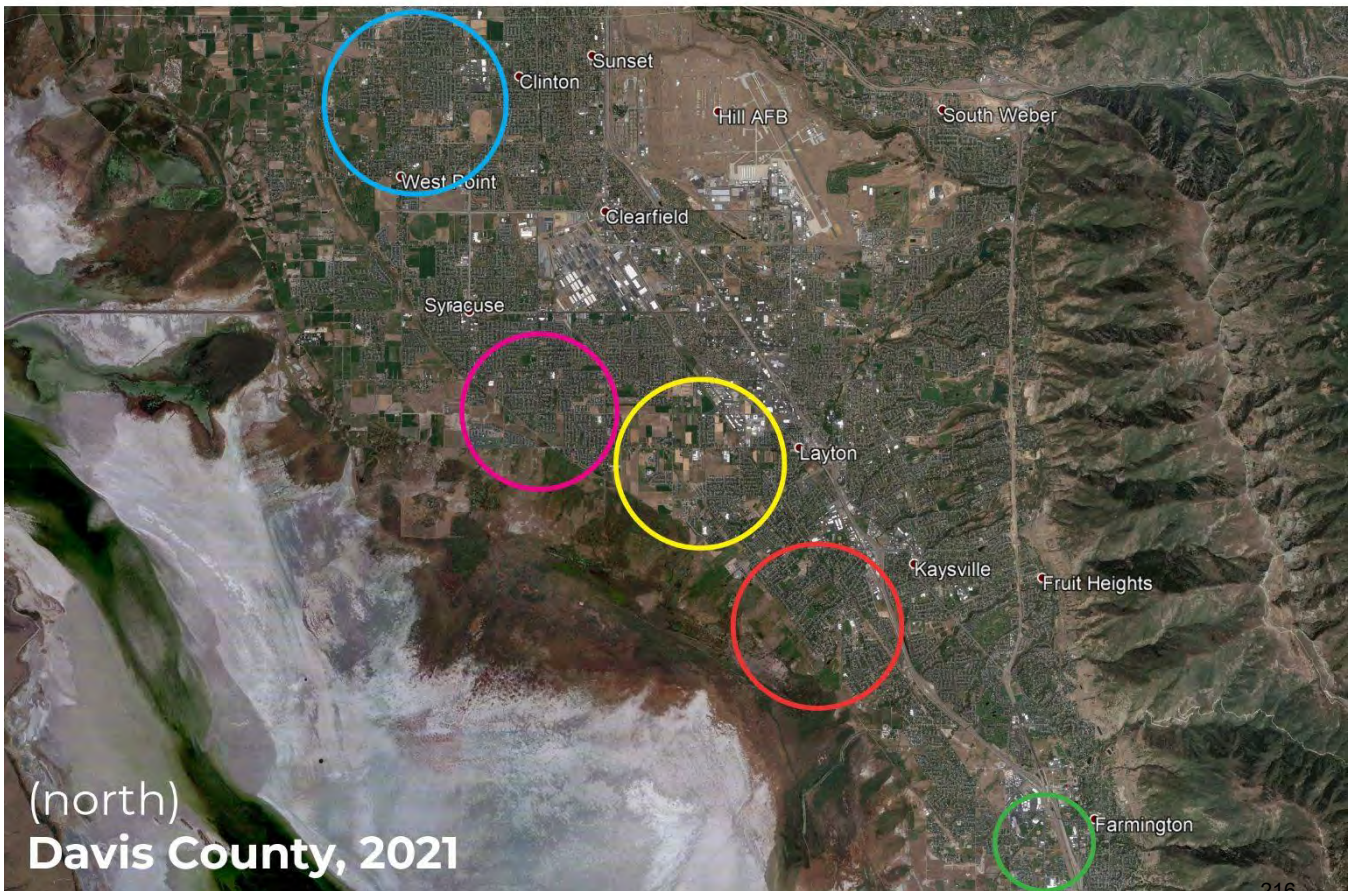
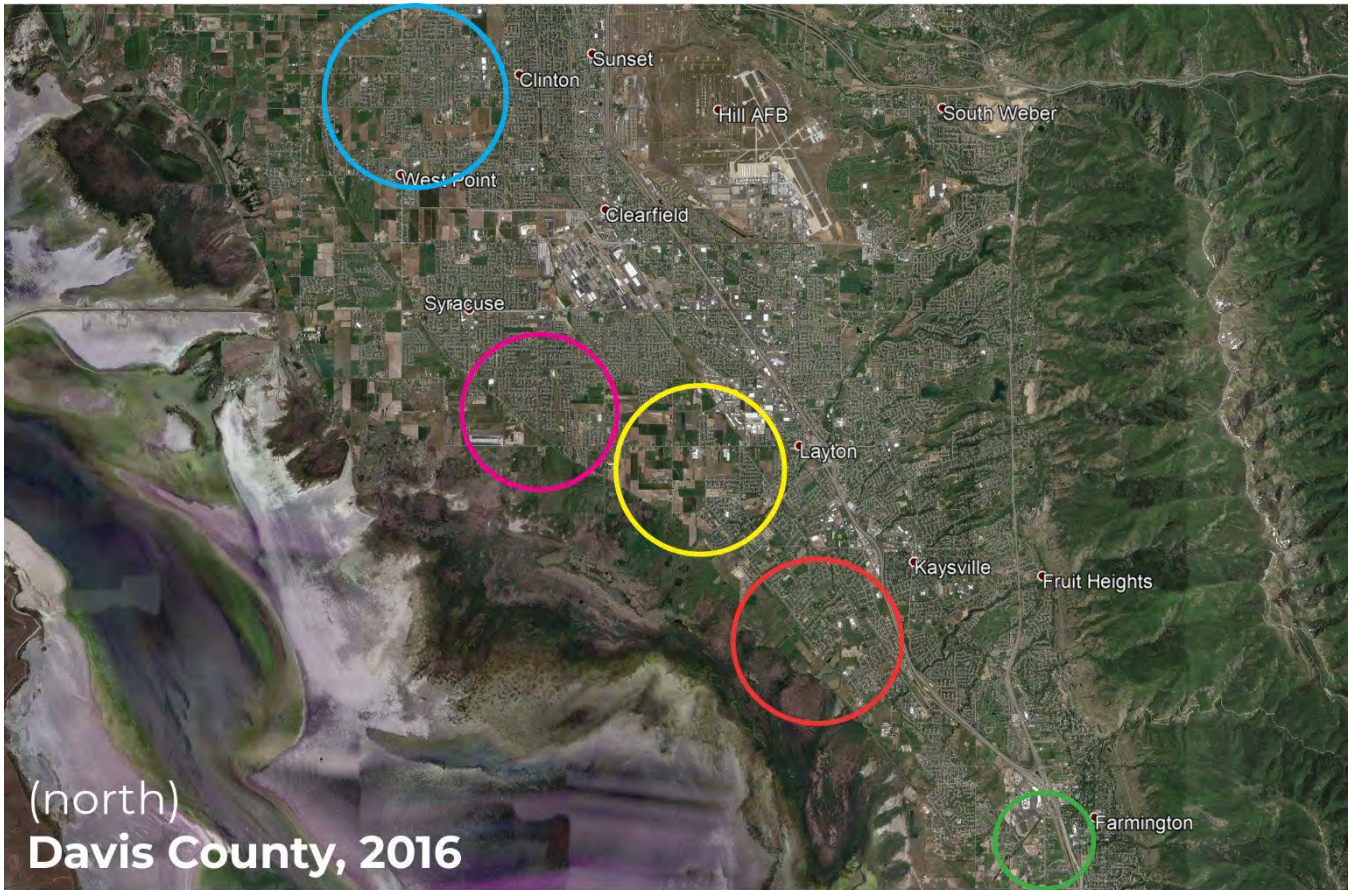
Davis County is part of the area known as the Urban Core of the Wasatch Front, in conjunction with Salt Lake, and Weber Counties. Over the past several decades, a great deal of growth has occurred in these three counties. Davis County’s residential growth will continue to infill previous agricultural and industrial fringe. Some of the residential growth is occurring on more sensitive lands such as hillsides and low lying areas towards the Great Salt Lake, and in northern Davis County. The opening of the Legacy Parkway in 2008 provided a much needed alternate north/south transportation expressway through the county. The planned North Davis Highway will further facilitate transportation from Weber, through Davis, to Salt Lake County.

Most population growth in the county is attributed primarily to residents having children. Some residential growth is attributed to in-migration due to the area’s strong job market. Nationally, growth is occurring in the west and in the south.

Davis County's population is projected to continue to increase significantly. This will result in housing cost increases greater than the rate of inflation. Higher population densities are projected to be concentrated in currently developed areas with recent development occurring at lower densities in the outlying areas.

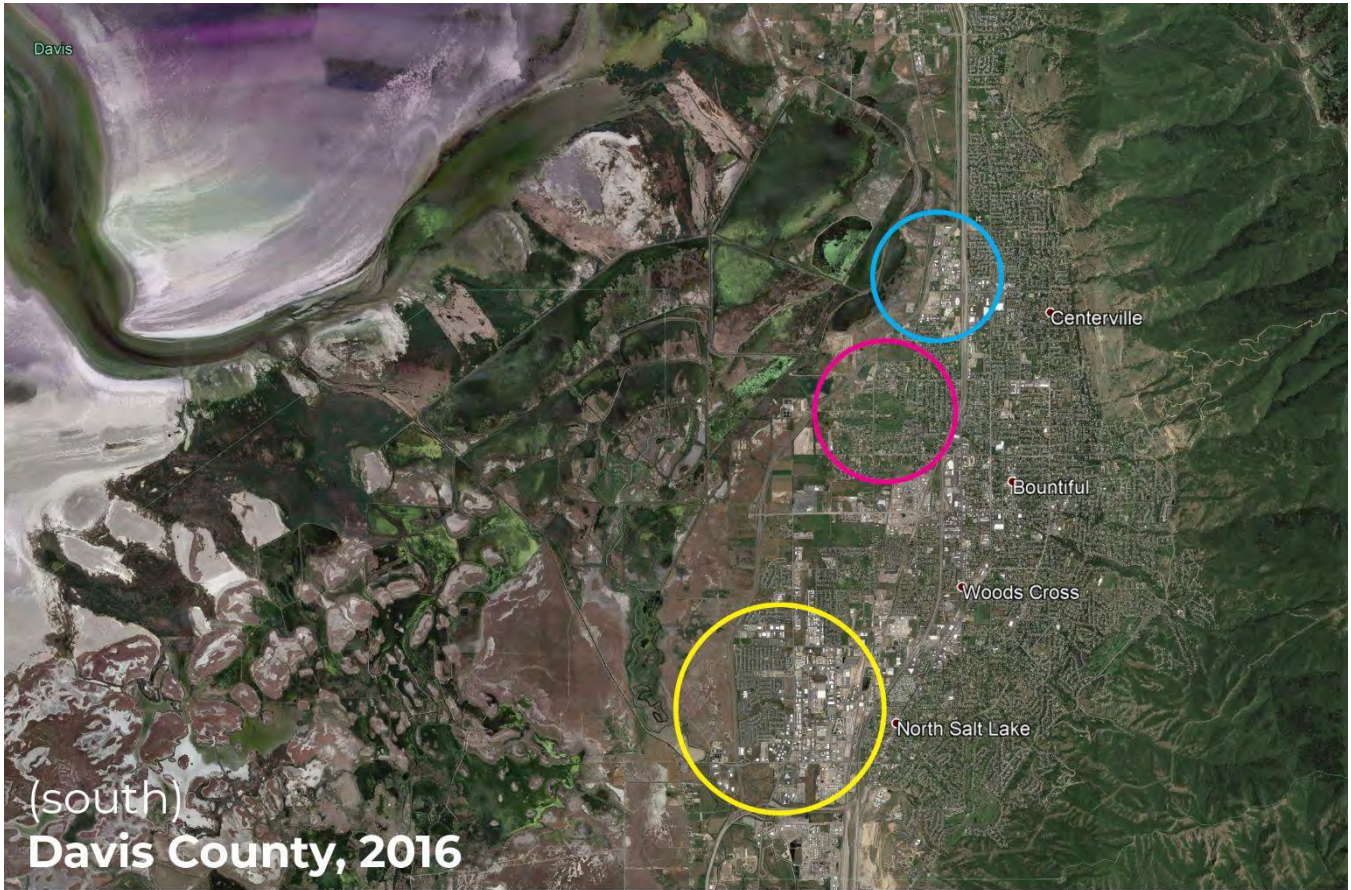
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A large commercial development has occurred at the Station Park project in Farmington. In Clinton, a large commercial development area has experienced major growth at 2000 W. and 1800 N.

G. Development Constraints/Opportunities

Influences on development are many and interrelated. A few are geographic, historic layout, transportation, household size, technology, employment trends and public policy. Development influences can encourage and/or discourage growth. For example, floodplains, wetlands, slopes and faults, sensitive species and transportation influences both attract and detract development.

H. Geographic Constraints

Geographic constraints on the urban area have created a linear region in Davis County that stretches more than 15 miles north to south, from Sunset on the north and south to North Salt Lake. At its widest point, Davis County is only 15 miles from east to west. This unique geographic layout has resulted in the development of a transportation system that is focused on the north-south movement of goods and people.

I. Floodplains

There are a number of identified floodplains in Davis County that pose challenges, command respect and generate appeal for development. Davis County is bisected by the Weber River and numerous streams, which emanate from the mountains and flow westward into the Great Salt Lake. In Davis County, several small creeks, such as Kays, Farmington, Davis, Deuel, North Canyon and others flow from the mountains into the lake. There are other streams too numerous to mention here, but some flow through open channels while sections of others are piped underground. While development is challenged by the floodplain, it is also attracted to it.

J. National Flood Insurance Program Participation

The National Flood Insurance Program was created in 1968 by the Federal Emergency Management Agency (FEMA) to provide homeowners living in the 100-year floodplain an opportunity to purchase flood insurance for their home. In order for individuals to be eligible to purchase flood insurance, their community needs to participate in the National Flood Insurance Program (NFIP). Assistance for community participation in the NFIP is provided by the State Floodplain Manager at DEM. There is also limited funding for flood mitigation projects for communities participating in the NFIP.

National Flood Insurance Program (NFIP) Participation

Community Name	CID	County	Policies	Total Coverage	Total Premium	Total Claims	Total Paid Since 1978	Repetitive Loss
Davis County	490038#	Davis	15	\$4,612,000	\$7,275	22	\$260,349	No
Bountiful	490039#	Davis	61	\$16,983,200	\$59,572	36	\$84,285	No
Centerville	490040#	Davis	31	\$10,645,000	\$14,633	10	\$0	No

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Clearfield	490041#	Davis	13	\$3,528,000	\$10,986	0	\$0	No
Clinton	490042#	Davis	8	\$2,170,000	\$3,122	3	\$1,878	No
Farmington	490044#	Davis	61	\$19,225,000	\$74,257	11	\$50,798	No
Fruit Heights	490046#	Davis	8	\$2,196,000	\$5,477	1	\$0	No
Kaysville	490045#	Davis	32	\$8,828,300	\$31,435	8	\$17,705	No
Layton	490047#	Davis	60	\$15,675,000	\$25,028	15	\$4,558	No
North Salt Lake	490048#	Davis	30	\$14,549,700	\$32,970	2	\$0	No
South Weber	490049#	Davis	8	\$2,660,000	\$3,997	1	\$1,103	No
Sunset	490050#	Davis	1	\$350,000	\$442	0	\$0	No
Syracuse	490051#	Davis	14	\$4,235,000	\$5,698	1	\$0	No
West Bountiful	490052#	Davis	12	\$4,174,200	\$7,263	4	\$7,670	No
West Point	490053#	Davis	4	\$630,000	\$1,272	0	\$0	No
Woods Cross	490054#	Davis	3	\$735,000	\$1,108	57	\$513,507	No
			361	\$111,196,400	\$284,535	171	\$941,853	

Davis County and all jurisdictions participate in the National Flood Insurance Program (NFIP). Davis County joined in March 1982 and the cities joined on the dates as indicated on the chart above. All jurisdictions are in the Regular Program with their current effective maps dated from 2007. FEMA has recently completed a remapping of Davis County and its cities. FEMA's mapping data was accessed from the FEMA Flood Map Service Center website. The effective dates for various maps ranged from 2014 to 2021. Davis County will update their flood mapping data as new data becomes effective. Currently, Davis County has a total of 385 flood insurance policies, and has had a total of 138 claims since entering the NFIP. Each jurisdiction strives to follow the requirements of the NFIP, and utilize permitting for development in the floodplains. Centerville, Bountiful, and West Bountiful all participate in the Community Rating System (CRS). Their status is 7, 9, and 9 respectively. Additionally, Davis County does not have any repetitive loss structures within its boundaries. The County is supporting the mitigation efforts of entities like the Weber Basin Water Conservancy District and surrounding jurisdictions to help reduce the impact from hazards including flooding.

K. Wetlands

Wetlands are those areas that are inundated or saturated with surface or groundwater at a frequency and duration sufficient to normally support a prevalence of vegetation typically adapted for life in saturated soil conditions. The greatest and most significant complex of wetlands in the intermountain area can be found adjacent to and

Geography - Davis Co PDMP

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surrounding the Great Salt Lake. These wetlands provide important habitat to resident wildlife and are also an internationally significant habitat. As many as one million migratory shorebirds and waterfowl utilize the Great Salt Lake wetlands during annual migrations across North America. A majority of these wetlands are found on the east side of the lake. The east side of the lake is where the lake receives most of the freshwater and also where development pressures are occurring. Numerous rivers and streams flow into the lake, supplying this area with the fresh water needed to support wetlands, plant, and animal life. Wetlands can also be found adjacent to the streams, particularly in areas where the streams flow through relatively flat topography or low-lying areas.

Wetlands can be categorized according to their quality and type. Jurisdictional wetlands are those wetlands that are within the extent of the U.S. Army Corps of Engineers (USACE) regulatory overview. For an area to be identified as a jurisdictional wetland, the area must exhibit positive indicators of wetland hydrology, hydrophytic vegetation and hydric soils. If wetlands provide a particularly rich habitat for a variety of wildlife species, it is usually considered to be of high quality, or have a high functional value. Also, wetlands can be classified according to their type, including marsh, wet meadow, riparian scrub, playa/mudflat and open water.

L. Farmlands

Over the past several years, many acres of farmland in the area have been developed. There is a limited amount of prime/unique farmland and farmland of statewide importance in western Davis County. Historically, development followed farmland in an agrarian economy.

Farmlands of statewide importance are not as good as prime farmlands, but are nevertheless important to the agricultural base of the area. These farmlands have more limitations than prime farmlands, such as steeper slopes, high water table, and alkali problems. However, these lands can be made just as productive as the prime farmlands with proper management of the land. If farmlands of the type described above are located within incorporated city limits, it is presumed they will be eventually developed into urban type land uses. Currently, a majority of the acreage of these farmlands is being used to grow winter (dry farm) wheat and alfalfa.

M. Slopes and Faults

The steep slopes of the Wasatch Mountain Range were created by the Wasatch Fault, which runs the entire length of the urbanized areas. The Wasatch Fault and other faults in the area highlight the potential for earthquakes in the area and the need to consider their possible impact on infrastructure. As development continues to creep higher on the foothills of the Wasatch Mountains, slope stability, erosion and drainage problems will present engineering challenges in development design.

Development is usually attracted more to the views of slopes and faults than repelled by the higher risk of soil instability.

N. Open Space

Open Space is a large influence to residential and commercial development. Generally, people are attracted to open space. The Wasatch-Cache National Forest comprises the eastern portion of Davis County and includes a relatively large amount of open space. The urbanized area is fortunate to have exceptional public access to this open space to the east of the valley. Francis Peak is a notable Wasatch Range peak just east of Davis County. Numerous nationally recognized winter and summer recreation areas for skiers, hikers and rock climbers are in close proximity. As a consequence, hundreds of thousands of people visit the public lands in the foothills and mountains of the Wasatch annually.

Other open space features in Davis County include Antelope Island in the Great Salt Lake and the Farmington Bay Bird Refuge, which is a freshwater bay created by a dike of the Great Salt Lake. Over the past several years, population growth in the urbanized areas has impacted the open space resources of the Wasatch Range in a variety

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of ways. Two of these ways are mentioned here. First, there are many more people visiting the popular places in the adjacent mountains. This has jeopardized the environmental quality of the mountains by degrading surface and ground water quality. The Wasatch Range is the major source of water for the adjacent urbanized areas, and water quality degradation can have far-reaching effects.

Secondly, many access points or trail heads to the canyon and other mountain destinations located on public lands that were commonly used in the past have been closed off to the public by private developments. The effect of this is that much of the public open space becomes inaccessible and the opportunity to visit these popular places becomes lost. Remaining access to non-private lands is channeled through an ever-decreasing number of public access points.

Not only can open space resources be found in the mountains of the Wasatch, but private and public open space is also found in the valleys in the form of farms, developed and natural parks, golf courses, water features and vacant land. In many instances, these resources may receive more intensive use than those found in the adjacent mountains. Recently, because of the rapid growth in the area, citizens as well as state and local political leaders have become concerned about the relatively rapid loss of private open space resources, such as farmland and vacant land. Urban growth has put considerable pressure on the farmlands that can still be found in, or adjacent to, the urbanized areas. Some individuals and lawmakers value farmlands and would like to see some of them preserved for future generations.

Management and development of open space has many questions – *how, where, and to what degree will these lands be preserved?*

Some agricultural lands are receiving state designation as farmland preserves through the use of conservation easements and favorable tax treatments. These designations assist farmers in preserving their lands for future agricultural use and provide aesthetically pleasing open space today. However, as development pressure and property values increase, it may become increasingly difficult to keep many agricultural lands in agriculture preserves. Policy decisions relative to open space will affect land use and development patterns, and, as a consequence, will also affect long range plans for the region's transportation systems.

O. Hazardous Waste Sites

Davis County has a few hazardous waste sites, or contaminant sources. Most of these sources are near Hill Air Force Base or in close proximity to industrial areas. Construction through potential contaminant sources may add health and safety concerns and affect construction budget expenditures. The impact of these sites on transportation facilities will need to be addressed during the design and construction phase of each highway or transit project.

There are potentially five types of contaminant sources: underground storage tanks, Title 3 sites, Toxic Release Inventory (TRI) 1990 sites, Resource Conservation and Recovery Act (RCRA) sites and Comprehensive Environmental Response Compensation and Liability Act (CERCLA) sites.

The Comprehensive Environmental Response, Compensation and Liability Inventory System (CERCLIS) database documents hazardous waste sites where a release or potential threatened release has been investigated. These sites are further defined as a location that has been reported to the Environmental Protection Agency and where it is probable that some environmentally hazardous materials are present.

Also, the State of Utah Division of Solid and Hazardous Waste maintains databases for underground storage tank facilities, Leaking Underground Storage Tank (LUST) sites, and RCRA facilities.

P. Sensitive Species

Sensitive species are plants and animals, which are considered threatened or endangered relative to extinction. There are currently 21 species in the Wasatch Front Urban Area that fall into the sensitive species category. The

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most notable of these are the peregrine falcon, bald eagle, and Ute ladies tresses which are all on the federal list of endangered and threatened species. Both peregrine falcon and bald eagle sightings have been reported over the past few years on a fairly regular basis. Some examples of other less notable sensitive species, which are known to inhabit certain areas of Davis County, include the spotted frog, least chub, western burrowing owl, ferruginous hawk, white faced ibis, Bonneville cutthroat trout, pocket gopher, and others. The likelihood of these and other sensitive species being present in the region will depend on whether or not suitable habitats exist.

Q. Ground Water

Much of the water flowing in streams and interfluvial areas seeps into the ground. The foothills and the base of the mountains are the locations where much of this water seeps into the ground. These locations are referred to as aquifer recharge areas. Water is stored in aquifers of various types. A considerable amount of the Wasatch Front Region's water resources comes from these aquifers, which can be tapped through wells or natural artesian springs. Davis County receives only about 15 inches of precipitation a year, yet the benches and mountaintops can annually receive 60 to 100 inches of precipitation. This contrast in precipitation can be a challenge in determining best development. Past and present human activities have affected these ground water resources in certain locations. If precautions are not taken, harmful substances found in landfills and mine tailings can be leached by rain and snow and find their way into the ground water resources. One example of this situation includes the plume of contaminated groundwater slowly moving westward near Sunset, caused by the inappropriate disposal of solvents and other chemicals for decades at Hill Air Force Base.

R. Historical Development Layout

Historically, development has occurred according to the "Plat of Zion." Davis County has street layouts based on the "Plat of Zion", implemented by Brigham Young when the Mormon Pioneers permanently settled the area beginning in 1847. This concept is based on a grid of 10-acre blocks with wide streets. While the concept is apparent in central city areas, the suburbs deviate. Historically, the street network and connecting highways served the local areas. Intercity travel was via the Bamberger Railroad, which ran passenger service from Salt Lake City to Ogden from 1891 to 1952. In the 1950's, the federal government instituted the Interstate Highway System. Interstate 15 linked Salt Lake City, Ogden and Provo together with points north and south while Interstate 80 linked the area with points east and west.

Development has also followed along Interstate 15, Highway 89, and major collectors. Interstate 15 continues north through Davis County joining Interstate 84 in Weber County. Other major north-south arteries in Davis County include U.S. Highway 89 and the Legacy Parkway. The North Davis Highway in western Davis County will serve as a major traffic collector for that area. The historic development has followed the geographic constraints particularly in transportation.

S. Transportation

Large employment centers, such as Hill Air Force Base will need to be served with an improved transportation system. In 2014, the Utah Transit Authority (UTA) implemented a shuttle bus program between the Clearfield FrontRunner Station and Hill Air Force Base. This shuttle service has not had a high level of ridership.

The Wasatch Front Regional Council completed a Comprehensive Transportation Plan (RTP) in 2015. The transportation projects included in the 2015-2040 RTP are planned to meet the travel needs and improve quality of life within the Wasatch Front for the next 30 years. WFRC developed project lists with residents, local government stakeholders, and partner agencies by collecting project ideas and testing them against the RTP Goals. To be implemented, the region will need both existing and additional transportation revenues, which are outlined in the phasing and financial assumptions.

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In addition to regional road, transit, and bicycle improvements, the 2015-2040 RTP also recommends general policy for transportation systems, enhancements, regional freight movement, safety, preservation and maintenance, and homeland security. The Plan conforms to federal air quality standards, meaning that the vehicle emissions estimated for the year 2040 are within the limits identified in the State Implementation Plan (SIP). Click [here](#) for the Plan's air quality conformity analysis. The plan includes interactive maps containing all of the highway, transit, and bike projects proposed for the 2015-2040 RTP. (Source: Regional Transportation Plan 2015-2040 Wasatch Front Regional Council 2015)

The growth and distribution of population and employment in Davis County will have a significant impact on the transportation demands in the next 25 years. Transportation accessibility is one of the major, if not the most important determining factor, where people live and work. To a large extent, people will live and work where transportation exists. Future development patterns will influence and be influenced by transportation. It is better planning to first conceptually plan for major transportation requirements.

A significant portion of the population growth is expected to occur in western and southwestern sections of Davis County. Anticipated growth will increase the need for north-south travel in the Region, which is being addressed in part by the ongoing reconstruction of I-15, the Legacy Parkway, and the North Davis Highway. Finally, travel in Davis County will increasingly be affected by the population and employment growth in the Farmington/Layton urban area.

Air quality is an influence on transportation. Greater awareness and concern for the air quality has resulted in tighter air quality standards and decreased transportation emissions. As Davis County continues to grow, the interrelationships among development and transportation will continue to increase.

These interrelationships have significant impact on the transportation facilities now and in the future. Davis County's transportation system will need to improve east/west capacity to serve employment centers in suburban locations, such as Clearfield City's Freeport Center. Travel demand will continue to grow in direct proportion to projected population increases. The population and employment growth in Davis County will increasingly affect travel demand in the urbanized area.

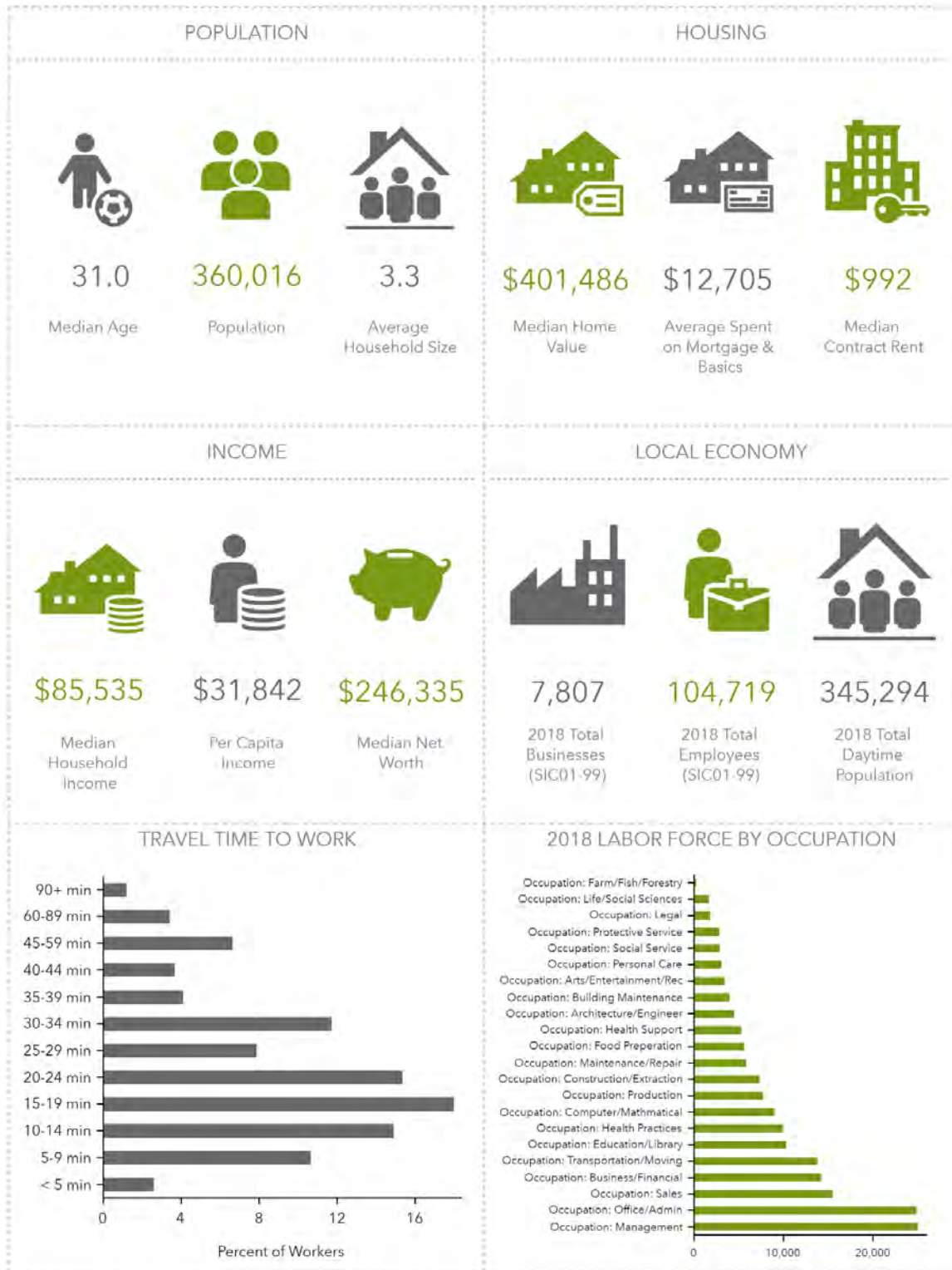
The growth and distribution of the Wasatch Front population and employment will continue to have a significant impact on the transportation needs of the future. Increases in regional population and employment translate into a growing demand for travel. In addition, the number of miles driven continues to increase. The amount and distribution of growth provide insights into the type, size and location of new transportation facilities required to meet present and future travel demand, including new highway projects, transit improvements, and transportation facilities for bicycles and pedestrians.

T. Household Size

Even with relatively large families, Utah is following the national downward trend in household size. As the population ages, birth rates fall and the household size decreases. There are areas in the region that will experience a slowing of population growth due to falling household sizes, while others will increase due to neighborhood recycling, where young families with children move into a neighborhood as the aging population dies. Overall, Davis County's population continues to grow and there doesn't appear that this growth will slow down in the foreseeable future.

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Infographic of socioeconomic indicators for the Davis County area. ([click for original](#)).

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U. Technology

As technology develops, its influence on community development touches every aspect dramatically. Technological influences are significant. This report will only very briefly mention a few. Technology advances in communications have made it possible for telecommuting, reduced the requirement of a daily commute to a workplace; increased availability of reliable public transportation has changed where people live and work; advances in agriculture have allowed more food to be produced on less land; and technological advances allow developments on marginal sites.

V. Reclamation of Industrial Land

Much public and private land will remain undeveloped because of specific environmental constraints, such as steep slopes, prime wetlands, or hazardous substances. However, other environmentally challenging properties are now developable due to advances in technology. Some areas historically used for industrial or mining activity are planned to be reclaimed for other uses.

W. Employment Trends

In the past 30 years, Davis County's economy has diversified, resulting in more widespread development. The county's economy was once heavily dependent on a limited number of industrial sectors, primarily Hill Air Force Base, and Freeport Center.

No longer dependent on a limited number of sectors, the County's economy is now based on the service sector and other industries, such as health care, education, and local government. Agriculture continues to decline in importance in Davis County as agricultural lands are developed for urban expansion. The distribution of commercial and industrial development will remain much as it is today. Davis County experienced minimal employment changes, up or down, during the past decade. Overall, large employment gains are occurring in suburban areas.

X. Public Policy

Under Utah State law, local cities and counties are responsible for setting land use policy in their areas. Utah State Statute provides for the development of county-level plans under Title 17-27a-401. Components which are required to be addressed within these plans include: land use, transportation, environmental issues, public services and facilities, rehabilitation and redevelopment, economic concerns, recommendations for plan implementation, and "any other elements that the county considers appropriate". In 2015, the Utah Legislature amended Title 17-27a-401 to also require that county general plans include a "resource management plan" to provide a basis for communicating and coordinating with the federal government on land and resource management issues.

Projections for the Wasatch Urban Area Long Range Transportation Plan: 2007-2030 is based on individual city and county land use assumptions. A majority of the region is expected to be developed for residential uses. These local master plans call for relatively low-density residential and non-residential development patterns, with some pockets of denser activity. Large areas of industrial/warehouse development are planned around Hill Air Force Base. High-density office and commercial developments are focused mainly in the Station Park Development, near the Clearfield and Layton Frontrunner Stations with smaller commercial areas located in the Redwood Road area in North Salt Lake. Additional smaller nodes of commercial and retail development are dispersed throughout urban and rural portions of the County.

The Utah Quality Growth Act of 1999 created the Utah Quality Growth Commission to address the challenges and opportunities that growth brings to Utah. In addition, several public and private partnership planning efforts involved in smart growth initiatives have developed land use alternatives and growth scenarios. Envision Utah's

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outreach presentations provided local public officials and the general public the opportunity to examine the future consequences of various land use decisions. The growth scenarios ranged from the status quo land use planning to a demonstration of much greater density. These planning exercises and demonstrations proved beneficial in educating participants about development options and their anticipated consequences.

A significant portion of Davis County is currently zoned for low-density residential development. Additional commercial land use nodes are dispersed throughout southern Davis County to serve adjoining residential communities. An extension of the existing transportation network will provide needed highway and transit service to newly developed land. As land use changes, so will the type and size of facilities needed to meet increased travel demand.

Future land use characteristics of the Davis County urban area will play a key role in determining future development trends. Large portions of north Davis County are currently zoned for low-density residential development. Industrial land uses are located at the Falcon Hill development on Hill Air Force Base, and Clearfield's Freeport Center.

Areas for commercial land uses include linear concentrations along major arterial roads including Hill Field Road near the Layton Hills Mall, State Street (Layton and Clearfield) and Main Street (Kaysville, Clearfield and Sunset). Additional commercial nodes are dispersed throughout the Urbanized Area to serve adjoining residential communities.

Public policy is the greatest contributing factor in development. This report has briefly mentioned the general development trends in the region and county as well as the contributing and limiting influences on development. Ultimately, the many development constraints and influences are measured, weighed, compared, and balanced in public policy.

Development public policy is articulated in Master Plans (sometimes referred to as General Plans, Land Use Management Codes, and other planning documents). Master Plans and Land Use Management Codes are formally adopted by city or county councils whereas other planning documents may not receive formal adoption. All Region counties continue to update their Master Plans and Land Use Management Codes. The counties have cooperated in producing the Wasatch Front Regional Open Space Plan. This Plan gives each county guidelines for preserving and developing open space. Davis County has been supportive of Envision Utah. Envision Utah is partially State supported to advocate smart growth. Envision Utah defines "smart growth" as growth that requires minimal infrastructure and maximizes environmental and human benefits.

Part VIII - CAPABILITY ASSESSMENTS

This assessment analyzes current capacity to mitigate the effects of natural hazards and emphasizes the positive capabilities that should be continued. Davis County has elected to conduct a hazard and capabilities analysis.

The following areas were assessed to determine mitigation capabilities:

- A. Staff and Organization
- B. Technical
- C. Fiscal
- D. Policies and Programs
- E. Land Use Management
- F. Legal Authority
- G. Political Willpower

A. Staff and Organization

The assessment found that Davis County has the capability to undertake and complete a limited level of natural hazards mitigation projects. Davis County and its cities are already protecting citizens from natural hazards under one if not several departments within their governmental structure.

City and County Elected Officials

The Davis County Commission consists of three members. Each of the fifteen cities has a mayor and a city council, consisting of five members, which governs the municipality. The elected officials have the responsibility of adopting mitigation policies. Cities and counties receive their legal authority to govern from the State of Utah.

Davis County General Capabilities

Listed below is a general organizational list of county/city governmental administrative areas involved in pre-disaster mitigation:

- Elected officials
- City Managers
- County and City Attorneys
- County Assessors
- County Clerks
- Human Services/Personnel Directors
- County and City Treasurers/ Finance
- Public Works Departments
- County and City Planning/GIS Departments
- County Health Department

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- Police and Fire Departments
- Davis County Emergency Management
- Special Improvement Districts

Emergency Management

Davis County has an emergency management director, organized under the sheriff's office. The emergency management director is responsible for natural and man-made hazard mitigation, preparedness, response, and recovery operations.

Local Emergency Planning Committee (LEPC)

The mission of LEPC is to coordinate emergency preparedness for hazardous materials between all public and private emergency task disciplines. Many LEPCs have expanded their mandated hazardous materials function to include all hazards. The Davis County LEPC is composed of elected officials; law enforcement, emergency management, firefighting, emergency medical services, health, local environmental, hospital and transportation personnel; broadcast and print media; community groups; and owners and operators of hazardous chemical facilities that are required by federal law to have hazardous chemical emergency planning. Davis County has an active LEPC.

Fire/Emergency Medical Services

Most of the cities in Davis County have fire departments. Following a national trend, there are two multi-jurisdiction fire districts in Davis County that were formed with the goal to better provide fire and emergency medical services.

Public Works

Divisions within public works often include streets, engineering, water, power, wastewater and sanitation. The Davis County public works department has undertaken a number of mitigation projects in the county. Several municipal public works departments have also participated in hazard mitigation, primarily in the form of stormwater and watershed management projects.

Health Care

Davis County's four hospitals and the county health department provide medical emergency preparedness and response. Davis County Health organizes, coordinates and directs emergency medical and health services. The health department assesses health hazards caused by damage to sewer, water, food supplies or other environmental systems. It also provides safety information, assesses disaster related mental health needs and services, and provides crisis counseling for emergency workers. Short of a pandemic disease outbreak, the health department will likely continue to adequately staff, train and fund its mission.

School District

The Davis School District has more than 70,500 students in 92 schools. District administrators work closely with local public safety officials including law enforcement, fire emergency medical services, and public health to help ensure that schools are well prepared for any kind of emergency.

Special Service Districts

For the purposes of this Plan, Special Service Districts (SSD) are defined as quasi-governmental agencies having taxing authority, providing a specific public service that may include; public transportation, fire,

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water, wastewater and sewer. These SSD's work closely with local public safety officials to ensure that these Districts are well prepared for any kind of emergency. In many cases, the districts participate in the county or city emergency preparedness committee for emergency coordination, planning and response.

B. Technical Capability

Throughout the plan update process, Davis County staff consulted with and utilized the technical expertise from a wide variety of resources listed below:

Jurisdiction Technical Expertise

Davis County and all of the cities either employ or contract with planners, emergency managers, building inspectors, housing specialists and engineers on staff.

Geographic Information Systems (GIS)

Davis County has experienced GIS staff capable of providing important data to this planning process. GIS is a geo-referenced set of hardware and software tools that are used to collect, manage and analyze spatial data. (GIS capabilities are often found in other departments such as public works or information technology). GIS is most beneficial when data from all departments and planning jurisdictions is inputted for analysis.

Public Safety Communications (PSC)

Public safety communications networks assure emergency communications through radio, microwave, telephone, satellite, internet, e-mail, fax and amateur radio. One of the most beneficial capabilities of PSC is providing cross communication between equipment and frequencies. PSC coordinates dissemination of emergency information to the media, the public and emergency personnel; activates internal information systems; acts as a liaison to elected officials; assists in the provision of emergency information and documents the impact.

Public Works

Public works departments generally provide engineering, transportation, GIS, water, wastewater, sanitation (in some cases electric power) expertise and capability. As a team, public works personnel identify critical infrastructure and plan and prepare for emergency mitigation.

Utah Division of Emergency Management (Utah DEM)

Utah DEM assists Davis County in providing information on preparing for, responding to, and recovering from emergencies. DEM serves as the liaison between local, state and federal emergency assistance. DEM also educates the public about earthquakes, hazardous materials, floods, communications, leadership, information technology, funding, coordination and supplies.

Utah State University(USU) Cooperative Extension

The USU Extension Service assisted with family and community data in putting research-based knowledge to work. Many of the programs and informational courses improve pre-disaster mitigation.

University of Utah

The University of Utah was utilized as a technical resource for academic mitigation research and demographic data (particularly through the Kem C. Gardner Institute).

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C. Fiscal Capability

Davis County has limited fiscal capabilities to implement mitigation strategies. Davis County is one of the top five counties in the state in budgeted expenditures and population. Davis County and most of its jurisdictions have provided some level of matching funds for federal grants in the past.

Utah State Code; Section 17-50-501 classifies counties into six categories based on population. The State of Utah grants graduated autonomy to counties according to class size. Davis County is a Class 2 county with an estimated 2019 population of over 355,000 residents (USCB 2019 Quick Facts).

D. Policies and Programs

Connecting local land use management with natural hazard planning is an effective way to mitigate a community's risk. Many communities have plans, ordinances, agreements, maps, training, warning systems, etc. in place that help them to become more disaster resistant. One of the goals of this Plan is for communities to coordinate existing activities so that individual objectives become part of an overall plan of action.

E. Land Use Management Tools

Ordinances

- Zoning ordinances designate the use of land and structures for the purpose of protecting the health, safety and welfare of residents and businesses. A zoning ordinance divides all land within a jurisdiction into zones or related uses. The zoning ordinance consists of two parts; the text and maps. Specific zones are usually created for residential, commercial, industrial and government uses. The map defines the boundaries of these zones and the text provides the regulations for uses that are permitted to exist in each of the zones.
- Subdivision ordinances regulate all divisions and improvements of property including the division of land involving the dedications of new or changes of existing streets/roads.
- Design controls regulate building and landscaping. Such controls can be tailored to require that new developments meet the specific needs of the area. For example, requiring flame resistant roofs in urban- rural wildland fire interface zones or requiring that trees and vegetation are planted on steep slopes to help mitigate landslide hazards.
- Floodplain ordinances prevent building in special flood hazard areas and provide flood loss reduction measures to new and existing development. Floodplain management ordinances help to provide insurance to homes and businesses through the National Flood Insurance Program (NFIP). The NFIP's Community Rating System was implemented to encourage cities to manage floodplain activities that exceed the minimum NFIP standards. A community participating in the system will receive reductions in insurance premiums.
- National Flood Insurance Program Participation The National Flood Insurance Program was created in 1968 by the Federal Emergency Management Agency (FEMA) to provide homeowners living in the 100-year floodplain an opportunity to purchase flood insurance for their home. In order for individuals to be eligible to purchase flood insurance, their community needs to participate in the National Flood Insurance Program (NFIP). Assistance for community participation in the NFIP is provided by the State Floodplain Manager at DEM. There is also limited funding for flood mitigation projects for communities participating in the NFIP. Davis County and all the cities participate in the NFIP and comply with the minimum standards required by FEMA to be considered participating jurisdictions.

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- Building codes require certain standards of practice.

Easements

Easements can be a cost effective way to control development in hazard prone areas. Various land trusts can help secure easements that can then be conserved or preserved.

Planning

- **General plans** serve as a guide for decision-making on rezoning and other planning proposals and as the goals and policies of municipalities attempting to guide land use in local jurisdictions. Each plan is recommended to include land use, transportation, environment, public service and facilities, rehabilitation, redevelopment, conservation, and economics. Also recommended are implementing recommendations including the use of zoning ordinances, subdivision ordinances, capital improvement plans, and other suitable actions that the municipality deems appropriate. General plans articulate the jurisdiction’s vision while land use management codes implement that vision. General plans and land use management codes are being consulted, reviewed, and changed as necessary.
- **Emergency Operations Plans (EOPs)** identify specific emergency actions undertaken by a jurisdiction to mitigate the loss of lives and property immediately before, during, and following an emergency. The Davis County Emergency Operations Plan EOP was reviewed as part of this planning process.
- **Floodplain Management Plans** identify steps and implementation strategies to effectively deal with floodplains. FEMA uses a scoring system that is used to rate communities. Those with higher scores will receive higher discounts (in 5% increments) on flood insurance.
- **Stormwater Management Plans** identify water policies for an entire watershed. Such policies can include: preservation of habitats, water quality and supply, open space development, land preservation, pollution prevention and construction regulations.
- **Environmental Reviews** explain how development affects the land and its resources.
- **Capital Improvement Plans.** Cities plan for costs related to infrastructure, public facilities, and public safety. These plans identify projects, prioritize them and identify ways of funding them. Such plans can include disaster reduction costs or mitigation measures in flood-prone areas or retrofitting buildings for seismic strengthening.

The jurisdictions that make-up this region have incorporated various mitigation measures. The following tables identify, by county, existing land use ordinances, management practices and plans currently in place.

Table 8.1 - Natural Hazard and Environmental Planning, Davis County

	Bountiful	Centerville	Clearfield	Clinton	Farmington	Fruit Heights	Kaysville	Layton	North Salt Lake	South Weber	Sunset	Syracuse	West Bountiful	West Point
Emergency Ops Plan	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y

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Stormwater Plan	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
Annexation Policy Plan	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
General Plan: Land Use	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
General Plan: Transportation	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
General Plan: Housing	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Regional Transportation	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Wildfire Plan (CWPP)	Y	Y	N	N	Y	Y	Y	N	N	Y	N	N	N	N

Table 8.2 - Natural Hazard & Environmental Quality Ordinances, Davis County

	Bountiful	Centerville	Clearfield	Clinton	Farmington	Fruit Heights	Kaysville	Layton	North Salt Lake	South Weber	Sunset	Syracuse	West Bountiful	West Point
Avalanches	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Earthquakes, Faults, Geologic Hazards	Y	Y	N	Y	Y	Y	Y	Y	N	Y	Y	N	N	Y
Floodplains	Y	Y	Y	n/a	Y	Y	Y	Y	Y	Y	Y	N	Y	Y
Foothills & Canyons	Y	Y	N	n/a	Y	Y	Y	Y	N	Y	n/a	N	N	n/a
Groundwater	Y	Y	N	Y	Y	Y	N	Y	Y	Y	Y	N	N	Y
Habitat	N	N	N	N	N	N	N	Y	N	Y	Y	N	N	Y
Lakes, Streams, Riparian	Y	Y	N	N	Y	Y	N	Y	N	Y	Y	N	Y	Y
Landslides	Y	Y	N	n/a	Y	Y	Y	Y	Y	Y	n/a	N	N	n/a
Mountains & Forest Zones	Y	N	N	n/a	N	Y	N	N	N	Y	n/a	N	N	n/a
Pollution & Air Quality (General Plan)	N	N	N	N	N	N	N	Y	N	Y	N	N	Y	N
Prime Agricultural	N	N	N	Y	Y	N	N	Y	N	Y	N	N	N	N

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Lands														
Ridgelines	Y	N	N	n/a	N	N	N	N	N	Y	n/a	N	N	n/a
Sensitive Lands	Y	Y	N	N	Y	Y	Y	Y	Y	Y	N	N	Y	Y
Steep Slopes	Y	Y	N	N	Y	Y	Y	Y	Y	Y	n/a	N	N	n/a
Watersheds	Y	N	N	N	Y	Y	Y	Y	N	Y	N	N	Y	N
Wetlands (Army Corps)	N	Y	N	Y	Y	Y	Y	Y	N	Y	N	N	N	N
Wildland Fire (WUI)	Y	N	N	N	Y	Y	N	Y	N	N	N	N	N	N

Building Codes

International and national building codes have been adopted by all jurisdictions in the county. These codes are constantly in review for reasonable mitigation for disasters. Locally, building officials lobby for additions or exceptions to international and/or national building codes according to local conditions. Most insurance policies rely on the international and national building code standards for assurance.

The Insurance Services Office, Inc. manages the Building Code Effectiveness Grading Schedule (BCEGS). This program was implemented in 1995 and assesses the building codes in effect in a particular community as well as how well the community enforces its building codes. The BCEGS program assigns each municipality a BCEGS grade of 1 to 10 with 1 showing exemplary commitment to building code enforcement. Insurance Services Inc (ISO) developed advisory rating credits that apply to ranges of BCEGS classifications 1-3, 4-7, 8-9, 10. ISO gives insurers BCEGS classifications, BCEGS advisory credits, and related underwriting information.

Communities with effective, well-enforced building codes should sustain less damage in the event of a natural disaster, and insurance rates can reflect that. The prospect of lessening natural hazard related damage and ultimately lowering insurance costs provides an incentive for communities to enforce their building codes rigorously. FEMA also uses these scores in their competitive grant programs, giving a higher ranking to those projects with lower scores. The following table highlights the BCEGS scores for Davis County jurisdictions.

Table 8.3 - Building Code Effectiveness Grading Reports, Davis County

BCEGS Classification	Residential	Commercial	Date
Bountiful	3	3	2006
Centerville	3	3	2004
Clearfield	3	3	2004
Clinton	4	2	2005
Davis County	4	4	2006
Farmington	3	3	2005

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Fruit Heights	3	4	2006
Kaysville	3	2	2004
Layton	3	3	2004
North Salt Lake	4	4	2003
South Weber	4	4	2004
Syracuse	4	3	2006
West Bountiful	99	99	2006
West Point	99	99	2003
Woods Cross	99	99	2006

F. Legal Authority

Local governments play an essential role in implementing effective mitigation. Each local government will review all present or potential damages, losses, and related impacts associated with natural hazards to determine the need or requirement for mitigation action and planning. In Davis County the local executive responsible for carrying out plans and policies are the county commissioners and for local jurisdictions it is the city mayors/city managers. Local governments must be prepared to participate in the post-disaster Hazard Mitigation Team process and the pre-mitigation planning as outlined in this document. The cities and counties of Utah have the authority, through policing, to protect the health, welfare, and safety of their residents.

G. Political Willpower

Davis County region public officials have shown support for pre-disaster planning in the following ways:

Community Development Documents

Elected officials have adopted updated community development documents to reduce the risk of emergencies and disasters. Each county and most cities have updated Emergency Operation Plans, Land Use Management Codes, International Building Codes, and General Plans that include pre-disaster planning. In addition, there is support from residents. Davis County recently adopted an Open Space Plan. In the Davis County Open Space Plan, property with higher probability for natural hazards is recommended for open space or lower intensity uses.

Emergency Planning Training Courses

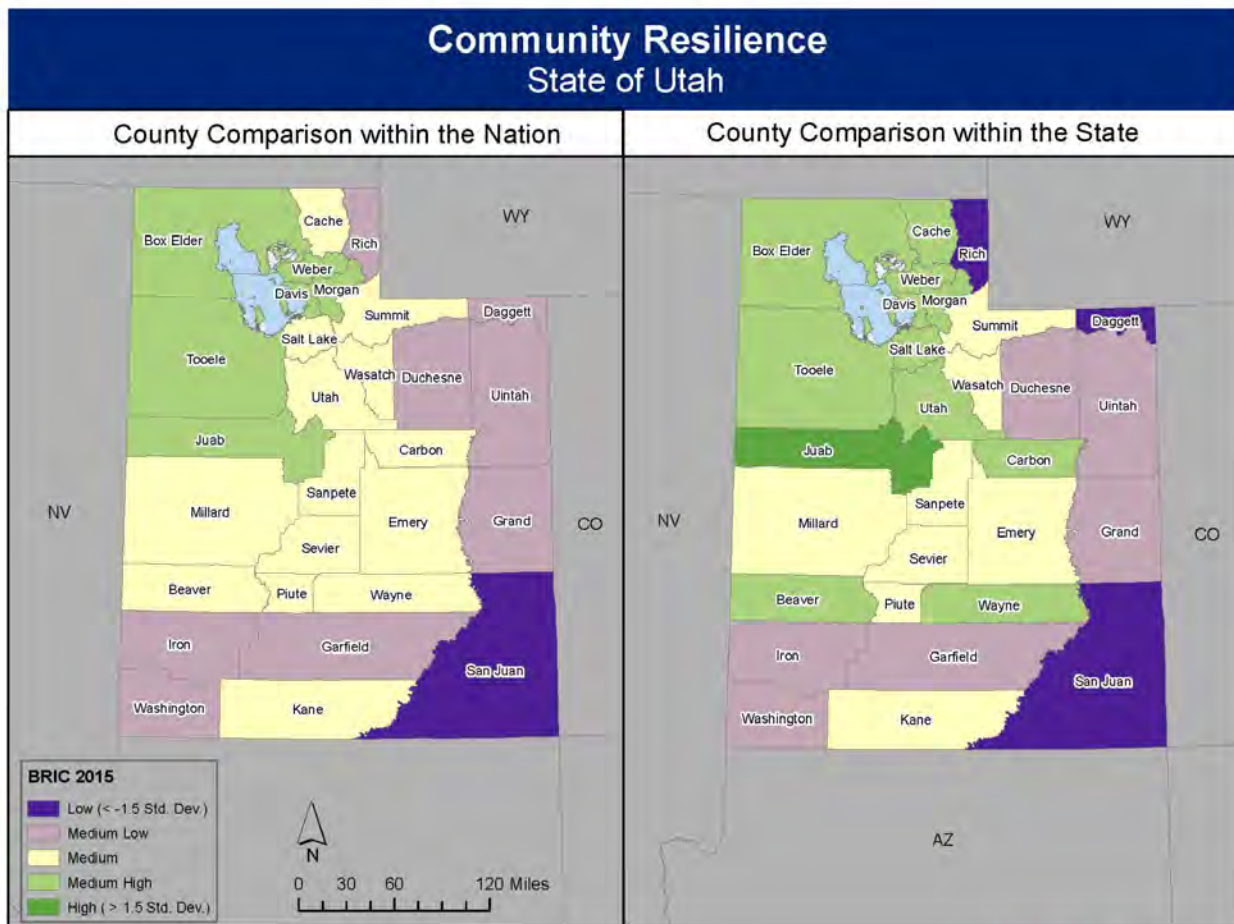
Davis County's residents have supported emergency planning training sponsored by Utah DEM and local governments such as: CERT (Community Emergency Response Team), Local Emergency Planning Committees (LEPC), Hazardous Materials (HAZMAT), Site Plans and Ordinances, Real Estate Requirements, and Hazard Mitigation.

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Part IX - RISK ASSESSMENT

The FEMA National Risk Index identifies Davis County Utah as an area with an overall risk index of 6.92. This is lower than the average for counties in Utah (7.25), and the national average (10.70). However, emergency management is a priority to Davis County because the same matrix identifies Davis County as having a much higher score for “Expected Annual Loss” (23.83) - almost double the average in Utah (12.95) and counties throughout the nation (13.47). One of the main reasons for this is because of the population density and building values in Davis County. Fortunately, through careful management efforts, Davis County is a community with a relatively high potential for resilience.



Baseline Resilience Indicators for Communities (BRIC) 2015



A. Hazard Identification

The first step in risk assessment is identifying the hazards that could affect Davis County. Hazard identification addresses the geographic extent, the intensity/magnitude of a hazard and the probability of its occurrence. Hazard identification was initiated through an extensive process that utilized the following:

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- Core Planning Team
- Local Working Group
- Subject Matter Experts
- Community and Public individuals
- Elected Officials
- City and County Agencies
- Utah Division of Emergency Management
- Utah Geological Survey
- Utah Automated Geographic Reference Center

The natural hazards in Table 9.1 below have the potential of impacting Davis County. The identification process for Davis County utilized those natural hazards that consistently impacted the county prior to and during the planning process based on history of occurrences, future probability, and risk. Table 9.2 identifies those natural hazards for easy reference.

Davis County created maps that identified the location of critical facilities and the municipalities affected by each identified hazard. Initial data from this study was also used to determine hazards that presented the greatest risk to the county. The geographic extent of each hazard is identified through maps. County hazard intensity/magnitude and probability profiles are also outlined.

Davis County conducted and updated risk assessment analyses for each identified hazard.

Table 9.1 - Local Hazards Identification

EARTHQUAKE	
How Identified	Why Identified
Review of County Emergency Operations Plan Review of past disaster declarations Input from City and County Emergency Operations Managers, USGS, UGS, Utah DEM, and community members	Utah has a 1:5 chance of experiencing a large earthquake within the next fifty years. Numerous faults throughout Utah including the Intermountain Seismic Zone. Yearly, Utah averages approximately 13 earthquakes having a magnitude 3.0 or greater. Earthquakes can create fire, flooding, hazardous materials incidents, transportation, and communication limitations. The Wasatch Front has recorded large earthquakes in the past and can be expected to experience large earthquakes in the future.
LANDSLIDE	

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How Identified	Why Identified
<p>Input from City and County Emergency Operations Managers, USGS, UGS, NCDC, Utah DEM, and community members</p>	<p>Have caused damage in the past to residential and commercial infrastructure.</p> <p>Can be life threatening.</p> <p>Generally occur in known historic locations therefore risks exist throughout much of Davis County.</p> <p>To increase community awareness.</p>
WILDLAND FIRE	
How Identified	Why Identified
<p>Review of County Emergency Operations Plan</p> <p>Review of Community Wildland Protection Plans (CWPP)</p> <p>Input from County Emergency Managers, Utah DEM, Utah FFSL, Utah FS, NWS, FEMA, and local community members</p>	<p>Serious threat to life and property.</p> <p>Increasing threat due to urban growth in WUI areas. Secondary threat associated with flooding, drought, and earthquake.</p> <p>Much of the mountain front portion of Davis County is at risk. Additional funding and resources offered by local and state agencies to reduce risk.</p> <p>To increase community awareness.</p>
PROBLEM SOILS	
How Identified	Why Identified
<p>Review of County Emergency Operations Plan</p> <p>Input from community members, Utah, DEM, and UGS</p> <p>Researched historical data</p>	<p>Related to subsequent effects from earthquakes.</p> <p>Have affected infrastructure and the local economy in the past.</p>
DAM FAILURE	
How Identified	Why Identified
<p>Review of County Emergency Operations Plan</p> <p>Input from community members, Utah DWS, Dam Safety Section, Utah DEM</p> <p>Review of inundation maps</p>	<p>Can cause serious damage to life and property and have subsequent effects such as flooding, fire, debris flow, etc. Davis County has several irrigation reservoirs.</p> <p>Threat to downhill communities.</p> <p>Subsequent effects include flooding, and debris flows.</p> <p>To increase community awareness.</p>

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	To incorporate mitigation measures into existing plans to help serve local residents.
FLOOD	
How Identified	Why Identified
Review of past disaster declarations Input from City and County Emergency Operations Managers, Utah DWS, UGS, Utah Army Corps of Engineers, Utah DEM, and community members Review of Flood Insurance Studies, Floodplain maps, and Flood Insurance Rate Maps	Several incidents have caused severe damage and loss of life. Many of the rivers and streams are located near neighborhoods. Many neighborhoods are located on floodplains, alluvial fans. Topography and climate lead to cloudburst storms and heavy precipitation can result in flash flooding throughout Davis County.
SEVERE WEATHER	
How Identified	Why Identified
Review of County Emergency Operations Plan Review of past disaster declarations Input from City and County Emergency Managers, Utah Avalanche, Forecast Center, Utah Department of Transportation, and community members	Damage to communities, homes, infrastructure, roads, and residents. Can cause property damage and loss of life. Results in economic loss. Lightning is the number one cause of natural hazard death in Utah. Can be costly to recover from.
CLIMATE CHANGE	
How Identified	Why Identified
Review of Utah State Hazard Mitigation Plan	Long-term climate change has the potential to result in a wide range of impacts across the region and in many sectors of the economy.

The hazard identification process was aided through the use of FEMA How to Guidance documents, FEMA 386-1,2,3,7 FEMA Post Disaster Hazard Mitigation Planning Guidance DAP-12, Disaster Mitigation Act of 2000, 44 CFR Parts 201 and 206, Interim Final Rule, and FEMA Region VIII Crosswalk. The risk assessment process also utilized assistance from local Davis County GIS using the best available data.

Table 9.2 - County Natural Hazards	
Earthquake	X

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Landslide	X
Wildland Fire	X
Problem Soils	X
Dam Failure	X
Flood	X
Drought	X
Severe Weather	X

B. Hazard Profile

This section describes the causes and characteristics of each identified hazard, including its severity or magnitude (as it relates to the percentage of the jurisdiction that can be affected), probability, conditions that make the area prone to the hazard, hazard history, and maps of the hazard’s geographic location or extent. The hazards were profiled based on history of occurrence, local input, county emergency operations plans, and county master or general plans, scientific reports, historical evidence, and hazard analysis plans. A risk assessment “Hazard Profile” table was created that highlights the above mentioned materials in each of the county portions of the plan introducing each identified hazard. The probability of a hazard event was determined through the amount of risk to the county. The probability or likelihood of an occurrence is categorized into four categories: Highly Likely, Likely, Possible, and Unlikely.

In determining hazard magnitude a scale was used to identify the level of damage on a countywide basis from Catastrophic to Negligible. (See table below)

Table 9.3 - Hazard Profile

Damage Level	Jurisdiction Affected	Risk
Catastrophic	More than 50%	Extreme or High
Critical	25-50 %	Moderate
Limited	10-25%	Moderate
Negligible	Less than 10%	Low

The probability of a hazard event was determined through the amount of risk to the county. The probability or likelihood of an occurrence is categorized into four categories: Highly Likely, Likely, Possible, and Unlikely.

The geographical extent or location of the community that would be affected has been identified in the mapping portion of each county where geographic data was available. Hazard histories are provided for each county. These histories were taken from the Spatial Hazard Events and Losses Database for the United States (SHELDUS). Histories for each county were condensed into charts, tables and graphs in each county hazard profile section.

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Maps were created using GIS software to identify the location and extent of each identified hazard area. Hazard maps were created for every identified natural hazard within the county. The following risk assessment maps were created for Davis County:

- Historic earthquakes
- Geologic hazards
- Liquefaction potential
- Flood history
- Drainage basins
- Landslide susceptibility
- Fire hazard potential
- Dam failure potential

C. Vulnerability Analysis

The vulnerability analysis is based on asset identification and potential loss estimates for those jurisdictions located within identified hazard areas.

Asset Identification

The vulnerability analysis combines the data from each of the hazard profiles and merges it with community asset information to analyze and quantify potential damages from future hazard events. The asset inventory identifies buildings, roads, and critical facilities that can be damaged or affected by the hazard events. Critical facilities are of particular concern because of the essential products and services to the general public they provide. These critical facilities can also fulfill important public safety, emergency response, and/or disaster recovery functions. The critical facilities identified in this plan include hospitals, police and fire stations, schools, communication facilities, utility companies, water and wastewater treatment plants. In order to assess where and to what extent the identified hazards will affect the assets of each county, the locations of assets were identified and overlaid with the mapped hazards using GIS software.

Potential Loss Estimates

Potential dollar loss estimates were identified using this same method; therefore estimates were completed for existing infrastructure only. When data permitted, structure, content, and function of the identified vulnerable infrastructure was incorporated into the vulnerability assessments. Describing the vulnerability in terms of dollar losses provides the community and the state with a common framework in which to measure the effects of hazards on assets. Future planned development was not analyzed due to the lack of data available in GIS format.

The core planning team and local planning team members estimated potential losses for the identified hazards by using the methodology explained in the FEMA document titled, Understanding Your Risks: Identifying Hazards and Estimating Losses, Utah DEM historical data and GIS data.

The information sources used to complete the vulnerability assessment portion of this Plan include; Utah DEM, County GIS department, county Assessor's Office, HAZUS-MH data, and the Utah Automated Geographic Reference Center (AGRC). This data was compiled into GIS layers that were used as

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overlays to identify critical facilities, municipalities, roads, and residents. The assets that have been identified are based on the best available data during the development of this Plan in GIS form.

D. Methodology

Geographic Information System (GIS) software was used as the basic analysis tool to complete the hazard analysis for the Davis County Natural Hazards Pre-Disaster Mitigation Plan. For most hazards a comparison was made between digital hazard data and Transportation Analysis Zone (TAZ) demographic information.

Statewide digital data was obtained from Utah Automated Geographic Reference Center (AGRC) for problem soils only. The vulnerability assessment for the county estimates the number of homes, business, infrastructure and population vulnerable to each hazard and assigns a replacement dollar value to residential structures and infrastructure in each hazard area. All the analysis takes place within the spatial context of a GIS. With the information available in spatial form, it is a simple task to overlay the natural hazards with census data to extract the desired information.

The methodology used to determine vulnerability for all hazards was identical. The number of households and population vulnerable to each hazard was determined using WFRC Transportation Analysis Zone (TAZ) data and Block Data from the 2010 Census data. The Block Data from the 2010 Census database, or TAZ data, was intersected with each of the mapped hazard layers in order to determine the number and location of residential housing units and population at risk from hazards. The methodology used assumes an even distribution of residential housing units and population across each census block. Point data from HAZUS-MH was used to determine the number of businesses, and the annual sales of each business in each hazard area.

The number of acres for all hazards was determined for each city and the unincorporated county. Once an acre total was identified it was overlaid on the Census Block data or TAZ data to determine the total number of homes impacted. The number of homes impacted was then multiplied by the average housing value to determine the total value of potential loss. 2010 average house values from the U.S. Census Bureau were used for Davis County. Content values are not included, which would raise the potential loss numbers for housing by approximately 50%.

In addition to the above methodology, earthquake risk was profiled using HAZUS-MH, which is shorthand for Hazards United States - Multihazards. The data used in this report is from a model that was run in 2009. A new model has been requested from the State of Utah, and its findings will be incorporated into this PDM when they are available.

The HAZUS-MH Earthquake Model is designed to produce loss estimates for use by federal, state, regional and local governments in planning for earthquake risk mitigation, emergency preparedness, response and recovery. The methodology deals with nearly all aspects of the built environment and a wide range of different types of losses.

Extensive national databases are embedded within HAZUS-MH, containing information such as demographic aspects of the population in a study region, square footage for different occupancies of buildings, and numbers and locations of bridges. Embedded parameters have been included as needed. Using this information, users can carry out general loss estimates for a region. The HAZUS-MH methodology and software are flexible enough that locally developed inventories and other data that more accurately reflect the local environment can be substituted, resulting in increased accuracy. TAZ data from 2010 was aggregated to census blocks to update population data within HAZUS-MH.

Uncertainties are inherent in any loss estimation methodology. They arise in part from incomplete scientific knowledge concerning earthquakes and their effects upon buildings and facilities. They also result from the approximations and simplifications that are necessary for comprehensive analyses.

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Incomplete or inaccurate inventories of the built environment, demographics and economic parameters add to the uncertainty. These factors can result in a range of uncertainty in loss estimates produced by the HAZUS-MH Earthquake Model, possibly at best a factor of two or more.

The methodology has been tested against the judgment of experts and, to the extent possible, against records from several past earthquakes. However, limited and incomplete data about actual earthquake damage precludes complete calibration of the methodology. Nevertheless, when used with embedded inventories and parameters, the HAZUS-MH Earthquake Model has provided a credible estimate of such aggregated losses as the total cost of damage and numbers of casualties. The Earthquake Model has done less well in estimating more detailed results - such as the number of buildings or bridges experiencing different degrees of damage.

Such results depend heavily upon accurate inventories. The Earthquake Model assumes the same soil condition for all locations, and this has proved satisfactory for estimating regional losses. Of course, the geographic distribution of damage may be influenced markedly by local soil conditions. In the few instances where the Earthquake Model has been partially tested using actual inventories of structures plus correct soils maps, it has performed reasonably well.

The HAZUS Model estimates building losses, numbers of shelters required for displaced households, amounts of debris generated, and numbers of casualties. A HAZUS report was completed for each of the counties covered in this Plan.

The potential impact of natural hazards on transportation and utilities was determined in a similar method as described above. Roads and utilities were overlaid on the hazard areas and the impacted utility and road segments were inventoried. Once the length of vulnerable infrastructure was determined it was multiplied by cost estimate information from HAZUS-MH.

In addition to the linear features, point data for critical facilities, dams, care facilities, schools, power generation facilities and substations were analyzed to determine if the feature was within a hazard area.

Limited availability of digital data presented a problem in completing the vulnerability assessment. Potential loss numbers were only determined for earthquakes, flood, landslides, dam failure, problem soils and wildfires in this Plan. Additional limitations to the above described analysis method include:

- Assuming random distribution
- Limited data sets for water, gas, electrical, resulting in incomplete numbers for these features
- Lack of digital parcels data for Morgan and Tooele Counties
- Relied on state wide data not intended for manipulation at the scale it was used
- Data was not field checked, resulting in an analysis wholly dependent on accuracy of data
- Metadata was lacking on some of the used data sets

In this document, simple maps were created to provide a graphical illustration of location. These maps are done at a scale, which allows them to fit on a standard letter sized page. Data manipulation and maps were created as a planning tool, to be used by interested persons within Davis County. This information should not take the place of accurate field verified mapping from which ordinances need to be based.

Effort to analyze hazards related to potential future development areas was also addressed where applicable. This proved to be a very difficult exercise and at best can only identify areas which need additional research before development should be allowed. No viable source of data exists for this study area to facilitate analysis of future development. Limited zoning data was available, but this data does not necessarily indicate which areas will be developed and which will not.

E. Mitigation Strategies, Objectives, Actions

Using the findings from the risk assessment and the capabilities assessment as a guide, several mitigation strategies and implementing actions were identified that would benefit each jurisdiction. Each action has been formalized and placed into this Plan in each of the county mitigation sections. These actions were identified in the planning group meetings which included input from the core planning team, local planning team, state and local agencies, county government, and city and county residents. Goals and objectives were developed in a working session between the above-mentioned groups with a period provided for comment and revision.

Each of the jurisdictions identified mitigation actions based on the identified goals and objectives. These actions are included in each county section of this Plan. The mitigation actions identify the responsible agency, the funding source, timeline, background, and their priority. Actions were selected using the information obtained from the capabilities assessment, which identified existing programs and shortfalls related to mitigation activities.

The actions were prioritized based on the Social, Technical, Administrative, Political, Legal, Economic, Environmental (STAPLEE) method identified in the FEMA How-To Guides. The STAPLEE method of prioritization emphasizes the effectiveness of the actions with respect to their cost, as well as their social, technical, administrative, political, legal, environmental, and economic effects. Each action is judged and ranked against these criteria and assigned the priority of High, Medium, or Low.

F. Hazard Description + Profile

Each of the natural hazards that could affect the County has been described. These are general descriptions about each hazard to give an idea of what, why, when, and how the hazards occur.

1. Earthquake



Earthquake Overview + Profile

The Utah Geologic Survey defines an earthquake as the result of “...sudden breakage of rocks that can no longer withstand the stresses that build up deep beneath the earth’s surface” (DEM 2008). The energy that is released is abrupt shaking, trembling or sudden motion in the earth and rocks that break along faults or zones of weakness along which the rocks slip. Seismic waves are then transmitted outward and also produce ground shaking or vibrations in the earth. The Richter scale measures the magnitude of earthquakes on a seismograph. A Richter magnitude 6 earthquake is 30 times more powerful than a Richter magnitude 5. A Richter magnitude 7 is 1000 times more powerful than a Richter magnitude 5.

Utah experiences approximately 700 earthquakes each year, and approximately six of those have a magnitude 3.0 or greater (Table, this page). On average, a magnitude 5.5 or greater earthquake occurs in Utah every 10 years.

Generally, in order for humans to feel an earthquake it needs to be at least a magnitude 2.0. In order for significant damage to occur, an earthquake needs to be at least a magnitude of 5.5 or greater. The amount of damage that occurs from an earthquake depends on soil type, rock type, ground-water depth and topography. Other factors include the type of construction in an area and the population density.

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Table 9.4 - Earthquake Hazard Summary Profile

Changes since 2016	<p>Over the last ten years, the population of Davis County has grown by approximately 30%. The number of buildings in the area have grown as well. In 2010, the estimated total building value in Davis County was over \$14billion (HAZUS-MH).</p> <p>In recent years, the market value of buildings in the area have increased significantly. It is expected that any major earthquake event would affect most buildings in the area.</p>			
Potential Magnitude	X	Catastrophic (>50%)	Probability	Highly Likely
		Critical (25-50%)		X Likely
		Limited (10-25%)		Possible
		Negligible (<10%)		Unlikely
Location	<p>Eastern areas of Bountiful, Centerville, Farmington, Kaysville, Kaysville, and Layton along the western portion of the Intermountain Seismic Belt. Ground shaking will be felt throughout the entire County. Surface fault ruptures will be found along and near the current fault trace. Liquefaction can be expected in areas of deep sediment and shallow groundwater, from the foothills to the western portion of the county near the Great Salt Lake.</p>			
Extent	Events are expected to be up to 7.0 (Richter).			
Prior Occurrences	Refer to table 9.5 and 9.6.			
Seasonal Pattern	There is no seasonal pattern for earthquakes, they can occur at any time of the year or day during any or all weather conditions.			
Conditions	Liquefaction Potential is greatest near the Great Salt Lake along the low lying areas of the county, in soils that are composed of old lakebed sediments. Historic movement along faults: Intermountain Seismic Zone, and the Wasatch Fault Zone.			
Duration	Actual ground shaking will be under one minute, aftershocks can occur for weeks or even months.			
Secondary Hazards	Fire, landslide, rock falls, avalanche, flooding.			
Climate Change	Climate change is not expected to impact earthquake risk directly, but it could exacerbate hazards Utah already experiences.			
Analysis Used	Review of hazard analysis plans and other information provided by the University of Utah Seismograph Station, UGS, USGS, DEM, AGRC.			

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Locations and Activity:

Faulting can be evident on the earth's surface or not evident at all, therefore earthquakes are believed to be able to occur anywhere in Utah.

The earthquake history of the Wasatch Fault is complicated by the fact that there has not been a large earthquake since the first pioneers first arrived in the valley in 1847. The Utah Geological Survey estimates that the last major earthquake in the Wasatch Front was approximately 1,350 years before present. Yet, when looking at the Wasatch Fault Zone, the potential for a large earthquake exists considering that "since 1850 at least 16 earthquakes (excluding aftershocks) of magnitude 6.0 or greater have occurred within the Intermountain Seismic Belt (ISB)" (DEM 2008). The greatest earthquake hazard is considered to be in the areas surrounding the Wasatch, East Cache, East Bear Lake, Bear River, Hansel Valley, Northern Oquirrh, West Valley, and East Great Salt Lake fault zones. On the Wasatch fault, the segments between Brigham City and Nephi, the "composite recurrence interval for large surface-faulting earthquakes (magnitude 7.0 to 7.5) is 395±60 years. The most recent surface-faulting earthquake on the Wasatch fault occurred 400 years ago on the Nephi segment" (DEM 2008).

According to Earthquake.usgs.gov, more recently there was a magnitude 2.8 on November 5th, 2010, 4 kilometers WSW of Morgan City, Utah. There was also a seismic event that occurred in Magna on March 18th, 2020 that was a 5.7 (U of U Seismograph Station Annual Report 2020). These are the more violent examples, as presented in the data below, Davis County is much more likely to experience smaller, more localized earthquakes that come with minimal damage.

Table 9.5 - Average Earthquake Frequency

Magnitude	Wasatch Front Frequency	Utah Frequency
≥3.0	3 per year	6 per year
≥4.0	1 every 2 years	1 per year
≥5.0	1 every 10 years	1 every 4 years
≥5.5	1 every 20 years	1 every 10 years
≥6.0	1 every 50 years	1 every 20 years
≥6.5	1 every 120 years	1 every 50 years
≥7.0	1 every 330 years	1 every 150 years
<i>Source: UUSS unpublished data in UGS PI-38 1996. Excludes foreshocks, aftershocks and human-triggered seismic events.</i>		

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Table 9.6 - Davis County Quaternary Faults

Name + Type	Length	Time of Most Recent Deformation	Recurrence Interval
Fremont Island section, EGSLFZ (Normal type)	30km	3150 +235/-211 cal yr B.P.	4200 years
Antelope Island section, EGSLFZ (Normal type)	35km	586 +201/-241 cal yr B.P.	4200 years
Salt Lake segment, WFZ (Normal type)	43km	1300 ±650 cal yr B.P.	1300 years
Weber segment, WFZ (Normal type)	56km	950 ±450 cal yr B.P.	1400 years
<i>Source: UGS 2002, Lund 2005) (EGSLFZ=East Great Salt Lake Fault Zone, WFZ=Wasatch Fault Zone, cal yr B.P.=calendar years before present)</i>			

The two largest measured earthquakes to occur in Utah were the Richfield earthquake of 1901, with a magnitude of 6.5 and the Hansel Valley earthquake of 1934 with a magnitude of 6.6.

“The Hansel Valley earthquake produced MM intensities of VIII in Salt Lake City, with numerous reports of broken windows, toppled chimneys, and structures twisted on their foundations. A clock mechanism weighing more than 2 tons fell from the main tower of the Salt Lake City County Building and crashed through the building. The only death that occurred during the event was caused when the walls of an excavation collapsed on a public-works employee south of downtown Salt Lake City.” (Lund 2005)

Utah's most damaging earthquake was of a smaller magnitude (5.7), which occurred near Richmond in Cache Valley in 1962. This earthquake damaged over 75 percent of the houses in Richmond, as well as roads and various other structures. The total damage in 1962 dollars was about one million dollars.

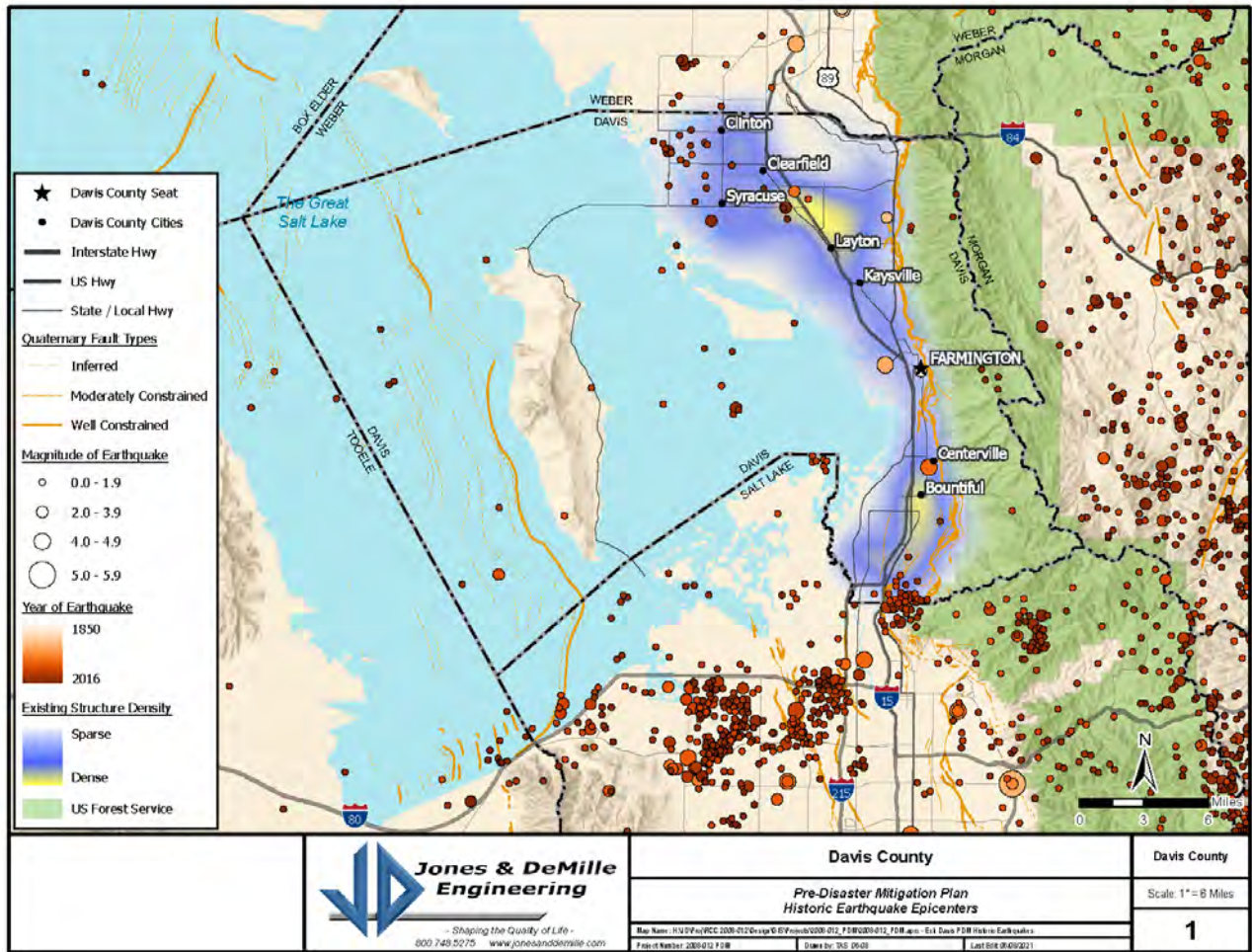
“Earthquakes in 1909, 1914, and 1943 produced MM intensities in Salt Lake City of up to VI, and earthquakes in 1910, 1949, and 1962 had MM intensities of VII in Salt Lake City. Damage produced by these events included broken windows, cracked walls, fallen plaster, toppled chimneys, and buildings shifted on their foundations. The 1949 earthquake also ruptured a water main causing loss of water to a portion of the city.” (Lund 2005)

On average, Utah experiences a moderate, potentially damaging earthquake (magnitude 5.5 to 6.5) every 7 years. The history of seismic activity in Utah and along the Wasatch Front suggests that it is not a matter of "if" but when an earthquake will occur. The most recent took place on the morning of March 18, 2020, northern Utah experienced a magnitude 5.7 earthquake with an epicenter just north of Magna, Utah. The shock was felt across the Wasatch Front and aftershocks were felt for weeks following.

“No major injuries were reported from the mainshock or aftershocks. Damages occurred throughout the valley with the most severe damage in Magna. HAZUS, software used by the state to estimate potential losses, shows that there could be upwards of \$62 million in building-related damages, contributing to \$629 million in total economic losses related to buildings. This does not include damages to public infrastructure.” (2020 Magna Quake, 2020)

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Map illustrating historic earthquake epicenters in the Davis County area. ([click for original](#)).

Secondary Hazards:

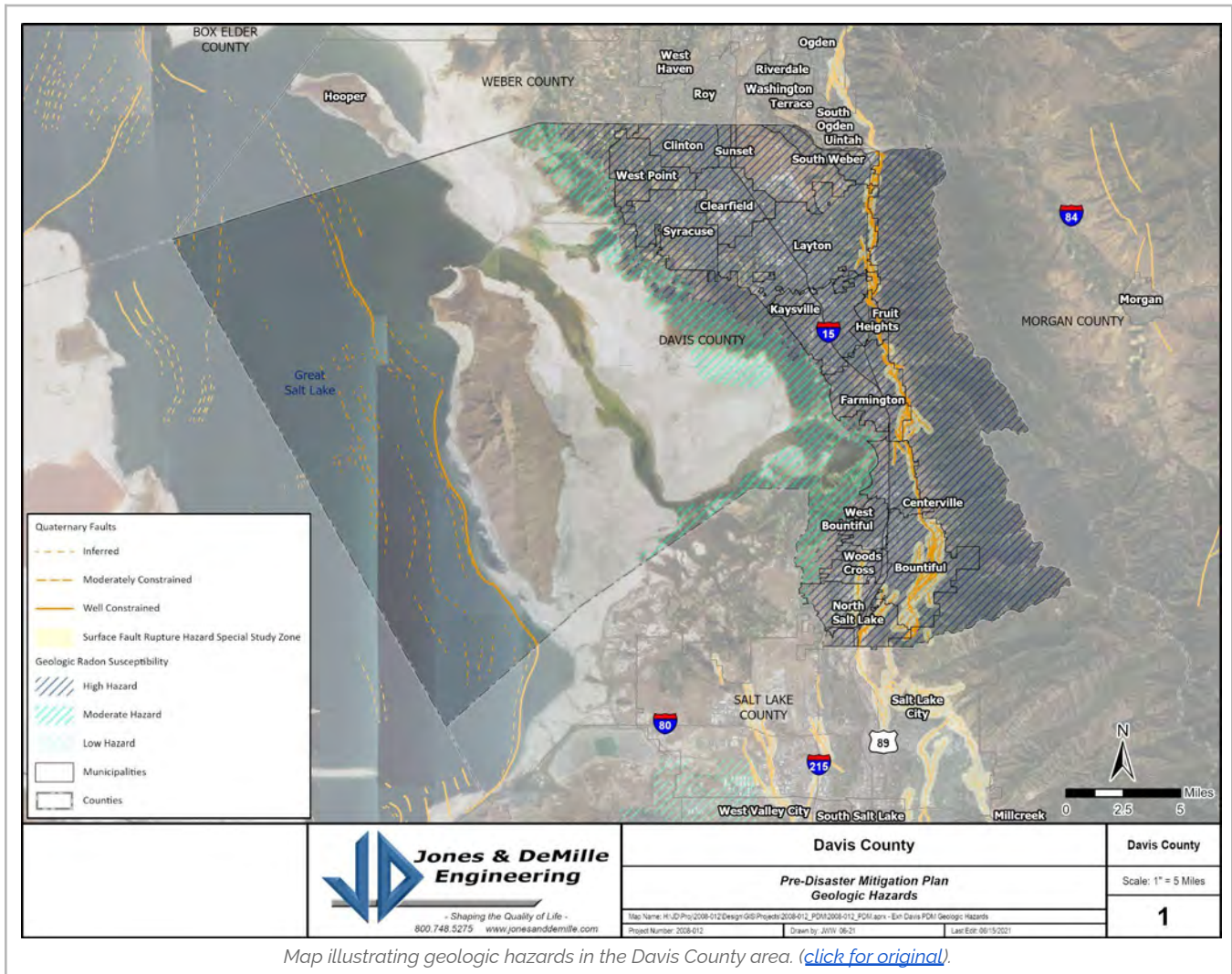
Associated earthquake hazards include ground shaking, surface fault rupture and tectonic subsidence, soil liquefaction, flooding, avalanches, dam failure, fire, and slope failure.

Table 9.7 - Fire Following Event, Population Exposed, and Building Stock Exposed

Category	Number of Structures	
	Davis M5.9	2,500-yr M7.1
Ignitions	11	12
Persons Exposed	261	447
Value Exposed	\$13,663,000	\$28,594,000
<i>Source: HAZUS-MH</i>		

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Ground Shaking:

Ground shaking is caused by the passage of seismic waves generated by an earthquake. Shaking can vary in intensity but is the greatest secondary hazard because it affects large areas and stimulates many of the other hazards associated with earthquakes. The waves move the earth's surface laterally and horizontally and vary in frequency and amplitude. High frequency, small amplitude waves cause more damage to short, stiff buildings. Low frequency, large amplitude waves have a greater effect on high-rise buildings. The intensity depends on geologic features such as bedrock and rock type, topography, and the location and magnitude of the earthquake. Other significant factors include groundwater depth, basin shape, thickness of sediment, and the degree of sediment consolidation. Moderate to large earthquake events generally produce trembling for about 10 to 30 seconds. Aftershocks can occur erratically for weeks or even months after the main earthquake event. (DEM 2008)

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Surface Fault Rupture and Tectonic Subsidence:

Surface fault rupture or down dropping and tilting associated with tectonic subsidence can rupture the ground surface and in Utah the result is the formation of scarps or steep breaks in the slope. The 1934 Hansel Valley earthquake resulted in a surface displacement of approximately 1.6 feet. The highest potential for surface faulting exists in the central segments of the Wasatch fault.

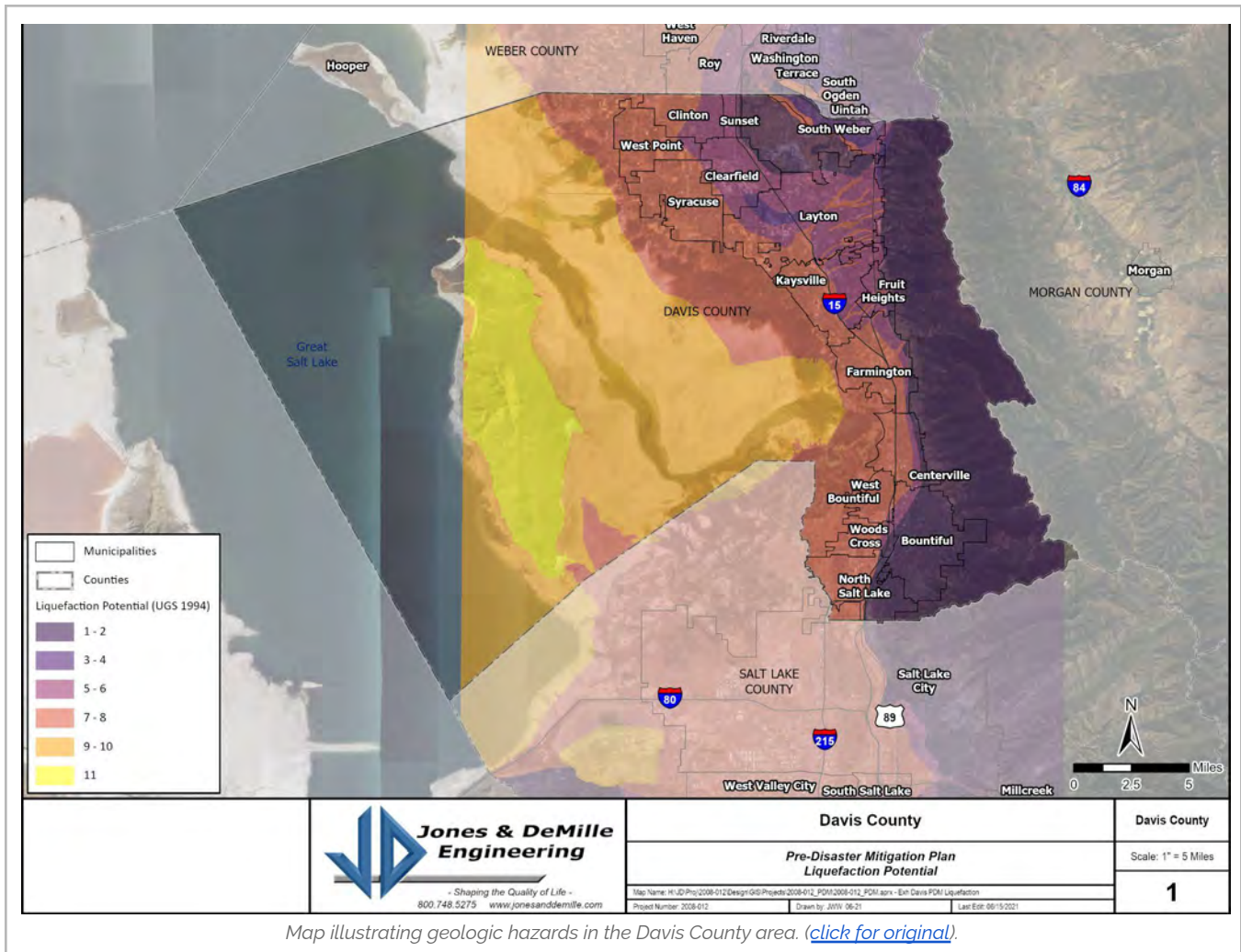
Also, earthquakes having a magnitude of 6.5 or greater could result in surface faulting of 16 to 20 feet high and 12 to 44 mile long break segments. Surface displacement generally occurs over a zone of hundreds of feet wide called the zone of deformation. Tectonic subsidence generally depends on the amount of surface fault displacement. The greatest amount of subsidence will be in the fault zone and will gradually diminish out into the valley (DEM 2008).

Soil Liquefaction:

Liquefaction occurs when there is a sudden large decrease in shear strength of sandy soils. It is caused by the collapse of the soil structure in which the soil loses its bearing capacity, and also by a temporary increase in pore-water pressure, or water saturation during earthquake ground shaking. Liquefaction is common in areas of shallow ground water and sandy or silty sediments. Two conditions must be met in order for soils to liquefy; first, the soils must be susceptible to liquefaction (sandy, loose, water-saturated, soils typically between 0 and 30 feet below the ground surface) and second, ground shaking must be strong enough to cause susceptible soils to liquefy (UGS 2015). The result is soils that will flow even on the gentlest of slopes.

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Lateral Spreading:

Lateral spreading is a type of failure that results in surficial soil layers breaking up and moving, up to 3 feet or more, independently over the liquefied layer. On slopes more than 5 percent, flow failures can move several miles at speeds up to 10s of miles per hour. On slopes less than 0.5 percent the bearing capacity will lessen and can cause buildings to settle or tip. No matter the slope percent, ground cracking and differential settlement will occur. Liquefaction can also cause foundation materials to liquefy and fail and/or cause sand boils. Sand boils are deposits of sandy sediment ejected to the surface during an earthquake along fissures. Liquefaction can occur during earthquakes of magnitude 5.0 or greater. (DEM 2008)

Slope Failure:

Ground shaking can cause rock falls and landslides in mountainous or canyon areas. Rock falls are the most common slope failure and can occur up to 50 miles away from a 6.0 magnitude earthquake. Landslides occur along benches in wet unconsolidated materials. During a 6.0 magnitude earthquake, landslides may happen within 25 miles of the source. (DEM 2008)

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Flooding:

“Flooding can happen due to tectonic subsidence and tilting, dam failure, seiches (waves generated in standing bodies of water) in lakes and reservoirs, surface-water diversion or disruption, and increased ground-water discharge.” (DEM 2008)

Avalanches:

Avalanches could be triggered because of the associated ground movement. The most vulnerable areas include those that have steep terrain, high precipitation, high earthquake potential, and high population density. In winter or spring months with a snowpack, avalanches may be expected anywhere along the Wasatch Front following an earthquake. (DEM 2008).

Sensitive Clays:

Sensitive clays are a soil type that lose strength when disturbed and result in liquefaction or collapse. The resulting type of ground failure is similar to liquefaction (DEM 2008).

Subsidence:

A settling or sinking of the earth’s crust in loose granular materials such as gravel that do not contain clay. Western Utah is subject to this type of ground settlement (DEM 2008).

Vulnerability Analysis:

Vulnerability to earthquake in Davis County was obtained from the modeling program Hazards United States – Multihazards (HAZUS-MH). The following numbers were based on a probabilistic 2500-year event with a Richter magnitude of 7.1 as well as an arbitrary 5.9 event located in close proximity to the county’s most populated areas. These locations and magnitudes were chosen for their likelihood and proximity respectively. Default HAZUS-MH inventory for all infrastructure was used.

Table 9.8 - Building Damage Counts and Estimated Losses

	Number of Structures with >50% Damage			Estimated Losses	
	Davis M5.9	2500-yr M7.1		Davis M5.9	2500-yr M7.1
Residential	7,618	41,310	Structural Losses	\$96,362,000	\$751,502,550
Commercial	282	954	Non-Structural Losses	\$345,379,000	\$2,646,616,900
Industrial	91	294	Content Losses	\$131,812,000	\$844,568,670
Government	15	49	Inventory Losses	\$4,504,000	\$38,314,060
Education	11	38	Income + Relocation Losses	\$90,090,000	\$3,983,479,080
Totals	8,017	42,645	Totals	\$668,147,000	\$8,264,481,260

Source: HAZUS-MH

Table 9.9 - Damage to Transportation and Utilities

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	At Least Moderate Damage (>50%)			Estimated Losses	
	Total	Davis M5.9	2500-yr M7.1	Davis M5.9	2500-yr M7.1
Wastewater Facilities	3	1	3	\$21,559,000	\$77,769,000
Wastewater Pipelines	1,242 km	203 leaks/breaks	4,455 leaks/breaks	\$730,000	\$16,039,000
Potable Water Pipelines	2,069 miles	256 leaks/breaks	5,633 leaks/breaks	\$923,000	\$20,279,000
Natural Gas Pipelines	828 km	216 leaks/breaks	4,775 leaks/breaks	\$780,000	\$17,145,000
Electrical Power Facilities	1	0	1	\$11,375,000	\$51,503,000
Communication Facilities	5	0	4	\$46,000	\$220,000
Highway Bridges	130	0	81	\$3,359,000	\$61,530,000
Railway Facilities	2	0	2	\$712,000	\$2,169,000
Airport Facilities	4	0	4	\$2,569,000	\$9,719,000
Totals				\$42,053,000	\$256,373,000
<i>Source: HAZUS-MH</i>					

Table 9.10 - Debris Generated/Number of Loads

Category	Number of Structures	
	Davis M5.9	2,500-yr M7.1
Brick, Wood & Others	111,000 tons / 4,440 loads	758,000 tons / 30,320 loads
Concrete & Steel	197,000 tons / 7,880 loads	1,603,000 tons / 64,120 loads
<i>Source: HAZUS-MH</i>		

Table 9.11 - Potential Casualties

	Night Event		Day Event		Commute Event	
	Davis M5.9	2,500-yr M7.1	Davis M5.9	2,500-yr M7.1	Davis M5.9	2,500-yr M7.1
Minor	223	2,589	250	3,039	227	2,700
Major	46	792	62	1,086	59	924
Fatalities	9	186	14	302	13	243
<i>Source: HAZUS-MH</i>						

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2. Flood



Flooding Overview + Profile

Flooding is a natural event for rivers and streams. Flood is determined to be the overflow of water onto land that is normally dry. Floods are related to an excess of snowmelt, rainfall, or failure of natural or engineered impoundments onto the banks and adjacent floodplains. Floodplains are lowland areas near rivers, lakes, reservoirs, and low terrain urban areas that are subject to recurring floods. Flooding occurs when the peak discharge, or rate of flow in cubic feet per second, is larger than the channel of the river or the storm sewer capacity in a city. The peak discharge for a stream is associated with a probability of occurrence. The probability of occurrence can be stated in terms of recurrence intervals or return periods. For example, a probability of occurrence of 10 percent would be a flood expected to occur once in 10 years or 10 times in a 100 years. Flooding damage includes saturation of land and property, erosion from water, deposition of mud and debris, and the fast flowing waters from the flood itself. Most injuries and deaths occur from the fast moving floodwaters and most of the property damage results from the inundation by sediment-filled water. Flash flood conditions result from intense rainfall over a short period of time (DEM 2008).

Table 9.12 - Flooding Hazard Profile

Changes since 2016	Local jurisdictions have been updating their floodplain development ordinances in areas with flooding potential.				
Potential Magnitude		Catastrophic (>50%)	Probability	Highly Likely	
	X	Critical (25-50%)		Likely	
		Limited (10-25%)		X	Possible
		Negligible (<10%)			Unlikely
Location	Weber River; many creeks along Wasatch Front.				
Extent	See map (below).				
Prior Occurrences	The NOAA's flood event database doesn't record prior events since 2016, but minor flooding has occurred in different locations throughout the County.				
Seasonal Pattern	Spring, late summer.				
Conditions	Cloudburst storms and heavy snowfall runoff.				
Duration	Flooding can last anywhere from hours to days and even months.				

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Secondary Hazards	Raw sewage/health risk, electrical fires, gas spills.
Climate Change	The increase in flood risk will occur in two ways. One, warmer temperatures will increase the risk of rain-on-snow events. Two, climate change will increase the incidence of extreme precipitation events and likely lead to an increase in flash flooding.
Analysis Used	Review of FIS, FIRM, HAZUS-MH.

Location and Extent:

The greatest flood risk within Davis County has been associated with cloudburst storms that generally result in flash flooding in localized areas. Heavy rain and rapid snowpack melt can also result in unusually heavy water, and/or mud and debris flows. Davis County's precipitation is associated with the Wasatch Mountain Range, which is where most of the County's surface water originates. All of the streams originate in canyons and pass along alluvial fans, across the eastern portion of the County into the Great Salt Lake.

The major river that poses a flood threat is the Weber River. The Weber River flowing through South Weber, acts as a partial northern county boundary. Many small creeks flow out of the Wasatch Mountain Front in Layton, Kaysville, Kaysville, Centerville, Bountiful, and North Salt Lake. These streams have flooded in the past and also pose a future flood threat, many of which are mapped through the NFIP. Many channels within the county can pose a threat due to channel constrictions from debris and could result in residential flooding. All of the alluvial fans in the county have been developed or are being developed, and therefore, residential and commercial flooding is probable. Floods can also pose a threat to the agricultural lands that are in the lower portions of the alluvial fans.

A little more than 50% of Davis County is under the Great Salt Lake. This results in a very high ground water table in those areas near the lake, threatening shorelines and, in some cases, agricultural lands and roads. Flooding in wetlands areas, along the shores of the Great Salt Lake, also threatens urban development.

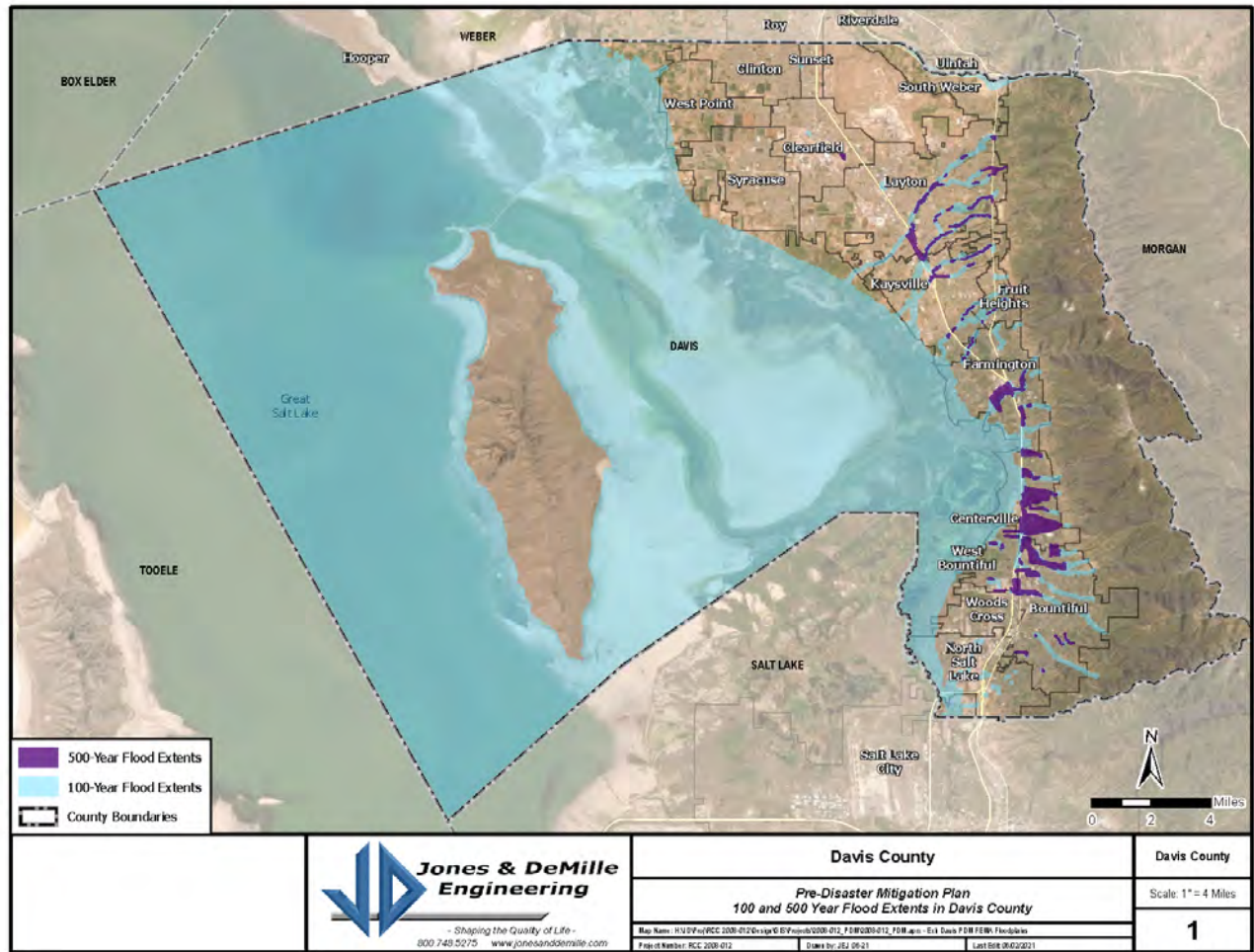
High stream flows and velocity can affect the residential, commercial and recreational development on Farmington Creek, Kays Creek, Ricks Creek and Steeds Creek. Roads can be affected from high stream flows on Barton Creek and Holmes Creek. Primary threatened utilities are power substations and water treatment plants located on Stone Creek, Farmington Creek, Holmes Creek and Millcreek.

One of the more recent examples happened in 2004. Due to intense thunderstorms and heavy rainfall, flooding began in areas around Farmington and Shepard Canyons. Several factors contributed to this occurrence including: heavy rainfall, burned hillsides, steep slopes, ample sediment, and runoff previously caused by wet soil from snowmelt.

Most damage occurred in subdivisions. Floodwaters and sediment deposition were mostly restricted to streets and yards, but damage also occurred to some vehicles, garages, and homes. Erosion by floodwaters threatened a section of a Weber Basin Water Conservancy District aqueduct running along the mountain front. Although emergency watershed protection measures were completed the fall following the fire, they are designed to reduce flooding and associated hazards, they do not eliminate them and are not permanent. (Giraud & McDonald, 2021)

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Map illustrating FEMA flood extents in the Davis County area. ([click for original](#)).

Snowmelt:

Snowmelt floods occur from the rapid snowmelt in the mountains. These floods generally happen in April, May and June. Warm air masses with mostly sunny skies melt the mountain watershed snowpack. The large accumulations of water generally last several days and the magnitude depends on the amount of snowpack and the warm weather. Snowmelt flood risk is reduced when the snowpack is below normal and/or the weather changes from winter to spring and summer gradually without an abrupt warming trend (DEM 2008).

Rainfall:

Rainfall floods result from large amounts of precipitation. Short duration local storms such as cloudburst or thunderstorms with a high intensity rainfall as well as the general storms that last several days with a less intense rainfall can produce a flooding event (DEM 2008).

Areas prone to flooding, according to the Utah Natural Hazards Handbook, include lake and reservoir shorelines which may flood when the flow of water into the lakes or reservoirs is greater than the outflow

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capacity. The Great Basin has several terminal lakes, such as the Great Salt Lake and Sevier Lake, which mean there is no outlet to the sea. These types of lakes are subject to considerable variations in water levels because the only outflow is by evaporation. Successive wet or dry periods lasting several years can result in a large change in size of terminal lakes. Development near this type of lake during a dry period is risky and certain to get flooded during wet periods (DEM 2008).

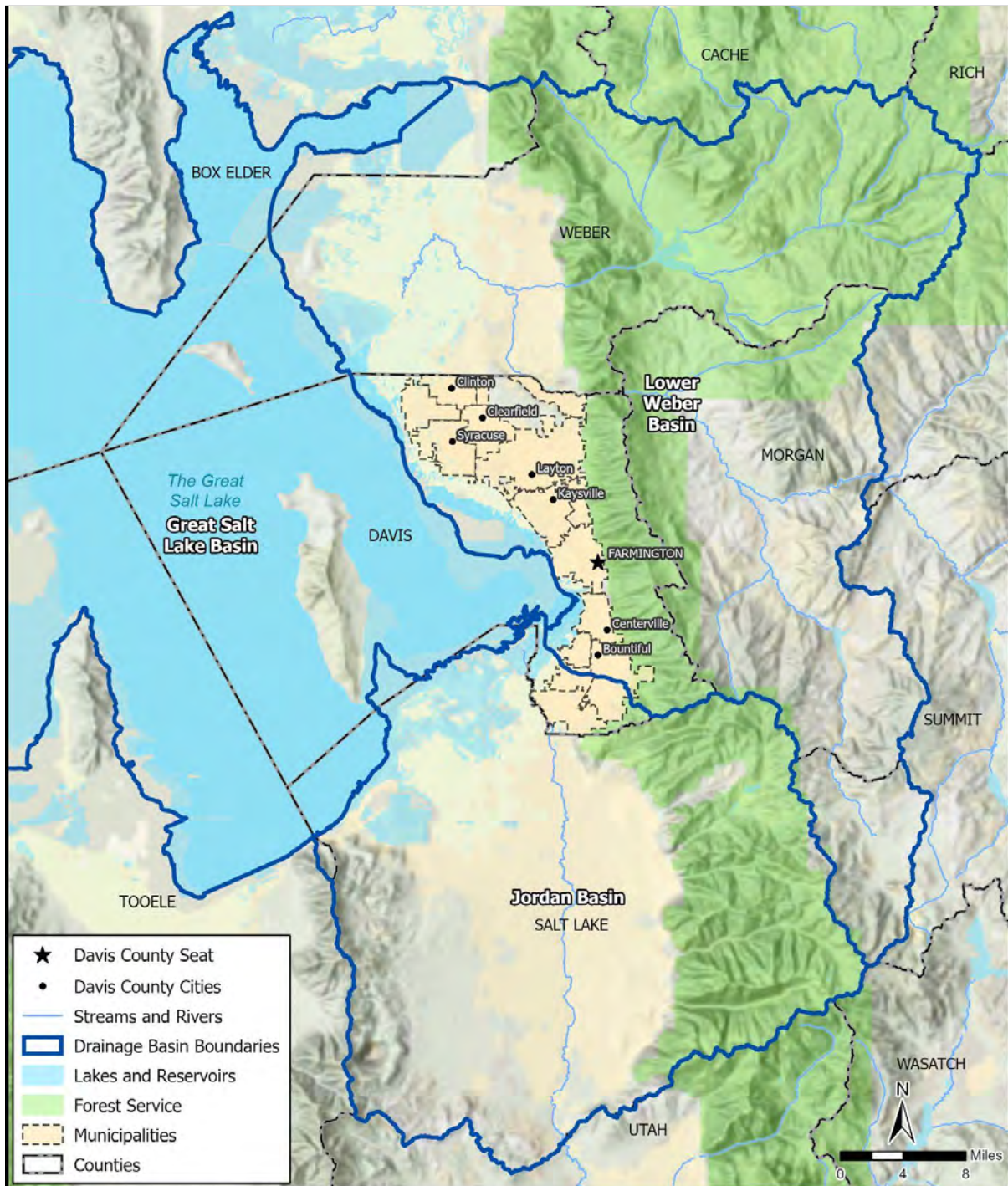
In 2016, the Great Salt Lake was reduced to only 4,206' due to a nine year period of excessive drought in the Salt Lake Valley. The historic low elevation for the lake was 4,191' in 1963.


River and creek floodplain areas range from narrow zones to extensive lowlands extending great distances from a natural drainage area. Construction in floodplains is also dangerous because of the high flood risk.

Urban areas are also prone to flooding because of the decrease in vegetation of the natural watershed. Houses, driveways, parking lots, buildings, and streets are all replacing the vegetative cover that is so important in lessening the potential for flood. This type of development prevents water infiltration into the soil and greatly increases the runoff. In some areas undersized piping and channels are used which may cause flooding. Man-made drainage channels can also play a role in flooding. Trash and debris can obstruct passageways (DEM 2008).

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	<p><i>Pre-Disaster Mitigation Plan Drainage Basins</i></p>	
	<p>Scale: 1" = 8 Miles</p>	
		<p>1</p>

Map illustrating drainage basins in the Davis County area. ([click for original](#)).

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Vulnerability Analysis:

Assessing flood in Davis County was obtained from the modeling program Hazards United States – Multihazards (HAZUS-MH), for both 100-year (NFIP Zone A) and 500-year (NFIP Zone B or Zone X (shaded)) flood events. Analysis was completed using Flood Insurance Rate Maps (FIRM) or Digital Flood Insurance Rate Maps (DFIRM). Only streams which contained detailed flood cross-section data could be evaluated. Flooding from the Great Salt Lake was not included. Consequently, the results should be considered conservative. Total monetary losses include structures, contents and business interruption.

Table 9.13 - Number of Structures in Floodplains

	Acres Flooded	Population Displaced	Residential Units Total Losses	Commercial/Industrial Units Total Losses
100-year Flood	683	2,311	245	3
			\$37,810,000	\$18,370,000
500-year Flood	1155	2,492	266	3
			\$43,430,000	\$23,210,000

Source: HAZUS-MH

Table 9.14 - Agricultural Losses, June 15 Scenario

	100-year Losses Day 3	100-year Losses Day 7	500-year Losses Day 3	500-year Losses Day 7
Barley	\$14,749	\$19,665	\$15,899	\$21,198
Corn Silage	\$151,723	\$202,297	\$163,549	\$218,066

Source: HAZUS-MH

Table 9.15 - Vehicle Losses

	100-year	500-year
Daytime Scenario	\$1,535,794	\$1,603,936
Nighttime Scenario	\$2,533,427	\$2,751,553

Source: HAZUS-MH

Table 9.16 - Debris Generation and Removal

	100-year	500-year
Finishes	3,563 tons/143 loads	4,145 tons/166 loads
Structures	3,637 tons/146 loads	4,289 tons/ 172 loads
Foundations	3,771 tons/151 loads	4,461 tons/179 loads
Totals	10,970 tons/440 loads	12,895 tons/517 loads

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Source: HAZUS-MH

3. Landslide



Landslide Overview + Profile

Utah ranked third in the nation in terms of largest total landslide damage cost and cost per person between 1973 and 1983. Utah's landslide hazard rating is "severe", the highest level of five hazard classes given by the U. S. Geological Survey. The three main contributing factors to slope failure include areas with moderate to steep slopes, conductive geology, and high precipitation. The main elements that cause slope failure include precipitation events, topography and vegetation (DEM 2008). Landslide distribution in Utah is associated with topography and physiographic provinces. The two physiographic regions that are conducive to landslides in Utah are the Middle Rocky Mountains province and the High Plateaus subdivision of the Colorado Plateau physiographic province. Landslides are also known as slope failure and are classified according to the type of movement and the material involved. The five types of movement include falls, topples, slides, lateral spreads, and flows. The types of materials include rocks, debris (course-grained soil), and earth (fine-grained soil). Slope failure types are identified as rock falls, rock topples, rock slides, debris flows, debris topples, debris slides, slumps, and earth flows (DEM 2008). North Salt Lake experienced the Spring Hill landslide in 2014 which destroyed 1 home, damaged another home, and also damaged a tennis club. An agreement was reached in 2015 by the developer, the city, and the property owners to begin remediation of this slide.

Table 9.17 - Landslide Hazard Profile

Changes since 2016	County and municipal planners have continued to see demand for hillside residential development. However, the lessons learned from the 2013 Parkway Drive landslide in North Salt Lake have improved political support for resilience efforts.				
Potential Magnitude		Catastrophic (>50%)	Probability	Highly Likely	
	X	Critical (25-50%)		X	Likely
		Limited (10-25%)			Possible
		Negligible (<10%)			Unlikely
Location	Generally occur in canyon mouths and foothill areas.				
Extent	The HAZUS models identify the potential impact of landslides to be most significant in the Farmington area and on the southern end of the County.				
Prior Occurrences	2013 Parkway Drive landslide in North Salt Lake				
Seasonal Pattern	Spring and Summer; after heavy or long-duration precipitation				

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Conditions	Usually caused by the stress release of over-weighted soils, shallow groundwater in certain soils, or loosening of rock and debris.
Duration	Hours to years.
Secondary Hazards	Flooding (natural dams), traffic accidents.
Climate Change	Warmer, future winter temperatures will create a scenario where landslides may be more likely. Warmer winter temperatures mean it is less likely that soils are frozen, even if snowpack exists.
Analysis Used	Information and maps provided by UGS, DEM.

Future landslide areas are usually located in the areas of historical landslides, which are well defined and localized. Landslides have been one of the most reoccurring hazards within Davis County along the canyon benches. The homes in these areas have the greatest vulnerability to rockfalls, debris flows, landslides and other types of slope failure.

Locations and Activity:

Based on the Threat Analysis below, landslides are likely in about half of Davis County’s land area. The August 2001 Heather Drive landslide in Layton damaged six houses, forcing homeowners to evacuate them.

Three houses were saved and moved off the landslide, but the other three were so severely damaged they had to be demolished. Landslide movement also severed underground utility service to the houses. Estimates of homeowner equity loss, mortgage company loss, utility company costs, and Layton City costs exceed \$1 million. The Heather Drive landslide is on a north facing slope above South Fork Kays Creek. The landslide is a partial reactivation of a prehistoric landslide in silt and clay sediments of ancient Lake Bonneville. Lake Bonneville sediments in the Layton area are prone to landsliding. In fact, several other landslides within one mile of Heather Drive reactivated recently, including the South Fork Kays Creek (1998), Hillsboro Drive (1998), Sunset Drive (1998 and 2006), and Beechwood Drive (2006) landslides. (Elliott, 2001)

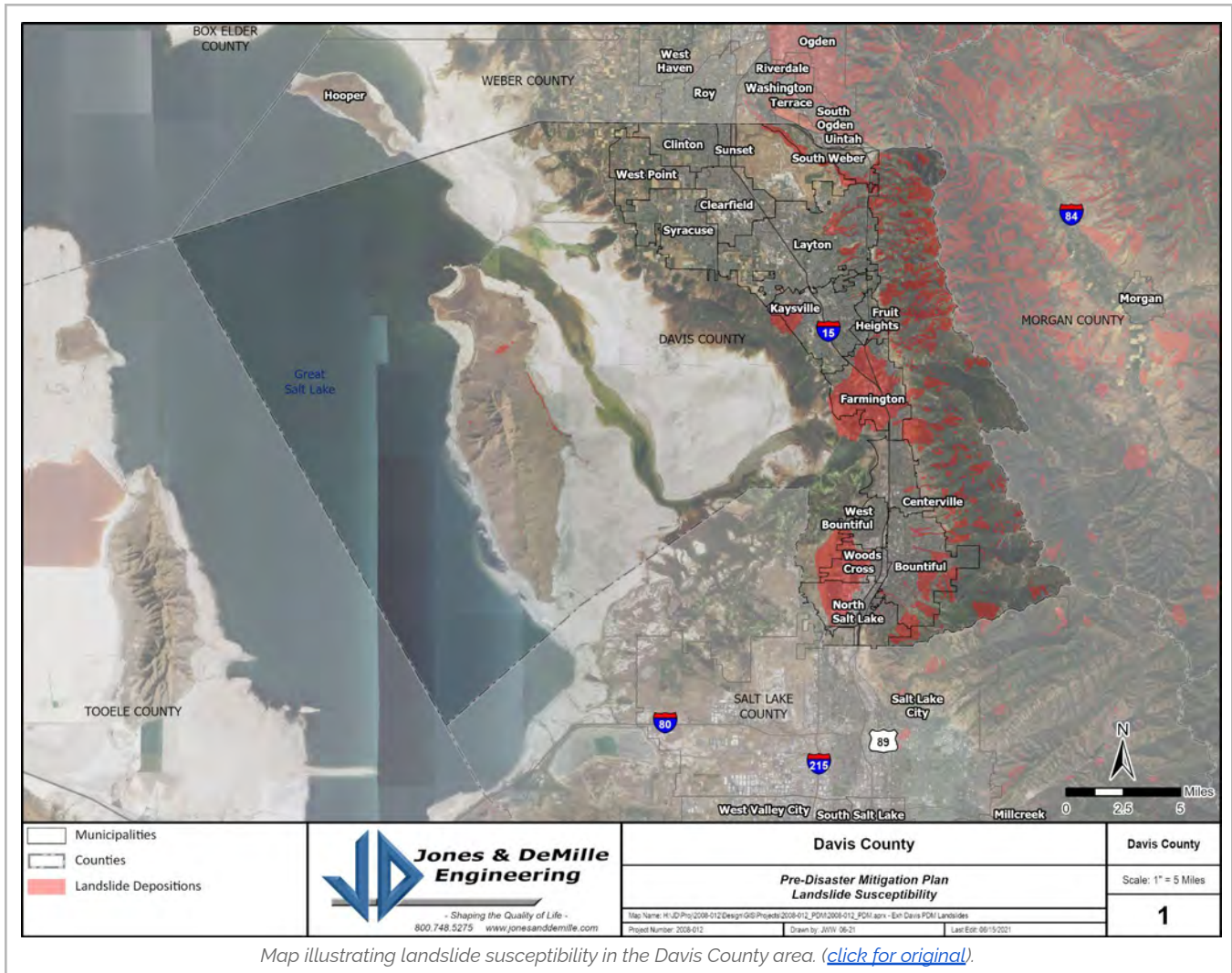
On April 15, 2006, another instance occurred, homeowners recognized that the Sunset Drive landslide in Layton had reactivated. No injuries and only minor damage occurred in this example, however there is potential for worse in the future.

The landslide is in a northwest-facing slope above the broad valley of the North Fork of Kays Creek. Landslide movement directly impacts two houses and the backyard landscaping at four other lots along the slope crest. The upper part of the landslide has been modified by the placement of fill for farming and subdivision development. The area of landsliding is about 650 to 700 feet wide and 550 feet long. The landslide has a vertical drop of about 160 feet and an average slope of 30%. Instruments indicate the sliding surface of the 2006 landslide movement is 30 to 38 feet below the ground surface near mid-slope and likely deeper near the slope crest. The Utah Geological Survey assisted Layton City in monitoring landslide movement and measuring ground-water levels, and Layton City building inspectors predicted potential damage to the two

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houses directly threatened by the landslide. Much of northern Utah was experiencing a wet year, following the year 2005 when the UGS recorded over 100 landslides across the state. (Giraud et al., 2021)



Rock Falls and Rock Topples:

These occur when loosened blocks or boulders from an area of bedrock move down slope. Rock falls and topples generally occur along steep canyons, cliffs, and steep road cuts. Rock fall damage usually affects roads, railroad tracks, and utilities. In Davis County, Farmington Canyon road has been frequently damaged or blocked by rock falls from the steep terrain above the road. In the spring of 2015, boulders the size of automobiles blocked the road for several days until the debris could be cleared by the Forest Service.

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Debris Slides and Debris Flows:

Slides and flows generally occur in mountainous areas and involve the relatively rapid, viscous flow of course-grained soil, rock, and other surficial materials. Debris flows generally occur in mountainous areas and are considered a flow rather than a slide because of the high water content coupled with the debris. Debris flows are typically more dangerous because of the high speeds under which they form and travel. Debris flows generally remain in stream channels but can flow out from canyon mouths for a considerable distance. Debris flows and slides can damage anything in their path including buildings, roads, railroad tracks, life lines/utilities, and reservoirs. Davis County has experienced numerous debris flows over the years. Significant debris flows occurred in 1983 as floods occurred in Farmington and Centerville. In order to mitigate this hazard, several debris basins have been constructed in the mouths of the canyons along the Front.

Slumps:

Slumps are common along road embankments and river terraces. They slip or slide along a curved failure plane away from the upper part of a slope leaving a scarp (a relatively steeper slope separating two more gentle slopes). Slumps generally do not move very far from the source area.

Earth Flows:

Earth flows are slumps with the addition of water that slump away from the top or upper part of a slope, leaving a scarp. These can range in size from very small to flows involving hundreds of tons of material and result in a bulging toe that can block streams and cause flooding, and damage buildings or other structures.

Causes of landslides are the result of hillside instability. Slope makeup, slope gradient, and slope weight all play a role. Other important factors of slope instability include rock type and structure, topography, water content, vegetative cover, and slope aspect. Debris flows, for example, occur when these elements are modified by natural processes or by human created processes.

Natural Processes:

Natural processes that can induce slope failure include ground shaking, wind and water weathering and erosion.

Human Causes:

Human created processes such as lawn watering and irrigation may place excess water on already unstable ground by adding water weight to the material and raise the pore pressure, leading to a loss of shear strength. Water can also change the consistency of the slope material reducing cohesion leading to an unstable mixture.

Rock types containing clay, mudstone, shale, or weakly cemented units, which are strongly affected by weathering and erosion, are particularly prone to landsliding because of expansive and lubricating properties. Other processes include the removal or addition of slope materials during construction.

Vegetation is very important in the stabilization of slopes because it prevents rainfall from impacting the soil directly and helps protect from erosion by retaining water and decreasing surface runoff. The roots systems serve as slope-stabilizing elements by binding the soil together or binding the soil to the bedrock. Increases in slope gradient such as placing heavy loads at the top of a slope and /or the removal of material at the toe of a slope all affect the equilibrium and result in slope failure because of slope instability.

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Vulnerability Analysis:

Provided are the number of units or total length of infrastructure vulnerable and the estimated replacement costs as provided by HAZUS-MH lost estimation software.

Table 9.18 - Infrastructure Vulnerable to Landslides, Davis County

	Length (Miles) or Number of Unit	Replacement Cost
Highways/Interstates	1.39 miles	\$9,581,012
Highway Bridges	11 bridges	\$17,140,206
Railway Segments	.26 miles	\$295,634
Railway Bridges	0 bridges	\$0
Water Distribution Lines	235.50 miles	\$7,579,602
Gas Lines	94.14 miles	\$3,031,846
Sewer Lines	141.42 miles	\$4,547,764
Totals		\$42,176,064
<i>Source: HAZUS-MH</i>		

Table 9.19 - Vulnerability Assessment for Landslides, Davis County

	Acres Affected	Population Affected	Residential Structures	Commercial Structures
Bountiful	2,477	15,575	4,678	248
Centerville	327	3,600	738	18
Clearfield	0	0	0	0
Clinton	0	0	0	0
Farmington	723	4,752	1,011	16
Kaysville	247	1,669	422	1
Kaysville	131	1,282	340	2
Layton	1,518	7,792	2,199	38
North Salt Lake	1,018	4,287	1,362	31
South Weber	808	2,418	674	9
Sunset	0	0	0	0
Syracuse	0	0	0	0
West Bountiful	0	0	0	0
West Point	0	0	0	0
Woods Cross	0	0	0	0
Unincorporated Areas				
Hill AFB	115	0	0	0
Mutton Hollow	23	135	40	0
Val Verda	2	34	12	0

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Source: HAZUS-MH

4. Wildfire



Wildfire Overview + Profile

The Wildland-Urban Interface (WUI) area is where residential areas meet wildland areas. It is known as the interface zone and presents a serious fire threat to people and property.

Table 9.20 - Wildfire Hazard Profile

Changes since 2016	Potential wildfire hazard within Davis County is growing as population growth is spreading into wildland areas known as the Wildland-Urban Interface (WUI) where the threat is most severe. Over the past 30 years, suburban development has encroached upon forested foothill areas and wildland areas.				
Potential Magnitude		Catastrophic (>50%)	Probability	X	Highly Likely
	X	Critical (25-50%)			Likely
		Limited (10-25%)			Possible
		Negligible (<10%)			Unlikely
Location	Wildland-Urban Interface (WUI) areas near the foothills and in forested areas in South Weber, Layton, Kaysville, Kaysville, Farmington, Centerville, Bountiful, and North Salt Lake.				
Extent	The potential magnitude of wildfire in Davis County is relative to the amount of fuels on the eastern foothills and canyons. There is also a wildfire potential in Antelope Island. See the tables that follow.				
Prior Occurrences	There have been three major wildfire events in Davis County in recent years (July 16', August 16', and September 17'). Fortunately, there have been no deaths or injuries associated with them.				
Seasonal Pattern	Summer				
Conditions	Areas affected by drought and/or heavily overgrown dry brush and debris Common triggers: lightning and humans.				
Duration	Days to months; depends on climate and fuel load as well as resources (financial, manpower) to extinguish the fire.				
Secondary Hazards	Landslides, debris flows, erosion, traffic accidents, air pollution.				

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Climate Change	Prolonged increases in temperature will increase the risk of wildfire occurrence in Utah because of the potential for extensive changes to both the length and severity of the fire season.
Analysis Used	Review of plans and data provided by US Forest Service, National Climatic Data Center, FEMA, AGRC, County Hazard Analysis Plans, and DEM.

The urban aspect includes homes, schools, storage areas, recreational facilities, transmission lines and commercial buildings. Wildland refers to unincorporated areas including hills, benches, plateaus, and forests. Homes are built on the benches adjacent to wildland areas. Wildfires remove vegetation which results in slope failure, erosion, water runoff and depletion of wildlife resources. The three conditions that affect fire behavior are topography, vegetation and weather (DEM 2008).

Topography includes such factors as slope, aspect, and elevation. Fires spread faster upslope because the fuels are closer to the flames on the upslope. The heat from a fire moves uphill and dries fuels in front of the fire allowing for easier ignition. The aspect of slope dictates moisture content. In short, the sun dries out fuels on south and west facing slopes more than on north and east facing slopes. Elevation and weather are interrelated because, generally, higher elevations result in cooler temperatures and a higher relative humidity. Elevation also determines the types of vegetation present (DEM 2008).

Vegetation plays a major role in the speed of a fire. Light grasses burn rapidly and heavy dense fuels burn slowly but with a greater intensity. The five major fuel types in Utah's vegetation include grass/sagebrush, pinion-juniper, mountain bush, hardwoods, and softwoods. The grass/sagebrush area poses a serious threat because people underestimate the danger of wildfires in this area.

These fires burn across thousands of acres rapidly and pose a serious threat to not only property but also life. Pinion-juniper fuel will contribute to the fire hazard when conditions are hot, dry, and windy. When a fire does occur here, it will burn intensely and spread rapidly. Mountain brush is commonly found in Utah's foothills and if moderate to extreme fire conditions are present, this type of fuel will burn hot and fast. Hardwood-forest and softwood (deciduous) fuel types are generally less risky (DEM 2008).

Size, continuity and compactness all affect the fuel's rate of spread. Large fuels do not burn as readily as smaller fuels and need more heat to ignite. Small fuels on the other hand ignite easier, and a fire will spread more rapidly through them. Continuity is described by how fuel is arranged horizontally. Fuels that are broken up burn unevenly and slower than uniform fuels. Compactness is how fuel is arranged vertically. Tall, deep fuels have more oxygen available so they burn more rapidly. Less oxygen is available to compact fuels such as leaf litter and stacked logs, therefore they burn slower (DEM 2008).

Weather factors include temperature, humidity, precipitation, and wind. Weather affects the ease with which a fuel ignites, the intensity at which it burns, and how easy or difficult fire control may be.

High temperatures increase fire danger because it heats fuels and reduces water content, which increases flammability. Humidity influences fuel ignition and how intensely fuel burns. A decrease in relative humidity causes fuels to dry, promoting easier ignition and more intense burning. Wind speed can increase burning intensity and the direction that the fire moves. Wind carries heat from a fire into unburned fuels drying them out and causing them to ignite easier. The wind may also blow burning embers into unburned areas well ahead of the main fires starting spot fires (DEM 2008).

Fire protection in these areas is difficult because the tactics used for wildland fire suppression cannot be used for structure protection and suppression. The energy that is emitted from a wildland fire is very

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dangerous to firefighters and homeowners and makes protection of homes almost impossible. One third of all firefighter deaths occur fighting wildfires. Many believe that WUI areas increase the risks to firefighters significantly. Legally, federal wildland protection agencies seldom have the responsibility to protect structures. The legal responsibility for protecting structures on non-federal wildlands varies widely among state forestry agencies (DEM 2008).

Locations and Activity:

Potential wildfire hazard within Davis County is growing as population growth is spreading into wildland areas where the threat is most severe. Over the past 30 years, urban sprawl has encroached upon forested foothill areas and wildland areas.

The wildfire threat in Davis County has had a significant effect on watersheds, including landslide, debris flow, and other forms of erosion. Federal, state and local agencies have worked together to enforce ordinances and other programs such as re-vegetation zones to protect watersheds.

The Snow Canyon Fire of September 2006 is, unfortunately, not an uncommon occurrence. People are often the cause of wildfires, whether accidentally like in this case or purposefully. On September 14, 2006 a woman was attempting to burn a brush pile and started a fire that quickly became uncontrolled and forced the evacuation of more than 20 homes just outside Layton City. The Snow Canyon Fire grew quickly because of a high winds storm that ended up providing enough rain to keep the fire away from the threatened homes, greatly diminishing its impact.

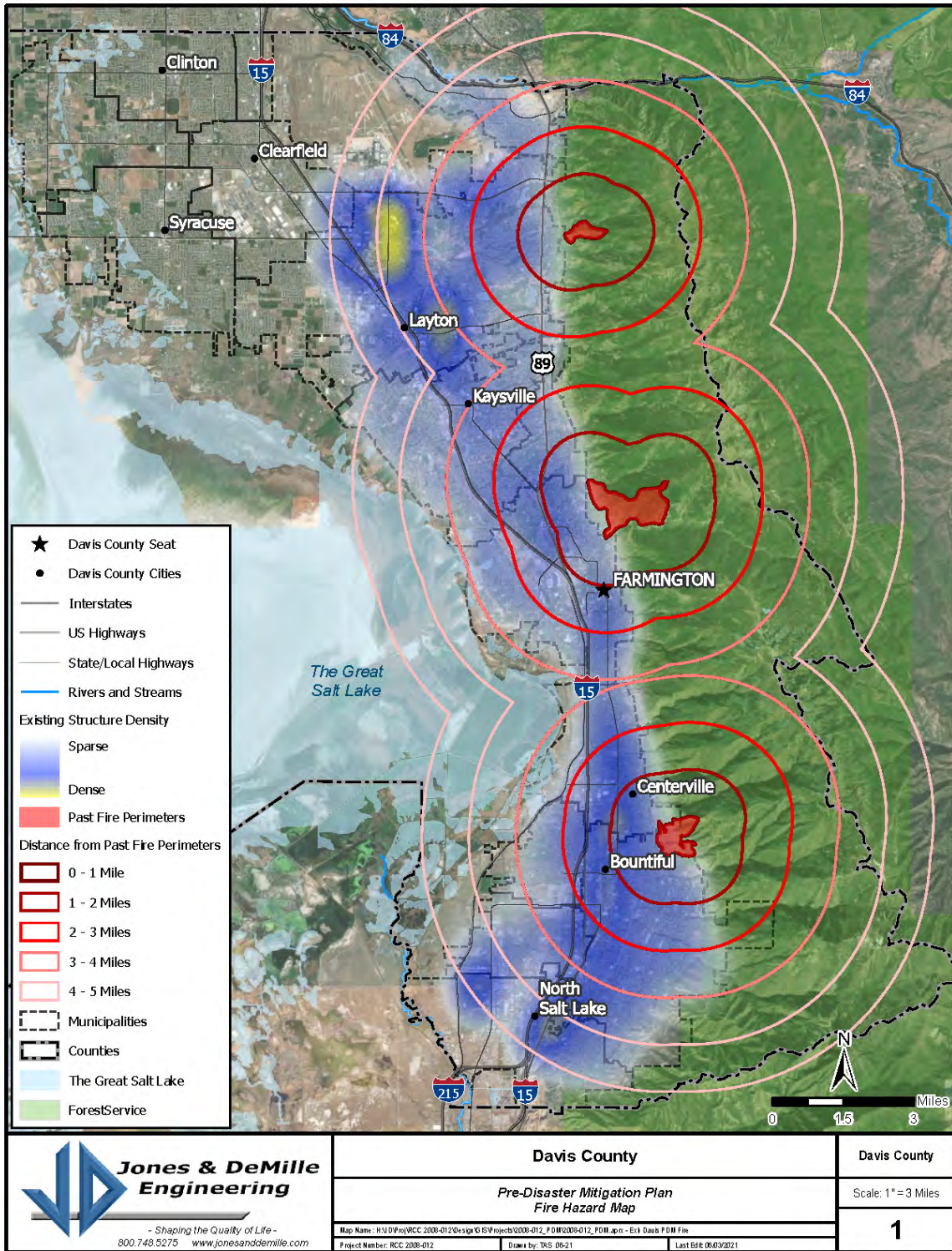
A reverse-911 system was initiated and residents along Valley View Drive were informed and told to leave their homes. They were temporarily housed at a church nearby, where the Red Cross was available to assist with food, water and other necessities. U.S. 89 was closed between Kaysville and South Weber, creating mild congestion on I-15. Several schools in the area were unable to bus students home because of the road closure. The evacuation order was lifted after a 4 p.m. rainstorm aided firefighters. Residents were allowed back at 6 p.m. Departments from several jurisdictions assisted in the firefighting efforts, as well as air support. The fire burned over 400 acres. No structures were touched by the flames, including a building housing several restored vehicles. There were also no reported injuries. (Leonard, 2006)

However, not all wildfires are human-caused, like the following example are started naturally by varying conditions. Lightning is believed to be the cause of the West Antelope fire of July 2016, which began in the Utah State Park northwest of Salt Lake City.

The fire grew from a few hundred acres to around 8,000 acres in less than 48 hours. Meanwhile, several Bureau of Land Management Engines, a dozer, a helicopter and two Single Engine Air Tankers helped crews contain the blaze. Officials eventually requested a larger airtanker to help contain the flames. Officials from the Utah Department of Natural Resources published an alert to warn area residents to watch for updates. In this case, no one was injured and the damage was only to the natural environment, no infrastructure was damaged. (Handy, 2016)

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Map illustrating wildfire risk in the Davis County area. ([click for original](#)).

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Vulnerability Assessment

Provided are the number of units or total length of infrastructure vulnerable to wildfire events and the estimated replacement costs as provided by HAZUS-MH lost estimation software.

Table 9.21 - Infrastructure Vulnerable to Wildland Fire

	Length (Miles) or Number of Unit	Replacement Cost
Highways/Interstates	4.9 miles	\$24,200,027
Highway Bridges	10 bridges	\$15,469,072
Railway Segments	3.4 miles	\$1,682,730
Railway Bridges	0 bridges	\$0
Water Distribution Lines	N/A	N/A
Gas Lines	N/A	N/A
Sewer Lines	N/A	N/A
Total Estimated Infrastructure Replacement Costs		\$41,351,829
<i>Source: HAZUS-MH</i>		

Table 9.22 - Vulnerability Assessment for Wildland Fire, Davis County

	Acres Affected	Population Affected	Residential Structures (Replacement Value)	Commercial Structures (Annual Sales)
Bountiful	8,450	3,146	1,538 \$341,889,000	163 \$136,290,000
Centerville	3,808	277	87 \$18,206,298	8 \$4,400,000
Clearfield	4,897	0	0	0
Clinton	3,809	0	0	0
Farmington	6,356	680	297 \$45,245,145	3 \$250,000
Kaysville	1,465	126	34 \$9,055,820	4 \$18,000,000
Kaysville	6,615	215	72 \$11,938,498	1 \$150,000
Layton	14,036	1,726	366 \$64,019,439	60 \$86,680,000
North Salt Lake	5,474	3,750	1,364 \$273,551,328	44 \$23,160,000
South Weber	3,091	80	25 \$2,343,726	7 \$60,000,000
Sunset	930	0	0	0
Syracuse	5,833	0	0	0
West Bountiful	1,908	0	0	0
West Point	4,455	0	0	0

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Woods Cross	2,432	0	0	0
Unincorporated Areas				
Hill AFB	6,919	0	0	0
Mutton Hollow	911	345	108 \$19,249,600	0 0
Val Verda	259	459	136 \$18,640,300	0 0
<i>Source: HAZUS-MH</i>				

5. Problem Soils



Problem Soils Overview + Profile

Soil-related risks and hazards that may not be readily apparent. Locating facilities in areas with excessive risks contributes to loss of life, health, and property.

Table 9.23 - Problem Soils Hazard Profile

Changes since 2016	New developments in areas near the Great Salt Lake have increased the awareness of problem soils mitigation.			
Potential Magnitude	Catastrophic (>50%)	Probability		Highly Likely
	Critical (25-50%)			Likely
	Limited (10-25%)		X	Possible
	X Negligible (<10%)			Unlikely
Location	Region-wide			
Extent	Low hazard potential (see commentary below).			
Prior Occurrences	n/a			
Seasonal Pattern	Anytime			
Conditions	Conditions vary by geologic formation			
Duration	Minutes to years			
Secondary Hazards	Flooding (broken water pipes), fire (broken gas pipes).			

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Climate Change	n/a
Analysis Used	Utah Geological Survey.

Locations and Activity:

Problem soils are soils that present problems for buildings and other engineered structures. Three types of problem soils are present in Davis County – oolitic sands, limestone and peat bogs. Oolitic sands are found on the northwest shore of Antelope Island. Limestone karst structures are found in the Mueller Park area in the far southeastern portion of the county. Finally, peat bogs are found along the shores of the Great Salt Lake in Farmington Bay. All of these areas are thinly populated and pose little danger.

The oolitic sands on Antelope Island are on a public beach. Periods of flooding on the Great Salt Lake have eroded away much of the sands. The sands pose little threat to buildings, but can cover nearby roads at times.

Limestone karst structures are easily eroded by water and therefore often form caverns and crevices. If these caverns become large enough, the overlying ground can give way causing sinkholes and other forms of subsidence. Structures directly over the karst structure have a high potential for collapse.

Groundwater contamination is also possible (Mulvey 1992). Fortunately, the karst structures in Davis County are located in remote areas.

Peat bogs are collections of dead and dying plants. Areas of this problem soil can experience subsidence and can be compressed easily (Mulvey 1992). Furthermore, these bogs can produce methane which is highly flammable.

Except for radon gas, no deaths have been reported in Utah from other problem soil and rock hazards; however, they have caused an undetermined, but significant amount of infrastructure damage and economic impact.

Vulnerability Assessment

Widespread problem soils were found not to affect any population or infrastructure in Davis County. Therefore, no *significant* vulnerability exists.

6. Dam Failure



Dam Failure Overview + Profile

Dams and associated water delivery systems serve various functions and are built by different agencies and entities including; the Bureau of Reclamation, Army Corps of Engineers, Soil Conservation Service, cities, counties, and private irrigation companies. Dams are built for hydroelectric power generation, flood control, recreation, water storage for irrigation, as well as municipal and industrial uses. Utah's dry climate makes it critical for the storage of the winter snowmelt runoff for uses all year round. Federal dams impound more than 84% of Utah's stored water. The 650 non-federal dams store more than 1.2

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million acre-feet of water. Dam placement is important and needs to be in an area where it can collect and distribute the greatest amount of water.

Dam sites with strong impermeable bedrock are the best in terms of strength. Davis County does not have any federal dams; however, a significant portion of the water utilized in Davis County is received from federal dams located in Morgan and Summit Counties. Upstream from Davis County are several large impoundments, including Echo, Wanship, East Canyon, and Lost Creek reservoirs. A failure of any of these dams would likely impact residents in the South Weber community of Davis County.

Table 9.24 - Dam Failure Hazard Profile

Changes since 2016	No new dams were created in recent years, and inspections of existing dams continue. Local jurisdictions have been updating their floodplain development ordinances in areas with flooding potential.				
Potential Magnitude	X	Catastrophic (>50%)	Probability	Highly Likely	
		Critical (25-50%)		Likely	
		Limited (10-25%)		X	Possible
		Negligible (<10%)			Unlikely
Location	Region-wide				
Extent	See map (below)				
Prior Occurrences	None in the last five years				
Seasonal Pattern	Rainy Day failure: Spring, late summer Sunny Day failure: Anytime				
Conditions	Rainy-day failure happens mainly during heavy precipitation events, can have some warning time. Sunny day failure happens with no warning at all usually from sudden structural failure.				
Duration	Hours to days.				
Secondary Hazards	Flooding, raw sewage/health risk, electrical fires, gas spills.				
Climate Change	Changes in weather patterns and incidence of extreme precipitation will increase the risk of dam failure in Utah.				
Analysis Used	Review of BOR inundation maps and plans, FIS, Utah Division of Water Rights.				

Locations and Activity:

Ninety dams and irrigation impoundments are located in Davis County. Twenty-six of these are listed as high hazard; meaning if they fail, they have a high probability of causing loss of life and extensive economic loss. Twenty-three dams have a moderate hazard threat; if they fail, they have a low probability

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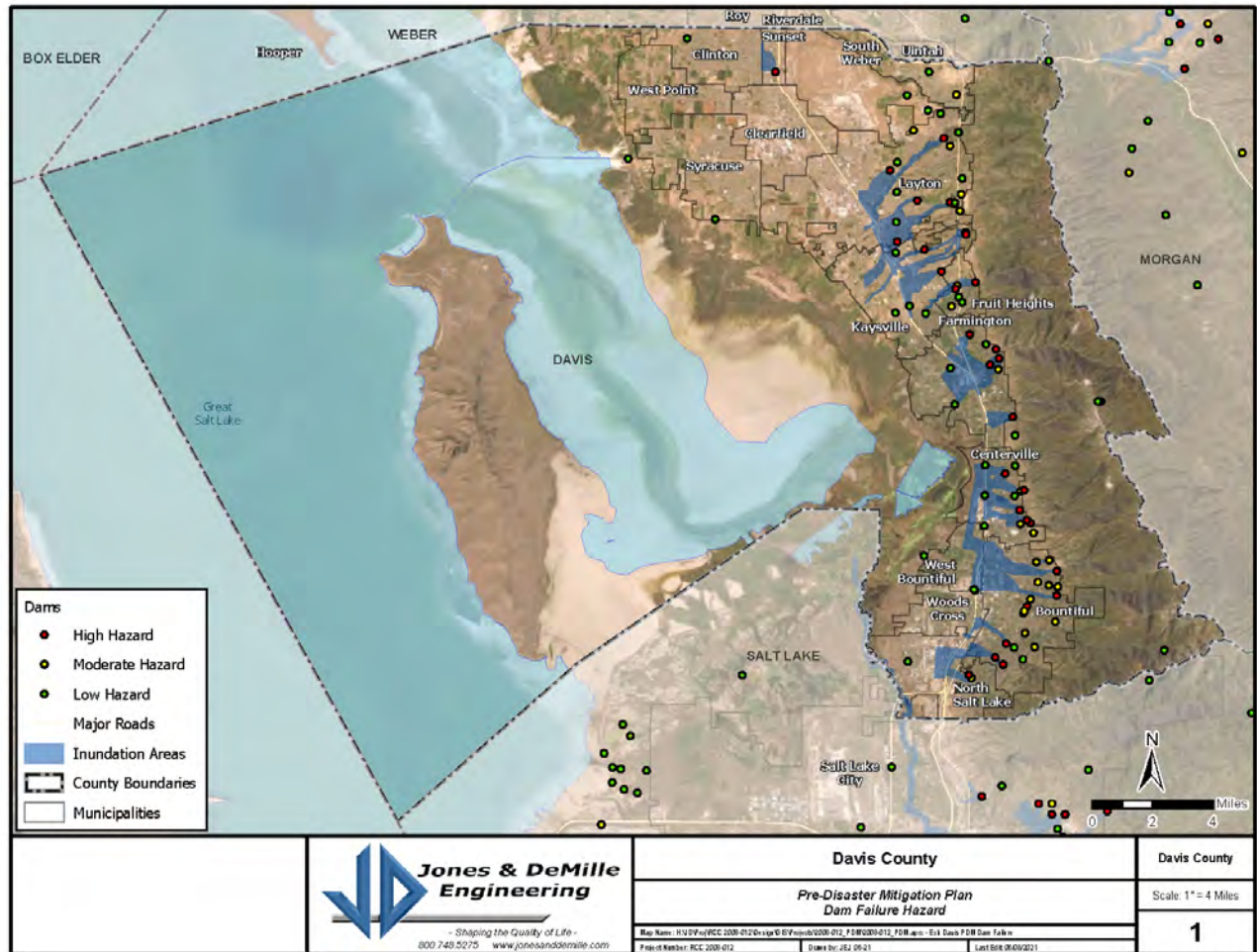
of causing loss of life. Both threats would cause appreciable property damage. Mitigation efforts should be developed and pursued. Thirty-two dams have a low hazard threat, if they were to fail there would be a minimal threat to life and economic losses would be minor. Damage would be limited to the owner of the dam. However, they should still be monitored. No hazard rating is provided for nine dams. These dams have yet to be inspected.

While no dams have failed within Davis County, dam failures occur all over the country some examples include: Laub Detention Dam Failure, Quail Creek, and Little Deer Creek

Little Deer Creek dam failed on its first filling on June 16, 1963, due to extensive foundation seepage. The catastrophic failure resulted in Utah's first dam failure, killing Bradley Galen Brown, a four-year-old boy. Quail Creek dam failed on New Year's Day (January 1) 1988, due to extensive foundation seepage. Failure caused approximately \$12 million in damage and cost approximately \$8 million to rebuild. No lives were lost. Laub Detention Dam failed on September 11, 2012. A severe storm with heavy rainfall occurred prior to the failure. Numerous homes, businesses and roads were damaged. No lives were lost. A Presidential Disaster Declaration was declared for Washington County on November 3, 2012. The Dam was rebuilt in 2013 and was renamed "Tuacahn Wash Lower Detention Basin."

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Map illustrating dam locations and their probable hazard ratings in the Davis County area. ([click for original](#)).

Rainy Day Failures:

“Rainy day failures occur when floodwaters overstress the dam, spillway, and outlet capacities. The flood water flows over the top of the dam and eventually erodes the structure from the top down. At this point the floodwater meets with the floodwaters from the rainstorm and a very destructive, powerful flood is created” (DEM 2008).

Sunny Day Dam Failures:

Sunny day dam failures are the most dangerous because they happen without warning. Downstream residents or inhabitants have little or no time to prepare or even evacuate the area; the results may be catastrophic. Sunny day failures occur from seepage or erosion inside the dam. This erosion removes fine materials creating a large void that can cause the dam to collapse, or overtop and wash away.

Earthquake ground shaking or liquefaction can also create structure problems. Ground shaking will cause the dam to start piping, slumping, settling, or experience a slope failure similar to a landslide. The dam then fails internally or overtops and washes away.

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Other sunny day failures occur when vegetation or rodents get into a dam and leave holes or tunnels that can lead to failure. Not all dam failures are catastrophic; sometimes a dam can fail and be drained and repaired without a damaging flow of floodwaters (DEM 2008).

“Hazard ratings are determined by downstream uses, size, height, volume and incremental risk/damage assessments. The hazard ratings are: Low- insignificant property loss; Moderate- significant property loss; and High- possible loss of life” (DEM 2008). While Davis County does not have any identified high-hazard dams, the federal dams upstream are listed as high-hazard. Over two hundred Utah dams are rated as high-hazard.

Vulnerability Assessment:

Provided are the number of units or total length of infrastructure vulnerable and the estimated replacement costs as provided by HAZUS-MH loss estimation software.

Table 9.25 - High and Moderate Hazard Dams, Davis County

High-Hazard Dams	Moderate-Hazard Dams
Adams	BOR 1.9 Equalizing Reservoir
BOR Farmington Equalizing Reservoir	BOR 17.2 Equalizing Reservoir
Bountiful – North Canyon (SDID#2)	BOR 17.8 Equalizing Reservoir
Bountiful – Oakridge (SDID #1)	BOR 18.0 Equalizing Reservoir
Centerville – Barnard Creek (Lower) DB	BOR 18.0 Upper Equalizing Reservoir
Davis County – Barton Creek DB	BOR 18.5 Equalizing Reservoir
Davis County – Farmington Pond	BOR 18.8 Equalizing Reservoir
Davis County – Holmes Creek DB	BOR 18.9 Equalizing Reservoir
Davis County – Hooper Draw DB	BOR 19.5 Lower Equalizing Reservoir
Davis County – Mutton Hollow DB	BOR 19.5 Upper Equalizing Reservoir
Davis County – Parrish Creek DB	BOR 2.6 Equalizing Reservoir
Davis County – Ricks Creek DB	BOR 4.3 Equalizing Reservoir
Davis County – Shepherd Creek DB	BOR 5.0 Equalizing Reservoir
Davis County – Stone Creek DB	Bountiful City – Eagle Ridge
Davis/Weber County Canal Co. –	Bountiful City – Millcreek DB #3
Davis/Weber County Canal Co. – Layton	Centerville City Erosion Dike

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Davis/Weber County Canal Co. – Sunset	Centerville City – Deuel Creek DB
Deuel Creek (Former BOR Regulating)	Davis County – Barnard Creek (Lower)
Benchland Irrigation – Reservoir B	Farmington City – Rudd Creek DB
Benchland Irrigation – Reservoir C	Kaysville – Dry Hollow DB
Haight's Creek (Lower)	Haight's Creek (Middle)
Haight's Creek (Upper)	Lower (Dennis)
Hobbs	Valleyview #2(SDID#3 Upper)
Holmes	
Kaysville	
Valleyview #1(SDID#4 Lower)	
<i>Source: Utah Division of Water Rights 2007</i>	

Table 9.26 - Infrastructure Vulnerable to Dam Failure, Davis County

	Length (Miles) or Number of Unit	Replacement Cost
Highways/Interstates	12.85 miles	\$105,801,968
Highway Bridges	38 bridges	\$71,093,046
Railway Segments	14.57 miles	\$16,733,995
Railway Bridges	0 bridges	\$0
Water Distribution Lines	N/A	N/A
Gas Lines	N/A	N/A
Sewer Lines	N/A	N/A
Totals		\$193,629,009
<i>Source: HAZUS-MH</i>		

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7. Drought



Drought Overview + Profile

According to the National Drought Mitigation Center, drought originates from a shortage of precipitation over an extended period of time, usually a season or more. This deficiency results in a water shortage for some activity, group, or environmental sector. “Drought could be considered relative to some long-term average condition of balance between precipitation and evapotranspiration in a particular area” (NDMC 2006). Drought is also related to the timing and effectiveness of precipitation. Drought is a normal, recurrent feature of weather and climate but is a particular concern to all affected because of its devastating outcome. It occurs in almost all climatic zones with varying characteristics. “Drought is a temporary aberration and differs from aridity since aridity is restricted to low rainfall regions and is a permanent feature of climate”. Drought is a dry progression through the winter, spring, and summer months that could end in a year or last for many years. The number of dry years correlates with that impact. Usually, a one to two year drought affects only agriculture, while a three-year drought may significantly impact culinary water in the local areas and communities.

Table 9.27 - Drought Hazard Profile

Changes since 2016	The recent drought conditions have increased awareness of the potential impact of drought in the County.				
	Much of the new subdivision development in the County has led to the conversion of agricultural land to suburban. The majority of irrigated acres in those converted areas were done via flood irrigation.				
	Davis County planners have utilized the new compilation of water-related land use data (https://dwre-utahdnr.opendata.arcgis.com/pages/wrlu).				
Potential Magnitude		Catastrophic (>50%)	Probability	Highly Likely	
	X	Critical (25-50%)		X	Likely
		Limited (10-25%)			Possible
		Negligible (<10%)			Unlikely
Location	Region-wide				
Extent	Davis County’s potential for drought impact is high. It is currently experiencing a “D4” event.				
Prior Occurrences	The USDA and NOAA report that Davis County has experienced drought conditions at different levels almost continually since 2016.				
Seasonal Pattern	Winter: reduction of snowpack and water supplies Spring: reduction of crop production and/or increased crop water demand				

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	Summer: increased water demand, impeded crop production Fall: reduction in soil moisture could reduce snowmelt runoff
Conditions	Agricultural impact: impeded crop production. Impeded range land. Hydrologic impact: threat to water quality and quantity. Socioeconomic impact: lack of water to support the population. Economic impact to agriculture and water-based tourism.
Duration	Months, Years
Secondary Hazards	Wildfire, dust storms, air quality.
Climate Change	Climate change will increase the incidence of extreme precipitation events and change weather patterns. Extreme, or heavy snowfall events will increase the risk of avalanches. Also, changes in climate will likely cause an increase in drought hazard in Utah (which is one of the driest states in the US).
Analysis Used	National Weather Service, Utah Climate Center, Utah Division of Water Resources, Newspapers, Local input.

The most severe drought period in recorded history for the Northern Mountains region occurred in 1934 at the height of the Great Depression and during the same drought period (1930 to 1936) that caused the “Dust Bowl” on the Great Plains (Utah Division of Water Resources 2007a).

Times of extended drought can turn into socioeconomic drought, or drought that begins to affect the general population. When this occurs, reservoirs, wells and aquifers are low and conservation measures are required. Some forms of water conservation are water-use restrictions, implementation of secondary water or water recycling and xeriscaping. Other conservation options include emergency water agreements with neighboring water districts or transporting water from elsewhere.

Conceptual definitions of drought help people understand the idea of a drought. Operational definitions define the process of drought. This is usually done by comparing the current situation to the historical average, often based on a 30-year period of record. It is hard to develop a singular operational definition of drought because of the striking differences throughout the world (NDMC 2006).

Meteorological drought is defined by the degree of dryness in comparison to an average amount and the duration of the dry period. Meteorological drought must be considered as region specific since the atmospheric conditions that result in deficiencies of precipitation are highly variable from region to region (NDMC 2006).

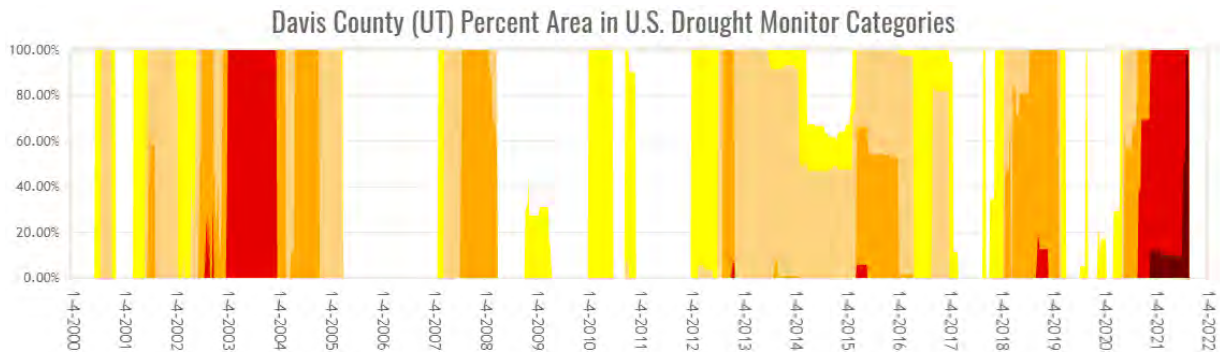
Hydrological drought refers to the precipitation decline in the surface and subsurface water supply. The frequency and severity of hydrological drought is often defined on a watershed or river basin scale (NDMC 2006).

Agricultural drought occurs when there is not enough water available for a crop to grow. This drought links various characteristics of meteorological or hydrological drought to agricultural impacts, focusing on precipitation shortages, differences between actual and potential evapotranspiration, soil water deficits, and reduced groundwater or reservoir levels (NDMC 2006).

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Socioeconomic drought occurs when the physical water shortage begins to affect people (NDMC 2006). When drought begins, the agricultural sector is usually the first to be affected because of its heavy dependence on stored soil water. If precipitation deficiencies continue, then people dependent on other sources of water will begin to feel the effects of the shortage. Those who rely on surface and subsurface water are usually the last to be affected. Groundwater users are often the last to be affected by drought during its onset but may be the last to experience a return to normal water levels. The length of the recovery period is a function of the intensity of the drought, its duration, and the quantity of precipitation received as the episode terminates (NDMC 2006).



Locations and Activity:

Palmer Drought Severity Index (PDSI):

Developed in 1965, the PDSI is a soil moisture algorithm calibrated for relatively homogeneous regions used by government agencies and states to trigger drought relief programs. The PDSI provides a measurement of moisture conditions that were “standardized” so that comparisons using the index could be made between locations and between months. This is the oldest index for measuring drought and is less well suited for mountainous land or areas of frequent climatic extremes and does not include man-made changes. The PDSI is calculated based on precipitation and temperature data as well as local available water content of the soil. This scale is given as monthly values and is the most effective in determining long-term drought. The index ranges from -4 to 4 with negative values denoting dry spells and positive values indicating wet spells. The values 0 to -0.5 equal normal, -0.5 to -1.0 equal incipient drought, -1.0 to -2.0 equal mild drought, -2.0 to -3.0 equal moderate drought, -3.0 to -4.0 equal severe drought, greater than -4.0 equals extreme drought. The wet spells use the same adjectives in the positive values (NDMC 2006).

Beginning in 1987 a drought produced some of the hottest years and driest years on record. Statewide reservoir capacity plunged below 50% at times and farmers and ranchers struggled to continue operations. However, there were a couple wet years mixed in between for some of the climate divisions, but overall drought conditions prevailed and in 2018 were severe. For the first time in about ten years Utah’s drought conditions reached a threshold that triggered the State’s statutory responsibility to convene Utah’s Drought Review and Reporting Committee. The committee gathered on Sept. 10, 2018 under the direction of the state’s Drought Coordinator, Mike Styler, executive director of the Utah Department of Natural Resources (DNR). On October 15, 2018 Governor Herbert issued an executive order declaring a State of Emergency due to statewide drought conditions. The Drought Review and Reporting Committee is required to hold this meeting by state code, UCA 53-2a, and Utah’s Drought Response, which requires the state to prepare for, respond to and recover from emergencies or disasters with the primary objectives to

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save lives and protect public health and property. Drought conditions have developed to the degree that several areas within the state are likely to receive severe impacts to various sectors of their economies.

Table 9.28 - Palmer Drought Severity Index

High-Hazard Dams	Moderate-Hazard Dams
4.0 or more	Extremely wet
3.0 to 3.99	Very wet
2.0 to 2.99	Moderately wet
1.0 to 1.99	Slightly wet
0.5 to 0.99	Incipient wet spell
0.49 to -0.49	Near normal
-0.5 to -0.99	Incipient dry spell
-1.0 to -1.99	Mild drought
-2.0 to -2.99	Moderate drought
-3.0 to -3.99	Severe drought
-4.0 or less	Extreme drought
<i>Source: NDMC 2006</i>	

Surface Water Supply Index (SWSI):

Developed in 1982, the SWSI index uses the same basic classifications as the Palmer Drought Index and is designed to complement the Palmer Index in the western states. The SWSI is more of an indicator of surface water conditions and is described as “mountain water dependent”, in which mountain snowpack is a major component; calculated by river basin, based on snowpack, stream flow, precipitation, and reservoir storage. The objective of the SWSI was to incorporate both hydrological and climatological features into a single standardized index value. The pros and cons of the SWSI is that the index is unique to each basin. The SWSI is centered on 0 and has a range between -4.2 (extremely dry) and 4.2 (abundant supply). The index is calculated by combining pre-runoff reservoir storage with forecasts of spring and summer stream flow that is based on hydrologic variables (NDMC 2006).

Standardized Precipitation Index (SPI):

T.B. McKee, N.J. Doesken, and J. Kleist of the Colorado State University, Colorado Climate Center, formulated the SPI in 1993. The Standardized Precipitation Index was designed to quantify the precipitation deficit for multiple time scales; basically, the SPI is an index based on the probability of precipitation for any time scale. It assigns a single numeric value to the precipitation that can be compared

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across regions with different climates. The SPI is calculated by taking the difference of the precipitation from the mean for a particular time scale and dividing by the standard deviation.

The SPI is normalized and so the wetter and drier climates can be represented in the same way. The SPI can provide early warning of drought and help assess drought severity, yet the values based on preliminary data may change. The SPI values indicate an extremely wet period value at 2.0+, very wet equals 1.5 to 1.99, moderately wet is 1.0 to 1.49, -.99 to .99 is near normal, -1.0 to -1.49 moderately dry, -1.5 to -1.99 is severely dry, -2 and less is extremely dry. The time scales were originally calculated for 3-, 6-, 12-, 24-, and 48- months (NDMC 2006).

A drought analysis review of 33 gauging stations data in Utah indicated that a localized drought has occurred on at least one stream every year since 1924. The duration of drought lasts longer in basins where runoff is mainly from snowmelt. The frequency of occurrence is greater for areas in the Wasatch Range than in the Wasatch Plateau, the mountains of southwestern Utah, or the Uinta Mountain range. It is widely held that because Utah relies on surface water supplies, about 81% of the population relies on off-stream water use and 35% of the population relies on surface water supplies, drought severely affects the people and industry of the whole state.

8. Severe Weather



Severe Weather Overview + Profile

Severe storms can include thunderstorms, lightning, hailstorms, heavy snow or rain, extreme cold and avalanche. These storms are generally related to high precipitation events during the summer and winter months and can happen anywhere in the region. Damage can be extensive especially for agriculture, farming, and transportation systems; they can also disrupt business due to power outages.

Table 9.29 - Severe Weather Hazard Profile

Changes since 2016	In recent years, winds in excess of 100 mph toppled thousands of trees and tore roofs and siding off of hundreds of buildings. Significant winter storms have also continued to draw attention to the need to prepare for potential hazard events.			
Potential Magnitude		Catastrophic (>50%)	Probability	X Highly Likely
		Critical (25-50%)		Likely
	X	Limited (10-25%)		Possible
		Negligible (<10%)		Unlikely
Location	Occur in localized areas throughout the region. Although many severe weather phenomena generally have recognizable patterns of recurrence, it is difficult to identify exactly when and where the next event will take place.			

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Extent	Davis County has the potential to experience a number of severe weather events. The most likely are heavy winter storms and canyon winds.
Prior Occurrences	NOAA has recorded 25 different major storms in Davis County since 2016. None of them resulted in reported deaths or injuries.
Seasonal Pattern	Year-round
Conditions	Varies based on latitude, elevation, aspect and landforms
Duration	Severe weather hazards generally last hours and can persist for days
Secondary Hazards	Wildfire, flooding
Climate Change	Winter drought increases avalanche risk.
Analysis Used	National Climate Data Center, National Weather Service, Utah Avalanche Center, Utah DEM, local input, and review of historic events and scientific records..

Locations and Activity:

Extreme Temperatures:

Temperatures in Utah can reach the extreme ends of the thermometer. Winter months often experience temperatures below zero degrees. Summer temperatures regularly reach into the nineties with many days above 100 degrees. Drastic temperature changes also occur, even in a matter of hours. Temperature swings in such a short period of time can cause severe emotional stress in people, sometimes resulting in suicide. Sub-zero temperatures occur during most winters; however, prolonged periods of extremely cold weather are infrequent. January is generally the coldest month of the year. Historically, extreme cold in the region has disrupted agriculture, farming and crops. Especially vulnerable to extreme cold are the young, elderly, homeless and animals. Wind chill can further the effects of extreme cold.

Extreme heat not only causes discomfort, but can lead to heat exhaustion or heat stroke. Extreme heat also places severe strain on electrical systems due to the widespread use of evaporative coolers and air conditioners. This strain can lead to brownouts or blackouts leaving many without electrical power.

Heavy Precipitation:

Heavy amounts of precipitation from rain or snow can result in flash flood events. The Wasatch Front has been susceptible to these types of storms because of close proximity to the mountain ranges. Major winter storms can produce five to ten times the amount of snow in the mountains than in the valley locations. Heavy snow can cause a secondary hazard in avalanches. Much of the Valley's development has occurred on old alluvial fans from the canyon mouths. During heavy rain events, water and debris collect on these same alluvial fans, damaging residential, commercial property and infrastructure.

Winter Storms:

Winter storms gain energy from the collisions of two air masses. In North America, a winter storm is usually generated when a cold air mass from dry Canadian air moves south and interacts with a northward moving warm moist air mass from the Gulf of Mexico. The position where a warm and a cold air mass

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meet is called a front. If cold air is advancing and pushing away the warm air, the front is known as a cold front. If warm air is advancing, it will ride up over the cold air mass and the front is known as a warm front. A winter storm will typically begin under what is known as a stationary front. A stationary front is when neither air mass is advancing.

The atmosphere will try to even out the pressure difference by generating an area of lower pressure; this creates wind that blows from high pressure towards a low-pressure area. As the air travels toward the center of the low-pressure area, it is pushed up into the colder regions of the upper atmosphere because it has nowhere else to go. This causes the water vapor to condense as snow in the northern areas because of the colder temperatures. In the south, if the temperatures are warm enough the water vapor will fall as heavy rain in thunderstorms. Because of the easterlies in Northern America, the winter storm moves quickly over the area and generally does not last longer than a day in one area. However, in Utah, because of the Great Salt Lake “lake-effect”, snowstorms can last for many days. This is because of the amount of moisture from an unfrozen body of water. When a strong cold wind blows over a larger area of water, the air can attain a substantial amount of moisture; this moisture turns into heavy snow when it reaches land causing a lake effect snowstorm (Scholastic 2008).

While the majority of Utah residents are no longer isolated, they are still vulnerable to the extreme conditions caused by the winter storms. Heavy snow can paralyze a city, stranding motorists, stopping the flow of supplies, disrupting emergency services, and halting classes at area schools. Heavy accumulations of snow can cause buildings to collapse and knock down trees and utility lines. The resulting danger of prolonged utility outages can become critical, during cold temperatures, which often coincide with these storms, especially to the elderly and very young. Cost of snow removal, repairing damage, and loss of business can place a large economic burden on cities. Many of the deaths due to this kind of disaster are often indirectly related, such as heart attacks from shoveling snow, and traffic accidents caused by icy roads.

Ice Storms:

Ice storms are rare in Utah, but may occur when rain falls through a temperature inversion and the air near the ground is below freezing. The rain freezes on contact with everything it touches and can bring down electrical wires, telephone poles and lines, trees, and communication towers. Ice also freezes on contact with roads and highways resulting in extreme hazards to motorists and pedestrians. Bridges and overpasses are likely to freeze first. (NWS 2001)

Heavy Snow:

Heavy snow has occasionally immobilized Davis County stranding commuters, stopping the flow of commerce, disrupting emergency services, closing infrastructure and services. When heavy snow occurs with high winds, blowing snow or blizzard conditions may exist. (NWS 2001)

Avalanche:

Utah DEM defines an avalanche as a mass of snow sliding down a mountainside. Avalanches occur when stresses (driving forces), such as the pulling of snow downhill by gravity, exceeds the strength (resisting forces) such as the bonds between snow grains. Four ingredients are needed to produce an avalanche:

1. Snow
2. Weak layer in the snow cover
3. Steep slope
4. A trigger

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About 90% of all avalanches start on slopes of 30 - 45 degrees; about 98% of all avalanches occur on slopes of 25 - 50 degrees. Avalanches release most often on slopes above timberline that face away from prevailing winds (leeward slopes collect snow blowing from the windward sides of ridges.) Avalanches can run, however, on small slopes well below timberline, such as gullies, road cuts, and small openings in the trees. Very dense trees can anchor the snow to steep slopes and prevent avalanches from starting; however, avalanches can release and travel through a moderately dense forest.

Avalanche victims are primarily backcountry recreationists: snowmobilers, climbers, snowboarders, skiers, and hikers. In 90% of avalanche incidents, the victim or someone in the victim's party triggers the avalanche. (UDEM 2015)

An avalanche consists of a starting zone, a track, and a runout zone. The starting zone is where the ice or snow breaks loose and starts to slide; this zone can be triggered by human and/ or natural activities.

Human induced avalanches can result from snowmobilers, backcountry skiers, or other outdoor recreationalists causing ground shaking. The two main natural factors that affect avalanche activity include weather and terrain and large, frequent storms combined with steep slopes. Other factors that contribute to the stability of the snowpack include the amount of snow, rate of accumulation, moisture content, snow crystal types and the wind speed and direction. The track is the grade or channel down which an avalanche travels. The runout zone is where an avalanche stops and deposits the snow. For large avalanches, the runout zone can include a powder, or windblast zone that extends far beyond the area of snow deposition. In Utah, avalanches annually kill more people than any other natural hazard, and ironically, are often triggered by the victim. Each winter an average of four people die in Utah due to avalanche activity (UDEM 2015).

Weather and terrain conditions affect avalanche conditions. The weather controls the durations and the extent of an avalanche while terrain is the element that determines where, why, and how an avalanche occurred. In Utah, the months of January through April pose the greatest avalanche potential.

Weather related aspects that affect the snowpack stability include rate of accumulation, amount of snowfall, moisture content, wind speed and direction, and snow crystal type. Wind can deposit snow 10 times faster than snow falling from a storm without accompanying wind.

This affects avalanche potential because the underlying weak layer of snow cannot adjust to the new load. Rain and the melting of snow can almost instantly cause an avalanche because of the added weight (UDEM 2015).

Terrain includes such variables as slope, aspect, elevation, roughness and angle. The slope is important in understanding where an avalanche will occur. Slopes greater than 45 degrees are too steep because the snow continually sluffs off; however slopes greater than 20 degrees can produce avalanches.

Optimum slope degree is between 30 to 45 degrees, which is also the optimum angle for backcountry skiers. This slope angle is where approximately 99.9 percent of avalanches occur. The slope aspect and elevation affect the snow depth, temperature, and moisture characteristics of the snowpack. Slope aspect, such as north facing or shady slopes usually produce more avalanches and more persistent avalanche hazards occur during mid-winter months. In the spring, the strong sun on south facing slopes produce more wet avalanches (UAC 2015).

Slope shape and roughness correlate with snowpack stability. Roughness identifies boulders, shrubs, and trees that can help slow, or reduce avalanche speed and impact. A bowl shaped slope is more prone to an avalanche than a ridge or cliff.

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Dry-slab avalanche is when a cohesive slab of snow that fractures as a unit slides on top of weaker snow and breaks apart as it slides. Dry-slab avalanches occur usually because too much additional weight has been added too quickly, which overloads the buried weak layer. Even the weight of a person can add a tremendous stress to a buried weak layer. Dry-slab avalanches usually travel between 60-80 miles per hour within 5 seconds of the fracture and are the deadliest form of avalanche (UAC 2015).

Wet-slab avalanches occur for the opposite reason of dry avalanches; percolating water dissolves the bonds between the snow grains on the pre-existing snow, which decrease the strength of the buried weak layer. Strong sun or warm temperatures can melt the snow and create wet avalanches. Wet avalanches usually travel about 20 miles per hour (UAC 2015).

Avalanches can result in loss of life as well as economic losses. At risk are some communities, individual structures, roads, ski areas, snowmobilers, backcountry skiers, snowshoers, snowboarders, and climbers. One of the major consequences of avalanches is the burial of structures, roads, vehicles, and people in the runout zone where tens of feet of debris and snow can be deposited (UAC 2015).

Between 1958 and 2015, there was one avalanche fatality listed on the Utah Avalanche Center website. In 1996, a snowmobiler was killed in the Bountiful Peak area. (UAC 2015)

Lightning:

Lightning is the electric discharge between clouds or from a cloud to the earth. In Utah, lightning causes the highest number of weather-related fatalities (NWS 2008). Lightning casualties occur most frequently during the summer monsoonal flow in July and August. See Table 8-1 for the number of casualties caused by lightning. Lightning is also the primary cause of wildland fires in Utah (NWS 2008), which could cause casualties or be disruptive to the economy. Between 2006 and 2015, Utah had 6 lightning caused deaths, none of these occurred in Davis County.

Deaths directly related to severe weather occur, such is the case with lightning. Over 40 million lightning strikes occur each year in the United States. Since 1950 there have been 51 deaths and 131 injuries, in Utah, due to lightning. Lightning is Utah's second deadliest natural hazard, trailing only avalanches, when comparing the figures from 1951 to the present. Most lightning strikes, in Utah, occur during the summer months of May, June, July, and August, when large consecutive storms come.

Severe Thunderstorms usually last around 30 minutes and are typically only 15 miles in diameter (NWS 1999), but all produce lightning, the “number one weather-related killer” in Utah (NWS 2008). Thunderstorms can also lead to flash flooding from heavy rainfall, strong winds, hail and tornadoes or waterspouts (NWS 1999).

There are approximately 25 million recorded lightning strikes in the US and 200,000 cloud-to-ground lightning flashes in Utah annually. Although most lightning occurs in the summer, lightning can strike at any time of year. Lightning kills an average of 47 people in the US each year and hundreds more are severely injured. Additionally, lightning causes billions of dollars in associated losses by igniting fires and disrupting utility, aviation and transportation services.

Tornado:

Tornadoes are defined as “a violently rotating column of air extending from a thunderstorm to the ground” (NWS 2015), and is often on the edge of the updraft or next to the air coming down from the thunderstorm. A tornado’s vortex is a low-pressure area and as air rushes into the vortex, its pressure lowers and cools the air. This cooler air condenses into water vapor in the funnel cloud, known as the vortex, and doesn’t touch the ground. The swirling winds of the tornado pick up dust, dirt, and debris from the ground, which turns the funnel cloud darker. Some tornadoes can have wind speeds greater than

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250 miles per hour with a damage zone of 50 miles long and greater than 1 mile wide (NWS 2015). Most tornadoes in Utah typically have winds less than 110 miles per hour, are no wider than 60 feet and are on the ground longer than “a few minutes” (Brough, et al. 2007).

A change in wind direction and an increase in wind speed along with increasing height create a horizontal spinning effect in the lower atmosphere form a tornado while the rising air within the thunderstorm updraft tilts the rotating air vertically resulting in what we call a tornado. The area of rotation is generally 2-6 miles wide and extends through much of the storm (NWS 2015).

Scale: Tornadoes are classified by the National Weather Service using the Fujita Scale, which relates wind speed to damage to determine tornado intensity. The scale uses numbers from 0 through 5 with the ratings based on the amount and type of wind damage (SPC 2007). This scale has recently been modified and is now referred to as the Enhanced Fujita Scale. The Enhanced Fujita Scale classifications are listed below:

Enhanced Fujita Scale

EF-0: 65-85 mph, Light damage, downed tree branches, chimney damage

EF-1: Winds 86-110 mph, Moderate damage, mobile home damage

EF-2: Winds 111-135 mph, Considerable damage, mobile home demolished, trees uprooted

EF-3: Winds 136-165 mph, severe damage, roofs and walls torn down, trains overturned, cars thrown

EF-4: Winds 166-200 mph, Devastating damage, well-constructed walls leveled

EF-5: Winds over 200 mph, incredible damage, homes lifted off foundation and carried, autos thrown as far as 100 feet. (SPC 2014)

Tornadoes are rare in Davis County but have been reported, occurring mostly in the west part of the county and around the Great Salt Lake. In August of 2005 a tornado was photographed over Antelope Island.

Waterspouts are weak tornadoes that form over warm water, and in Utah generally occur with cold, late fall or late winter storms (Brough, et al. 2007).

Historically, atmospheric conditions have not been favorable for tornado development in Utah due to a dry climate and mountainous terrain. Utah is one of the lowest ranked in the nation for incidences of tornadoes with only one F2 or stronger tornado every seven years. Utah averages about two tornadoes per year which typically occur between May and August.

Despite this fact, interactions of the relatively cool air of the Great Salt Lake and relatively warm air of urban areas could create situations more favorable for tornado development. This phenomenon possibly contributed to the formation of the August 1999 Salt Lake City tornado (Dunn and Vasiloff 2001) which was the costliest disaster in Salt Lake County history causing over \$170 million in damages.

The list below shows Utah’s Strongest Tornadoes several of which occurred in Davis County and the surrounding areas. (Category based on old Fujita Scale, see below)

- F2 January 22, 1943 Young Ward
- F2 June 16, 1955 Sanpete County
- **F2 June 3, 1963 Bountiful**
- **F2 February 9, 1965 Salt Lake County**
- F2 November 2, 1967 Emery
- **F2 August 14, 1968 West Weber**

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- F2 June 10, 1970 Grand County
- F2 May 29, 1987 Lewiston
- F3 August 11, 1993 Uinta Mountains
- **F2 August 11, 1999 Salt Lake City**
- F2 September 8, 2002 Manti

High Winds:

High winds can occur with or without the presence of a storm and are unpredictable in regards to time and place. Each of the five counties that make-up the Wasatch Front has experienced high winds in the past (see Map 8-2 page 96), and can expect regional high wind future events.

Canyon winds can bring wind gusts greater than 100 mph through the canyon mouths into the populated areas of the Wasatch Front. Winds are usually strongest near the mouths of canyons and have resulted in the loss of power and the inability to heat homes and businesses. Winds have also damaged roofs, destroyed and knocked down large trees and fences, overturned tractor trailers and railroad cars, and downed small airplanes. Davis County has experienced numerous high wind episodes resulting in several million dollars of property damage. In December 2011 winds in excess of 100 mph toppled thousands of trees and tore roofs and siding off of hundreds of buildings. Davis County received a Presidential Disaster Declaration for Public Assistance to help reimburse the cost of the cleanup.

Fog:

Temperature inversions often occur during the winter months as a result of high pressure trapping cold air in the valley. These inversions keep cold, moist air trapped on the Wasatch Front valley floor forming super-cooled fog. This fog can cause visibility restrictions and icy surfaces. Wind is needed to clear the inversion and fog. The Great Salt Lake has been shown to affect the prevalence of fog, especially when lake levels are high (Hill 1987).

Thunderstorms:

Strong, rising air currents bring warm, moist air from the surface into the upper atmosphere where it condenses, forming heavy rains, hail, strong winds and lightning. Based on historical evidence thunderstorms can strike anywhere in the region, mainly during the spring and summer months.

Hailstorms:

Hailstorms occur when freezing water (in thunderstorm clouds) accumulates in layers around an icy core generally during the warmer months of May through September. Hail causes damage by battering crops, structures and automobiles. When hailstorms are large, damage can be extensive (especially when combined with high winds).

In January 2005 a Southwest flow ahead of a Pacific storm system brought mid-level moisture from the subtropics into northern Utah. Clouds cleared out long enough on the evening of the 26th to allow for sufficient radiational cooling to take place. Several areas along the northern and central Wasatch front observed freezing rain. The ice accumulated to about one-half of an inch along the Ogden and Salt Lake Valley areas. The Ogden Bench, Sandy, and West Haven all reported ice

On January 24, 2013 a rare freezing rain event occurred in Utah. Very cold air was trapped in valley locations due to a persistent inversion when a weather disturbance brought precipitation to the area causing freezing rain and widespread travel difficulties.

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Part X - SPECIALIZED LOCAL DISTRICTS

Utah State Code, Annotated, Section 17B-1-102, defines Specialized Local Districts (SLD) as a local district that is a cemetery maintenance district, a drainage district, a fire protection district, an improvement district, an irrigation district, a metropolitan water district, a mosquito abatement district, a public transit district, a service area or a water conservancy district. An SLD is a body corporate with perpetual succession, a quasi-municipal corporation, and is a political subdivision of the state.

SLD's may be created to provide services consisting of: airport operations; cemetery operations; fire, paramedic, and emergency services; garbage collection and disposal; health care including health department or hospital service; library operations; abatement or control of mosquitoes and other insects; park or recreation facilities or services; sewage system operations; street lighting; construction and maintenance of curb, gutter and sidewalk; transportation, including public transit and providing streets and roads; water system operations, including the collection, storage, retention, control, conservation, treatment, supplying, distribution, or reclamation of water, including storm, flood, sewage, irrigation, and culinary water, whether the system is operated on a wholesale or retail level or both.

Because SLD's are defined as quasi-municipal, they may be eligible for FEMA disaster funding reimbursement under the Stafford Act. Most of the SLD's have jurisdictional boundaries within a specific county. Others, such as the Utah Transit Authority (UTA), have jurisdictional boundaries that include multiple counties.

Specialized local districts identified in Davis County are listed below. There may be others not identified here which will be included as they adopt this plan.

Benchland Water District
485 E Shepherd Lane Kaysville, UT 84037
(801) 451-2105

Bountiful Water Sub-Conservancy District
385 W 500 S
Bountiful, UT 84010
(801) 295-5573

Central Davis Sewer District
2200 S Sunset Dr
Kaysville, UT 84037
(801) 451-2190

Clinton City Sanitary Sewer Special Service District
2267 N 1500 W
Clinton, UT 84015
(801) 614-0700

Davis County Mosquito Abatement District
85 North 600 West
Kaysville, UT 84037
(801) 544-3736

Davis and Weber Counties Canal Company
138 W 1300 N
Sunset, UT 84015
(801) 774-6373

Davis School District
P.O. Box 588 Farmington, UT 84025
(801) 397-8400

Echo Creek Ranches Special Service District
670 N 900 E
Bountiful, UT 84010
(801) 298-7422

Hights Creek Irrigation District
820 E 200 N
Kaysville, UT 84037
(801) 546-4242

Mutton Hollow Improvement District
1272 W 2700 S
Syracuse, UT 84075
(801) 614-0405

Specialized Local Districts - Davis Co PDMP

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North Davis Fire District
381 N 3150 W
Clearfield, UT 84015
(801) 525-2850

South Davis Sewer Improvement District
1800 W 1200 N
West Bountiful, UT 84087
(801) 295-3469

North Davis Sewer District
4252 W 2200 S
Syracuse, UT 84075
(801) 825-0712

South Davis Water Improvement District
407 W 3100 S
Bountiful, UT 84010
(801) 295-4468

Rocky Mountain Power
1407 W North Temple
Salt Lake City, UT 84116
(877) 508-5088

Utah Transit Authority
3600 S 700 W
Salt Lake City, UT 84119
(801) 262-5626

South Davis Metro Fire Agency
255 S 100 W
Bountiful, UT 84010
(801) 677-2400

Wasatch Front Regional Council (WFRC)
41 N Rio Grande St
Salt Lake City, UT 84101
(801) 363-4250

South Davis Recreation District
550 N 200 W
Bountiful, UT 84010
(801) 298-6220

Weber Basin Water Conservancy District
2837 E Highway 193
Layton, UT 84040
(801) 771-1677

Specialized Local Districts (SLD) are subject to the same hazards as the local jurisdictions in which they are located. The following general mitigation objectives have been developed for SLD's.

Problem Identification 1: Infrastructure vulnerability (Special Local Districts)

Objective A: Assess the vulnerability of critical facilities owned outside Davis County that can impact service delivery inside the county.

Objective B: Retrofit or replace critical lifeline facilities and or their backup facilities that are shown to be vulnerable to damage in natural disasters.

Objective C: Conduct comprehensive programs to identify and mitigate problems with facility contents, architectural components, and equipment that will prevent critical buildings from being functional after major natural disasters.

Objective D: Develop and maintain a system of interoperable communications for first responders from cities, counties, special service districts, local school districts, state and federal agencies.

Objective E: Identify and undertake cost effective retrofit measures on critical facilities when these buildings undergo major renovations.

Objective F: Engage in, support and or encourage research by others on measures to further strengthen transportation, water, sewer, and power systems so that they are less vulnerable to damage in natural disasters.

Specialized Local Districts - Davis Co PDMP

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Objective G: Encourage a higher priority for funding seismic retrofit of existing transportation and infrastructure systems, such as UTA.

Problem Identification 2: Vulnerability of critical educational facilities

Objective A: Retrofit or replace critical education facilities that are shown to be vulnerable to damage in natural disasters.

Objective B: Conduct comprehensive programs to identify and mitigate problems with facility contents, architectural components, and equipment that will prevent critical buildings from being functional after major natural disasters.

Objective C: Identify and undertake cost effective retrofit measures on critical facilities when these buildings undergo major renovations.

Objective D: Develop and maintain a system of interoperable communications for first responders from cities, counties, special service districts, local school districts, state and federal agencies.

Objective E: As a secondary focus, assess the vulnerability of non-critical educational facilities to damage in natural disasters based on occupancy and structural type, make recommendations on priorities for structural improvements or occupancy reductions, and identify potential funding mechanisms.

Part XI - PLAN MAINTENANCE + IMPLEMENTATION

Monitoring, Evaluating and Updating the Plan

Periodic monitoring and updates of this Plan are required to ensure that the goals and objectives for the region are kept current and that local mitigation strategies are being carried out. This Plan has been designed to be user-friendly in terms of maintenance and implementation.

Annual Review Procedures

Local jurisdictions shall annually review this Plan, or as situations dictate such as following a disaster declaration. If the participating jurisdictions or DEM determines that a modification of the Plan is warranted, an amendment to the Plan may be initiated.

Revisions and Updates

Each county emergency manager will regularly monitor and annually review the Plan and is responsible to make revisions and updates. The annual review is required to ensure that the goals and objectives for the Region are kept current. More importantly, revisions may be necessary to ensure the Plan is in full compliance with Federal regulations and State statutes. This portion of the Plan outlines the procedures for completing such revisions and updates. The Plan will also be revised to reflect lessons learned or to address specific hazard incidents arising out of a disaster.

Five Year Plan Review

The entire Plan including any background studies and analysis shall be revised and updated every five years to determine if there have been any significant changes in the region that would affect the Plan. Increased development, increased exposure to certain hazards, the development of new mitigation capabilities or techniques and changes to Federal or State legislation are examples of changes that may affect the condition of the Plan.

The Natural Hazard Pre-Disaster Mitigation Planning Committee and Local Working Group, with a potential membership representing every jurisdiction in Davis County, will be reconstituted for the five year review/update process. Typically, the same process that was used to create the original Plan will be used to prepare the update.

If the participating jurisdictions or DEM determine that the recommendations warrant modification to the Plan, an amendment may be initiated as described below.

Plan Amendments

The Utah DEM State Hazard Mitigation Officer, Local Mitigation Committee, or Mayor/City Manager of an affected community, will initiate amendments and updates to the Plan.

Upon initiation of an amendment to the Plan, DEM will forward information on the proposed amendment to all interested parties including, but not limited to, all affected city or county departments, residents and businesses. Depending on the magnitude of the amendment, the full planning committee may be reconstituted.

At a minimum, the information will be made available through public notice in a newspaper of general circulation or on the DEM website at dem.utah.gov. The review and comment period for the proposed Plan amendment will last for not less than 45 days.

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At the end of the comment period, the proposed amendment and all review comments will be forwarded to participating jurisdictions for consideration. If no comments are received from the reviewing parties within the specified review period, such will be noted accordingly. DEM will review the proposed amendment along with comments received from other parties and submit a recommendation to FEMA within 60 days.

In determining whether to recommend approval or denial of a Plan amendment request, the following factors will be considered:

1. There are errors or omissions made in the identification of issues or needs during the preparation of the Plan; and/or
2. New issues or needs have been identified which were not adequately addressed in the Plan; and/or
3. There has been a change in information, data or assumptions from those on which the Plan was based.
4. The nature or magnitude of risks has changed.
5. There are implementation problems, such as technical, political, legal or coordination issues with other agencies.

Upon receiving the recommendation of DEM, a public hearing will be held. DEM will review the recommendation (including the factors listed above) and any oral or written comments received at the public hearing. Following that review, DEM will take one of the following actions:

1. Adopt the proposed amendment as presented.
2. Adopt the proposed amendment with modifications.
3. Defer the amendment request for further consideration and/or hearing.
4. Reject the amendment request.

Implementation Through Existing Programs

Once the Plan is promulgated, participating cities and counties will be able to include this Plan's information in existing programs and plans. These could include the General or Master Plan, Capital Improvements Plan, Emergency Operations Plan, State Mitigation Plan, City Mitigation Plans. Many of the mitigation actions developed by the cities and counties have elements of mitigation implementation including the National Flood Insurance Program (NFIP), the Utah Wildland-Urban Interface Code, the Building Code Effectiveness Grading System (BCEGS), and Community Rating System (CRS), all of which have been implemented.

Process

It will be the responsibility of the Mayor/Council/Commissioner(s) of each jurisdiction, as they see fit, to ensure these actions are carried out no later than the target dates unless reasonable circumstances prevent their implementation (i.e. lack of funding availability).

Funding Sources

Although all mitigation techniques will likely save money by avoiding losses, many projects are costly to implement. Davis County jurisdictions shall continue to seek outside funding assistance for mitigation projects in both the pre- and post-disaster environment. This portion of the Plan identifies the primary Federal and State grant programs for Davis County jurisdictions to consider, and also briefly discusses local and non-governmental funding sources.

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Federal Programs

The following federal grant programs have been identified as funding sources which specifically target hazard mitigation projects:

Title: Pre-Disaster Mitigation Program

Agency: Federal Emergency Management Agency

Through the Disaster Mitigation Act of 2000, Congress approved the creation of a national program to provide a funding mechanism that is not dependent on a Presidential Disaster Declaration. The Pre-Disaster Mitigation (PDM) program provides funding to states and communities for cost-effective hazard mitigation activities that complement a comprehensive mitigation program and reduce injuries, loss of life, and damage and destruction of property.

The funding is based upon a 75% Federal share and 25% non-Federal share. The non-Federal match can be fully in-kind or cash, or a combination. Special accommodations will be made for “small and impoverished communities”, who will be eligible for 90% Federal share/10% non-Federal.

FEMA provides PDM grants to states that, in turn, can provide sub-grants to local governments for accomplishing the following eligible mitigation activities:

- State and local Natural Hazard Pre-Disaster Mitigation Planning
- Technical assistance (e.g. risk assessments, project development)
- Mitigation Projects
- Acquisition or relocation of vulnerable properties
- Hazard retrofits
- Minor structural hazard control or protection projects
- Community outreach and education (up to 10% of State allocation)

Title: Flood Mitigation Assistance Program

Agency: Federal Emergency Management Agency

FEMA’s Flood Mitigation Assistance program (FMA) provides funding to assist states and communities in implementing measures to reduce or eliminate the long-term risk of flood damage to buildings, manufactured homes and other structures insurable under the National Flood Insurance Program (NFIP). FMA was created as part of the National Flood Insurance Reform Act of 1994 (42 USC 4101) with the goal of reducing or eliminating claims under the NFIP.

FMA is a pre-disaster grant program, and is available to states on an annual basis. This funding is available for mitigation planning and implementation of mitigation measures only, and is based upon a 75% Federal share/25% non-Federal share. States administer the FMA program and are responsible for selecting projects for funding from the applications submitted by all communities within the state. The state then forwards selected applications to FEMA for an eligibility determination. Although individuals cannot apply directly for FMA funds, their local government may submit an application on their behalf.

Title: Hazard Mitigation Grant Program

Agency: Federal Emergency Management Agency

The Hazard Mitigation Grant Program (HMGP) was created in November 1988 through Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act. The HMGP assists states and local

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communities in implementing long-term mitigation measures following a Presidential disaster declaration.

To meet these objectives, FEMA can fund up to 75% of the eligible costs of each project. The state or local cost-share match does not need to be cash; in-kind services or materials may also be used. With the passage of the Hazard Mitigation and Relocation Assistance Act of 1993, federal funding under the HMGP is now based on 15% of the federal funds spent on the Public and Individual Assistance programs (minus administrative expenses) for each disaster.

The HMGP can be used to fund projects to protect either public or private property, so long as the projects in question fit within the state and local governments overall mitigation strategy for the disaster area, and comply with program guidelines. Examples of projects that may be funded include the acquisition or relocation of structures from hazard-prone areas, the retrofitting of existing structures to protect them from future damages; and the development of state or local standards designed to protect buildings from future damages.

Eligibility for funding under the HMGP is limited to state and local governments, certain private nonprofit organizations or institutions that serve a public function, Indian tribes and authorized tribal organizations. These organizations must apply for HMPG project funding on behalf of their citizens. In turn, applicants must work through their state, since the state is responsible for setting priorities for funding and administering the program.

Title: Public Assistance (Infrastructure) Program, Section 406

Agency: Federal Emergency Management Agency

FEMA's Public Assistance Program, through Section 406 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, provides funding to local governments following a Presidential Disaster Declaration for mitigation measures in conjunction with the repair of damaged public facilities and infrastructure.

The mitigation measures must be related to eligible disaster related damages and must directly reduce the potential for future, similar disaster damages to the eligible facility. These opportunities usually present themselves during the repair/replacement efforts.

Proposed projects must be approved by FEMA prior to funding. They will be evaluated for cost effectiveness, technical feasibility and compliance with statutory, regulatory and executive order requirements. In addition, the evaluation must ensure that the mitigation measures do not negatively impact a facility's operation or risk from another hazard.

Public facilities are operated by state and local governments, Indian tribes or authorized tribal organizations and include:

- Roads, bridges & culverts
- Draining & irrigation channels
- Schools, city halls & other buildings
- Water, power & sanitary systems
- Airports & parks

Private nonprofit organizations are groups that own or operate facilities that provide services otherwise performed by a government agency and include, but are not limited to the following:

- Universities and other schools

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- Hospitals & clinics
- Volunteer fire & ambulance
- Power cooperatives & other utilities
- Custodial care & retirement facilities
- Museums & community centers

Title: Small Business Administration (SBA) Disaster Assistance Program

Agency: U.S. SBA

The SBA Disaster Assistance Program provides low-interest loans to businesses following a Presidential disaster declaration. The loans target businesses to repair or replace uninsured disaster damages to property owned by the business, including real estate, machinery and equipment, inventory and supplies. Businesses of any size are eligible, along with non-profit organizations.

SBA loans can be utilized by their recipients to incorporate mitigation techniques into the repair and restoration of their business.

Title: Community Development Block Grants

Agency: US Department of Housing and Urban Development

The Community Development Block Grant (CDBG) program provides grants to local governments for community and economic development projects that primarily benefit low- and moderate-income people. The CDBG program also provides grants for post-disaster hazard mitigation and recovery following a Presidential disaster declaration.

Funds can be used for activities such as acquisition, rehabilitation or reconstruction of damaged properties and facilities and for the redevelopment of disaster areas.

State Programs

Local

Local governments depend upon local property taxes as their primary source of revenue. These taxes are typically used to finance services that must be available and delivered on a routine and regular basis to the general public. If local budgets allow, these funds are used to match Federal or State grant programs when required for large-scale projects.

Non-Governmental

Another potential source of revenue for implementing local mitigation projects are monetary contributions from non-governmental organizations, such as private sector companies, churches, charities, community relief funds, the American Red Cross, hospitals, land trusts and other non-profit organizations.

Paramount to having a Plan deemed to be valid is its implementation. There is currently no new fiscal note attached to the implementation of this Plan.

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Continued Public Involvement

Throughout the planning process, public involvement has been and will be critical to the development of the Plan and its updates. The Plan will be available on the Davis County and Utah DEM website's to provide opportunities for public participation and comment.

The Davis County Sheriff's Office has been designated as the lead agency in preparing and submitting the Davis County Natural Hazards Pre-Disaster Mitigation Plan, which includes coverage for all incorporated cities and unincorporated county. The strategy of the county in preparing the Plan is to use available resources and manpower in the most efficient and cost effective manner to allow cities continued access to data, technical planning assistance and FEMA eligibility. In addition, the county will reach out to non-profits, public agencies, special needs organizations, groups and individuals in allowing them input and access to the Plan. With limited resources, however, it becomes difficult to both identify and to individually contact the broad range of potential clients that may stand to benefit from the Plan. This being the case, we have established the following course of action:

STEP 1. The county will publicly advertise all hearings, requests for input and meetings directly related to the Natural Hazard Pre-Disaster Mitigation Planning process. Davis County meetings where Plan items are discussed and where actions are taken will not receive special notifications as they are already advertised according to set standards. All interested parties are welcome and invited to attend such meetings and hearings, as they are public and open to all.

Advertisement will be done according to the pattern set in previous years, i.e. the county will advertise each hearing and request for input at least 7 days in advance of the activity and will publish notices of the event in local newspapers. The notices will advertise both the hearing and the means of providing input outside the hearing if an interested person is unable to attend.

STEP 2. Davis County has established a mailing list of many local agencies and individuals that may have an interest in the Natural Hazard Pre-Disaster Mitigation Plan. Each identified agency or person will be mailed a notice of the hearings and open houses.

STEP 3. Comments, both oral and written, will be solicited and accepted from any interested party. Comments, as far as possible, will be included in the final draft of the Plan; however, the county reserves the right to limit comments that are excessively long due to the size of the Plan.

STEP 4. Specific to risk assessment and hazard mitigation, needs analysis, and capital investment strategies, the county will make initial contact and solicitation for input from each incorporated jurisdiction within the region. All input is voluntary. Staff time and resources do not allow personal contact with other agencies or groups, however, comments and strategies are welcomed as input to the planning process from any party via regular mail, fax, e-mail, phone call, etc. In addition, every public jurisdiction advertises and conducts public hearings on their planning, budget, etc. where most of these mitigation projects are initiated. Input can be received from these prime sources by the region as well.

STEP 5. The following policies will guide county staff in making access and input to the Natural Hazard Pre-Disaster Mitigation Plan as open and convenient as possible:

A. Participation

All citizens of the region are encouraged to participate in the planning process, especially those who may reside within identified hazard areas. The county will take whatever actions possible to accommodate special needs of individuals including the impaired, non-English speaking, persons of limited mobility, etc.

B. Access to Meetings

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Adequate and timely notification to all area residents will be given as outlined above to all hearings, forums, and meetings.

C. Access to Information

Citizens, public jurisdictions, agencies and other interested parties will have the opportunity to receive information and submit comments on any aspect of the Natural Hazards Pre-Disaster Mitigation Plan, and/or any other documents prepared for distribution by the county that may be adopted as part of the Plan by reference. The county may charge a nominal fee for printing of documents that are longer than three pages. The intent of the County is to maintain the DavisHazardPlan.org website as a public-facing information resource.

D. Technical Assistance

Residents as well as local jurisdictions may request assistance in accessing the program and interpretation of mitigation projects. County staff will assist to the extent practical, however, limited staff time and resources may prohibit staff from giving all the assistance requested. The County will be the sole determiner of the amount of assistance given all requests.

E. Public Hearings

The county will plan and conduct public hearings according to the following priorities:

1. Hearings will be conveniently timed for people who might benefit most from mitigation programs.
2. Hearings will be accessible to people with disabilities (accommodations must be requested in advance according to previously established policy).
3. Hearings will be adequately publicized. Hearings may be held for a number of purposes or functions including: identify and profile hazards, develop mitigation strategies, review plan goals, performance and future plans.

F. Future Revisions

Future revisions of the Plan shall include:

1. Expanded vulnerability assessments to include flood and dam failure inundation.
2. Continue the search for more specific mitigation actions.
3. An analysis of progress of the Plan as it is revised.
4. Expanded look into how the identified natural hazards will affect certain populations including the young and elderly.

Appendix A - POLICY CONSIDERATIONS

Natural disasters are naturally occurring phenomena. They play an integral part in maintaining balance in our world. Meteorological, geological, or hydrological processes have shaped Utah for millions of years and will continue to shape the valley for millions more. These unique phenomena only cause disasters when they affect humans and their structure. Modern engineering has made it possible to mitigate damage from natural hazards. However, the economic and environmental costs can be rather high. Tampering with natural systems can also create an imbalance in the natural environment. Nature provides its own mitigation and measures that need to be identified, protected and/or strengthened. To ensure that our environment is not harmed through mitigation measures, all applicable city/county ordinances and state/federal laws pertaining to the environment must be followed. The majority of the proposed mitigation programs in this Plan will be funded through federal programs, and thus tied to federal funding.

“44 CFR 10.8(d)(2)(iii) excludes this rule from the preparation of an environmental assessment or environmental impact statement, where the rule relates to actions that qualify for categorical exclusions under 44 CFR 10.8(d)(2)(iii), such as the development of plans under this section” (United States 2002).

The following acts will be taken into consideration and will be incorporated when needed while organizing and implementing the PDM Plan: Clean Air Act, Clean Water Act, Endangered Species Act, Floodplain Management, National Historic Preservation Act.

Clean Air Act (CAA) 1970

The Clean Air Act is the comprehensive Federal Law that covers the entire country under the Environmental Policy Act regulating air emissions from area, stationary, and mobile sources. This law sets limits or National Ambient Air Quality Standards (NAAQS), on how much of a pollutant can be in the air anywhere in the United States and the emissions of air pollutants. These limits ensure that all Americans have the same basic health and environmental protections. Maximum pollutant standards were set, though states may have stronger pollution controls than the national standards. Each state explains how it will do its job under the Clean Air Act by developing a mandated “state implementation plan” (SIP) that must be approved by the Environmental Protection Agency (EPA). The 1977 amendment set new dates for areas of the country that failed to meet the initial deadlines for achieving NAAQS. The 1990 amendments addressed problems such as acid rain, ground-level ozone, stratospheric ozone depletion, and air toxins. This act required facilities with large amounts of certain hazardous chemicals to have a special emergency planning requirement. Based on a facilities potential threat or risk from chemical spills, fires, explosions, etc., facilities prepare a Risk Management Plan (RMP) that includes hazard identification, assessments, design and maintenance of a safe facility, necessary steps to prevent releases and ways to minimize the consequences from an accidental release (United States 1970).

Clean Water Act (CWA)

The Federal Water Pollution Control Act Amendments of 1972 came about because of the growing awareness for the need to control water pollution. As amended in 1977, this law became known as the Clean Water Act, whose mission is to establish the basic structure for regulating discharges of pollutants into the waters of the United States, and to reduce and maintain the chemical, biological, and physical veracity. The act gave the EPA the authority to set wastewater standards for industry. The act also requires that each state adopt water quality standards, act to protect wetlands, and limit industrial and municipal discharges into navigable waters unless permitted. It funded the construction of wastewater treatment plants for nearly every city in the United States

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through construction grant programs from the EPA and recognized the need for planning for future threats from nonpoint source pollution. (United States 1977a)

Clean Water Act, Section 404 – Wetland Preservation

This section regulates activities in wetland areas and authorizes the EPA to restrict or prohibit the use of an area as a disposal site for dredged or fill material if the discharge will have adverse effects on municipal water supplies, shellfish beds and fishery areas, wildlife or recreational areas. A permit must be issued that is based on regulatory guidelines developed in conjunction with the U.S. Army Corps of Engineers and the EPA. (United States 1977a)

Endangered Species Act of 1973

This act provides a plan for the protection of threatened or endangered plants and animals and the habitats in which they are found. Congress declared that various species of fish, wildlife, and plants in the United States have been caused to become extinct, or are so depleted in numbers they are in danger of becoming extinct as a result of economic development and expansion without adequate concern for conservation. Aesthetic, ecological, educational, historical, recreational, and scientific importance come from these species and are a value to our nation and its people. The U.S. will conserve, to a practicable extent, the species that face extinction and will encourage the States through federal assistance to develop and maintain conservation programs. The reason for the Act is to provide a means by which ecosystems with endangered and threatened species will be conserved. It is also declared that all state and local agencies resolve water resource issues in connection with conservation of endangered species (United States 1973).

Floodplain Management Policy

The main points of this policy are to reduce the loss of life and property and the disruption of societal and economic pursuits caused by flooding or facility operations as well as to restore, sustain and enhance the natural resources, ecosystems and other functions of the floodplains. Activities will search for a balance between the sometimes competing uses of floodplains in a way that provides the most benefit to society. Activities will pursue and encourage the appropriate use of floodplains, avoid long and short term negative impacts associated with the development and modification of floodplains, and avoid direct and indirect support of floodplain development whenever there is a practicable alternative. “Functions of floodplains include natural moderation of floods; fish, wildlife, and plant resources and habitat; groundwater recharge; and water quality maintenance. Uses of floodplains include stormwater management, erosion control, open space, natural beauty, opportunity for scientific study, outdoor education, recreation, and cultural preservation, and compatible economic utilization of floodplain resources by human society.” (United States 1977b).

National Historic Preservation Act of 1966 (NHPA)

This act was enacted by Congress because “the spirit and direction of the Nation are founded upon and reflected in its historic heritage...the historical and cultural foundations of the Nation should be preserved as a living part of our community life and development in order to give a sense of orientation to the American people.” Another main point of the act mandates the awareness of historic properties that are being lost or substantially altered. The preservation will continue a legacy of cultural, educational, aesthetic, inspirational, economic and energy benefits for future generations. The knowledge of historic resources and the encouragement of their preservations will improve the planning and execution of Federal and federally-assisted projects and will assist economic growth and development. The act uses measures that will foster conditions in which historic resources can exist in productive harmony with present and future generations (United States 2000).

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Section 106 of NHPA “requires all Federal agencies to take into account the effects of their actions on historic properties, and provide ACHP with a reasonable opportunity to comment on those actions and the manner in which Federal agencies are taking historic properties into account in their decisions” beginning at the early stages of planning to mitigate any adverse effects on historic properties (United States 2000).

Appendix B - GENERAL MITIGATION STRATEGIES

For the purpose of this mitigation Plan, mitigation strategies will be divided into one of five categories according to how they accomplish mitigation. The six categories include:

- Emergency Services
- Natural Resource Protection
- Mitigation
- Property Protection
- Public Information and Involvement
- Structural Protection

Emergency Service

Emergency Services mitigate bodily injury and the loss of life of humans during and after a disaster. Examples include:

- Mutual aid agreements
- Protection of critical facilities
- Health and safety maintenances
- Inventory of assets
- EMS/Police/Fire response and skill

Natural Resource Protection

Natural Resource Protection includes strategies that preserve or restore natural areas or the natural function that an area provides. Examples include:

- Wetlands protection
- Pollution reduction
- Erosion and sediment control
- Fuels reduction
- Watershed maintenance

Prevention

Prevention measures are intended to prevent the problem from occurring and/or keep it from getting worse. Examples include:

- Planning, zoning, and ordinance regulations
- Open space preservation
- Floodplain and wetland development regulations

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- Stormwater management
- Minimum set back requirements
- Evacuation plans

Property Protection

Property protection measures are used to modify residential and commercial property within high-risk areas in an attempt to reduce damage. For the most part, property protection measures do not affect a building's appearance or use, making them less expensive and particularly suitable for historical sites and landmarks. Examples include:

- Utility relocation
- Burying or flood proofing
- Structural and non-structural earthquake mitigation
- Backup protections
- Insurance and other financial loss minimization actions
- Technical evaluations and mapping

Public Information and Involvement

Public information and involvement activities are intended to advise property owners, potential property owners, and visitors about the particular hazards associated with a property and ways to protect people and property from these hazards. Examples include:

- Public Education
- NFIP
- URWIN areas
- Hazard Identification and mapping
- Informational mailings
- Workshops
- Real estate disclosures for natural hazards
- Real estate insurance

Structural Protection/Projects

These are man-made structures, which prevent damage from impacting property. Examples include:

- Detention/retention basins
- Larger culverts
- Elevated seismic design
- Floodwalls
- Debris basins
- Landslide stabilization and levees

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Earthquake Mitigation

Below is a list of common earthquake mitigation strategies pertaining to secondary threats often associated with earthquakes.

Generic Ground Shaking Mitigation:

- Understand peak horizontal acceleration and recurrence interval
- Design appropriately
- Zoning ordinances and building codes

Generic Liquefaction Mitigation:

- Move soil out
- Densify soils in place
- Remove ground water
- Structural design

Generic Surface Fault Rupture Mitigation:

- Avoidance
- Zoning ordinances
- Earthquake resistant building design codes
- Retrofitting of critical facilities and supporting equipment
- Retrofitting under-designed buildings
- Annual warning of risk/info on how to protect property and lives
- Projects to seismically upgrade critical public facilities/utilities and shelters
- Gather hazard and risk data/information
- Protection of roads and bridges
- General infrastructure protection
- Development of improved mitigation techniques
- Education of local officials, developers, and citizens

A. Emergency Services

Emergency Operations Planning:

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Maintain an earthquake response plan to account for secondary problems, such as fire and hazardous material spills.

Critical Facilities Protection:

Protecting critical facilities are vital as the facilities play an important role in coordinating response and recovery following an earthquake. For this reason, listed below are vital facilities and facilities with the potential of causing a secondary disaster if destroyed.

- Facilities or locations vital to earthquake response efforts
- Emergency operations centers
- Police and fire stations
- Hospitals
- Highway garages
- Selected roads and bridges
- Evacuation routes

Facilities and locations, which if destroyed would create a secondary disaster:

- Facilities housing hazardous materials
- Wastewater treatment plants
- Schools
- Nursing homes

B. Natural Resource Protection

- Design of pipelines
- Land-use planning
- Community master plans and zoning ordinances

C. Prevention

While earthquakes are not preventable, proper planning, zoning, and building codes can prevent much of the damage common with earthquakes. Planning, zoning, and building codes should address minimum setbacks, critical facility locations, steep slopes, areas with liquefiable soils, and ensure a high factor of safety ratings for critical facilities. Community master plans and zoning ordinances define hazard areas and require developers to show that any existing hazards have been investigated and new construction will not be exposed to unacceptable risk.

D. Property Protection

Nonstructural Mitigation:

Nonstructural mitigation consists of mitigation measures that don't affect the overall look or purpose of the building yet prevent damage to non-structural aspects and reduce the loss of life. In addition buildings with non-structural mitigation are frequently usable after an event.

- Tie downs

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- Flexible utility connections
- Mylar film on windows to prevent the glass from shattering
- Added bracing

Retrofitting:

Retrofitting upgrades the seismic safety of a building through structural and nonstructural mitigation techniques.

Insurance:

Above and beyond standard homeowners insurance, there is other coverage a homeowner can purchase to protect against earthquake hazard, something not covered under most homeowner's insurance plans. Although this doesn't mitigate the problem it does allow the homeowner to shift the financial loss/risk onto another party.

E. Public Information and Involvement

Public information and involvement for earthquakes is similar to the mitigation strategies outlined in the flood and riverine section mentioned above.

Real Estate Disclosure:

Disclosure of information regarding earthquakes and hazard prone properties are important if potential buyers are in a position to mitigate damage. Unlike floodplains there are no federal laws, which require disclosure of earthquakes.

F. Structural Protection/Projects

Mitigation measures can be any type of activity that reduces the likelihood or modifies what is at risk from the hazard. Earthquake mitigation can be accomplished through building codes that ensure safe and adequate construction including earthquake resistant designs and construction. Older buildings should be retrofitted to comply with the codes.



Flood/ Riverine Mitigation

The following are generic mitigation strategies appropriate for addressing the hazard of flooding. Many of these strategies are expanded upon in the text that follows.

- Avoidance, land-use planning and zoning ordinances
- Better flood routing through communities
- Annual warning of risk information on how to protect property and lives
- Flood insurance awareness, emphasis, and marketing

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- Projects such as levees/dams
- Funding by a storm water tax in cooperation with Federal and State programs
- Additional SNOTEL sites and enhanced instrumentation
- Protection of roads and bridges
- Greater reservoir capacities
- Curtail development in flood-prone areas
- General infrastructure protection
- Develop river corridor parkways
- Protection of wastewater treatment facilities from excessive inflows
- Protection of drinking water supply systems
- Gather hazard and risk data/information
- Development of improved mitigation techniques
- Education of local officials, developers, and citizens
- Protecting natural floodplain resources
- Good watershed management

A. Emergency Services

Flood Warning:

Warning systems designed to alert residents of rising floodwaters. Warning systems can disseminate the information through a number of means such as sirens, radio, television, mobile public address system, emergency notification system, or door-to-door contact. Multiple or redundant warning systems are most effective, giving people more than one opportunity to be warned.

Flood Response:

Flood response refers to the actions that are taken to prevent or reduce damage once a flood starts. An example of flood response is the turning Salt Lake City's State Street into a river during the 1983 flood event. Many of the below actions should be part of an Emergency Operations Plan (EOP) developed in coordination with the agencies that share responsibilities. The EOP once developed should be exercised and continually evaluated so when the Plan is needed key players know what to do.

Flood response actions might include:

- Activation of the emergency operations center
- Sandbagging designated areas
- Closing streets and bridges
- Shutting off power to threatened areas
- Protective actions for children in schools
- Ordering an evacuation
- Opening evacuation shelters

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Critical Facilities Protection:

Protecting critical facilities is vital, yet this protection draws workers and resources away from protecting other parts of a town or county. For this reason listed below are vital facilities and facilities with the potential of causing a secondary disaster if destroyed. It is important to keep these locations in mind when considering potential mitigation projects.

Facilities or locations vital to flood response efforts:

- Emergency operations centers
- Police and fire stations
- Hospitals
- Highway garages
- Selected roads and bridges
- Evacuation routes

Facilities and locations which, if flooded would create a secondary disaster:

- Facilities housing hazardous materials
- Wastewater treatment plants
- Schools
- Nursing homes

Health and Safety Maintenance:

Response to floods or other natural disasters should include measures to prevent damage to health and safety such as:

- Patrolling evacuated areas to prevent looting
- Providing safe drinking water
- Vaccinating residents for tetanus
- Clearing streets
- Cleaning up debris

Many of these recommendations should be integrated into a public information program to educate citizens on the benefits of health and safety precautions.

B. Natural Resource Protection

Wetlands Protection:

Wetlands are capable of storing large amounts of floodwater, slowing and reducing downstream flows, and filtering the water. Any development that is proposed in a wetland is regulated by either federal and/or state agencies. Mitigation techniques are often employed, which might consist of creating a wetland on another site to replace what would be lost through the development. This is not an ideal practice, however, since it takes many years for a new wetland to achieve the same level of quality as an existing one.

Erosion and Sedimentation Control:

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Controlling erosion and sediment runoff during construction and on farmland is important, since eroding soil will typically end up in downstream waterways. Sediment tends to settle where the water flow is slower. It will gradually fill in channels and lakes, reducing their ability to carry or store floodwaters. Sediment and erosion control have two principal components: minimize erosion with vegetation and capture sediment before it leaves the site. Slowing runoff increases infiltration into the soil, thereby controlling the loss of topsoil from erosion and the resulting sedimentation. Runoff and erosion control can be done through vegetation, terraces, contour strip farming, no-till farm practices, and impoundments.

C. Prevention Measures

Planning and Zoning:

Land use plans are put in place to guide future development, recommending where development should or should not take place. Sensitive and vulnerable lands can be designated for uses that would be compatible with occasional flood events. Zoning ordinances can regulate development in these sensitive areas by limiting or preventing some or all development.

Open Space Preservation:

Preserving open space is the best way to prevent flooding and flood damage. Open space preservation should not be limited to the flood plain. Other areas within the watershed may contribute to controlling the runoff that exacerbates flooding.

Floodplain Development Regulations:

Floodplain development regulations typically do not prohibit development in the special flood hazard areas, but they do impose construction standards on what is built there. The intent is to protect roads and structures from flood damage and to prevent the development from aggravating the flood potential. Floodplain development regulations are generally incorporated into subdivision regulations, building codes, and/or floodplain ordinances.

Subdivision Regulations:

These regulations govern how land will be divided into separate lots or sites. In some Utah cities these are known as Site Based Ordinances.

Building Codes:

Standards can be incorporated into building codes that address flood proofing all new improved or repaired buildings.

Floodplain Ordinances:

Communities that participate in the National Flood Insurance Program (NFIP) are required to adopt the minimum floodplain management regulations, as developed by FEMA. The regulations set minimum standards for subdivision regulations and building codes. Communities may adopt more stringent standards than those set forth by FEMA.

Stormwater Management:

Development outside of a floodplain can contribute significantly to flooding by covering impervious surfaces, which increase storm water runoff. Stormwater management is usually addressed in subdivision regulations. Developers are typically required to build retention or detention basins to minimize any increase in runoff caused by new or expanded impervious surfaces, or new drainage systems. Most large

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cities and counties within Utah enforce an ordinance prohibiting storm water from leaving a site at a rate higher than it did before the development.

Drainage System Maintenance:

Ongoing maintenance of channel and detention basins is necessary if these facilities are to function effectively and efficiently over time. A maintenance program should include regulations that prevent dumping in or altering watercourses or storage basins; grading and filling should also be regulated.

D. Property Protection

Relocation:

Moving structures out of the floodplain is the surest and safest way to protect against damage. Relocation is expensive, so this approach will probably not be used except in extreme circumstances.

Acquisition:

Acquisition by governmental entities of land in a floodplain serves two main purposes: it ensures that the problem structure is addressed; and it has the potential to convert problem areas into community assets.

Building Elevation:

Elevation of a building above the base flood elevation is the best on-site protection strategy. The building could be raised to allow water to run underneath it, or fill could be brought in to elevate the site on which the building sits.

Insurance:

Above and beyond standard homeowners insurance, there is other coverage a homeowner can purchase to protect against flood hazard. Although this doesn't mitigate the problem it does allow the homeowner to shift the financial loss/risk to another party. Two of the most common insurances offered against flood loss are:

National Flood Insurance: When a community participates in the NFIP, any local insurance agent is able to sell separate flood insurance policies under rules and rates set by FEMA. Rates do not change after claims are paid because they are set on a national basis.

Basement Backup Insurance: National Flood Insurance offers an additional deductible for seepage and sewer backup, provided there is a general condition of flooding in the area that was the proximate cause of the basement getting wet.

E. Public Information and Involvement

Outreach Programs: Outreach projects are proactive; giving the public information even if they have not asked for it. Outreach projects should be designed to encourage people to seek out more information and take steps to protect themselves and their properties.

Examples include:

- Mass mailing or newsletters to all residents
- Notices directed to high risk area residents
- Displays in public buildings
- Newspaper articles and special sections

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- Radio and TV news releases and interviews
- A detailed property owners handbook tailored for local conditions
- Presentations at public meetings and neighborhood groups

Real Estate Disclosure:

Disclosure of information regarding flood or hazard prone properties is important if potential buyers are to be in a position to mitigate damage. Federally regulated lending institutions are required to advise applicants that a property is in the floodplain. However, this requirement needs to be met only five days prior to closing, and by that time the applicant is typically committed to the purchase. This only includes flood prone areas, at the exclusion of other hazards.

Map Information:

Flood plain maps developed by FEMA outline the boundaries of the flood hazard areas. These maps can be used by anyone interested in a particular property to determine if it is in the floodplain. These maps are available from FEMA, the Utah Division of Emergency Management (DEM), and at many city and county planning offices. In addition the Utah Geologic Survey creates and maintains maps illustrating geologic hazards. These maps are available for sale at the Division of Natural Resources books store.

F. Structural Projects

The intent behind structural projects for flood mitigation is to prevent floodwaters from reaching properties. The shortcomings of almost all structural mitigation projects are that:

- They can be very expensive.
- They disturb the land, disrupt natural water flows, and destroy natural habitats.
- They are built to an anticipated flood event, and may be exceeded by a greater than expected flood.
- They can create a false sense of security.

Reservoirs:

Reservoirs control flooding by holding water behind dams or in storage basins. After a flood peaks, water is released or pumped out slowly at a rate the river downstream can handle. Reservoirs are expensive to build, occupy large tracts of land, require maintenance, and, if they fail, often result in greater downstream flooding than would occur during a natural flooding event.

Levees/Floodwalls:

One of the best-known structural flood control measures, levees and floodwalls are earthen, steel or concrete structures placed between the watercourse and the land.

Diversions:

A diversion is simply a new channel that sends floodwaters to a different location, thereby reducing flooding along an existing watercourse. Diversion structures can consist of surface channels, overflow weirs, or tunnels. During normal flows, the water stays in the old channel but during flooding events floodwaters spill over into the diversion channel.

Channel Modifications:

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Channel modifications include making a channel wider, deeper, smoother, or straighter. Common channel modifications include:

Dredging: Dredging is often cost-prohibitive because the dredged material must be disposed of somewhere else, and dredged streams usually fill back in with sediment.

Drainage Modifications: These include man-made ditches and storm sewers that help drain areas where the surface drainage system is inadequate or where underground drainage ways may be safer or more attractive.

Stormwater Management:

Mitigation techniques for managing stormwater include installing storm water systems, enlarging pipes, and street improvements in existing storm water systems.



Landslide Mitigation

A. Generic Mitigation

- Avoidance
- Recognize landslide area
- Zoning ordinances
- Remove landslide materials
- Drain subsurface materials
- Install surface drains
- Remove materials for the head of the landslide
- Re-grade
- Build buttress or retaining wall at the toe of the slope
- Install soil nails and rock anchors
- Maintain natural vegetation
- Improved geologic mapping to identify potential landslide problems
- Zoning ordinances prohibiting construction in or adjacent to areas with high landslide potential
- Soil moisture sensors at SNOTEL sites
- Gather hazard and risk data/information
- Protection of roads and bridges
- Development of improved mitigation techniques

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- Education of local officials, developers, and citizens
- Protection of drinking water supply systems
- Generic Rock Fall Mitigation
- Avoidance
- Stabilize rocks
- Prerelease
- Build berms or benches
- Build structures to stop rocks

B. Emergency Services

- Warning systems
- Hazard identification and areas at risk

C. Prevention

- Land use planning ordinances
- Identify old landslides
 - Old landslides: irregular or subdued hill-like topography
 - Younger or more recently occurring landslides: hummocky terrain, scarps, inclined trees, ground cracks, sharp vegetation differences, and numerous depressions or ponds
- Identify unstable slopes
- Identify areas that could be affected by slope failures
 - Potential rock falls: steep cliff areas or where bedrock crops out onto mountain slopes

D. Property Protection

- Good land-use practices
- Avoid slope-irrigation, undercutting, and over-steepening

E. Public Information and Involvement

- Communications systems
- Proper property assessments of slope conditions

F. Structural Protection/Projects

- Proper assessments of slope conditions
- Grading or removing the material from the top and placing it at the toe of a slope can lessen the slope gradient
- Subsurface drainage control used to dewater and stabilize slopes
- Retaining structures (concrete block walls or large masses of compacted earth)

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- Constructing debris basins
- Building deflection walls upslope of structures
- Avoiding ground level windows that face upslope
- Catchment fences
- Tieback walls
- Rock bolts
- Cut benches and berms



Wildfire Mitigation

A. General Wildfire Mitigation Strategies

- Avoidance
- Define, create, and maintain a defensible space
- Plant drought and fire resistant vegetation
- Ordinances
- Modification of fuel loading in high hazard interface areas
- Wildland fire training and experience for fire department personnel
- Public education effort for people living in the interface
- Additional suppression equipment needs of fire departments and the Utah Division of Forestry, Fire, and State Lands
- Fuel modification in moderate hazard interface areas
- Protection of roads and bridges
- Annual warning of risk/info on how to protect life and property
- Gather hazard and risk data/information
- General infrastructure protection
- Development of improved mitigation techniques
- Education of local officials, developers, and citizens
- Protection of drinking water supply systems

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B. Emergency Service

- Fire fighting

C. Natural Resource Protection

- Prohibit development in high-risk areas
- Vegetation control

D. Prevention

- Zoning ordinances to reflect fire risk zones
- Planning and zoning to restrict development in areas near fire protection and water resources
- Requiring new subdivisions to space buildings, provide firebreaks, on-site water storage, wide roads and multiple accesses
- Building code standards for roof materials, spark arrestors
- Maintenance programs to clear dead and dry bush trees
- Regulations on open fires

E. Property Protection

- Retrofitting of roofs and adding spark arrestors
- Landscaping to keep bushes and trees away from structures
- Insurance rates based on distance from fire protection
- Planning how to deal with WUI fires before they occur
- Good visibility

F. Public Information and Involvement

- Educating homeowners and future homeowners about risk
- Planning how to deal with WUI fires before they occur
- Emergency warning system, action plan
- Communication tree between fire departments and homeowners
- Community actions
- Adequate water supply and systems

G. Structural Protection/Projects

- Building and property assessments
- Use appropriate construction materials
- Adequate access to buildings

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Problem Soils Mitigation

A. General Problem Soil Mitigation

- Avoidance
- Presoak and compact
- Remove problem soil
- Landscape so that runoff moves away from foundations

B. Natural Resource Protection

- Soil type awareness

C. Prevention

- Landscaping with vegetation that does not concentrate or draw large amounts of water from the soil near foundations
- Insulating floors or walls near heating or cooling units to prevent evaporation that could cause local changes in soil moisture
- Avoid areas underlain by limestone and dolomite to prevent groundwater contamination and foundation problems in karst terrain
- Use soil tests to find gypsum; do not plant high level of water plants near the house
- Reduce piping damage by limiting construction that disturbs natural drainage
- Peat deposits should be removed or avoided at construction sites
- Avoid abandoned mine areas
- Sands, and calcareous loamy soils are highly erodible

D. Property Protection

- Special foundation designs
- Installing gutters and downspouts that direct water at least 10 feet away from foundation slabs
- Landscape with vegetation that does not concentrate or draw large amounts of water from the soil near foundations

E. Public Information and Involvement

- Establish a public information portal that allows the public to easily search information about soil risk in the area.

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G. Structural Protection

- Special foundation designs
- Installing gutters and downspouts
- Proper drainage along roads and around structures



Dam Failure Mitigation

A. General Dam Failure Mitigation

- Proper floodplain maps, including dam breach flood potential
- Public knowledge of floodplains for the general public and emergency managers
- Updated Emergency Operation Plans (EOP) integration with GIS Systems
- Maintain proper floodplain/ wetland geometry and vegetation for flood routing
- Floodplain usage compatible with floodplain needs
- More debris dams; they help to maintain flooding, debris, and mud
- Flood control pool in existing dams
- Protection of roads and bridges
- General infrastructure protection
- More authority to help with snowmelt floods/runoff- releases, better forecasting
- Gather hazard and risk data/information
- Development of improved mitigation techniques
- Education of local officials, developers, and citizens

B. Emergency Service

- Good emergency management and emergency action plans
- Dam conditioning monitoring
- Warning system and monitoring
- Understand standard operating procedures

C. Natural Resource Protection

- Zoning of downstream usage

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- Risk assessment
- Good watershed management

D. Prevention

- Dam failure inundation maps
- Planning/zoning/open space preservation to keep downs stream areas clear
- Building codes with flood elevations based on dam failure
- Dam safety inspections
- Draining the reservoir when conditions appear unsafe

E. Property Protection

- Acquisition of building in the path of a dam breach flood
- Flood insurance

F. Public Information and Involvement

- Communication and education of dam owners
- Communication and education with the public
- Evacuation procedures

G. Structural Protection/Projects

- Dam improvements
- Spillway enlargements
- Remove unsafe dams
- Design and construction review
- Direction for consulting engineers
- Instrumentations and monitoring of dams
- Remedial repair procedures
- Incremental damage assessment



General Mitigation Strategies - Davis Co PDMP

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Drought Mitigation

A. Emergency Service

- Provide low interest loans or private assistance for farmers and ranchers

B. Natural Resource Protection

- Manage wildlife during drought periods
- Incorporate wildfire hazard mitigation planning
- Integrate financial assistance for transportation or water hauling for livestock

C. Prevention

- Implement cloud seeding during drought years to enhance precipitation
- Protect culinary water systems and/or provide culinary water to people or systems
- Incorporate a drought management plan
- Introduce more water resources such as wells, ponds, reservoirs, and reservoir capacity

D. Public Information and Involvement

- Create or join water conservation programs that are designed to reduce water consumption
- Incorporate a drought management plan
- Drought resource coordination



Severe Weather Mitigation

A. Emergency Services

- Early warning systems
- Communication systems

B. Prevention

- Building code standards for light frame construction
- Ordinances that include weather resistant designs

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C. Public Information and Involvement

- Listen to a weather radio
- Watch and listen to weather forecasts and warnings
- Develop a plan so you know where to take your family for shelter
- Understand risk and identify ways of reducing the impacts

D. Structural Protection/Projects

- Strengthen un-reinforced masonry

Hazard Histories - Davis Co PDMP

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Appendix C - HAZARD HISTORIES

Note that much of the hazard historical data is incorporated into the Part 9 - Risk Assessment.

Table C.1 - Major Disaster Statistics by Type 1962-2005
(2005 dollars, HVRI) Davis County

	Injuries	Pct of Total Injuries	Fatalities	Pct of Total Fatalities	Property Damage	Pct Total Property Damage	Crop Damage	Pct Total Crop Damage
Avalanche	1.63	2.3%	1.25	22.8%	\$0	0.0%	\$0	0.0%
Extreme Cold	0.17	0.2%	0.03	0.5%	\$537,791	2.0%	\$1,457,399	20.8%
Flooding	0.24	0.3%	0.68	12.4%	\$4,901,262	17.9%	\$4,901,262	69.9%
Fog	13.8	19.2%	0.4	7.3%	\$159,947	0.6%	\$0	0.0%
Hail	6.07	8.4%	0.02	0.4%	\$444,374	1.6%	\$189,368	2.7%
Heavy Snow	38.69	53.8%	2.32	42.3%	\$5,169,331	18.9%	\$64,299	0.9%
Ice	5	7.0%	0	0.0%	\$101,575	0.4%	\$0	0.0%
Landslide	0	0.0%	0.17	3.0%	\$82,029	0.3%	\$0	0.0%
Lightning	0.24	0.3%	0.02	0.4%	\$446,492	1.6%	\$690	0.0%
Tornado	0	0.0%	0	0.0%	\$199,629	0.7%	\$2,994	0.0%
Wind	6.04	8.4%	0.6	2.5%	\$15,269,889	55.9%	\$398,328	5.7%
TOTAL	71.87	100.00%	5.49	91.50%	\$27,312,318	100.00%	\$7,014,340	100.00%

Table C.2 - Major Disaster Statistics by Decade 1960-2010
(2007 dollars, HVRI) Davis County

	Injuries	Pct of Total Injuries	Fatalities	Pct of Total Fatalities	Property Damage	Pct Total Property Damage	Crop Damage	Pct Total Crop Damage
1960s	1.9	3.0%	0.07	1.0%	\$2,111,058	7.0%	\$114,743	2.0%
1970s	15.7	21.0%	1.12	20.0%	\$3,415,339	12.0%	\$1,920,583	27.0%
1980s	0	0.0%	0.57	10.0%	\$8,080,463	29.0%	\$4,668,534	67.0%
1990s	38.2	51.0%	3.09	56.0%	\$13,170,387	47.0%	\$224,746	3.0%
2000s	19	25.0%	0.64	12.0%	\$1,497,915	5.0%	\$85,734	1.0%
2010s								
TOTAL	74.8	100.00%	5.49	99.00%	\$28,275,162	100.00%	\$7,014,340	100.00%

Hazard Histories - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Table C.2 - Major Disaster Statistics by Event 1962-2005
(2005 dollars, HVRI) Davis County

	Number of Events	Events Per Year	Injuries Per Event	Fatalities Per Event	Property Damage Per Event	Crop Damage Per Event	Total Damages Per Event	Total Annualized Losses
Avalanche	6	0.10	0.27	0.21	\$0	\$0	\$0	\$0
Extreme Cold	9	0.20	0.02	0.00	\$59,755	\$161,933	\$221,688	\$44,338
Flooding	21	0.50	0.01	0.03	\$233,393	\$233,393	\$466,787	\$217,834
Fog	3	0.10	4.6	0.13	\$53,316	\$0	\$53,316	\$3,554
Hail	4	0.10	1.52	0.01	\$111,094	\$47,342	\$158,436	\$14,083
Heavy Snow	94	2.10	0.41	0.02	\$54,993	\$684	\$55,677	\$116,303
Ice	2	0.00	2.5	0.00	\$50,787	\$0	\$50,787	\$2,257
Landslide	3	0.10	0	0.06	\$27,343	\$0	\$27,343	\$1,823
Lightning	7	0.20	0.03	0.00	\$63,785	\$99	\$63,883	\$9,937
Tornado	4	0.10	0	0.00	\$49,907	\$749	\$50,656	\$4,503
Wind	64	1.40	0.09	0.01	\$238,592	\$6,224	\$244,816	\$348,183
TOTAL	217	4.90	9.45	0.47	\$27,312,318	\$450,424	\$7,014,340	\$762,815

Critical Facilities - Davis Co PDMP

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Appendix D - CRITICAL FACILITIES

The following identifies an inventory of all the critical facilities within Davis County. Critical facilities are of particular concern because of the essential products and services to the general public they provide. These critical facilities can also fulfill important public safety, emergency response, and/or disaster recovery functions. The critical facilities identified in this Plan include amateur radio repeaters, emergency operations centers, electric and oil facilities, hospitals, fire and police stations, schools, water and wastewater treatment plants. (“Mod” = Moderate).

Table D.1 - Davis County, Amateur Radio Resources, 2021

	Dam Failure	Flood	Ground Shaking	Severe Weather	Liquefaction	Problem Soils	Soil Failure	Wildfire	East Canyon Wind
AI7J (Layton, 440)	Low	Low	High	Low	High	Low	Low	Low	Low
K0NOD (Clearfield, 440)	Low	Low	High	Low	Mod	Low	Low	Low	Low
K7CEM (Salt Lake, 2000)	Low	Low	High	Mod	Low	Low	Mod	High	Low
K7DAV (Antelope Island, 144)	Low	Low	High	Mod	Low	Low	Low	High	Low
K7DAV (Antelope Island, 440)	Low	Low	High	Mod	Low	Low	Low	High	Low
K7DAV (Bountiful, 440)	High	Low	High	Mod	Low	Low	Low	Low	Low
N7CRG (Clearfield, 440)	Low	Low	High	Low	High	Low	Low	Low	Low
N7TDT (Bountiful, 440)	Low	Low	High	Mod	Low	Low	Low	Low	Low
NJ7J (Clearfield, 440)	Low	Low	High	Low	Mod	Low	Low	Low	Low
NJ7J (Syracuse, 220)	Low	Low	High	Low	High	Low	Low	Low	Low
W7CWK (Bountiful, 144)	Low	Mod	High	Mod	Low	Low	Low	Low	Low
W7CWK (Bountiful, 440)	Low	Mod	High	Mod	Low	Low	Low	Low	Low

Critical Facilities - Davis Co PDMP

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Table D.2 - Davis County, Electric Generation Facility Vulnerability, 2021

	Dam Failure	Flood	Ground Shaking	Severe Weather	Liquefaction	Problem Soils	Soil Failure	Wildfire	East Canyon Wind
Bountiful City Light & Power	Low	Low	Low	High	Mod	Low	Low	Low	High

Table D.3 - Davis County, Emergency Operations Centers Vulnerability, 2021

	Dam Failure	Flood	Ground Shaking	Severe Weather	Liquefaction	Problem Soils	Soil Failure	Wildfire	East Canyon Wind
Davis County EOC (DCSO)	Low	Low	Mod	High	High	Low	Low	Low	High

Table D.4 - Davis County, Oil Refining Facility Vulnerability, 2021

	Dam Failure	Flood	Ground Shaking	Severe Weather	Liquefaction	Problem Soils	Soil Failure	Wildfire	East Canyon Wind
Big West Oil	Low	Low	Mod	High	High	Low	Low	Low	High
Chevron USA Products-SLC Refinery	Low	Low	Mod	High	High	Low	Low	Low	High
Crown Asphalt (Cowboy Terminal)	Low	Low	Mod	High	High	Low	Low	Low	High
Holly Refining & Marketing (WC)	Low	Low	Mod	High	High	Low	Low	Low	High
Silver Eagle Refining (WC)	Low	Low	Mod	High	High	Low	Low	Low	High

Critical Facilities - Davis Co PDMP

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Table D.5 - Davis County, Fire Station Vulnerability, 2021

	Dam Failure	Flood	Ground Shaking	Severe Weather	Liquefa ction	Proble m Soils	Soil Failure	Wildfir e	East Canyo n Wind
North Davis Fire District Clearfield Fire Station #42	Low	Low	Mod	High	Mod	Low	Low	Low	High
North Davis Fire District West Point Fire Station #41	Low	Low	Mod	High	High	Low	Low	Low	High
Clinton City Fire Station #21	Low	Low	Mod	High	Mod	Low	Low	Low	Low
Kaysville Fire Station #61	Low	Mod	Mod	High	Mod	Low	Mod	Low	High
Farmington Fire Station #71	Low	Low	Mod	High	High	Low	Low	Low	High
Hill AFB Fire - Station 1	Low	Low	Mod	High	Low	Low	Low	Low	High
Hill AFB Fire - Station 2	Low	Low	Mod	High	Low	Low	Low	Low	High
Hill AFB Station 3	Low	Low	Low	High	Low	Low	Low	Low	High
Layton Fire Station #51	Low	Low	Mod	High	Mod	Low	Low	Low	High
Layton Fire Station #52	Low	Low	Mod	High	Mod	Low	Low	Low	Mod
Layton Fire Station #53	Low	Low	Mod	High	Mod	Low	Low	Low	Low
South Metro Davis Fire - Station #81	Low	Low	Mod	High	Low	Low	Low	Low	High
South Metro Davis Fire - Station #82	Low	Low	Mod	High	Low	Low	Low	Low	High
South Metro Davis Fire - Station #83	Low	Low	Mod	High	High	Low	Low	Low	High
South Metro Davis Fire - Station #84	Low	Low	Mod	High	Low	Low	Low	Low	High
South Metro Davis Fire - Station #85	Low	Low	Mod	High	High	Low	Low	Low	High

Critical Facilities - Davis Co PDMP

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South Weber Fire Station	High	Mod	Mod	High	Low	Low	Low	Low	High
Sunset Fire Station #11	Low	Low	Mod	High	Mod	Low	Low	Low	High
Syracuse Fire Station #31	Low	Low	Mod	High	High	Low	Low	Low	High

Table D.6 - Davis County, Hospital Vulnerability, 2021

	Dam Failure	Flood	Ground Shaking	Severe Weather	Liquefaction	Problem Soils	Soil Failure	Wildfire	East Canyon Wind
Davis Hospital and Medical Center	Low	Low	Mod	High	Mod	Low	Low	Low	Mod
South Davis Community Hospital	Low	Low	Mod	High	Low	Low	Low	Low	High
Lakeview Hospital	Low	Low	Mod	High	Low	Low	Low	Low	High
University of Utah Medical Center Farmington	Low	Low	Mod	High	Mod	Low	Low	Low	High
Intermountain Healthcare Layton Hospital	Low	Low	Mod	High	Low	Low	Low	Low	Mod

Table D.7 - Davis County, Law Enforcement Facility Vulnerability, 2021

	Dam Failure	Flood	Ground Shaking	Severe Weather	Liquefaction	Problem Soils	Soil Failure	Wildfire	East Canyon Wind
Bountiful Police	Low	Low	Mod	High	Low	Low	Low	Low	Mod
Centerville Police	Low	Low	Mod	High	High	Low	Low	Low	High
Clearfield Police	Low	Low	Mod	High	Mod	Low	Low	Low	Low
Clinton Police	Low	Low	Mod	High	High	Low	Low	Low	Low

Critical Facilities - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Davis County Sheriff	Low	Low	Mod	High	Mod	Low	Low	Low	High
Farmington Police	Low	Low	Mod	High	High	Low	Low	Low	High
Kaysville Police	Low	Low	Mod	High	Mod	Low	Low	Low	High
Layton Police	Low	Low	Mod	High	Mod	Low	Low	Low	Mod
North SLC Police	Low	Low	Mod	High	Low	Low	Low	Low	Mod
Sunset Police	Low	Low	Mod	High	Mod	Low	Low	Low	Low
Syracuse Police	Low	Low	Mod	High	High	Low	Low	Low	Low
West Bountiful Police	Low	Low	Mod	High	High	Low	Low	Low	Low
West Point Police	Low	Low	Mod	High	High	Low	Low	Low	Low
Woods Cross Police	Low	Low	Mod	High	Mod	Low	Low	Low	Low
Utah Highway Patrol Farmington Office	High	Mod	Mod	High	Mod	Low	Low	Low	High

Table D.8 - Davis County, School Facility Vulnerability, 2021

	Dam Failure	Flood	Ground Shaking	Severe Weather	Liquefaction	Problem Soils	Soil Failure	Wildfire	East Canyon Wind
High School Facilities									
Bountiful High	Low	Low	Mod	High	Low	Low	Low	Low	High
Clearfield High	Low	Low	Mod	High	Mod	Low	Low	Low	High
Davis High	Low	Low	Mod	High	Mod	Low	Low	Low	High
Layton High	Low	Low	Mod	High	Mod	Low	Low	Low	High
Northridge High	Low	Low	Mod	High	Mod	Low	Low	Low	High
Syracuse High	Low	Low	Mod	High	High	Low	Low	Low	Low
Viewmont High	Low	Low	Mod	High	Mod	Low	Low	Low	High
Woods Cross High	Low	Low	Mod	High	Low	Low	Low	Low	High
Junior High School Facilities									
Bountiful Junior High	Low	Low	Mod	High	Mod	Low	Low	Low	High
Centennial Junior High	Low	Low	Mod	High	Mod	Low	Low	Low	Low

Critical Facilities - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Centerville Junior High	Low	Low	Mod	High	High	Low	Low	Low	High
Central Davis Junior High	Low	Low	Mod	High	High	Low	Low	Low	High
Fairfield Junior High	Low	Low	Mod	High	Mod	Low	Low	Low	High
Farmington Junior High	Low	Low	Mod	High	High	Low	Low	Low	High
Kaysville Junior High	Low	Low	Mod	High	Mod	Low	Low	Low	High
Legacy Junior High	Low	Low	Mod	High	High	Low	Low	Low	Low
Millcreek Junior High	Low	Low	Mod	High	Low	Low	Low	Low	High
Mueller Park Junior High	Low	Low	Mod	High	Low	Low	High	Low	High
North Davis Junior High	Low	Low	Mod	High	Mod	Low	Low	Low	High
North Layton Junior High	Low	Low	Mod	High	Mod	Low	Low	Low	High
South Davis Junior High	Low	Low	Mod	High	Low	Low	Low	Low	High
Sunset Junior High	Low	Low	Mod	High	Mod	Low	Low	Low	High
Syracuse Junior High	Low	Low	Mod	High	High	Low	Low	Low	Low
West Point Junior High	Low	Low	Mod	High	High	Low	Low	Low	Low
Elementary School Facilities									
Adams Elementary	Low	Low	Mod	High	Mod	Low	Low	Low	High
Adelaide Elementary	Low	Low	Mod	High	Low	Low	Low	Low	High
Antelope Elementary	Low	Low	Mod	High	Mod	Low	Low	Low	High
Bluff Ridge Elementary	Low	Low	Mod	High	High	Low	Low	Low	Low
Boulton Elementary	Low	Low	Mod	High	Low	Low	Low	Low	High
Bountiful Elementary	Low	Low	Mod	High	Low	Low	Low	Low	High

Critical Facilities - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Buffalo Point Elementary	Low	Low	Mod	High	Mod	Low	Low	Low	Low
Burton Elementary	Low	Low	Mod	High	Mod	Low	Low	Low	High
Canyon Creek Elementary	Low	Low	Mod	High	High	Low	Low	Low	Low
Centerville Elementary	Low	Low	Mod	High	High	Low	Low	Low	High
Clinton Elementary	Low	Low	Mod	High	Mod	Low	Low	Low	Low
Columbia Elementary	Low	Low	Mod	High	Mod	Low	Low	Low	High
Cook Elementary	Low	Low	Mod	High	High	Low	Low	Low	Low
Creekside Elementary	Low	Low	Mod	High	Mod	Low	Low	Low	High
Crestview Elementary	Low	Low	Mod	High	Mod	Low	Low	Low	High
Doxey Elementary	Low	Low	Mod	High	Mod	Low	Low	Low	High
Eagle Bay Elementary	Low	Low	Mod	High	High	Low	Low	Low	High
East Layton Elementary	Low	Low	Mod	High	Mod	Low	Low	Low	High
Ellison Park Elementary	Low	Low	Mod	High	Mod	Low	Low	Low	Mod
Endeavor Elementary	Low	Low	Mod	High	High	Low	Low	Low	Mod
Farmington Elementary	Low	Low	Mod	High	High	Low	Low	Low	High
Foxboro Elementary	Low	Low	Mod	High	High	Low	Low	Low	Mod
Fremont Elementary	Low	Low	Mod	High	Mod	Low	Low	Low	Mod
Heritage Elementary	Low	Low	Mod	High	High	Low	Low	Low	Low
Hill Field Elementary	Low	Low	Mod	High	Mod	Low	Low	Low	High
Holbrook Elementary	Low	Low	Mod	High	Low	Low	Low	Low	High
Holt Elementary	Low	Low	Mod	High	Mod	Low	Low	Low	Mod
Kays Creek Elementary	Low	Low	Mod	High	High	Low	Low	Low	Low
Kaysville Elementary	Low	Low	Mod	High	Mod	Low	Low	Low	High

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Please add comments by typing directly into the document. Your changes will be saved automatically.

King Elementary	Low	Low	Mod	High	Mod	Low	Low	Low	High
Knowlton Elementary	Low	Low	Mod	High	High	Low	Low	Low	High
Lakeside Elementary	Low	Low	Mod	High	High	Low	Low	Low	Low
Layton Elementary	Low	Low	Mod	High	High	Low	Low	Low	Mod
Lincoln Elementary	Low	Low	Mod	High	Mod	Low	Low	Low	High
Meadowbrook Elementary	Low	Low	Mod	High	Mod	Low	Low	Low	High
Morgan Elementary	Low	Low	Mod	High	Mod	Low	Low	Low	High
Mountain View Elementary	Low	Low	Mod	High	Low	Low	Low	Low	High
Muir Elementary	Low	Low	Mod	High	Low	Low	Low	Low	High
Oak Hills Elementary	Low	Low	Mod	High	Low	Low	Low	Low	High
Odyssey Elementary	Low	Low	Mod	High	High	Low	Low	Low	Low
Orchard Elementary	Low	Low	Mod	High	Low	Low	Low	Low	High
Parkside Elementary	Low	Low	Mod	High	Mod	Low	Low	Low	Low
Reading Elementary	Low	Low	Mod	High	High	Low	Low	Low	High
Sand Springs Elementary	Low	Low	Mod	High	High	Low	Low	Low	Low
Snow Horse Elementary	Low	Low	Mod	High	High	Low	Low	Low	Low
South Clearfield Elementary	Low	Low	Mod	High	Mod	Low	Low	Low	High
South Weber Elementary	High	Mod	Mod	High	Low	Low	Low	Low	High
Stewart Elementary	Mod	Low	Mod	High	High	Low	Low	Low	High
Sunset Elementary	Low	Low	Mod	High	Mod	Low	Low	Low	High
Syracuse Elementary	Low	Low	Mod	High	High	Low	Low	Low	Low
Taylor Elementary	Low	Low	Mod	High	Mod	Low	Low	Low	High
Tolman Elementary	Low	Low	Mod	High	Mod	Low	Low	Low	High

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Please add comments by typing directly into the document. Your changes will be saved automatically.

Vae View Elementary	Low	Low	Mod	High	Low	Low	Low	Low	Mod
Valley View Elementary	Low	Low	Mod	High	Low	Low	Low	Low	High
Wasatch Elementary	Low	Low	Mod	High	Mod	Low	Low	Low	High
Washington Elementary	Low	Low	Mod	High	Low	Low	Low	Low	High
West Bountiful Elementary	Low	Low	Mod	High	High	Low	Low	Low	Mod
West Clinton Elementary	Low	Low	Mod	High	High	Low	Low	Low	Low
West Point Elementary	Low	Low	Mod	High	High	Low	Low	Low	Low
Whitesides Elementary	Low	Low	Mod	High	Mod	Low	Low	Low	High
Windridge Elementary	Low	Low	Mod	High	High	Low	Low	Low	High
Woods Cross Elementary	Low	Low	Mod	High	Mod	Low	Low	Low	High
Charter School Facilities									
Ascent Academy	Low	Low	Mod	High	Mod	Low	Low	Low	High
Highmark Charter	High	Low	Mod	High	Mod	Low	Low	Low	High
Jefferson Academy	Low	Low	Mod	High	Mod	Low	Low	Low	Low
Leadership Learning Academy	Low	Low	Mod	High	Mod	Low	Low	Low	Mod
Legacy Prep. Academy	Low	Low	Mod	High	High	Low	Low	Low	High
Northern Utah Academy for Math, Engineering, and Science (NUAMES)	Low	Low	Mod	High	Low	Low	Low	Low	Mod
North Davis Prep. Academy	Low	Low	Mod	High	Mod	Low	Low	Low	High
Northern Utah Academy	Low	Low	Mod	High	Mod	Low	Low	Low	High

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Please add comments by typing directly into the document. Your changes will be saved automatically.

Spectrum Academy	Low	Low	Mod	High	High	Low	Low	Low	High
Syracuse Arts Acad.	Low	Low	Mod	High	High	Low	Low	Low	Low
Wasatch Peak Academy	Low	Low	Mod	High	High	Low	Low	Low	Mod
Voyage Academy	Low	Low	Mod	High	High	Low	Low	Low	Low
Alternative School Facilities									
Canyon Heights High	Low	Low	Mod	High	Mod	Low	Low	Low	High
Early Learning Center	Low	Low	Mod	High	Mod	Low	Low	Low	High
Mountain High	Low	Low	Mod	High	Mod	Low	Low	Low	High
Renaissance Academy	Low	Low	Mod	High	Low	Low	Low	Low	High
Vista Education Campus	Low	Low	Mod	High	Mod	Low	Low	Low	High

Table D.9 - Davis County, Water + Wastewater Facility Vulnerability, 2021

	Dam Failure	Flood	Ground Shaking	Severe Weather	Liquefaction	Problem Soils	Soil Failure	Wildfire	East Canyon Wind
Central Davis County Sewer District	Low	Mod	Mod	High	High	Low	Low	Low	High
North Davis County Sewer District	Low	Mod	Mod	High	High	Low	Low	Low	High
South Davis Sewer Improvement District	Low	Mod	Mod	High	High	Low	Low	Low	High
WBWCD Davis Aqueduct	Low	Mod	High	High	Mod	Low	High	Low	Low
WBWCD Davis North Water Treatment Plant	Low	Low	Mod	High	Low	Low	Low	Low	High
WBWCD Davis South Water Treatment Plant	Low	Low	Mod	High	Low	Low	Low	Low	High

Critical Facilities - Davis Co PDMP

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WBWCD Wells	Low	Low	Mod	High	Mod	Low	Low	Low	High
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Appendix E - GLOSSARY OF TERMS

Glossary

Abutment (dam) – the valley side against which a dam is constructed.

Acre-foot of Water – approximately 326,000 gallons of water, or approximately a football field covered by one foot of water.

Active Faults – An active fault is defined as a fault displaying evidence of displacement along one or more of its traces during Holocene time (about the last 11,000 years).

Aftershocks – earthquakes during the seconds, hours, days to months following a larger earthquake (main shock) in the same general region.

Alluvial Fan – a cone-shaped deposit of stream sediments, generally deposited at the base of a mountain where a stream encounters flatter terrain.

Amplitude (seismic waves) - the maximum height of a wave crest or depth of a trough. The amount of ground moves as a seismic wave passes, as measured from a seismogram.

Avalanche Path – the area in which a snow avalanche runs; generally divided into starting zone, track, and runout zone.

Basin and Range Physiographic Province – consists of north-south-trending mountain ranges separated by valleys, bounded by the Rocky Mountains and the Colorado Plateau to the east and the Sierra-Cascade Mountains to the west (includes western Utah).

Bearing Capacity – the load per unit area, which the ground can safely support without excessive yield.

Bedrock – solid in-place rock, sometimes exposed and sometimes concealed beneath the soil.

Block Faulting – *see normal fault*

Collapsible Soil (hydrocompaction) – loose, dry, low-density soil that decreases in volume or collapses when saturated for the first time following deposition.

Critical Areas – Environmentally sensitive areas which include wetlands, fish and wildlife habitat conservation areas; geologically hazardous areas; areas with a critical recharging effect on aquifers used for potable water; and frequently flooded areas. Critical areas have measurable characteristics which, when combined, create a value for or potential risk to public health, safety and welfare.

Critical/Essential Facilities – Structures meeting one or more of the following criteria:

- Fire stations, police stations, storage facilities for vehicles/equipment needed after a hazard event, and emergency operation centers.
- Hospitals, nursing homes, and housing which are likely to contain occupants who may not be sufficiently mobile to avoid injury or death as a result of a hazardous event.
- Public and private utility facilities, which are vital to maintaining or restoring normal services to damaged areas after a hazardous event.

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- Structures or facilities that produce, store, or use highly flammable, explosive, volatile, toxic and/or water reactive materials.

Debris Flow – involves the relatively rapid, viscous flow of surficial material that is predominantly coarse grained.

Debris Slide – involves predominantly coarse-grained material moving mainly along a planar surface.

Drought (Agricultural) – lack of water for crop production in a given area.

Drought (Hydrologic) – lack of water in the entire water supply for a given area.

Drought (Meteorological) – lack of precipitation compared to an area's normal.

Drought (Socioeconomic) – lack of water sufficient to support an area's population.

Earth Flow – Involves fine-grained material that slumps away from the top or upper part of a slope, leaving a scarp, and flows down to form a bulging toe.

Earthquake – a sudden motion or trembling in the earth as fracture and movement of rocks along a fault release stored elastic energy.

Earthquake Fault Zone – earthquake fault zones are regulatory zones around active faults. The zones are used to prohibit the location of critical facilities and structures designed for human occupancy from being built astride an active fault. Earthquake Fault Zones are plotted on topographic maps at a scale of 1 -inch equals 2,000 feet. The zones vary in width, but average about one-quarter mile wide.

Earthquake-induced Seiche – Earthquake generated water waves causing inundation around shores or lakes and reservoirs.

Epicenter – the point on the earth's surface directly above the focus of an earthquake.

Epoch – geologic time unit lasting more than an age but shorter than a period (Epoch 2008).

Erosion – the removal of earth or rock material by many types of processes, for example, water, wind, or ice action.

Expansive Soil and Rock – soil and rock which contain clay minerals that expand and contract with changes in moisture content.

Fault – a break in the earth along which movement occurs.

Fault Segment – section of a fault that behaves independently from adjacent sections.

Fault Zone – an area containing numerous faults.

Federal Emergency Management Agency (FEMA) – authorized under Section 404 of the Stanford Act. Provides funding for hazard mitigation projects that are cost-effective and comply with existing post-disaster mitigation programs and activities. These projects cannot be funded through other programs to be eligible.

Fill – material used to raise the surface of the land generally in a low area.

Fire-resistant Vegetation – plants that do not readily ignite and burn when subjected to fire because of inherent physiological characteristics of the species such as moisture content, fuel loading, and fuel arrangement.

Floodplain – an area adjoining a body of water or natural stream that has been or may be covered by floodwater.

Floodplain (100-year/500-year) – Floodplains that have the potential to flood once every 100 or 500 years or that has a 1% (100-year) or 0.2% (500-year) chance of flooding equal to or in excess of that in any given year.

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Floodway – An area of land immediately adjacent to a stream or river channel that, in times of flooding, becomes an enlarged stream or river channel and carries the floodwater with the highest velocity.

Fluvial – concerning or pertaining to rivers or streams.

Focus – the point of origin of an earthquake within the earth, and the origin of the earthquake's seismic waves.

Formation (geologic) – a mappable rock unit consisting of distinctive features/rock types separate from units above and below.

Frequency (seismic waves) – the number of complete cycles of a seismic wave passing a point during one second.

Fuel (fire) – vegetation, building material, debris, and other substances that will support combustion.

Fuel Break – a change in fuel continuity, type of fuel, or degree of flammability of fuel in a strategically-located strip of land to reduce or hinder the rate of fire spread.

Fuel Type – a category of vegetation used to indicate the predominant cover of an area.

Glacial Moraine – debris (sand to boulders) transported and deposited by glacial ice along a glacier's sides or terminus.

Graben – a block of earth dropped between two faults.

Gradient (slope) – a measure of the slope of the land surface.

Ground Failure – a general term referring to any type of ground cracking or subsidence, including landslides and liquefaction-induced cracks.

Ground Shaking – the shaking or vibration of the ground during an earthquake.

Ground Water – that portion of subsurface water which is in the zone of saturation.

Gypsiferous Deposits – soil or rock containing gypsum, which can be subject to dissolution.

Gypsum – a mineral composed of hydrated calcium sulfate. A common mineral of evaporites.

Hazard Mitigation Plan – The Plan resulting from a systematic evaluation of the nature and extent of vulnerabilities posed by a hazard present in society that includes the strategies needed to minimize future vulnerability to hazards.

Hazard Mitigation – Any action taken to reduce or permanently eliminate the long-term risk to human life and property and the environment posed by a hazard.

HAZUS-MH – Hazards United States – Multihazards; Earthquake loss estimation software using GIS databases developed by FEMA.

Head (landslide) – the upper parts of the slide material along the contact between the disturbed material and the main scarp.

Holocene – geologic epoch covering the last 10,000 years (after the last Ice Age).

Igneous Rocks – rocks formed by cooling and hardening of hot liquid material (magma), including rocks cooled within the earth (for example, granite) and those that cooled at the ground surface as lavas (such as basalt).

Impermeable – materials having a texture that does not permit water to move through.

Interfluve – land between two streams in the same drainage basin (Interfluve 2004).

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Intermountain Seismic Belt (ISB) – zone of pronounced seismicity, up to 120 miles wide and 800 miles long, extending from Arizona through central Utah to northwestern Montana.

Lacustrine – concerning or pertaining to lakes.

Lake Bonneville – a large, ancient lake that existed 30,000 to 12,000 years ago and covered nearly 20,000 square miles in Utah, Idaho, and Nevada. The lake covered many of Utah's valleys, and was almost 1,000 feet deep in the area of the present Great Salt Lake.

Lake Bonneville Sediments – sediments deposited by Lake Bonneville, found in the valleys, which range from gravels and sands to clays.

Landslide – a general term for a mass of earth or rock, which moves down slope by flowing, spreading, sliding, toppling, or falling (see slope failure).

Lateral Spread – lateral down slope displacement of soil layers, generally several feet or more, above a liquefied layer.

Levee (flood) – a berm or dike used to contain or direct water, usually without an outlet or spillway.

Liquefaction – sudden large decrease in shear strength of a cohesionless soil (generally sand or silt) caused by collapse of soil structure and temporary increase in pore-water pressure during earthquake ground shaking.

Magnitude (earthquake) – a quantity characteristic of the amplitude of the ground motion of an earthquake. The most commonly used measurement is the Richter magnitude scale; a logarithmic scale based on the motion that would be measured by a standard type of seismograph 60 miles from the earthquake's epicenter.

Metamorphic Rocks – rocks formed by high temperatures and/or pressures (for example, quartzite formed from sandstone).

Mitigation – the act of reducing or preventing hazards which affect society or those things deemed important to society

Modified Mercalli Intensity (MMI) – the most commonly used intensity scale in the U.S.; it is a measure of the severity of earthquake shaking at a particular site as determined from its effect on the earth's surface, man, and man's structures.

Montmorillonite – a clay mineral characterized by expansion upon wetting and shrinking upon drying.

Natural Vegetation – native plant life existing on a piece of land before any form of development.

Normal Fault (block faulting) – fault caused by crustal extension in which relative movement on opposite sides is primarily vertical; for example, the Wasatch Fault.

Oolite – spherical grains of carbonate sand with a brine shrimp fecal pellet nucleus.

Outlet (dam) - a conduit through which controlled releases can be made from the reservoir.

Palmer Drought Severity Index (PDSI) – developed by Wayne Palmer in 1965; measures drought severity using temperature, precipitation and soil moisture (Utah Division of Water Resources 2007).

Peat – unconsolidated surficial deposit of partially decomposed plant remains.

Period (geologic) – a standard (world-wide) geologic time unit.

Permeability – the capacity of a porous rock or soil for transmitting a fluid.

Physiographic Province – a region whose pattern of relief features or landforms differs significantly from that of adjacent regions.

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Piping (problem soil and rock) – a weak incoherent layer in unconsolidated deposits that acts as a channel directing the movement of water. As the layer becomes saturated it conducts water to a free face (cliff or stream bank for example) that intersects the layer, and material exits out a "pipe" formed in the free face. Piping can occur in a dam as the result of progressive development of internal erosion by seepage.

Pore Space – the open spaces in a rock or soil between solid grains. The spaces may be filled with gas (usually air) or liquid (usually water).

Porosity – the ratio of the volume of pore space in rock or soil to the volume of its mass, expressed as percentage.

Probable Maximum Flood (PMF) – a flood that would result from the most severe combination of critical meteorological and hydrologic conditions possible in a region.

Probable Maximum Precipitation (PMP) – the maximum amount and duration of precipitation that can be expected to occur on a drainage basin.

Problem Soil and Rock – geologic materials that are susceptible to volumetric changes, collapse, subsidence, or other engineering geologic problems.

Project Impact – An initiative of the Federal Emergency Management Agency intended to modify the way in which the United States handles natural disasters. The Goal of Project Impact from a Federal Government perspective is to reduce the personal and economic costs of hazard events by bringing together the private and public sector to better enable the citizens of a community to protect themselves from natural hazards.

Quaternary – a geologic time period covering the last 1.6 million years.

Recurrence Interval – the length of time between occurrences of a particular event (an earthquake, for example).

Rock Fall – abrupt free fall or down slope movement, such as rolling or sliding, of loosened blocks or boulders from an area of bedrock. The rock-fall runout zone is the area below a rock-fall source which is at risk from falling rocks.

Rock Topple – forward rotation movement of a rock unit(s) about some pivot point.

Runout Zone (avalanche) – where a snow avalanche slows down and comes to rest (deposition zone). For large avalanches, the runout zone can include a powder- or wind-blast zone that extends far beyond the area of snow deposition.

Sand Blow (earthquake) – deposit of sandy sediment ejected as water and sand to the surface, formed when ground shaking has caused liquefaction at depth.

Scarp – a relatively steeper slope separating two more gentle slopes. Scarps can form as a result of earthquake faulting.

Sediment – material that is in suspension, is being transported, or has been moved from its site of origin by water, ice, or wind, and has come to rest on the earth's surface either above or below the sea level.

Sedimentary Rocks – rocks formed from loose sediment such as sand, mud, or gravel deposited by water, ice, or wind, and then hardened into rock (for example, sandstone); or formed by dissolved minerals precipitating out of solution to form rock (for example, tufa).

Seiche – a standing wave generated in a closed body of water such as a lake or reservoir. Ground shaking, tectonic tilting, sub aqueous fault rupture, or landsliding into water can all generate a seiche.

Seismic Waves – vibrations in the earth produced during earthquakes.

Seismicity – seismic or earthquake activity.

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Sensitive Clay – clay soil that experiences a particularly large loss of strength when disturbed. Deposits of sensitive clay are subject to failure during earthquake ground shaking.

Shear Strength – the internal resistance that tends to prevent adjacent parts of a solid from "shearing" or sliding past one another parallel to the plane of contact. It is measured by the maximum shear stress that can be sustained without failure.

Shear Stress - a stress causing adjacent parts of a solid to slide past one another parallel to the plane of contact.

Slope Failure – a general term referring to any type of natural ground movement on a sloping surface (see landslide).

Slump – a slope failure that slides along a concave rupture surface. Generally slumps do not move very far from the source area.

Snow Avalanche – a rapid downslope movement of a mass of snow, ice, and debris.

Spectral Acceleration – measurement for approximate horizontal force experienced in a model earthquake. Measurements are specific to the frequency of shaking found to affect buildings during an earthquake. A 0.2-second period affects primarily one- and two-story buildings while 1.0-second period of spectral acceleration affects buildings approximately 10 stories in height.

Stafford Act – Robert T. Stafford Disaster Relief and emergency Assistance Act, PL 100-707, signed into law November 23 1988: amended the Disaster Relief Act of 1974, PL 93-288.

Starting Zone (avalanche) – where the unstable snow or ice breaks loose and starts to slide.

Subsidence – a settling or sinking of the earth's crust.

Sunny-Day Failure – the failure of a dam with the water level at the normal pool elevation and no rainfall.

Surface fault rupture (surface faulting) – propagation of an earthquake-generated fault rupture to the ground surface, displacing the surface and forming a scarp.

Tectonic Subsidence – subsidence (down dropping) and tilting of a basin on the down dropped side of a fault during an earthquake.

Toe (landslide) – the margin of disturbed material most distant from the main scarp.

Track (avalanche) – the slope or channel down which a snow avalanche moves at a fairly uniform speed.

Unconsolidated Basin Fill – un-cemented and non-indurated sediment, chiefly clay, silt, sand, and gravel, deposited in basins.

Urban Area – a geographical area, usually of incorporated land, covered predominately by engineered structures including homes, schools, commercial buildings, service facilities, and recreational facilities.

Velocity (ground motion) – the rate of displacement of an earth particle caused by passage of a seismic wave.

Wasatch Fault – a normal fault that extends over 200 miles from Malad City, Idaho to Fayette, Utah, and trends along the western front of the Wasatch Range.

Watershed – the area of land above a reference point on a stream or river, which contributes runoff to that stream.

Weathering – a group of processes (such as the chemical action of air, rain water, plants, and bacteria and the mechanical action of temperature changes) whereby rocks on exposure to the weather change in character, decay, and finally crumble into soil.

Wildfire – uncontrolled fire burning in vegetation.

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Wildland Area – a geographical area of unincorporated land covered predominately by natural vegetation.

Wildland Urban Interface (WUI) – Wildland vegetation and forested areas adjacent to or intermingled with residential developments.

Zone of Deformation (earthquake) – the width of the area of surface faulting over which earth materials have been disturbed by fault rupture, tilting, or subsidence.

List of Acronyms and Recognized Abbreviations

AARC - Average Annual Rate of Change

AGRC - Automated Geographic Reference Center

APHIS - Animal and Plant Health Inspection Service

BCEGS - Building Code Effectiveness Grading System

BOR - Bureau of Reclamation

CDBG - Community Development Block Grant

CERCLA - Comprehensive Environmental Response Compensation and Liability Act

CERT - Community Emergency Response Team

CFR - Code of Federal Regulations

CFS - Cubic Feet per Second

CRS - Community Rating System

DB - Detention Basin

DFIRM - Digital Flood Insurance Rate Map

DEM - Division of Emergency Management

DMA 2000 - Disaster Mitigation Act of 2000

EAP - Emergency Action Plan

EM - Emergency Management

EOC - Emergency Operations Center

EOP - Emergency Operations Plan

FEMA - Federal Emergency Management Agency

FIRM - Flood Insurance Rate Map

FIS - Flood Insurance Study

FMA - Flood Mitigation Assistance

G - Gravity

GIS - Geographic Information Systems

GOMB - Governor's Office of Management and Budget

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GPS - Geographic Positioning System

GSL - Great Salt Lake

HAM - Handheld Amateur Radio

HAZMAT - Hazardous Materials

HAZUS-MH Hazards United States – Multi-Hazards

HMGP - Hazard Mitigation Grant Program

LEPC - Local Emergency Planning Committee

LUST - Leaking Underground Storage Tank

M - Magnitude

MSL - Mean Sea Level

MOU - Memorandum of Understanding

NCDC - National Climatic Data Center

NFIP - National Flood Insurance Program

NIMS - National Incident Management System

NWS - National Weather Service

PDM - Pre-Disaster Mitigation

PDSI - Palmer Drought Severity Index

piC/L - picoCuries per Liter

PL - Public Law

PSC - Public Safety Communications

RCRA - Resource Conservation and Recovery Act

SA - Spectral Acceleration

SBA - Small Business Administration

SHELDUS - Spatial Hazard Events and Losses Database for the United States

SLC - Salt Lake City

SPI - Standardized Precipitation Index

SR - State Route

STAPLEE - Social, Technical, Administrative, Political, Legal, Economic, Environmental

SWSI - Surface Water Supply Index

TAZ - Transportation Analysis Zone

TRAX - Transit Express

TRI - Toxic Release Inventory

UCAN - Utah Communication Agency Networks

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UDAF - Utah Department of Agriculture and Food
UDOT - Utah Department of Transportation
UEDV - Utah Economic Data Viewer
UFFSL - Utah Division of Forestry, Fire, and State Lands
UGS - Utah Geological Survey
USGS - United States Geological Survey
USACE - United States Army Corps of Engineers
USC - United States Code
USDA - United States Department of Agriculture
USFS - United States Forestry Service
USU - Utah State University
UUSS - University of Utah Seismic Stations
WFZ - Wasatch Fault Zone
WUI - Wildland-Urban Interface

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Stakeholder Participation - Davis Co PDMP

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Appendix G - STAKEHOLDER PARTICIPATION

Invited Partners / Entities

One of the critical elements of the Davis PDM update was to invite participation from a number of stakeholders including jurisdictions, businesses, agencies, nongovernmental organizations, etc. (A sample invitation letter is shown below). The tables that follow show each invited stakeholder with contact information and how/if they responded.



Stakeholder Participation - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Table G.1 : Invited Jurisdictions and Local Operators

Jurisdiction / Entity	Contact Name and Information (if available)	2021 Participation (Yes/Invited-No)
Bountiful	Dave Edwards, Assistant Chief of Police edwards@bountifulutah.gov	Yes
Centerville	Paul Child, Chief of Police pechild@centervilleut.com	Yes
	Louisa McDonald, Assistant Emergency Manager lmcdonald@centervilleut.com	
Clearfield	John Meek, Emergency Manager john.meek@clearfieldcity.org	Yes
Clinton	Dave Olsen, Fire Chief dolsen@clintoncity.com	Yes
Davis County	Chad Monroe, Emergency Manager cmonroe@co.davis.ut.us	Yes
Davis County Animal Care and Control	Tracy Roddom, Assistant Director troddom@daviscountyutah.gov	Invited - No Response
Farmington	Brigham Mellor, Assistant City Manager bmellor@farmington.utah.gov	Yes
Fruit Heights	Brandon Green, City Manager bgreen@fruitheightscity.com	Yes
Kaysville	Paul Erickson, Fire Chief perickson@kaysvillecity.com	Yes
Layton	Doug Bitton, Fire Marshal dbitton@laytoncity.org	Yes
Morgan County (EM)	Austin Turner	Invited - No Response
North Salt Lake	Ken Leetham, City Manager kenl@nslcity.org	Yes
	Ali Avery, City Planner alia@nslcity.org	
Salt Lake City	bereadyslc@slcgov.com	Invited - No Response

Stakeholder Participation - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Salt Lake County (EM)	Clint Mecham, Emergency Manager cmecham@unifiedfire.org	Invited - No Response
Skypark Airport	skyparkairportfbo@gmail.com (Woods Cross, Utah)	Invited - No Response
South Weber	Derek Tolman, Fire Chief dtolman@southwebercity.com	Yes
Sunset	Jason Monroe, Director of Public Works Worksjmonroe@sunset-ut.com	Yes
Syracuse	Erin Behm, Emergency Mgt Coordinator ebehm@syracuseut.com	Yes
Tooele County (EM)	Bucky Whitehouse	Invited - No Response
Utah Department of Transportation	contactudot@utah.gov	Invited - No Response
Wasatch Front Regional Council (WFRC)	Miranda Cox, Public Information Officer wfrc@wfrc.org	Invited - No Response
Weber County (EM)	Lance Peterson, Director lpeterso@co.weber.ut.us	Invited - No Response
West Bountiful	Jason Meservy, Emergency Manager jason.meservy@imail.org	Yes
West Point	Ryan Harvey, Administrative Services Dir rharvey@westpointcity.org	Yes
Woods Cross	Sam Christiansen, Director of Public Works schristiansen@woodscross.com	Yes

Table G.2: Invited Specialized Local Districts

Specialized Local District	Representative Name, Title, Contact Information	2020 Participation (Yes/No/Invited)
Benchland Water Improvement District	Jennifer Holbrook, Clerk jenniferh@benchlandwater.com	Invited - No Response
Central Davis Sewer District	Susan Holmes, Board Chair cdsewer@gmail.com	Invited - No Response
Davis School District	Craig Carter, Assistant Superintendent ccarter@dmail.net	Invited - No Response

Stakeholder Participation - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Davis and Weber Counties Canal Company	Scott Paxman, President office@davisweber.org	Invited - No Response
Hill Air Force Base	Barbara Fisher, Public Information Officer barbara.fisher.1@us.af.mil	Invited - No
North Davis Fire District	Misty Rogers, Clerk mrogers@nofires.org	Invited - No Response
North Davis Sewer District	M. Andy Dawson, Board Chair IT@NDSO.org	Invited - No Response
South Davis Metro Fire	Dane Stone, Fire Chief dstone@sdmetrofire.org	Invited - No Response
South Davis Sewer District	Susanne Monsen sm@sdsd.us	Invited - No Response
Utah Transit Authority (UTA)	Kerry Koane, Planning Manager kdoane@rideuta.com	Invited - No Response
Weber Basin Water Conservancy District	Sherrie Mobley, Clerk smobley@weberbasin.com	Invited - No Response

Table G.3: Invited Nongovernmental Organizations

Specialized Local District	Representative Name, Title, Contact Information	2020 Participation (Yes/No/Invited)
American Red Cross - Utah	Kristy Denlein kristy.denlein@redcross.org	Invited - No Response
Davis Chamber of Commerce	info@davischamberofcommerce.com	Invited - No Response
Davis Hospital and Medical Center	DHMC.Media@steward.org	Invited - No Response
Dominion Energy	Corporate.communications@dominionenergy.com	Invited - No Response
Intermountain Layton Hospital	contactus@imail.org	Invited - No Response
Lakeview Hospital	William Jensen, Public Information Officer William.Jensen@Mountainstarhealth.com	Invited - No Response

Stakeholder Participation - Davis Co PDMP

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Rocky Mountain Power	CCCom2@pacificcorp.com	Invited - No Response
South Davis Community Hospital	info@sdch.com	Invited - No Response

Stakeholder Engagement Tools

As mentioned in Part III, the development of this plan was conducted during the 2020-2021 Covid-19 pandemic, so online interaction was the preferred method. In order to compensate for this, the initiative website was modified in a way that helped ensure that all jurisdictions had access to the information that was being requested and generated. Each jurisdiction was given a specified place to get and submit information. This ensured that each stakeholder had the same access to the information presented during meetings, even if they were unable to attend in-person meetings.

The screen capture shows a website interface with a navigation bar at the top containing links for Home, About, Draft Plan, Documents, Glossary, Project Maps, and Login. Below the navigation bar is the Davis County logo and the Clearfield City logo with the tagline 'we've got it made'. The main content area features two assignment cards. The first card, titled 'ASSIGNMENT 6 - due by May 14: UPLOAD LOCAL DOCUMENTS', provides instructions on what to upload, including a bulleted list: Capital improvements list and plans, Future infrastructure studies and projects, Regional and community-level sensitive lands studies and plans, General plans, Community Wildfire Preparedness Plans (CWPP), Community Emergency Response Plans, and County Resource Management Plans. To the right of this card is a 'Document Upload Portal' link. The second card, titled 'ASSIGNMENT 5 - due by May 14: IDENTIFY ANTICIPATED DEVELOPMENT', instructs users to contact Mike Hansen and provides an 'Example of level-of-detail needed' link.

Screen Capture of the “assignment pages” on the secured section of the initiative website. Stakeholders were provided specific instructions and individual folders to upload their response materials.

Stakeholder Participation - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Communication was also facilitated with the use of shared Google Docs (see example below). Each part of the plan was digitized into this format, and links were shared with stakeholders who were able to make tracked comments directly into the text. These comments were reviewed and incorporated by the core planning team throughout the initiative. The public was also given access to do the same during the public comment period.

City Goals - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

- **Severe Weather Storms.** The City is experiencing ~~seeing~~ an increase in severe storms, particularly wind storms, that are causing power outages, property damage, flooding, etc. The state of Utah has also been experiencing years ~~instances~~ of extreme drought.
- **Wildland Fire.** Much of North Salt Lake City is located in the foothills abutting U.S. Forest Service property, increasing the risk for wildland fires.
- **Dam failure.** The secondary water system throughout the community has small storage reservoirs.

CRITICAL AREA FACILITIES + INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
Culinary water storage tanks, pump houses, and secondary water reservoirs	The city has culinary water storage tanks and secondary water storage reservoirs that may experience water contamination, flooding, and failure due to earthquake	Enhance security, and upgrade water distribution system
Water Distribution System	Age of system, risk of failure during earthquake event.	Upgrade infrastructure to current seismic standards
Storm Water Distribution System	Age of system, flooding, risk of failure during earthquake event.	Upgrade infrastructure to current seismic standards
MUNICIPAL BUILDINGS + INFRASTRUCTURE		
Facility	Hazard / Risk	Mitigation
City Offices/EOC	Loss of vital city records; communication vehicles; day to day functions. Loss of operability for EOC	Provide for city office/EOC survivability following an earthquake
Public Works Building	Loss/damage to resources	N/A

Screenshot of typical edits provided by stakeholders and captured by the document (before committee acceptance).

Typical Meeting Agenda for Core Planning Team

The Core Planning Team consists of Davis County Emergency Management and Rural Community Consultants to discuss updates and plans for future assignments (e.g. goals, timelines/ deadlines, etc). Due to the fact that the plan was ongoing with many stakeholders working to move forward, the agenda

Stakeholder Participation - Davis Co PDMP

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for these items remained relatively unchanged throughout the process. Listed are dates of the Core Planning Team meetings along with an example of the running agenda:

- Progress reports
 - Assignment from last meeting
 - Engagement from stakeholders
 - New mapping and current hazard identification
 - Research, how to complete assignments to FEMA standards
- Goals (county and city both current plan related and updates from 2016 plan and progress)
- Public involvement + website development
 - Upcoming timelines and deadlines
 - Upcoming action items for stakeholders

Table G.4 : Dates and Agenda of Core Planning Team Meetings

Date	Unique Agenda Items
2020.11.11	Design stakeholder assignments #1 and #2.
2021.01.06	n/a
2021.02.23	Feedback on draft to-date (parts 1-4).
2021.03.05	Design stakeholder assignment #3.
2021.03.07	Review stakeholder assignment #4.
2021.04.01	Outline stakeholder assignment #5.
2021.04.27	Design stakeholder assignment #6.
2021.05.26	n/a
2021.07.07	Lessons learned from BRAG PDM.
2021.08.04	Requirements for updated storymap content.
2021.08.26	n/a
2021.09.13	Review comments on Part 9.
2021.09.30	Discuss State feedback.
2021.10.01	Progress of State Comment Revisions
2021.10.04	Progress of State Comment Revisions

Stakeholder Participation - Davis Co PDMP

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2021.10.05	Progress of State Comment Revisions
2021.10.06	Progress of State Comment Revisions
2021.10.07	Final meeting before Resubmission

Stakeholder Meeting Attendance

Due to the disruptive nature of the pandemic, in-person attendance was difficult. The following information illustrates the major contact points related to the meetings and assignments related to the PDM project.

One-on-One Meetings

In order to help maintain the project and to keep communities engaged, one on one meetings were held between Davis County Emergency Management and various cities. During these meetings, we discussed various aspects of the Planning Process, including progress on tasks, goals, deadlines, ideas to incorporate, etc.

Table G.5 : Dates and Participants of One-on-One Meetings

Date	Participants
2021.01.11	Clearfield / Davis County EM
2021.01.26	Fruit Heights / Davis County EM
2021.02.01	Farmington / Davis County EM
2021.04.20	Davis, Weber, and Morgan County
2021.06.23	Bountiful, Centerfield, Kaysville, West Bountiful, Woods Cross / Davis County EM
2021.06.24	Clear Field, Layton, NSL, South Weber, Sunset, Syracuse/ Davis County EM
2021.10.06	Bountiful, Centerfield, Clearfield, Clinton, Farmington, Fruit Heights, Kaysville, Layton, North Salt Lake, South Weber, Sunset Syracuse, West Bountiful, West Point, Woods Cross / Davis County EM

Stakeholder Participation - Davis Co PDMP

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Stakeholder Participation Log

	D A V I S C O U N T Y	B O U N T I F U L	C E N T E R V I L L E	C L E A R F I E L D	C L I N T O N	F A R M I N G T O N	F R U I T H E I G H T S	K A Y S V I L L E	L A Y T O N	N. S A L T L A K E	S O U T H W E B E R	S U N S E T	S Y R A C U S E	W. B O U N T I F U L	W E S T P O I N T	W O O D S C R O S S
Meetings + Assignments																
2020.8.27 Orientation meeting (Expectations, Timeframes, Goals)																
2020.10.20 Presentation to Davis County Council of Governments																
2020.10.21 Presentation to Davis County Emergency Managers																
2020.11.19 Working meeting with Davis County E.Managers																
2020.12.15 Emergency Managers update meeting																
ASSIGNMENT 1 - Contact information																
ASSIGNMENT 2 - Council support resolution																
2021.02.25 Emergency Managers update meeting																
ASSIGNMENT 3 - City reports on past goals																
ASSIGNMENT 4 - Update land use practices																
2021.04.22 Emergency Managers update meeting																
ASSIGNMENT 5 - ID anticipated development																
2021.05.13 Emergency Managers update meeting																
ASSIGNMENT 6 - Upload local documents																
2021.06.17 Working meeting with Davis County E.Managers																
2021.08.26 Emergency Managers update meeting																
2021.09.03 Public marketing campaign and comment period																
2021.10.04 Report to Emergency Managers on public survey																
2021.10.05 Information request(s) for details on local goals																
2021.10.06 County/City PDM meetings (One on One)																

Adoption Process - Davis Co PDMP

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APPENDIX H - STAKEHOLDER SUPPORT

Participating Jurisdictions

As mentioned previously in Part II, those municipalities with staff resources provided support for the Davis County Pre-Disaster Mitigation initiative in 2020-2021. The following links will provide the locally-adopted resolutions of support for the project as well as their **concurrence of the final**.

Table H.1: Resolution of Support from Participating Communities

Municipality	2021 Participation	Support Resolution Date (+ link)	Adoption Resolution Date (+ link)
Bountiful	Yes		
Centerville	Yes	February 17, 2021	
Clearfield	Yes	March 23, 2021	
Clinton	Yes	March 9, 2021	
Farmington	Yes		
Fruit Heights	Yes	March 2, 2021	
Kaysville	Yes	February 18, 2021	
Layton	Yes		
North Salt Lake	Yes	March 21, 2021	
South Weber	Yes		
Sunset	Yes		
Syracuse	Yes	March 23, 2021	
West Bountiful	Yes		
West Point	Yes		
Woods Cross	Yes	February 16, 2021	

Adoption Process - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Sample Resolution of Support for the Initiative

The following language was provided to local emergency managers. They were asked to convert it into the format of their municipal resolutions. Copies of enacted resolutions were sent back to the PDM planning team.

//date//

WHEREAS the health, safety and welfare of the citizens of ___*jurisdiction*___ are matters of paramount importance to the City Council; and

WHEREAS the ___*jurisdiction*___ City Council recognizes the threat that natural hazards pose to people and property within their jurisdiction; and

WHEREAS, the Federal Emergency Management Agency (“FEMA”) has required that municipalities review and revise their local multi-hazard mitigation plan every five years to reflect changes in development, progress in local hazard mitigation efforts, and changes in mitigation priorities and submit their revised multi-hazard mitigation plan for review and approval by FEMA to remain eligible for pre-disaster mitigation grant funding; and

WHEREAS the Emergency Services Division of Davis County has received a grant from FEMA to prepare a multi-jurisdictional hazard mitigation plan in accordance with the requirements of 44.C.F.R. 201.6 and the FEMA “Local Mitigation Planning Handbook”; and

WHEREAS these requirements include obtaining formal resolutions of participation and support from stakeholder jurisdictions.

NOW THEREFORE, BE IT RESOLVED that the City Council of ___*jurisdiction*___ hereby intends to support the Plan update initiative by participating with the committee intended to develop revisions and updates to the Davis County Pre-Disaster Mitigation Plan.

This Resolution shall take effect upon passage.

//s//

Adoption Process - Davis Co PDMP

Please add comments by typing directly into the document. Your changes will be saved automatically.

Sample Resolution of Support for Adoption of the 2021 PDM

The following language was provided to local emergency managers. They were asked to convert it into the format of their municipal resolutions. Copies of enacted resolutions were sent back to the PDM planning team.

RESOLUTION NO. _____

A RESOLUTION ADOPTING THE DAVIS COUNTY 2021 NATURAL HAZARD PRE-DISASTER MITIGATION PLAN UPDATE, AS REQUIRED BY THE FEDERAL DISASTER MITIGATION AND COST REDUCTION ACT OF 2000.

(Name of Jurisdiction)

(Governing Body)

(Address) _____

WHEREAS, President William J. Clinton signed H.R. 707, the Disaster Mitigation and Cost Reduction Act of 2000, into law on October 30, 2000; and,

WHEREAS, the Disaster Mitigation Act of 2000 requires all jurisdictions to be covered by a Pre-Disaster Hazard Mitigation Plan to be eligible for Federal Emergency Management Agency post-disaster funds; and,

WHEREAS, the *Natural Hazard Pre-Disaster Mitigation Plan* has been prepared in accordance with FEMA requirements at 44 C.F.R. 201.6; and,

WHEREAS, **the City** is within Davis County and participated in the update of the multi-jurisdictional Plan, the *Natural Hazard Pre-Disaster Mitigation Plan*; and,

WHEREAS, **the City** is a local unit of government that has afforded its citizens an opportunity to comment and provide input in the Plan and the actions in the Plan; and,

WHEREAS, **the City** is concerned about mitigating potential losses and has determined that it would be in the best interest of the community to adopt the *Natural Hazard Pre-Disaster Mitigation Plan*;

NOW THEREFORE, BE IT RESOLVED by **the City Council** that **the City adopts** the *2021 Davis County Natural Hazard Pre-Disaster Mitigation Plan Update* as this jurisdiction's Multi-Hazard Mitigation Plan.

ADOPTED this **XX day of XX, 2021** at the meeting of **the City Council**.

Signed: (Chief Elected Official)

(City Council)

City Council Staff Report



Subject: Transformer Bid Approval
Author: Allen Ray Johnson, Director
Department: Light & Power
Date: December 14, 2021

Background

Our inventory of overhead and pad mount transformers is running low, and we need to purchase some to replenish it. The transformers will be used to replace damaged or leaking transformers on the system and future construction projects throughout the city. Transformers have been very difficult to obtain with long delivery leads.

Analysis

Specifications and an invitation to submit a bid for the transformers were sent out to three (3) major suppliers.

30(ea.) 25kva single phase O.H.
30(ea.) 50kva single phase O.H.
30(ea.) 50kva single phase Pad

We received and opened sealed bids from three (3) different suppliers on November 8, 2021, at 11:00 a.m. The results are as follows:

Distributors/Manufacture	Total Transformers Cost	Delivery
Irby – ABB & PPI Salt Lake City, Utah	\$215,700.00	25-28 weeks
Anixter Power Solutions- <u>Ermco</u> Salt Lake City, Utah	\$212,490.00	40-45 weeks
Northern Power - Howard Centerville, Utah	Not Complete	N/A

Department Review

Due to the extremely long delivery time difference and the need to keep our inventory up, Staff is recommending that we award the bid to the second to low bidder of Irby for the ABB transformers.

Significant Impacts

These transformers will be purchased and placed into inventory until they are needed.

Recommendation

The Power Commission and Staff recommend the approval of the bid for 90 transformers from the fastest delivery and the second to lowest bid from Irby for sum of \$215,700.

Attachments

None

City Council Staff Report



Subject: Preliminary and Final Approval of the Deseret I
Planned Unit Development (P.U.D.)
Address: 260 North 500 W
Author: City Engineer, City Planner
Department: Engineering, Planning
Date: December 14, 2021

Background

Brian Knowlton, representing Deseret First Credit Union, has submitted a Planned Unit Development (P.U.D.) plat for the property where the new credit union building was recently completed. The proposed P.U.D. is comprised of the existing credit union facilities and the remaining vacant eastern portion of the site. The site is located in the Commercial-Heavy (C-H) Zone. The Credit Union building and associated site improvements were approved by the City Council on April 14, 2020 and construction was completed in March, 2021. This item was reviewed by the Planning Commission on December 7, 2021 and the Commission was unanimous in forwarding a recommendation for approval by the City Council.

Analysis

Zoning Requirements:

The requirements for developments in the Commercial-Heavy (C-H) Zone are listed in Table 14-6-104 as follows:

- | | |
|--------------------------------|------------|
| 1. Minimum Lot Size: | 0.50 Acres |
| 2. Minimum Frontage and Width: | 50 Feet |

Chapter 20 Part 5 of the Land Use Ordinance defines the following requirements for approval of a P.U.D. plat:

1. Contain a minimum of 4 legal units or lots. (14-20-601)
2. Meet the minimum requirements of this Chapter. (14-20-604 (B))

The 1.026 acre parcel exceeds the minimum lot size requirement of 0.5 acres. The site also exceeds the 50 ft minimum frontage requirement with the existing width of 129.74 feet. By combining the existing credit union building and the 5 proposed indoor vehicle storage units (for total of 6 units), the P.U.D. exceeds the minimum requirement of having 4 units in a P.U.D. development is also satisfied. Other zoning requirements such as setbacks, landscaping or other requirements will be evaluated as part of the site plan review process.

Utilities:

Development of the Credit Union site included the installation of sewer and culinary water service to the eastern end of the development. The developer anticipates that each unit will be served with culinary water and sanitary sewer. An underground storm water detention system was also installed during the construction of the credit union building and is sufficiently sized to

accommodate the proposed use for the site. Electrical and gas utility services are also available in the immediate vicinity.

Proposed Improvements and Access: The applicants have submitted a conceptual site plan to help staff review the location of the existing and proposed parking improvements in relation to the common and private areas identified on the plat. As currently configured, the common area provides access to the respective parking areas which are reserved for the appropriate units as defined the Condominium Declaration document.

Department Review

This memo has been reviewed by the City Manager, City Attorney and the Planning Director.

Recommendation

It is the recommendation of staff that the City Council give Preliminary and Final Approval of the Deseret First Planned Unit Development with the following conditions:

1. Provide a current title report.
2. Make any required minor corrections to the plat.
3. Pay all required fees.

Significant Impacts

None

Attachments

1. Aerial photo showing the proposed location
2. A copy of the preliminary plat.

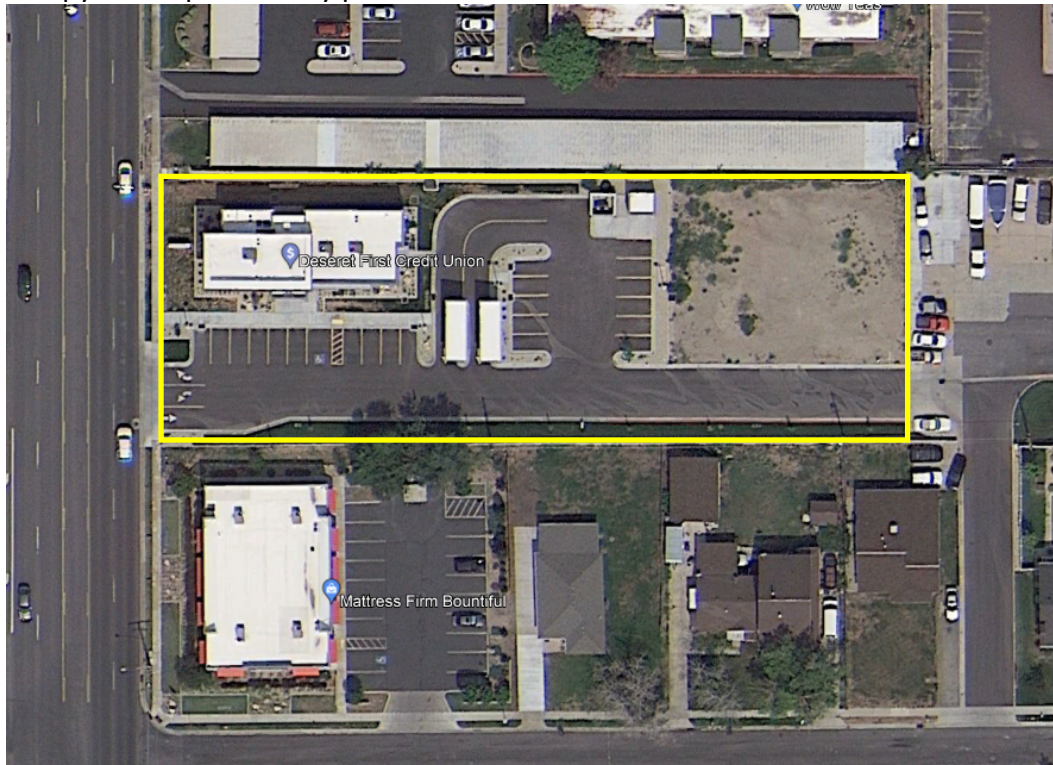


Figure 1 Location of Proposed Deseret First Planned Unit Development

DESERET FIRST PLANNED UNIT DEVELOPMENT
 LOCATED IN THE SOUTHWEST QUARTER OF SECTION 19, TOWNSHIP 2 NORTH,
 RANGE 1 EAST, AND THE SOUTHEAST QUARTER OF SECTION 24, TOWNSHIP 2 NORTH,
 RANGE 1 WEST, SALT LAKE BASE AND MERIDIAN
 BOUNTIFUL CITY, DAVIS COUNTY, UTAH
 NOVEMBER 2021

SURVEYOR'S CERTIFICATE

I, JEREMIAH R. CUNNINGHAM, A PROFESSIONAL LAND SURVEYOR HOLDING CERTIFICATE NO. 9182497 AS PRESCRIBED UNDER THE LAWS OF THE STATE OF UTAH, DO HEREBY CERTIFY THAT BY THE AUTHORITY OF THE OWNERS I HAVE MADE A SURVEY OF THE TRACT OF LAND SHOWN ON THIS PLAT AND DESCRIBED HERewith AND HAVE SUBDIVIDED SAID TRACT OF LAND INTO UNITS HEREAFTER TO BE KNOWN AS DESERET FIRST PLANNED UNIT DEVELOPMENT AND THAT SAME HAS BEEN CORRECTLY SURVEYED AND STAKED ON THE GROUND AS SHOWN.

COPY FOR REVIEW

JEREMIAH R. CUNNINGHAM, P.L.S. UT #9182497

BOUNDARY DESCRIPTION

BEGINNING AT POINT ON AN EXISTING FENCE LINE THAT IS SOUTH 00°08'40" EAST 416.33 FEET ALONG THE SECTION LINE (402.60 FEET, BY RECORD) FROM THE WEST QUARTER CORNER OF SECTION 19, TOWNSHIP 2 NORTH, RANGE 1 EAST, SALT LAKE BASE AND MERIDIAN, DAVIS COUNTY, UTAH, AND RUNNING THENCE NORTH 89°33'00" EAST 256.16 FEET ALONG SAID FENCE LINE; THENCE NORTH 00°14'00" WEST 125.38 FEET TO THE SOUTH LINE OF BOUNTIFUL MANOR CONDOMINIUMS, SAID POINT BEING ON AN EXISTING FENCE LINE; THENCE NORTH 89°44'10" WEST 350.25 FEET ALONG SAID FENCE LINE AND ALONG THE SOUTH LINES OF SAID BOUNTIFUL MANOR CONDOMINIUMS TO THE EAST LINE OF 500 WEST STREET; THENCE SOUTH 00°11'26" EAST 129.74 FEET ALONG SAID FENCE LINE TO THE EXTENSION OF AN EXISTING FENCE LINE; THENCE NORTH 89°33'00" EAST 94.18 FEET ALONG SAID FENCE LINE AND ITS EXTENSION TO THE SECTION LINE AND TO THE POINT OF BEGINNING.

CONTAINING 1.026 ACRES.

OWNER'S DEDICATION

KNOWN ALL MEN BY THESE PRESENTS THAT THE UNDERSIGNED OWNERS OF THE ABOVE DESCRIBED TRACT OF LAND, HAVING CAUSED SAME TO BE SUBDIVIDED INTO PRIVATE UNITS, HEREAFTER TO BE KNOWN AS DESERET FIRST PLANNED UNIT DEVELOPMENT, DO HEREBY DEDICATE FOR PUBLIC USE OF THE PUBLIC ALL PARCELS OF LAND SHOWN ON THIS PLAT AS INTENDED FOR PUBLIC USE, INCLUDING EASEMENTS, AND DO WARRANT AND DEFEND AND SAVE THE CITY HARMLESS AGAINST ANY EASEMENT OR OTHER ENCUMBRANCE WHICH WILL INTERFERE WITH THE CITY'S USE, MAINTENANCE, AND OPERATION OF THE STREETS AND SAID EASEMENTS.

IN WITNESS WHEREOF WE HAVE HEREUNTO SET OUR HANDS THIS _____ DAY OF _____, 20____.

DESERET FIRST CREDIT UNION

ACKNOWLEDGEMENT

STATE OF UTAH)
) :SS
 COUNTY OF SALT LAKE)
 ON THIS ____ DAY OF _____, IN THE YEAR 20____, BEFORE ME _____, A NOTARY PUBLIC, PERSONALLY APPEARED _____, PROVED ON THE BASIS OF SATISFACTORY EVIDENCE TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO IN THE FOREGOING OWNER'S DEDICATION AND CONSENT REGARDING THE DESERET FIRST PLANNED UNIT DEVELOPMENT AND ACKNOWLEDGE HE EXECUTED THE SAME.

COMMISSION NUMBER: _____

MY COMMISSION EXPIRES: _____

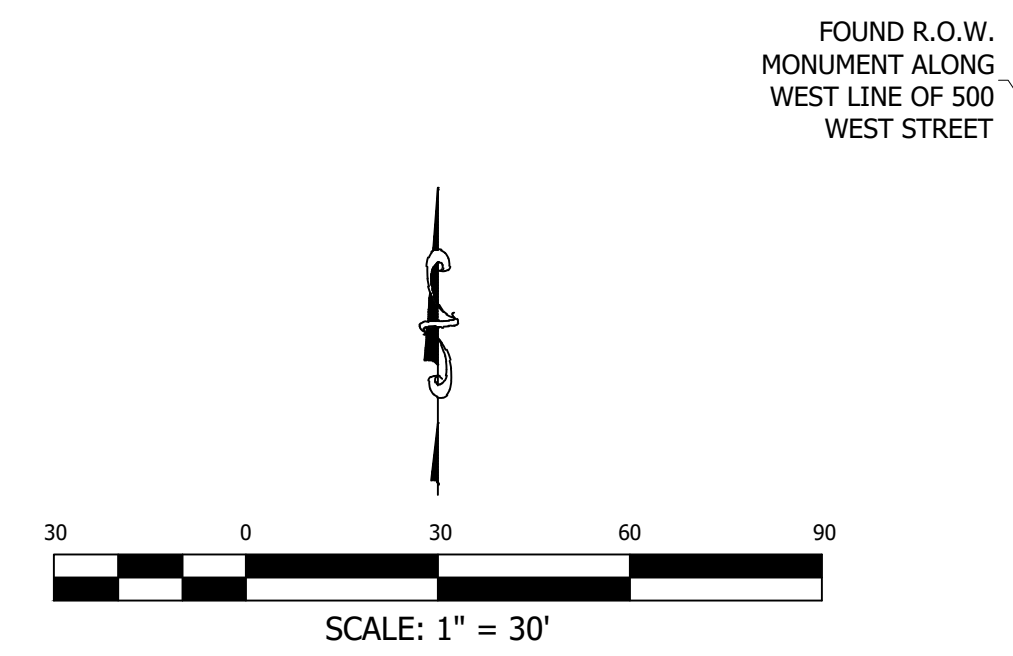
SIGNATURE: _____

PRINT NAME: _____

A NOTARY PUBLIC COMMISSIONED IN UTAH

NOTES

1. THE STATE PLANE BEARING ALONG THE BASIS OF BEARING IS SOUTH 00°08'05" WEST, CALCULATED USING NAD 1983 STATE PLANE COORDINATES FROM THE UTAH NORTH ZONE.
2. ALL PUBLIC UTILITY EASEMENTS (P.U.E.) ARE 10.0 FEET WIDE UNLESS OTHERWISE NOTED.
3. PUBLIC UTILITY EASEMENTS AREA ALSO DRAINAGE EASEMENTS.
4. ALL UNITS ARE PRIVATE SPACE.
5. ADDRESSES FOR EACH UNIT ARE AS FOLLOWS:
 UNIT 260 - 260 NORTH 500 WEST
 UNIT 262A - 262 NORTH 500 WEST
 UNIT 262B - 262 NORTH 500 WEST
 UNIT 262C - 262 NORTH 500 WEST
 UNIT 262D - 262 NORTH 500 WEST
 UNIT 262E - 262 NORTH 500 WEST



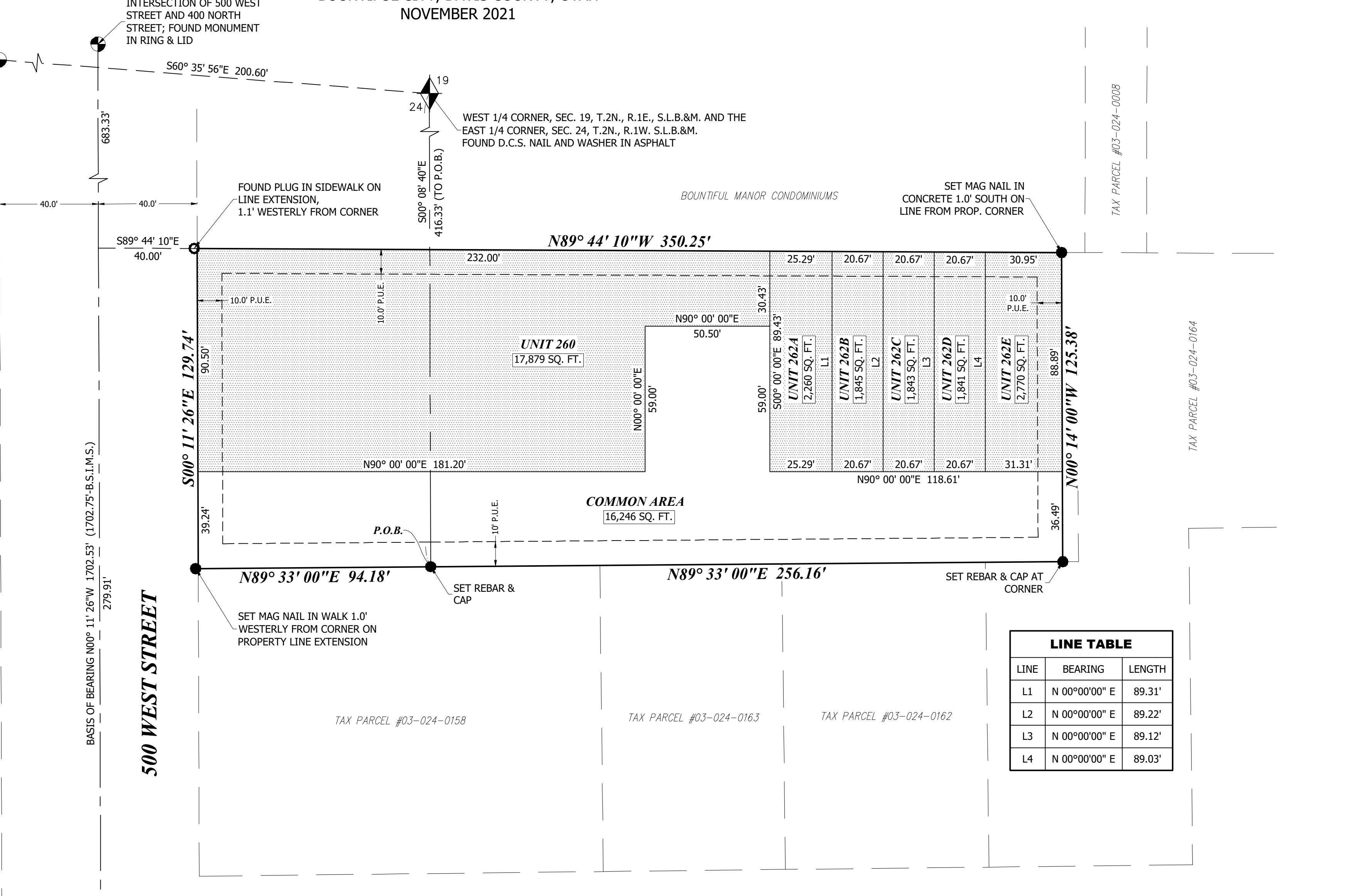
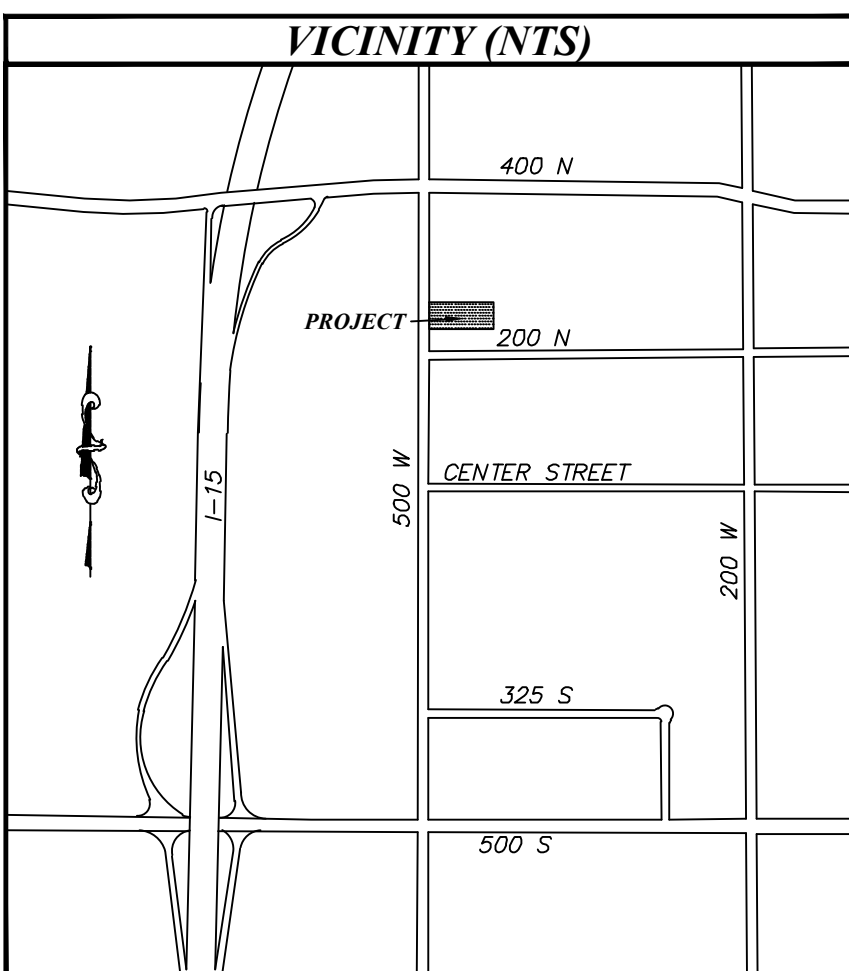
LEGEND

PROPERTY LINE _____
 UNIT LINE _____
 ADJACENT PROPERTY _____
 ROAD CENTERLINE _____
 SECTION LINE _____
 TIE TO MONUMENT _____
 PUBLIC UTILITY EASEMENT _____
 PRIVATE AREA [Hatched Box]
 COMMON AREA [White Box]

RECORD CALLS ()

SET 5/8" REBAR WITH "ENTELLUS" CAP, AT CORNER (UNLESS OTHERWISE NOTED) ●

FOUND PROPERTY MARKER (AS NOTED) ○



LINE	BEARING	LENGTH
L1	N 00°00'00" E	89.31'
L2	N 00°00'00" E	89.22'
L3	N 00°00'00" E	89.12'
L4	N 00°00'00" E	89.03'

UTILITY APPROVAL

SO. DAVIS SEWER IMP. DISTRICT: _____ DATE: _____
 BOUNTIFUL LIGHT AND POWER: _____ DATE: _____
 BOUNTIFUL CITY WATER: _____ DATE: _____
 CENTURY LINK: _____ DATE: _____
 COMCAST: _____ DATE: _____
 BOUNTIFUL IRRIGATION DISTRICT: _____ DATE: _____

DOMINION ENERGY UTAH

QUESTAR GAS COMPANY, dba DOMINION ENERGY UTAH, HEREBY APPROVES THIS PLAT SOLELY FOR THE PURPOSES OF CONFIRMING THAT THE PLAT CONTAINS PUBLIC UTILITY EASEMENTS. DOMINION ENERGY UTAH MAY REQUIRE ADDITIONAL EASEMENTS IN ORDER TO SERVE THIS DEVELOPMENT. THIS APPROVAL DOES NOT CONSTITUTE ABROGATION OR WAIVER OF ANY OTHER EXISTING RIGHTS, OBLIGATIONS OR LIABILITIES INCLUDING PRESCRIPTIVE RIGHTS AND OTHER RIGHTS, OBLIGATIONS OR LIABILITIES PROVIDED BY LAW OR EQUITY. THIS APPROVAL DOES NOT CONSTITUTE ACCEPTANCE, APPROVAL OR ACKNOWLEDGEMENT OF ANY TERMS CONTAINED IN THE PLAT, INCLUDING THOSE SET FORTH IN THE OWNER DEDICATION OR IN THE NOTES, AND DOES NOT CONSTITUTE A GUARANTEE OF PARTICULAR TERMS OR CONDITIONS OF NATURAL GAS SERVICE. FOR FURTHER INFORMATION PLEASE CONTACT DOMINION ENERGY UTAH'S RIGHT-OF-WAY DEPARTMENT AT 800-366-8532.

QUESTAR GAS COMPANY
 dba DOMINION ENERGY UTAH
 APPROVED THIS ____ DAY OF _____, 20____
 BY: _____
 TITLE: _____

COPY FOR REVIEW

1470 South 600 West
 Woods Cross, UT 84010
 Phone 801.298.2236
 www.Entellus.com
 PROJECT #1185017 10/30/2020, ALI
 11/8/2021, ALI

CITY COUNCIL'S APPROVAL

PRESENTED TO THE CITY COUNCIL OF BOUNTIFUL CITY, UTAH, ON THIS _____ DAY OF _____, 20____.

CITY RECORDER ATTEST: _____
 MAYOR: _____

CITY ENGINEER'S APPROVAL

APPROVED BY THE BOUNTIFUL CITY ENGINEER, THIS ____ DAY OF _____, 20____.

BOUNTIFUL CITY ENGINEER _____

PLANNING COMMISSION APPROVAL

APPROVED BY THE PLANNING COMMISSION OF BOUNTIFUL CITY, THIS ____ DAY OF _____, 20____.

PLANNING DIRECTOR _____

CITY ATTORNEY'S APPROVAL

APPROVED ON THIS ____ DAY OF _____, 20____.

BOUNTIFUL CITY ATTORNEY _____

DAVIS COUNTY RECORDER

ENTRY NO. _____ FEE PAID _____
 FILED FOR RECORD AND RECORDED THIS ____ DAY OF _____, 20____
 AT _____ IN BOOK _____ OF _____
 COUNTY RECORDER: _____
 BY: _____ DEPUTY

City Council Staff Report



Subject: Deseret First Rear Building - Preliminary and Final Architectural and Site Plan Review for Indoor Vehicle Storage
Author: Francisco Astorga, AICP, Planning Director
Date: December 14, 2021

Background

The Applicant, Brian Knowlton with Knowlton General, representing the property owner, Deseret First Credit Union (DFCU), requests preliminary and final Architectural and Site Plan Review for the construction of a new building consisting of five (5) indoor vehicle storage units at 262 North 500 West, towards the rear of the lot, east of the new DFCU office branch on 500 West.

The site is located in the Heavy Commercial (C-H) subzone which follows 500 West (Hwy 89) and the City’s western boundary. The properties bordering the site are also located in the Heavy Commercial Zone (C-H) with the exception the Bountiful Manor Condominium complex, on the north side of the site, which is in the Multiple Family Zone (RM-25) subzone.

This item was presented to the Planning Commission on December 7, 2021. The Commission unanimously voted (5-0) to forward a positive recommendation to the City Council.

Analysis

Use. The C-H subzone lists Vehicle Storage – Indoor as a permitted use. Other vehicle related uses are listed in the C-H as permitted or conditional uses. Vehicle Salvage/Wrecking and Self Storage Units or Warehouse w/o Office are both expressly prohibited uses in the C-H subzone and the City. Indoor vehicle storage is not further defined in the Land Use Code. It is important to note that while indoor vehicle storage is a permitted use within the zone, storage facilities are expressly prohibited. Staff will not make a different interpretation for this use other than for the indoor storage of vehicles. Furthermore, these units are not allowed to have kitchens and living spaces (sleeping and cooking facilities).

Yard Requirements.

Minimum Setback	Regulation	Proposal
Front/Street Yard	20 feet	West side: 232 feet from 500 West, complies.
Side Yard	10 feet	North side: 10 feet, complies. South side: 35.5 feet, complies.
Rear Yard	10 feet	East side: 10 feet, complies.
Yard Abutting Residential Lots	20 feet	North side, 10 feet, *see below.

*Land Use Code section 14-6-105 indicates that “*An interior side or rear yard setback may be reduced during the site plan approval process if the land use authority determines that there is*

no need for a landscape buffer along that portion of the site, and that the public interest is better served by reducing the setback. However, no setback may be less than required by the International Building Code.”

The proposed structure would be located on the north line of the DFCU property which is next to a large carport on the Manor Condominiums property to the north. The existing DFCU building is approximately 28 feet high and is setback 20 feet from the side property line. The existing carport straddles the property line. The residential building is located approximately 60 feet to the North of the same property line.

The proposed structure is also located approximately 200 feet from 500 west. Due to the location of the Manor Condominiums’ carport and the 200-foot distance from 500 west, Staff does not find a need for a 20-foot landscape buffer directly north of the proposed building. Staff finds the proposed 10-foot setback is sufficient to meet the goals of the Code as there is a large carport directly north so there is no need for additional landscaping buffer. Additionally reducing the landscape buffer setback better serves the public interest by making the site more accessible to its users and provides for better and safer traffic and pedestrian circulation.



Building Height. No building or structure in the Commercial Zone shall exceed three (3) stories or forty-five (45) feet in height as measured at the average grade. The maximum height of the building is 28 feet from average grade.

Parking. The existing credit union building requires sixteen (16) parking spaces. There are sixteen (16) parking spaces adjacent to the existing building and the drive-through. The Land Use Code does not specify a parking ratio for indoor vehicle storage; however, it does indicate that the approving Authority is to determine the standard based on the recommendation of the City Planner and the City Engineer. Staff recommends allocating one (1) parking space per indoor vehicle storage unit, consisting of a total of five (5) parking spaces. There are six (6) parking spaces east of the drive-through that would comply with this recommendation. The site plan shows five (5) additional parallel parking spaces directly south of each vehicle entrance. Staff does not recognize these as legal parking spaces as they do not meet the Land Use Code.

Access. The existing driveway on the south of the entire site provides compliant access to the proposed building towards 500 West. As 500 West is a UDOT facility, the Applicant has already received necessary approvals, etc. for the existing driveway.

Landscaping. The entire site, including the credit union, requires 15% of the lot area to be landscaped. The proposal includes 30% of the entire site to be landscaped, consisting of existing landscaping (27%) and additional landscaping (3%). A minimum of ten (10) feet wide landscape buffer is required adjacent to all residential properties which matches the interior side yard setback reduction from 20 to 10 feet along the north side. The proposal includes a total of seven (7) additional trees and 20 additional shrubs directly adjacent to the proposed building. While the submitted landscape plan was not signed and stamped by a licensed landscape architect, Staff recommends based on the already compliant landscaping percentage that it be provided to the City during the building permit review, to be consistent with the landscaping provided on the Overall Site Plan and applicable landscaping requirements.

Building Materials. The proposed building is one level with a mezzanine and shows a mix of painted concrete masonry unit (CMU), metal paneling (siding), and a smaller scale accent metal paneling (siding) on the south, west, and east elevations. The proposal includes higher building corners along the south elevation creating vertical articulation in conjunction with the proposed different materials which break up the building mass.

Utilities. Development of this site included the installation of sewer and culinary water service to the eastern end of the development. The developer anticipates that each unit will be served with culinary water and sanitary sewer. An underground storm water detention system was also installed during the construction of the credit union building and is sufficiently sized to accommodate the proposed use for the site. Electrical and gas utility services are also available in the immediate vicinity.

Department Review

This staff report was written by the Planning Director and reviewed by the City Engineer and the City Attorney.

Significant Impacts

The development is occurring in an area with urban levels of infrastructure already in place. Impacts from the development of this property have been anticipated in the design of the existing storm water, sewer, and water and transportation systems. The conditions of approval are designed to mitigate other impacts anticipated by the development.

Recommendation

Staff recommends that the City Council approve the Preliminary and Final Architectural and Site Plan Review for the proposed indoor vehicle storage building subject to the following conditions of approval:

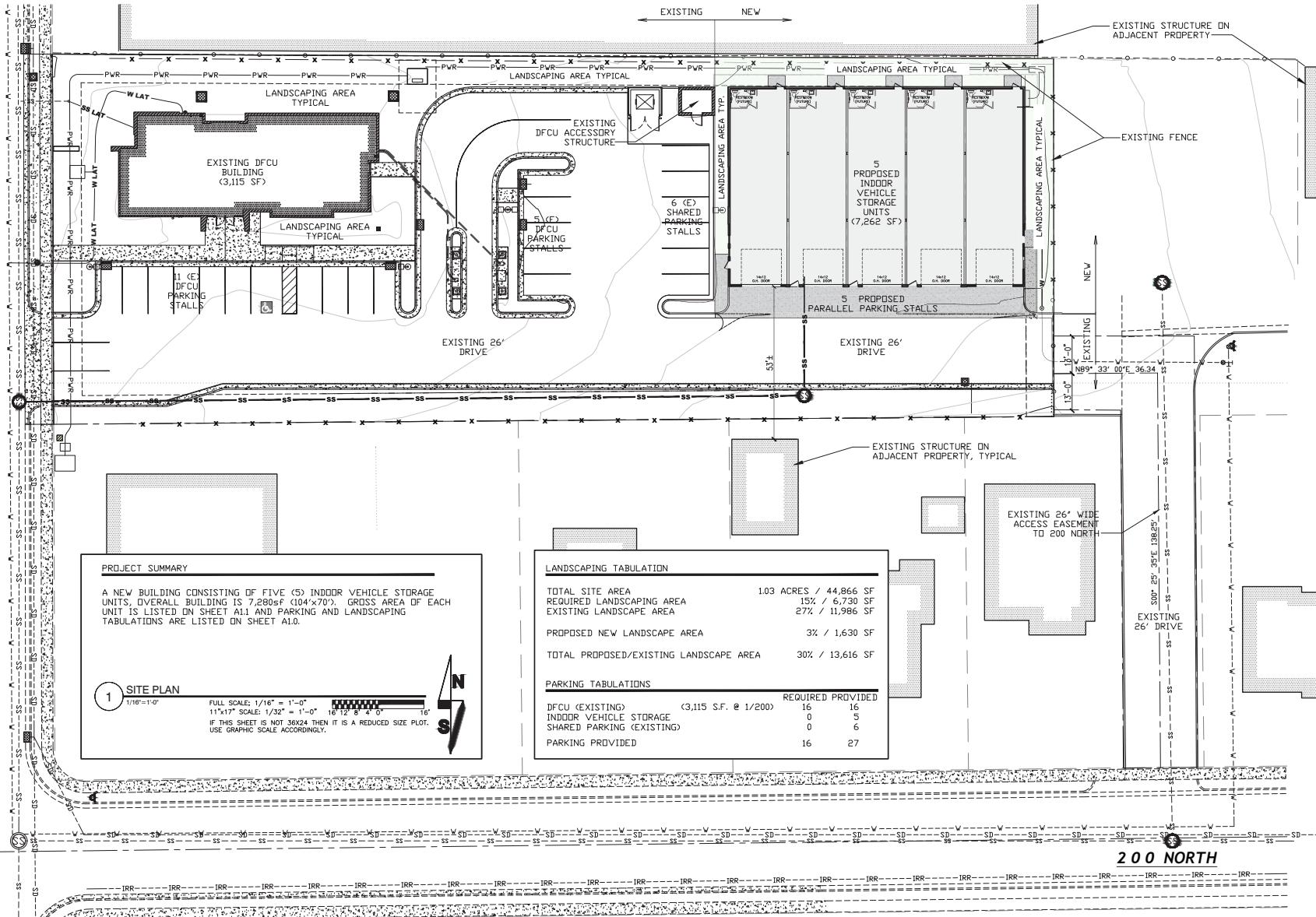
1. A signed/stamped landscape plan is provided during building permit review consistent with the landscaping provided on the Overall Site Plan, and applicable landscaping requirements.

2. During the building permit review process the five (5) parallel parking spaces shown along the south side of the proposed building shall be removed from the site plan.
3. All units will only be used for indoor vehicle storage. Traditional storage units are prohibited.

Attachments

1. Overall Site Plan including Landscaping
2. Site Plan/Floor Plan
3. South & West Elevations
4. North & East Elevations
5. Civil Package including Cover, Notes and Legend, Site Plan, Grading Plan, Utility Plan, and Site Detail Sheet.

500 WEST



PROJECT SUMMARY

A NEW BUILDING CONSISTING OF FIVE (5) INDOOR VEHICLE STORAGE UNITS, OVERALL BUILDING IS 7,280sf (104'x70'). GROSS AREA OF EACH UNIT IS LISTED ON SHEET A11 AND PARKING AND LANDSCAPING TABULATIONS ARE LISTED ON SHEET A10.

1 SITE PLAN
1/16"=1'-0"

FULL SCALE: 1/16" = 1'-0"
11"x17" SCALE: 1/32" = 1'-0"
IF THIS SHEET IS NOT 36X24 THEN IT IS A REDUCED SIZE PLOT. USE GRAPHIC SCALE ACCORDINGLY.

LANDSCAPING TABULATION

TOTAL SITE AREA	1.03 ACRES / 44,866 SF
REQUIRED LANDSCAPING AREA	15% / 6,730 SF
EXISTING LANDSCAPE AREA	27% / 11,986 SF
PROPOSED NEW LANDSCAPE AREA	3% / 1,630 SF
TOTAL PROPOSED/EXISTING LANDSCAPE AREA	30% / 13,616 SF

PARKING TABULATIONS

	REQUIRED	PROVIDED
DFCU (EXISTING)	3,115 S.F. @ 1/200	16
INDOOR VEHICLE STORAGE		5
SHARED PARKING (EXISTING)		6
PARKING PROVIDED		27

SMITH HYATT ARCHITECTS
845 SOUTH MAIN STREET BOUNTIFUL, UTAH (801) 298-5777

THESE PLANS AND SPECIFICATIONS ARE THE PROPERTY OF SMITH HYATT ARCHITECTS. NO PART OF THESE PLANS OR SPECIFICATIONS MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT EXPRESS WRITTEN PERMISSION FROM AN AUTHORIZED REPRESENTATIVE OF SMITH HYATT ARCHITECTS.

SEPT 15th / 2021

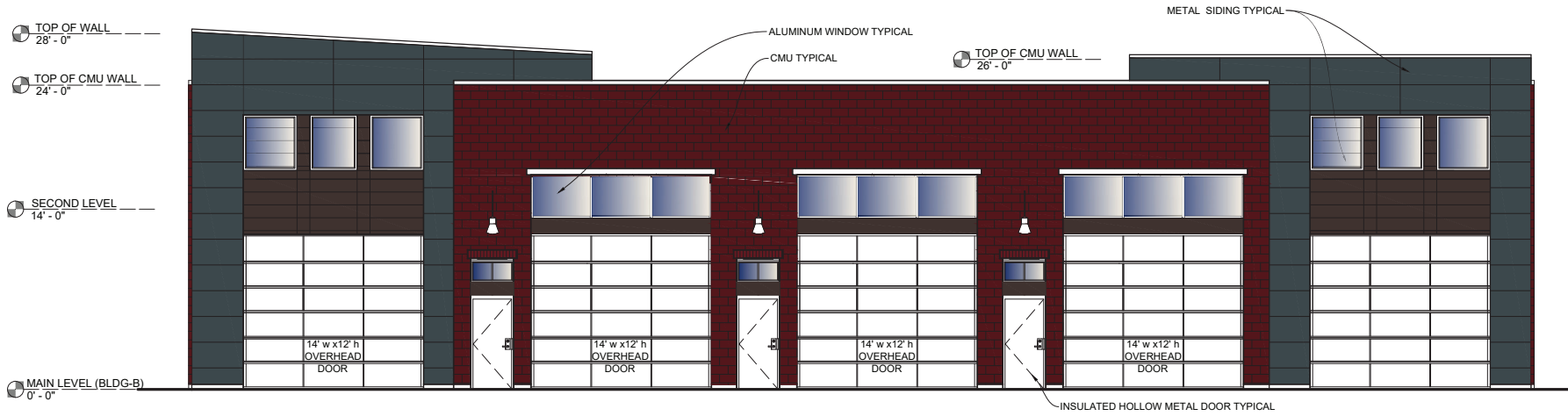
KNOWLTON 500 W DEVELOPMENT
260 N. 500 W
BOUNTIFUL, UT

No	DATE	DESCRIPTION
	9/15/21	SCHEMATIC REVISION
	9/23/21	STRONG OPINION
	9/29/21 (REV)	PERMITS REVIEW
	10/14/2021	(N. ELEVATION MODIFIED)

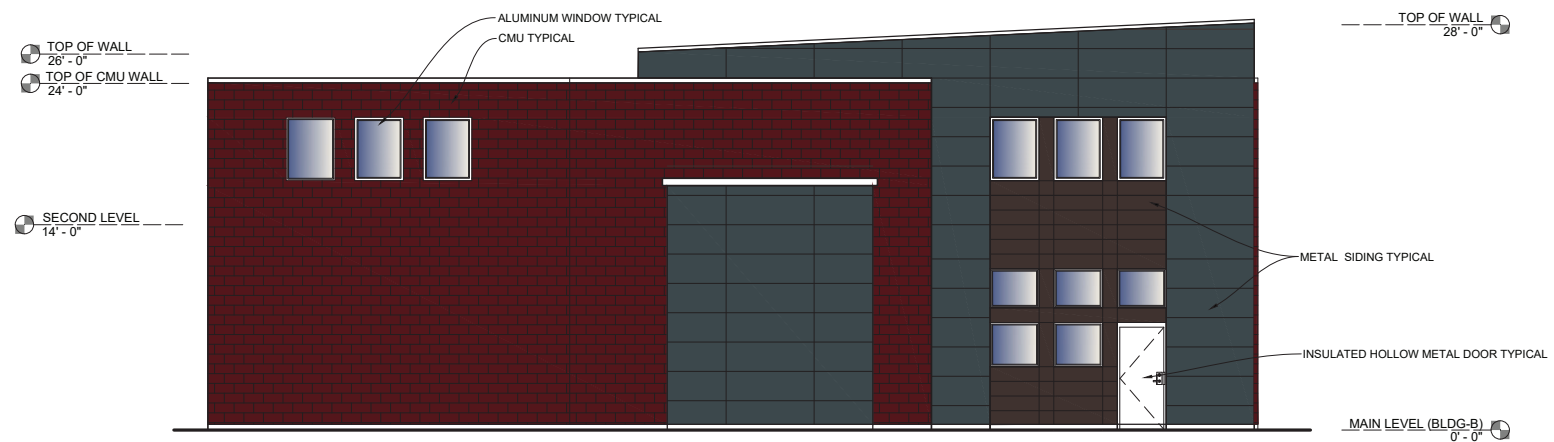
OVERALL SITE PLAN

A1.0

20116



1 SOUTH ELEVATION
 1/4" = 1'-0" FULL SCALE: 1/4" = 1'-0"
 11"x17" SCALE: 1/8" = 1'-0"
 4' 3' 2' 1' 0' 4'



1 WEST ELEVATION
 1/2" = 1'-0" FULL SCALE: 1/4" = 1'-0"
 11"x17" SCALE: 1/8" = 1'-0"
 4' 3' 2' 1' 0' 4'

IF THIS SHEET IS NOT 36X24 THEN IT IS A REDUCED SIZE PLOT.
 USE GRAPHIC SCALE ACCORDINGLY.

SMITH HYATT ARCHITECTS
 845 SOUTH MAIN STREET BOUNTIFUL, UTAH (801) 298-5777
 THE ARCHITECTS ASSUME NO LIABILITY FOR THE DESIGN OR CONSTRUCTION OF ANY PROJECTS UNLESS SPECIFICALLY STATED IN WRITING BY THE ARCHITECTS. THE ORIGINAL CLIENT MAY USE THIS SET OF DRAWINGS FOR ONE TIME USE OF AN UNLIMITED REPRESENTATIVE OF PROJECTS.

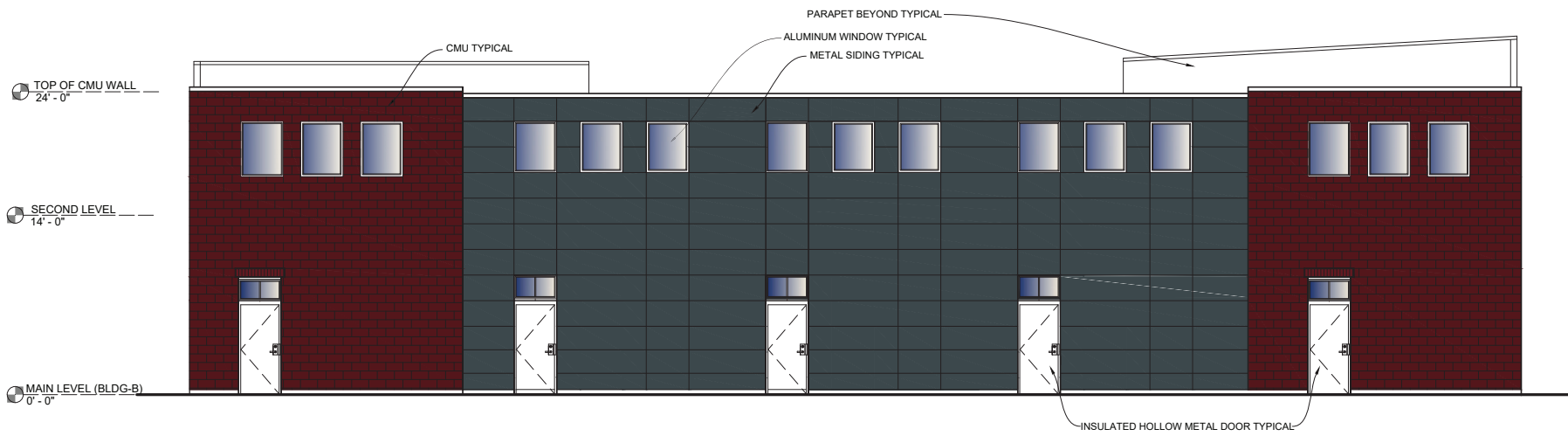
SEPT 15th / 2021

KNOWLTON 500 W DEVELOPMENT
 260 N. 500 W
 BOUNTIFUL, UT

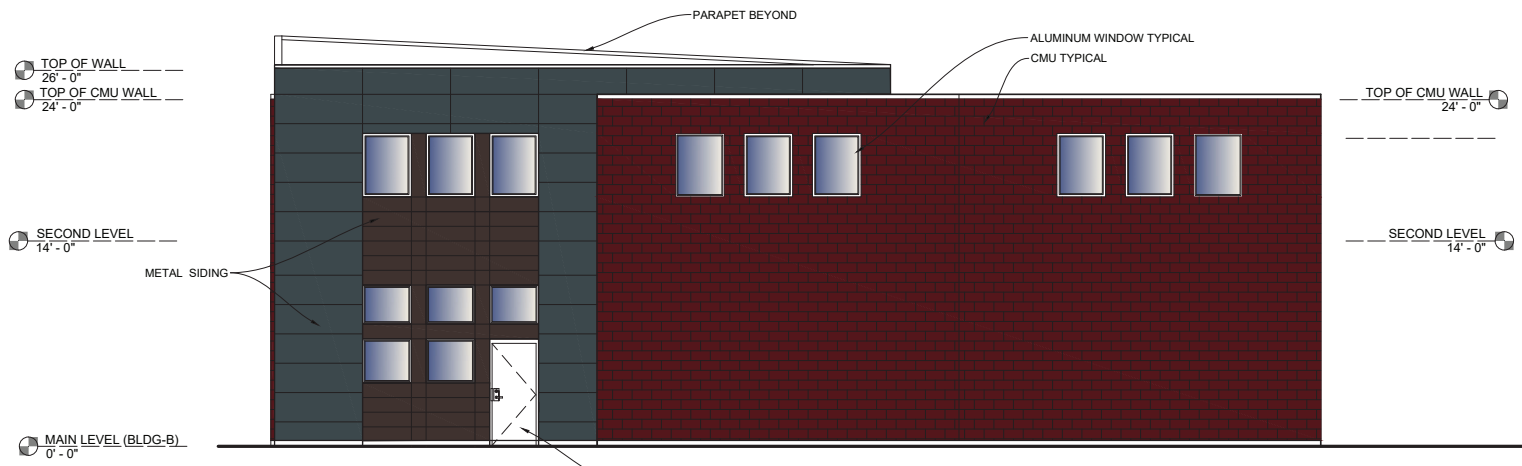
No.	DATE	DESCRIPTION
	9/15/21	SCHEMATIC DESIGN
	9/23/21	EXTRACURRICULAR REVIEW
	9/29/21(R)	REGULATORY REVIEW
	10/14/2021	(N. ELEVATION MODIFIED)

ELEVATIONS

A2.1
 20116



1 NORTH ELEVATION
 1/4"=1'-0" FULL SCALE: 1/4" = 1'-0"
 11"x17" SCALE: 1/8" = 1'-0"
 4' 3' 2' 1' 0' 4'



1 EAST ELEVATION
 1/4"=1'-0" FULL SCALE: 1/4" = 1'-0"
 11"x17" SCALE: 1/8" = 1'-0"
 4' 3' 2' 1' 0' 4'

SMITH HYATT ARCHITECTS
 845 SOUTH MAIN STREET BOUNTIFUL, UTAH (801) 298-5777
 THIS DRAWING AND ALL RIGHTS RESERVED. IN THE USE OF THIS DRAWING, THE USER AGREES TO HOLD SMITH HYATT ARCHITECTS AND THE ORIGINAL CLIENT HARMLESS FOR ANY USE OF THIS DRAWING FOR ANY OTHER PROJECT WITHOUT THE WRITTEN PERMISSION FROM AN AUTHORIZED REPRESENTATIVE OF SMITH HYATT ARCHITECTS.

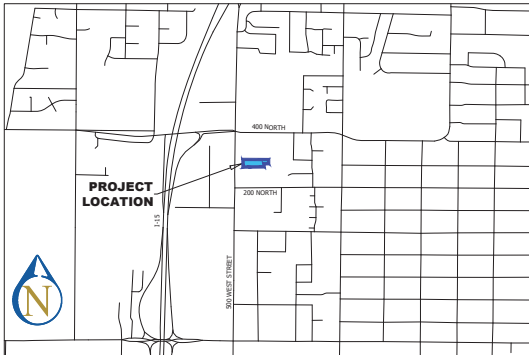
SEPT 15th / 2021

KNOWLTON 500 W DEVELOPMENT
 260 N. 500 W
 BOUNTIFUL, UT

No.	DATE	DESCRIPTION
	9/15/21	SCHEMATIC DESIGN
	9/23/21	EXTRACURRICULAR REVIEW
	9/29/21(R1)	PERMITS/LOT REVIEW
	10/14/2021	(N. ELEVATION MODIFIED)

ELEVATIONS

A2.2
 20116



SCALE: 1"=1000'

DFCU ADDITION

260 NORTH 500 WEST
 LOCATED IN THE SW 1/4 OF SECTION 19, T.2N., R.1E., S.L.B.&M.
 BOUNTIFUL CITY CITY, DAVIS COUNTY, UTAH

SHEET INDEX

NUMBER	TITLE
C100	COVER
C101	NOTES & LEGEND
C400	SITE PLAN
C500	GRADING PLAN
C600	UTILITY PLAN
C900	SITE DETAIL SHEET

Client **DESERET FIRST CREDIT UNION**
 Contact **Spencer Park**
 Phone **(801) 456-7161**
 Address **3999 W Parkway Blvd**
West Valley City, UT 84120

CITY ENGINEER'S APPROVAL
 APPROVED BY THE FARMINGTON CITY ENGINEER, THIS ____ DAY OF
 _____, 20____.

 FARMINGTON CITY ENGINEER

GENERAL NOTES

- ALL WORK WITHIN A PUBLIC RIGHT-OF-WAY SHALL CONFORM TO THE RIGHT-OF-WAY OWNER'S STANDARDS & SPECIFICATIONS.
- ALL UTILITY WORK SHALL CONFORM TO THE UTILITY OWNER'S STANDARDS & SPECIFICATIONS.
- THESE PLANS DO NOT INCLUDE DESIGN OF DRY UTILITIES. THESE PLANS MAY CALL FOR RELOCATION, AND/OR REMOVAL AND/OR CONSTRUCTION OF DRY UTILITIES, BUT ARE NOT OFFICIAL DRAWINGS FOR SUCH. DESIGN AND COORDINATION OF DRY UTILITIES IS BY OTHERS.
- THE CONTRACTOR SHALL COORDINATE AND OBTAIN ANY PERMITS REQUIRED FOR THE WORK SHOWN HEREON.
- THE LOCATION AND ELEVATIONS OF UNDERGROUND UTILITIES SHOWN ON THESE PLANS IS A BEST ESTIMATE BASED ON UTILITY COMPANY RECORDS, BLUESTAKES, AND FIELD MEASUREMENTS OF READILY OBSERVABLE ABOVE-GROUND FEATURES. AS SUCH, THIS INFORMATION MAY NOT BE COMPLETE, UP-TO-DATE, OR ACCURATE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO STOP WORK AND NOTIFY THE ENGINEER IF CONFLICTING INFORMATION IS FOUND IN THE FIELD.
- THE CONTRACTOR IS TO FIELD VERIFY THE LOCATION AND ELEVATIONS OF EXISTING MANHOLES AND OTHER UTILITIES PRIOR TO STAKING AND CONSTRUCTION.
- CALL BLUESTAKES AT LEAST 48 HOURS PRIOR TO DIGGING. DO NOT PROCEED UNTIL BLUESTAKES ARE MARKED.
- IT SHALL BE THE CONTRACTOR'S AND SUBCONTRACTOR'S RESPONSIBILITY TO MEET ALL APPLICABLE HEALTH AND SAFETY REGULATIONS, AND THEY SHALL ASSUME SOLE RESPONSIBILITY FOR JOB-SITE CONDITIONS DURING CONSTRUCTION OF THIS PROJECT, SO THAT ALL EMPLOYEES ARE PROVIDED A SAFE PLACE TO WORK, AND THE PUBLIC IS PROTECTED.

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DFCU ADDITION

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1470 South 600 West
 Woods Cross, UT 84010
 Phone 801.298.2236
 www.Entellus.com

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 NOTES & LEGEND

GENERAL NOTES

- ALL IMPROVEMENTS SHALL COMPLY WITH THE STANDARDS AND REGULATIONS OF THE LOCAL GOVERNING MUNICIPALITY. CONTACT THE PUBLIC WORKS OFFICE BEFORE BEGINNING.
- CONTRACTOR TO FIELD VERIFY LOCATION, SIZE, AND AVAILABILITY OF EXISTING UTILITIES. UTILITIES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR AT HIS/HER EXPENSE. SEE UTILITY NOTE 3.
- ALL DIMENSIONS ARE IN FOOT UNITS AND ARE TO THE TOP BACK OF CURB UNLESS SHOWN OR NOTED OTHERWISE.
- PROVIDE HANDICAP RAMPS AT ENDS OF WALKWAYS. ENCL. D.1 ABOVE FLOWLINE OF CURB.
- CURB AND GUTTER SHALL BE AS PER AWWA STD DWG NO 205 TYPE A.
- UTILITY INFORMATION INDICATED ON DRAWING IS BASED UPON VISUAL OBSERVATION OR INFORMATION FURNISHED BY MUNICIPAL AUTHORITIES WHICH MAY NOT BE VALID. LATERAL LOCATIONS AND ELEVATIONS ARE ASSUMED. SEE UTILITY NOTE 3.
- ALL GRADING SHALL BE DONE UNDER THE SUPERVISION OF A QUALIFIED SOILS ENGINEER WHO SHALL VERIFY THAT ALL FILL HAS BEEN PLACED IN ACCORDANCE WITH PROVISIONS IN CURRENT INTERNATIONAL BUILDING CODE.
- COMPACTION TEST REPORTS SHALL BE MADE AVAILABLE TO THE ENGINEER WITHIN 24 HOURS OF A REQUEST. FINAL REPORTS AS SPECIFIED IN CURRENT INTERNATIONAL BUILDING CODE SHALL BE SUBMITTED TO THE ENGINEER WITHIN TEN DAYS AFTER COMPLETION OF GRADING.
- ALL STORM DRAIN PIPE SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS AND THE LOCAL GOVERNING MUNICIPALITY'S STANDARDS AND SPECIFICATIONS.
- STORM DRAIN PIPE WITHIN THE PUBLIC RIGHT-OF-WAY SHALL CONFORM TO THE RIGHT-OF-WAY OWNERS SPECIFICATIONS. PRIVATE STORM DRAIN PIPE OPTIONS SHALL CONSIST OF THE FOLLOWING MATERIALS.
 - PVC PIPE, ASTM D3034, SDR 35, BELL & SPIGOT TYPE.
 - RP PIPE, CLASS 3, BELL & SPIGOT TYPE.
 - HIGH DENSITY CORRUGATED POLYETHYLENE SMOOTH INTERIOR PIPE, ASTM D3530 WITH WATER TIGHT JOINTS.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CHECK CONDITIONS AT THE SITE BEFORE STARTING WORK AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
- TYPICAL DETAILS SHALL APPLY IN GENERAL CONSTRUCTION UNLESS SPECIFICALLY DETAILED. WHERE NO DETAILS ARE GIVEN, CONSTRUCTION WILL BE AS FOR SIMILAR WORK. DO NOT SCALE DRAWINGS.
- ANY OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH ANY WORK INVOLVED.
- PIPE BEDDING SHALL BE 3/8" MAXIMUM AGGREGATE. USE 3/4" MAXIMUM SIZE ROAD BASE FOR BACKFILL MATERIAL. COMPACT TO 95% STANDARD PROCTOR DENSITY. MAXIMUM LIFT 8 INCHES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PUBLIC AND OSHA STANDARDS.
- ALL WORK SHALL COMPLY WITH THE AMERICAN PUBLIC WORKS ASSOCIATION UTAH CHAPTER (APWA) MANUAL OF STANDARD SPECIFICATIONS 2007 EDITION WITH ALL PERTINENT SUPPLEMENTS AND AMENDMENTS AND THE MANUAL OF STANDARD PLANS 2007 EDITION. SAID STANDARD SPECIFICATIONS AND PLANS SHALL BE THE REQUIREMENTS.
- IT IS INTENDED THAT THESE PLANS AND SPECIFICATIONS REQUIRE ALL LABOR AND MATERIALS NECESSARY AND PROPER FOR THE WORK CONTEMPLATED AND THE WORK TO BE COMPLETED IN ACCORDANCE WITH THE TRUE INTENT AND PURPOSE. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY REGARDING ANY DISCREPANCIES OR AMBIGUITIES WHICH EXIST IN THE PLANS OR SPECIFICATIONS. THE ENGINEER'S INTERPRETATION THEREOF SHALL BE CONCLUSIVE. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY FIELD CHANGES MADE WITHOUT PRIOR WRITTEN AUTHORITY FROM THE OWNER AND/OR ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATELY SCHEDULING INSPECTION AND TESTING OF ALL FACILITIES CONSTRUCTED UNDER THIS CONTRACT. ALL TESTING SHALL CONFORM TO THE REGULATORY AGENCY'S STANDARD SPECIFICATIONS. ALL TESTING AND INSPECTION SHALL BE PAID FOR BY THE OWNER. ALL RE-TESTING AND/OR REINSPECTION SHALL BE PAID FOR BY THE CONTRACTOR.
- THE CONTRACTOR SHALL MAINTAIN A NEATLY MARKED SET OF FULL-SIZE AS-BUILT RECORD DRAWINGS SHOWING THE FINAL LOCATION AND LAYOUT OF ALL MECHANICAL, ELECTRICAL AND INSTRUMENTATION EQUIPMENT, PIPING AND CONDUITS, STRUCTURES AND OTHER FACILITIES. THE AS-BUILTS OF THE ELECTRICAL SYSTEM SHALL INCLUDE THE STREET LIGHT LAYOUT PLAN SHOWING LOCATION OF LIGHTS, CONDUITS, CONDUCTORS, POINTS OF CONNECTIONS TO SERVICES, PULLBORES, AND WIRE SIZES. AS-BUILT RECORD DRAWINGS SHALL REFLECT CHANGE ORDERS, ACCOMMODATIONS, AND ADJUSTMENTS TO ALL IMPROVEMENTS CONSTRUCTED, WHERE NECESSARY, SUPPLEMENTAL DRAWINGS SHALL BE PREPARED AND SUBMITTED BY THE CONTRACTOR.
- PRIOR TO ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL DELIVER TO ENGINEER ONE SET OF NEATLY MARKED AS-BUILT RECORD DRAWINGS SHOWING THE INFORMATION REQUIRED ABOVE. AS-BUILT RECORD DRAWINGS SHALL BE REVIEWED AND THE COMPLETE AS-BUILT RECORD DRAWING SET SHALL BE CURRENT WITH ALL CHANGES AND REVISIONS RELINED AS A PRECONDITION TO THE FINAL PROGRESS PAYMENT APPROVAL AND/OR FINAL ACCEPTANCE.

SEQUENCE OF CONSTRUCTION

- CONSTRUCTION EXT IS TO BE CONSTRUCTED AT THE TIME OF ENTRY TO SITE.
- CLEAR AND GRUB AREAS FOR SEDIMENT MEASURES.
- INSTALL SILT FENCES.
- COMPLETE CLEARING OF SITE AND BEGIN ROUGH GRADING.
- FILL AREAS SHALL BE FILLED IN 12 INCH MAXIMUM LIFTS AND COMPACTED TO AT LEAST 95% MAXIMUM DENSITY.
- DRAINAGE WILL BE CONTROLLED AND GROUND SLOPED SO AS TO DIRECT RUNOFF TO SEDIMENT CONTROLLED AREAS.
- INSTALL REMAINDER OF STORM DRAIN.
- INSTALL UTILITY LINES, WATER, ETC.
- INSTALL CURBS, WALKS, ETC., AND STABILIZE ALL DISTURBED AREAS.
- INSTALL BENCH MARKS.
- REMOVE SEDIMENT CONTROL MEASURES, CLEAN OUT TEMPORARY SEDIMENTATION BASINS AND REGRADE, CLEAN OUT SEDIMENT TRAPS AND CONVERT THEM TO STORM WATER MANAGEMENT STRUCTURES.
- PAVE SITE.
- OWNER TO BE RESPONSIBLE TO CHECK CLEAN OUT INLET BOXES FOR SEDIMENT AND OIL AND CLEAN AS NECESSARY

UTILITY NOTES

- ALL SEWER LATERALS SHALL BE EXTENDED 2 FEET PAST THE 10 FOOT P.U.E. LOCATIONS. CONTACT THE PUBLIC WORKS OFFICE BEFORE BEGINNING.
- ALL CONSTRUCTION SHALL COMPLY WITH LOCAL GOVERNING MUNICIPALITY DESIGN STANDARDS AND CONSTRUCTION SPECIFICATIONS.
- LOCATIONS OF ALL UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE LOCATIONS. CONTRACTOR IS TO FIELD VERIFY CONNECTION POINTS WITH EXISTING UTILITIES, INCLUDING LOCATIONS AND INVERT ELEVATIONS OF ALL EXISTING STRUCTURES OR PIPES, BEFORE STARTING OR CONSTRUCTING ANY NEW UTILITIES. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE CAUSED TO EXISTING UTILITIES AND UTILITY STRUCTURE THAT ARE TO REMAIN.
- CONTRACTOR IS RESPONSIBLE TO EXPOSE ALL UTILITY SERVICES STUBBED INTO PROJECT PROPERTY AND GIVE ENTELLUS, 48 HOURS NOTICE 90 ENTELLUS CAN VERIFY DEPTHS AND INVERT ELEVATIONS TO DETERMINE IF CONFLICTS EXIST. ALSO ANY EXISTING UTILITIES THAT RUN ACROSS PROJECT PROPERTY WHICH MAY CAUSE POTENTIAL CONFLICT NEED TO BE EXPOSED AND LOCATED BOTH HORIZONTALLY AND VERTICALLY. CONTRACTOR PROTECT AT OWN RISK IF ENTELLUS IS NOT NOTIFIED TO FIELD VERIFY THE ABOVE MENTIONED CONDITIONS.
- CONTRACTOR IS TO COORDINATE ALL UTILITIES WITH MECHANICAL DRAWINGS WHERE APPLICABLE.
- NO GROUNDWATER OR DEBRIS TO BE ALLOWED TO ENTER THE NEW PIPE DURING CONSTRUCTION. THE OPEN END OF ALL PIPES IS TO BE COVERED AND EFFECTIVELY SEALED AT THE END OF EACH DAYS WORK.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INSTALL PIPE OF ADEQUATE CLASSIFICATION WITH SUFFICIENT BEDDING TO MEET ALL REQUIREMENTS AND RECOMMENDATIONS FOR H-20 LOAD REQUIREMENTS.
- ALL NEW SANITARY SEWER CONSTRUCTION TO BE DONE IN ACCORDANCE WITH LOCAL GOVERNING MUNICIPALITY STANDARDS & SPECIFICATIONS.
- ALL SEWER LINES AND LATERALS ARE TO BE SDR 35 PVC PIPE.
- SEWER LATERALS WILL BE INSTALLED AT A UNIFORM SLOPE OF NOT LESS THAN 2% GRADE AND THEY SHALL HAVE A MINIMUM OF 4 FEET OF COVER, UNLESS OTHERWISE NOTED.
- ALL NEW CULINARY AND IRRIGATION WATER CONSTRUCTION TO BE DONE IN ACCORDANCE WITH LOCAL GOVERNING MUNICIPALITY STANDARDS & SPECIFICATIONS.
- WATER LINES TO BE PVC C-90. WATER LINES SHALL BE A MINIMUM OF 10" HORIZONTALLY FROM SEWER MAINS. CROSSINGS SHALL MEET STATE HEALTH STANDARDS. MECHANICAL JOINTS REQUIRED WHEN LESS THAN 18" VERTICAL OR 10' HORIZONTAL SEPARATION FROM SEWER LINES.)
- ALL WATER LINES SHALL BE 8" MINIMUM SIZE AND SERVICE LATERALS SHALL BE 1-1/2" MINIMUM UNLESS OTHERWISE NOTED.
- WATER SERVICE LATERALS TO INCLUDE ALL BRASS SADDLE, CORP. STOP LATERAL, DOUBLE CHECK VALVE AND BACKFLOW PREVENTION DEVICE, AND SHUTOFF VALVE IN BOX NEAR BUILDING EDGE.
- ALL WATER LINES SHALL BE A MINIMUM 48" BELOW FINISH GROUND TO TOP OF PIPE. ALL VALVE BOXES AND MANHOLES SHALL BE RAISED OR LOWERED TO FINISH GRADE AND SHALL INCLUDE A CONCRETE COLLAR IN PAVED AREAS.
- CONTRACTOR TO NOTIFY PUBLIC UTILITIES FOR CHLORINE TEST PRIOR TO PULSING LINES. CHLORINE LEFT IN PIPE 24 HOURS MINIMUM WITH 25 PPM RESIDUAL. ALL TURNING OF MAINLINE VALVES, CHLORINATION, FLUSHING, PRESSURE TESTING, BACTERIA TESTING, ETC. TO BE COORDINATED WITH LOCAL GOVERNING MUNICIPALITY. ALL TESTS TO BE IN ACCORDANCE WITH AWWA STANDARDS.
- BOTTOM FLANGE OF FIRE HYDRANTS TO BE SET TO APPROXIMATELY 4" INCHES ABOVE BACK OF CURB ELEVATION. HYDRANTS TO INCLUDE TEL, 6" LINE VALVE, AND HYDRANT COMPLETE TO MEET CITY STANDARDS.
- ALL NEW STORM DRAIN/LAND DRAIN CONSTRUCTION TO BE DONE IN ACCORDANCE WITH LOCAL GOVERNING MUNICIPALITY STANDARDS & SPECIFICATIONS.
- ALL PHONE AND TV CONDUITS TO BE RCP - CLASS 3 OR EQUAL, UNLESS OTHERWISE NOTED.
- CONTRACTOR IS TO SUBMIT SITE PLAN/SUBDIVISION PLAT TO DOMINION ENERGY GAS FOR DESIGN OF GAS SERVICE TO BUILDINGS/LOTS. CONTRACTOR TO COORDINATE WITH DOMINION ENERGY GAS FOR CONTRACTOR LIMITS OF WORK VERSUS DOMINION ENERGY GAS LIMITS.
- ALL GAS LINE TAPS TO BE HDPE WITH COPPER TRACER WIRE AND DETECTA TAP. TERMINATE TRACER WIRE AT APPROVED LOCATIONS.
- ALL GAS LINE TAPS, VALVES AND CAPS TO BE FUSED USING ELECTRO-FUSION TECHNOLOGY.
- ALL ELECTRICAL CONDUITS/LINES TO BE PVC SCH 40 OR BETTER.
- ALL PHONE AND TV CONDUITS TO BE PVC SCH 40 OR BETTER.
- CONTRACTOR IS TO SUBMIT SITE PLAN/SUBDIVISION PLAT TO COMCAST FOR DESIGN OF CABLE TV SERVICE TO BUILDINGS/LOTS. CONTRACTOR TO COORDINATE WITH COMCAST FOR CONTRACTOR LIMITS OF WORK VERSUS COMCAST LIMITS.
- CONTRACTOR IS TO COORDINATE LOCATIONS OF NEW TELEPHONE SERVICE TO NEW BUILDINGS OR LOTS WITH CENTURYLINK. A PVC CONDUIT, FLYWOOD BACKBOARD, AND GROUND WIRE IS REQUIRED FOR SERVICE THROUGH PROPERTY. COORDINATE SIZES, LOCATION WITH CENTURYLINK.
- ALL UTILITIES ARE TO BE INSTALLED IN ACCORDANCE WITH THE CORRESPONDING AGENCY/DISTRICT STANDARDS AND SPECIFICATIONS: WATER - BOUNTIFUL CITY CITY SEWER - BOUNTIFUL CITY CITY IRRIGATION - BOUNTIFUL CITY CITY ELECTRICAL - ROCKY MOUNTAIN POWER TELEPHONE - CENTURYLINK NATURAL GAS - DOMINION ENERGY

GRADING NOTES

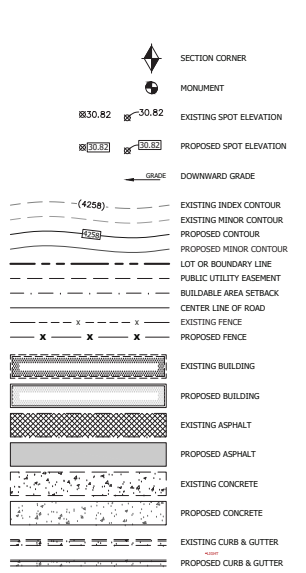
- SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE SOILS REPORT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING ALL SOFT, YIELDING OR UNSUITABLE MATERIALS AND REPLACING IT WITH SUITABLE MATERIALS AS SPECIFIED IN THE SOILS REPORT. ALL EXCAVATED OR FILLED AREAS SHALL BE COMPACTED TO 95% OF MODIFIED PROCTOR MAXIMUM DENSITY PER ASTM TEST D-1557 EXCEPT UNDER THE FOLLOWING CONDITIONS: CONTRACTOR SHALL SUBMIT A COMPACTION REPORT PREPARED BY A QUALIFIED REGISTERED SOILS ENGINEER, VERIFYING THAT ALL FILLED AREAS AND SUBGRADE AREAS WITHIN THE BUILDING PAD AREA AND AREAS TO BE PAVED, HAVE BEEN COMPACTED IN ACCORDANCE WITH THESE PLANS AND SPECS AND THE RECOMMENDATIONS SET FORTH IN THE SOILS REPORT.
- THE CONTRACTOR IS TO USE BEST MANAGEMENT PRACTICES FOR PROVIDING EROSION CONTROL FOR CONSTRUCTION OF THE PROJECT. SPECIFIC DETAILS SHOWN SHALL BE USED IN COMBINATION WITH OTHER ACCEPTED LOCAL PRACTICES.
- EXISTING UNDERGROUND UTILITIES AND IMPROVEMENTS ARE SHOWN IN THEIR APPROPRIATE LOCATIONS BASED UPON RECORD INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF PLANS. LOCATIONS MAY NOT HAVE BEEN VERIFIED IN THE FIELD AND NO GUARANTEES IS MADE AS TO ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN ON THESE PLANS OR INDICATED IN THE FIELD BY LOCATING SERVICES. ANY ADDITIONAL COSTS INCURRED AS A RESULT OF CONTRACTORS FAILURE TO VERIFY LOCATIONS OF EXISTING UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION IN THEIR VICINITY SHALL BE BORNE BY THE CONTRACTOR AND ASSURED INCLUDED IN THE CONTRACT.
- IF AT ANY TIME DURING CONSTRUCTION ANY UNFAVORABLE GEOLOGICAL CONDITIONS ARE ENCOUNTERED, WORK IN THAT AREA WILL STOP UNTIL APPROVED CORRECTIVE MEASURES ARE OBTAINED FROM THE ENGINEER.
- THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING HIS/HER OWN ESTIMATE OF EARTHWORK QUANTITIES.
- WHERE NEW CURB AND GUTTER IS BEING CONSTRUCTED ADJACENT TO EXISTING ASPHALT OR CONCRETE PAVEMENT, THE FOLLOWING SHALL APPLY:
 - PRIOR TO PLACEMENT OF ANY CONCRETE THE CONTRACTOR SHALL HAVE A LICENSED SURVEYOR VERIFY THE GRADE AND CROSS SLOPE OF THE CURB AND GUTTER FORMS.
 - THE CONTRACTOR SHALL SUBMIT THE SLOPE AND GRADES TO THE ENGINEER FOR APPROVAL PRIOR TO THE PLACEMENT OF CONCRETE.
 - THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY SECTION WHICH DOES NOT CONFORM TO THE DESIGN OR TYPICAL CROSS SECTION.
 - THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CURB AND GUTTER FORMS WITHOUT THE APPROVAL OF THE ENGINEER.



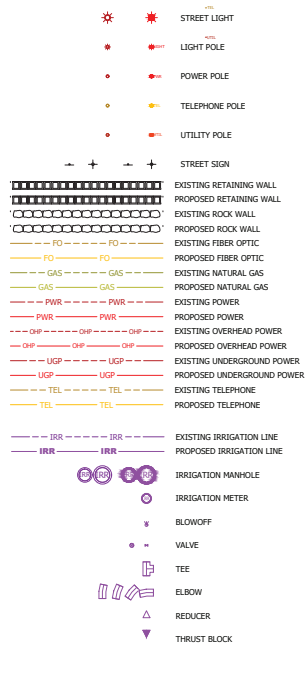
EROSION CONTROL

- ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE STANDARDS AND REGULATIONS OF THE LOCAL GOVERNING MUNICIPALITY.
- ALL SEDIMENT CONTROL MEASURES TO BE ADJUSTED TO MEET FIELD CONDITIONS AT THE TIME OF CONSTRUCTION AND CONSTRUCTED PRIOR TO ANY GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL ON BALANCE OF SITE.
- DAILY INSPECTION AND MAINTENANCE OF ALL SEDIMENT CONTROL STRUCTURES MUST BE PROVIDED TO INSURE INTENDED PURPOSE IS ACCOMPLISHED. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SEDIMENT LEAVING THE PROPERTY. SEDIMENT CONTROL MEASURES SHALL BE IN WORKING CONDITION AT THE END OF EACH WORKING DAY.
- ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS WILL BE PROTECTED TO PREVENT TRACKING OF MUD ONTO PUBLIC WAYS.
- ALL SEDIMENT WILL BE PREVENTED FROM ENTERING ANY STORM DRAINAGE SYSTEM THROUGH THE USE OF SANDBAGS, STRAW BALES, SILT FENCES, GRAVEL, BOARDS, AND OTHER APPLICABLE METHODS.
- ALL DISTURBED AREAS OUTSIDE OF ROADWAYS, PARKING LOTS, SIDEWALKS AND OR BUILDING FOOTPRINTS SHALL BE SEEDED, SOODED AND/OR MULCHED.
- IF SITE IS READY TO RECEIVE FINAL COVER DURING THE NON-PLANTING SEASON, THEN IT SHALL BE PROTECTED BY MULCHING. THE MULCH WILL REMAIN UNTIL THE NEXT PLANTING SEASON AS DEFINED BY THE LOCAL GOVERNING MUNICIPALITY.
- RE-VEGETATE ALL DENURED AREAS AS PER THE STANDARDS AND REGULATIONS OF THE LOCAL GOVERNING MUNICIPALITY.
- THE CONTRACTOR AGREES THAT:
 - THEY SHALL BE RESPONSIBLE TO CLEAN THE JOB SITE AT THE END OF EACH PHASE OF WORK.
 - THEY SHALL BE RESPONSIBLE TO REMOVE AND DISPOSE OF ALL TRASH, SCRAP AND UNUSED MATERIAL AT THEIR OWN EXPENSE IN A TYPICAL MANNER.
 - THEY SHALL BE RESPONSIBLE TO MAINTAIN THE SITE IN A NEAT, SAFE AND ORDERLY MANNER AT ALL TIMES.
 - THEY SHALL BE RESPONSIBLE TO KEEP MATERIALS, EQUIPMENT, AND TRASH OUT OF THE WAY OF OTHER CONTRACTORS SO AS NOT TO DELAY THE JOB. FAILURE TO DO SO WILL RESULT IN A DEDUCTION FOR THE COST OF CLEAN UP FROM FINAL PAYMENT.
 - THEY SHALL BE RESPONSIBLE FOR THEIR OWN SAFETY, TRAFFIC CONTROL, PERMITS, RETESTING AND REINSPECTION AT THEIR OWN EXPENSE.
 - UNLESS OTHERWISE NOTED ALL EXCESS SOILS AND MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE LAWFULLY DISPOSED OF OFF SITE AT THE CONTRACTORS EXPENSE.
 - THE CONTRACTOR SHALL PROVIDE ALL LIGHTS, BARRICADES, SIGNS, FLAG-MEN OR OTHER DEVICES NECESSARY FOR PUBLIC SAFETY.

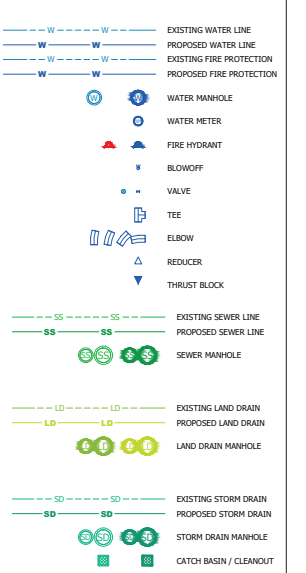
LEGEND



LEGEND



LEGEND



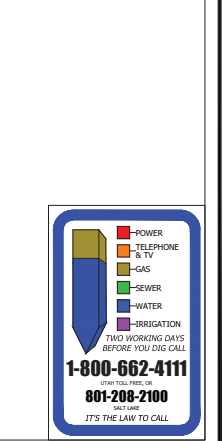
ABBREVIATIONS

- ▲ DIAMETER
- Δ DELTA
- ° DEGREES
- ' MINUTES, FEET
- " SECONDS, INCHES
- ADA AMERICAN DISABILITIES ACT
- CB CORRUGATED BLACK PLASTIC PIPE
- APWA AMERICAN PUBLIC WORKS ASSOCIATION
- ARCH ARCHITECT
- ARCHITECT ARCHITECTURAL
- ASTM AMERICAN SOCIETY FOR TESTING AND MATERIALS
- AWWA AMERICAN WATER WORKS ASSOCIATION
- BAR & CAP BAR & CAP
- BLA BOUNDARY LINE AGREEMENT
- BLDG BUILDING
- BM BENCHMARK
- BOUNDARY BOUNDARY
- BOW BACK OF WALK
- BGR BEARING
- BV BUTTERFLY VALVE
- CB CURB AND GUTTER
- CATCH BASIN CATCH BASIN
- CH CHORD
- CHB CHORD BEARING
- CI CAST IRON
- CP CAST IN PLACE
- CL CENTERLINE
- CM CORRUGATED METAL PIPE
- CN CLEANOUT
- COM COMMUNICATIONS
- CONC CONCRETE
- CONST CONSTRUCTION
- CUL CULINARY
- CULINARY WATER CULINARY WATER
- CULINARY WATERLINE CULINARY WATERLINE
- DEM DEMOLITION
- DI DUCTILE IRON
- DIAM DIAMETER
- DIST DISTANCE
- DWG DRAWING
- E EAST, ELECTRICITY, ELECTRICAL
- EASEMENT EASEMENT
- EXISTING GRADE EXISTING GRADE
- ELBOW ELBOW
- ELEV ELEVATION
- ELEV ELEVATION
- EOA EDGE OF ASPHALT
- END VERTICAL CURVE END VERTICAL CURVE
- END VERTICAL CURVE ELEVATION END VERTICAL CURVE ELEVATION
- EXISTING EXISTING
- EVCS FINISH FLOOR ELEVATION
- EXISTING FINISH GROUND
- PH FIRE HYDRANT
- FL FLOWLINE FND FOUNDATION
- FP FIRE PROTECTION
- FTG FOOTING
- GAZ GAS, NATURAL GAS
- GB GRADE BREAK
- GV GATE VALVE
- HDP HIGH-DENSITY POLYETHYLENE PIPE
- HP HIGH POINT
- HPE HIGH POINT ELEVATION

ABBREVIATIONS

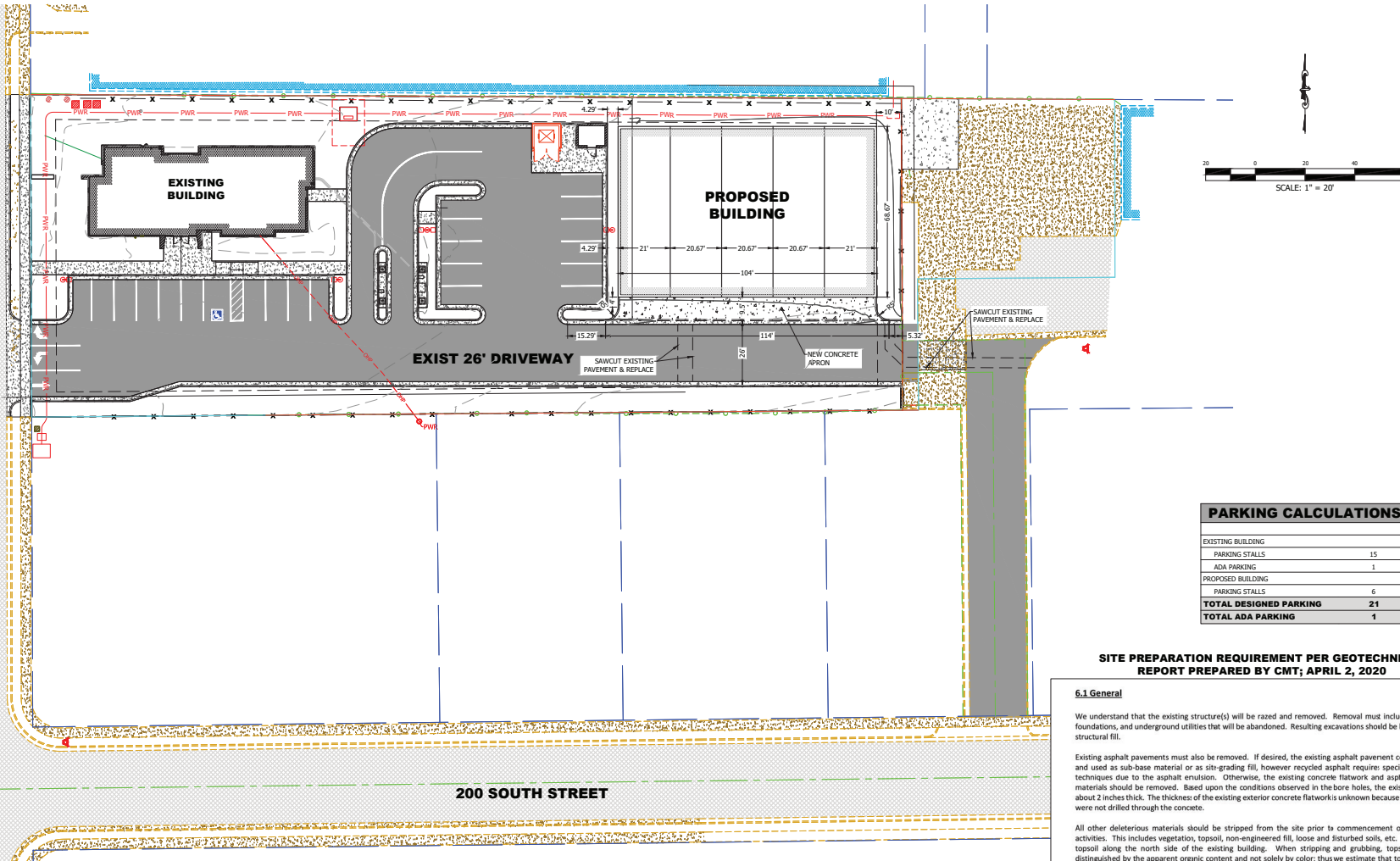
- HPS HIGH POINT STATION
- ID INSIDE DIAMETER
- INVERT INVERT ELEVATION
- INV INVERT
- IRR IRRIGATION
- IRRH IRRIGATION MANHOLE
- K LENGTH
- RADIUS OF CURVATURE
- LAT LATERAL SERVICE
- LD LAND DRAIN
- LDPM LAND DRAIN MANHOLE
- LF LINEAL FEET
- LP LIP OF GUTTER
- LP LOW POINT
- LP LOW POINT ELEVATION
- MECHANICAL MECHANICAL
- MANHOLE MANHOLE
- N NE
- NE NEAR EAST
- NW NORTHWEST
- OD OUTSIDE DIAMETER
- OHP OVERHEAD POWER
- OSHA OCCUPATIONAL SAFETY AND HEALTH
- ADMINISTRATION ADMINISTRATION
- POINT OF CURVATURE POINT OF CURVATURE
- PC PORTLAND CONCRETE CEMENT
- PI POINT OF INFLECTION
- PROPERTY PROPERTY
- PPTS PARTS PER MILLION
- PPM PROPERTY
- POINT OF TANGENCY POINT OF TANGENCY
- PUE PUBLIC UTILITY EASEMENT
- PUEBUE PUBLIC UTILITY EASEMENT & DRAINAGE EASEMENT
- PVC POLYVINYL CHLORIDE
- R RADIUS
- R&C POINT OF VERTICAL INFLECTION
- RCL ROADWAY CENTERLINE
- RCP REINFORCED CONCRETE PIPE
- RIGHT OF WAY RIGHT OF WAY
- SD STORM DRAIN
- SDCB STORM DRAIN CATCH BASIN
- SDCL STORM DRAIN CLEANOUT
- SDMH STORM DRAIN MANHOLE
- SDR STANDARD DIMENSION RATIO
- SE SOUTHEAST
- SEC SECONDARY, SECTION
- SALT LAKE BASE & MERIDIAN SALT LAKE BASE & MERIDIAN
- SPECIFICATION SPECIFICATION
- SP STEEL PIPE
- SS SANITARY SEWER
- SS SANITARY SEWER CLEANOUT
- SSMH SANITARY SEWER MANHOLE
- STD STANDARD
- SW SECONDARY WATER
- SOUTHWEST SOUTHWEST
- SECONDARY WATERLINE SECONDARY WATERLINE
- STORMWATER POLLUTION PREVENTION PLAN STORMWATER POLLUTION PREVENTION PLAN
- TANGENT TANGENT
- TB TRUST BLOCK
- TBC TOP BACK OF CURB
- TBW TOP BACK OF WALK
- TEL TELEPHONE
- TOP OF CURB/WALK TOP OF CURB/WALK
- TOA TOP OF ASPHALT
- TOC TOP OF CONCRETE
- TOE TOE OF SLOPE OR WALL
- TOP OF CURB TOP OF CURB
- TOW TOP OF WALL
- UTLID UTILITY
- UD UNDERDRAIN
- UGP UNDERGROUND POWER
- VERTICAL CURVE VERTICAL CURVE
- WEST WATER WEST WATER
- W2 SECONDARY WATER
- WL WATERLINE
- WM WATER METER
- WP WORK POINT

ABBREVIATIONS



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US-89
500 WEST STREET



200 SOUTH STREET

PARKING CALCULATIONS

EXISTING BUILDING	
PARKING STALLS	15
ADA PARKING	1
PROPOSED BUILDING	
PARKING STALLS	6
TOTAL DESIGNED PARKING	21
TOTAL ADA PARKING	1

SITE PREPARATION REQUIREMENT PER GEOTECHNICAL REPORT PREPARED BY CMT; APRIL 2, 2020

6.1 General

We understand that the existing structure(s) will be razed and removed. Removal must include floor slabs, foundations, and underground utilities that will be abandoned. Resulting excavations should be backfilled with structural fill.

Existing asphalt pavements must also be removed. If desired, the existing asphalt pavement could be milled and used as sub-base material or as site-grading fill, however recycled asphalt requires special compaction techniques due to the asphalt emulsion. Otherwise, the existing concrete flatwork and asphalt pavement materials should be removed. Based upon the conditions observed in the bore holes, the existing asphalt is about 2 inches thick. The thickness of the existing exterior concrete flatwork is unknown because the bore holes were not drilled through the concrete.

All other deleterious materials should be stripped from the site prior to commencement of construction activities. This includes vegetation, topsoil, non-engineered fill, loose and disturbed soils, etc. There is likely topsoil along the north side of the existing building. When stripping and grubbing, topsoil should be distinguished by the apparent organic content and not solely by color; thus we estimate that topsoil stripping will need to include the upper 4 inches. However, given the large trees on the site, roots likely extend deeper.

In each bore hole, below the asphalt, we encountered fill soils, some containing debris, extending about 2.0 to 5.5 feet below the surface. The fill extended at least to the bottom of B-4 (5.5 ft) and thus may extend deeper at that location, and in other locations on the site which were not explored. This fill is considered non-engineered (not placed in a controlled manner or tested for compaction) and is therefore unsuitable for support of floor slabs or footings. Outside of building footprints the non-engineered fill could be prepared to support pavements and exterior concrete flatwork, and reduce, but not eliminate, the potential settlement and distress to these surfaces. Preparation of non-engineered fill shall consist of removing the upper 12 inches, scarifying the exposed surface to a minimum depth of 8 inches, moisture conditioning as needed, and re-compacting the scarified soils in place to 95% of the maximum dry density. The removed non-engineered fill, if free of debris, organics, etc., may then be replaced in similarly compacted lifts. Prior to paving the subgrade must then be proofrolled by passing moderate-weight rubber tire-mounted construction equipment over the surface at least twice. If excessively soft or loose soils are encountered, they must be removed (up to a maximum depth of 2 feet) and replaced with structural fill.

The site should be examined by a CMT geotechnical engineer to assess that suitable natural soils have been exposed and any deleterious materials, loose and/or disturbed soils have been removed, prior to placing site grading fills, footings, slabs, and pavements.

Fill placed over large areas to raise overall site grades can induce settlements in the underlying natural soils. If more than 3 feet of site grading fill is anticipated over the existing surface, we should be notified to assess potential settlements and provide additional recommendations as needed. These recommendations may include placement of the site grading fill far in advance to allow potential settlements to occur prior to construction.

DFCU ADDITION
1185017

CIVIL
RNH
SURVEY
ENGINEER
STA

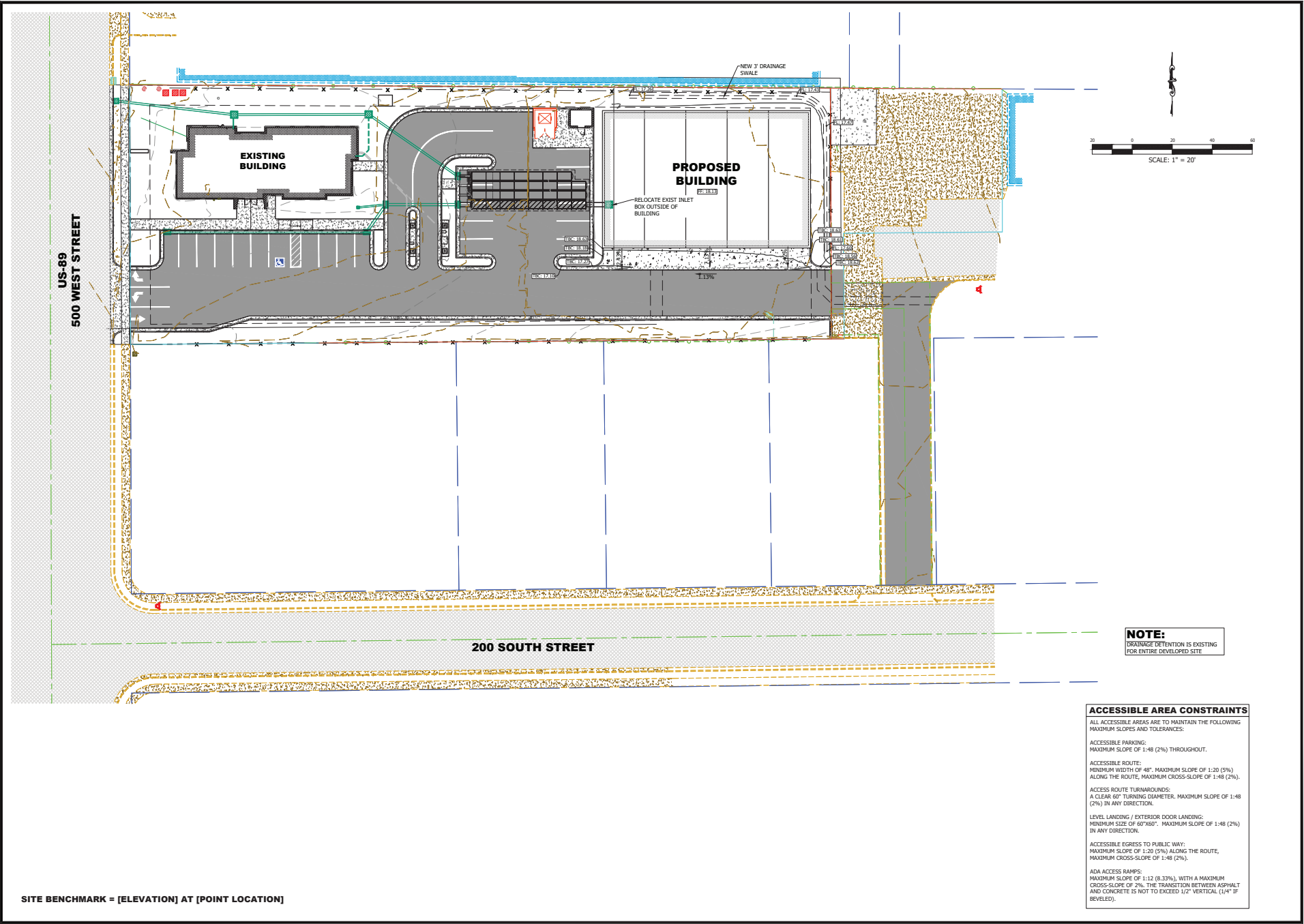
REV #	BY	DATE



1470 South 600 West
Woods Cross, UT 84010
Phone 801.298.2236
www.entellus.com



C400
SITE PLAN



SITE BENCHMARK = [ELEVATION] AT [POINT LOCATION]

ACCESSIBLE AREA CONSTRAINTS

ALL ACCESSIBLE AREAS ARE TO MAINTAIN THE FOLLOWING MAXIMUM SLOPES AND TOLERANCES:

ACCESSIBLE PARKING:
 MAXIMUM SLOPE OF 1:48 (2%) THROUGHOUT.

ACCESSIBLE ROUTE:
 MINIMUM WIDTH OF 48"; MAXIMUM SLOPE OF 1:20 (5%)
 ALONG THE ROUTE, MAXIMUM CROSS-SLOPE OF 1:48 (2%).

ACCESS ROUTE TURNAROUNDS:
 A CLEAR 60' TURNING DIAMETER, MAXIMUM SLOPE OF 1:48 (2%) IN ANY DIRECTION.

LEVEL LANDING / EXTERIOR DOOR LANDING:
 MINIMUM SIZE OF 60'x60"; MAXIMUM SLOPE OF 1:48 (2%) IN ANY DIRECTION.

ACCESSIBLE EGRESS TO PUBLIC WAY:
 MAXIMUM SLOPE OF 1:20 (5%) ALONG THE ROUTE,
 MAXIMUM CROSS-SLOPE OF 1:48 (2%).

ADA ACCESS RAMP:
 MAXIMUM SLOPE OF 1:12 (8.33%), WITH A MAXIMUM CROSS-SLOPE OF 2%. THE TRANSITION BETWEEN ASPHALT AND CONCRETE IS NOT TO EXCEED 1/2" VERTICAL (1/4" BEVELED).

11185017.D - PRODUCTION (DWG) - P&ID - PLAN SET - 1185017

CIVIL

RNH

SURVEY

ENGINEER

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1185017

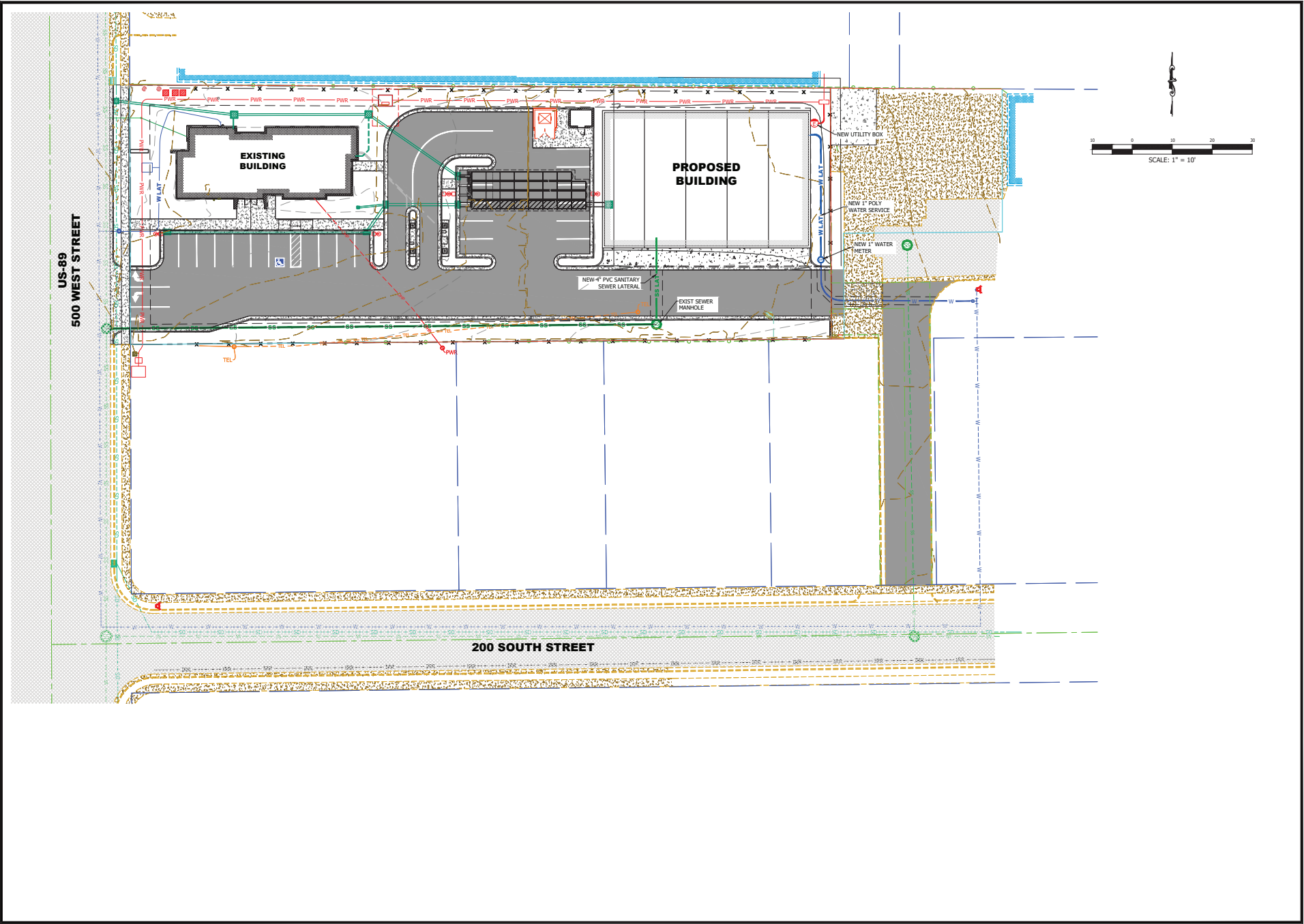
DFCU ADDITION

REV #	BY	DATE

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Entellus

C500
 GRADING PLAN



11185017.D - PRODUCTION (DWG) - PIP S&PLAN SET-1185017

DFCU ADDITION

1185017

CIVIL

RNH

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ENGINEER

SURVEY

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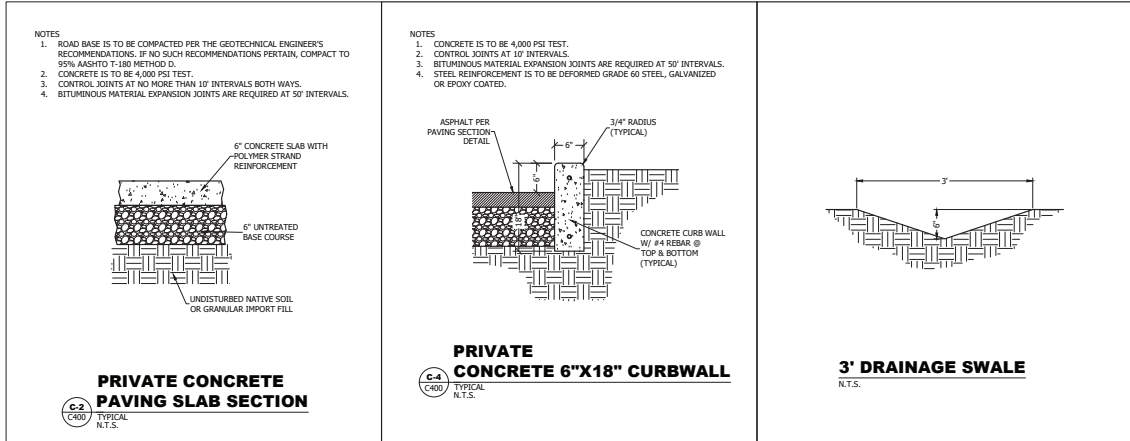


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 Phone 801.298.2236
 www.Entellus.com



C600

UTILITY PLAN



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DFCU ADDITION

1185017

RNH

CIVIL

SURVEY

ENGINEER

STA

REV #	BY	DATE

1470 South 600 West
Woods Cross, UT 84010
Phone 801.298.2236
www.entellus.com

C900

SITE DETAIL SHEET

City Council Staff Report



Subject: Renaissance Towne Center Apartment Building
Preliminary Architectural and Site Plan Review
Address: 1671 South Renaissance Towne Drive
Author: Francisco Astorga, AICP, Planning Director
Date: December 14, 2021

Background

The Applicant, Bruce Broadhead with Town Center, LLC, has submitted an Architectural and Site Plan Review Application for the construction of a new multi-family residential apartment building at the former Five Points Mall site. The proposed structure will have frontage along Main Street and Renaissance Town Drive, and is located directly south of the existing parking structure in front of Renaissance Tower I.

The site is located in the Mixed-Use (MXD-R) zone and is a part of the Renaissance Towne Centre (RTC) Development Plan approved in May of 2019 and amended in April of 2021. The entire RTC area is zoned MXD-R having a majority focus towards residential use.

The proposed five (5) story building contains 287 apartment units which partially wrap around a new concrete parking garage which will serve the new apartment building and the public. The building includes apartments, leasing office, clubrooms, fitness room, etc. The amenity space overlooks a swimming pool and outdoor space. There are three (3) exterior courtyards. The proposed building, including the parking garage, will be divided into four (4) buildings with fire walls and will be completed and occupied in stages.

This item was presented to the Planning Commission on December 7, 2021. The Commission unanimously voted (5-0) to forward a positive recommendation to the City Council.

Analysis

Use. The approved Development Plan identified a potential of 298 residential units consisting of approximately 333,264 square feet at Site no. 14. This new proposal includes 287 residential units consisting of 255,921 square feet. The residential building consists of 189 1-bedroom units, 90 2-bedroom units, and 8 3-bedroom units. Based on the approved Development Plan, consisting of tables, diagrams, graphic representations, etc., multi-family residential use is specified as a permitted use in the zone.

Minimum Building Setbacks. As specified in the Development Plan, the minimum building setback from Main Street is twenty feet (20'), and the minimum setback from other public rights-of-way is five feet (5'). The review also includes consistency with the conceptual renderings, potential architectural design precedents, potential traffic and pedestrian thoroughfares, potential landscape plan, and street design precedents. Spacing between building as required by the International Building Code is also required. The proposal complies with the specified minimum building setbacks and spacing.

Building Height. As specified in the Development Plan, the maximum building height of the residential building within this specific site (lot 14) is sixty-five feet (65'), which provides flexibility for a range of building height which translates to a structure with 5-6 stories. The proposed five story structure complies with the maximum building height. The parking garage has a total of seven (7) levels, as the proposal includes a top parking deck and the underground parking level.

Parking. The Development Plan indicates that individual sites (or lots) need to be consistent with the number of parking stalls required by the Bountiful City Land Use Code or may be modified by an approved parking study prepared by an accepted professional using the latest industry trends, etc. to be analyzed individually during each Site Plan Review. The applicant submitted an updated Parking Study by Hales Engineering, see attachment C. The study indicates that the proposal requires a total of 376 parking spaces. The propose parking garage contains 397 parking spaces. The updated parking study indicates that the total number of required parking spaces in the entire development is 1,426. The development anticipates accommodating a total of 1,585 parking spaces. The proposal complies with the land use code and the Development in that an approved parking study is utilized to modify the require parking. It is also worth noting that it is anticipated that a high-end Main Street bus rapid transit station is to be built near this development in the future.

Site Planning. The proposal includes placing the parking garage towards the middle of the building. This creates a break in parking areas as the original concept had the second parking garage adjacent to the exiting parking garage adjacent to Tower I. Breaking up the parking allows an opportunity to break uses which enhances the pedestrian experience along Main Street as well as the aesthetic look of the building as it relates to the existing parking structure.

Landscaping. The development requires 15% of the gross floor area or 15% of the gross site area. At preliminary site plan review a fully (stamped and signed) landscape plan is not required. The applicant submitted overall landscaping features consistent with the Development Plan. At Final site plan review the applicant is required to submit a stamped and signed landscaping plan that will show all proposed features includes required trees, shrubs, plantings, etc.

Building Materials. A flat roof with parapets will be used. The building will be clad with high-end materials consisting of fiber cement lap siding, fiber cement panel, with metal reveals and brick. The parking garage consists of pre-cast concrete and prefabricated decorative screens. See Attachment A – Renderings.

Review Process. The Preliminary Architectural and Site Plan Review process allows the Commission to comment on the submitted plans. During the Final Architectural and Site Plan Review the Commission follows up on any modification that need to be made, as applicable. Staff has already provided comments to the applicant regarding redlines that need to be addressed prior to Final Site Plan Review, which the applicant has already started address:

1. Minor typos found.

2. Placing private patios along Main Street completely within private property, not on the right-of-way.
3. Removing incorrect footprints of future buildings adjacent to the subject site.
4. Providing more specificity in the required sidewalk widths throughout.
5. Minor amendments to the Grading Plan for clarity.
6. Receiving a Landscape Plan (signed and stamped by landscape architect) with specific trees, shrubs, plantings.
7. Consistency between the landscape plan, architectural site plan and civil set site plan.
8. Placing the property line boundary on all floor plans for clarity.
9. Minor amendments to the elevation sheets for clarity.

The list found herein is not the final correction list, as it was prepared based on the preliminary plans that were provided to the Planning Department. There may be additional corrections identified in the future.

Department Review

The preliminary plans were reviewed by the Bountiful Building Official, City Engineer, Power Department, Police Department, Planning Department, and the South Davis Metro Fire Marshall. This staff report was written by the Planning Director and reviewed by the City Engineer and the City Attorney.

Significant Impacts

The development is occurring in an area with urban levels of infrastructure already in place. Impacts from the development of this property have been anticipated in the design of the existing storm water, sewer, and water and transportation systems. The conditions of approval are designed to mitigate other impacts anticipated by the development.

Recommendation

Staff recommends that the City Council approve Preliminary Architectural and Site Plan Review for the proposed apartment building subject to the following conditions of approval:

1. Address all redlines provided to the Applicant from the City.

Attachments

1. Renderings
2. Preliminary Plans
3. Bountiful RTC Parking Study Update dated November 8, 2021



BROADHEAD
& COMPANY



BOWEN STUDIOS





RENAISSANCE TOWN CENTER

VIEW: MAIN POOL ENTRY WIDE | LOOKING EAST





RENAISSANCE TOWN CENTER

VIEW: OVERALL 2 | LOOKING WEST

MAIN STREET
RENAISSANCE TOWNE DRIVE

NORTH



RENAISSANCE TOWN CENTER

VIEW: MAIN STREET PARKING | LOOKING NORTH





RENAISSANCE TOWN CENTER

VIEW: OVERALL 1 | LOOKING NORTH





RENAISSANCE TOWN CENTER

VIEW: MAIN POOL ENTRY | LOOKING SOUTH






RENAISSANCE TOWN CENTER

VIEW: MAIN POOL | LOOKING WEST

MAIN STREET
RENAISSANCE TOWNE DRIVE





RENAISSANCE TOWN CENTER

VIEW: MAIN POOL & BAR | LOOKING SOUTH WEST



MAIN STREET



NORTH

RENAISSANCE TOWNE DRIVE



RENAISSANCE TOWN CENTER

VIEW: RESIDENCE PATIO | LOOKING NORTH



RENAISSANCE TOWNE CENTER

1560 SOUTH RENAISSANCE TOWNE DRIVE
BOUNTIFUL, UT 84010

BROADHEAD & COMPANY

SITE PLAN APPROVAL



350 WEST 380 SOUTH
UNIT 102
SALT LAKE CITY, UT 84101
PHONE: 385.273.8888
www.dwelldesignstudio.com

RENAISSANCE TOWNE
CENTER
1560 SOUTH RENAISSANCE TOWNE DRIVE
BOUNTIFUL, UT 84010

BROADHEAD & COMPANY

TEAM MEMBERS

OWNER
BRUCE BROADHEAD
BROADHEAD & COMPANY
1560 SOUTH RENAISSANCE TOWNE DRIVE
SUITE 104
BOUNTIFUL, UT 84010

ARCHITECT
JASON R. SHEPARD
DWELL DESIGN STUDIO, LLC
360 W 300 S, SUITE 102
SALT LAKE CITY, UT 84101
(385) 273-8888

CIVIL
SCOTT ARGYLE
ENTELLUS, INC.
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WOODS CROSS, UT 84010
(801) 298-2236

MECHANICAL
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SHAKESPEARE ENGINEERING
6306 WEST CEDAR HILL ROAD
WEST JORDAN, UT 84081
(801) 613-1419

ELECTRICAL
BRIAN HICKS
BNA CONSULTING
635 SOUTH STATE STREET
SALT LAKE CITY, UT 84111
(801) 532-2196

PLUMBING
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SHAKESPEARE ENGINEERING
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WEST JORDAN, UT 84081
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STRUCTURAL
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MCNEIL ENGINEERING
8610 SANDY PKWY SUITE 200,
SANDY, UT 84070
(801) 255-7700 x111

PROJECT INFORMATION

CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH APPLICABLE CODES OR STATUS WHETHER OR NOT SPECIFICALLY REFERENCED IN THE CONSTRUCTION DOCUMENTS

- 2018 INTERNATIONAL BUILDING CODE (ICC), AS ADOPTED BY THE STATE OF UTAH.
- 2018 INTERNATIONAL PLUMBING CODE (IPC), AS ADOPTED BY THE STATE OF UTAH.
- 2018 INTERNATIONAL MECHANICAL CODE (IMC), AS ADOPTED BY THE STATE OF UTAH.
- 2018 INTERNATIONAL FUEL GAS CODE (IFGC), AS ADOPTED BY THE STATE OF UTAH.
- 2017 NATIONAL ELECTRICAL CODE (NFPA 70), ISSUED BY THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), AS AMENDED BY THE STATE OF UTAH.
- 2018 INTERNATIONAL ENERGY CONSERVATION CODE (IECC), AS ADOPTED BY THE STATE OF UTAH.

THE DRAWINGS FOR THIS PROJECT ARE THE PROPERTY OF DWELL DESIGN STUDIO, LLC. COPIES OF THE DRAWINGS MAY BE USED ONLY BY THE OWNER TO CONSTRUCT AND OCCUPY THIS PROJECT. NEITHER THE DRAWINGS NOR THE DESIGN INDICATED ON THE DRAWINGS MAY BE REPRODUCED NOR USED FOR ANY OTHER PROJECT OR PURPOSE. DWELL DESIGN STUDIO, LLC ACCEPTS RESPONSIBILITY ONLY FOR THOSE DRAWINGS WHICH HAVE AN ORIGINAL SEAL, SIGNATURE, CONSTRUCTION ISSUE DATE, AND DATE OF FINAL REVISION FOR THE DRAWINGS

PROJECT RENDERING



VICINITY MAP



ISSUE	DATE	DESCRIPTION

REVISION	DATE	DESCRIPTION

COVER SHEET

SITE PLAN APPROVAL

JOB NUMBER: 2034402

DRAWN BY: CL & VV CHECKED BY: TT

CS-01

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ISSUE	DATE	DESCRIPTION

REVISION	DATE	DESCRIPTION

**ARCHITECTURAL
SITE PLAN**

PERMIT SET - PARKING DECK

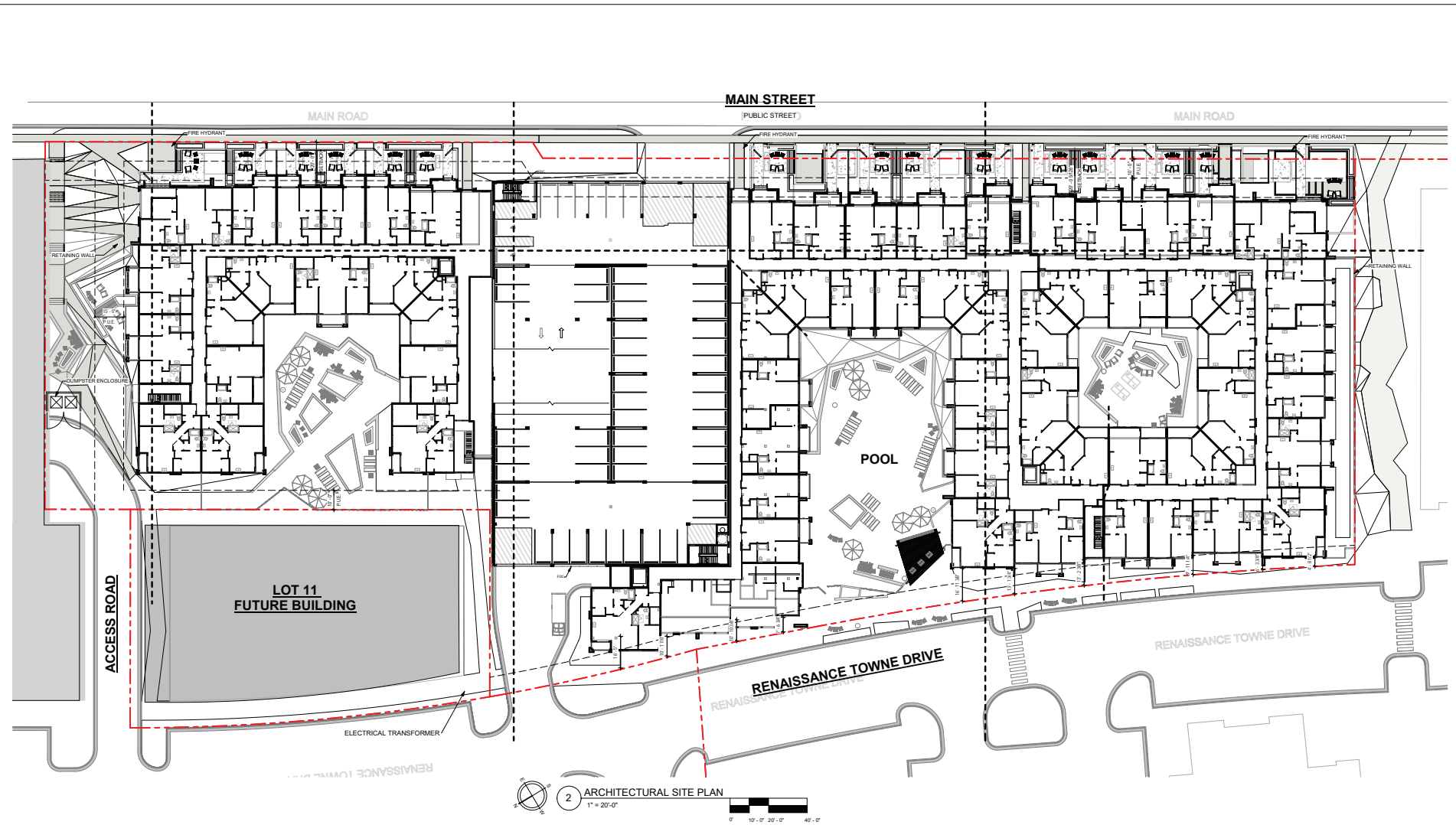
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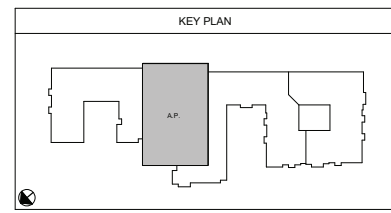
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NOT FOR CONSTRUCTION



2 ARCHITECTURAL SITE PLAN
1" = 20'-0"



PROJECT INFORMATION AND AREA CALCULATIONS

GENERAL PROJECT INFORMATION	BUILDING 1000	BUILDING 2000	BUILDING 3000	UNIT MATRIX																																																																																																																																																																																																																																																																																																																																																																								
<p>PROPOSED PROJECT IS A FOUR STORY MULTI-FAMILY RESIDENTIAL WRAPPING A 5 STORY PRECAST PARKING GARAGE. ACCESS TO PARKING GARAGE WILL BE FROM BOTH MAIN STREET AND RENAISSANCE TOWNE DRIVE.</p> <p>THE RESIDENTIAL COMPONENT OF THE PROJECT WILL HOUSE 233 UNITS, CONSISTING OF STUDIO, 1-, 2-, 3- AND 4-BED UNITS (SEE UNIT SUMMARY).</p> <p>ZONING TYPE: MXD-R (PER ORD. NO. 2019-05)</p> <p>SETBACK REQUIREMENTS (PER 14-10-107): BUILDING SETBACK: 30 FT MINIMUM 5 FT AT PUBLIC RIGHT OF WAY (PER ORD. NO. 2019-05) 20 FT AT MAIN STREET (PER ORD. NO. 2019-05) BUILDING SEPARATION: 20 FT MINIMUM 20 FT MAXIMUM SIDE YARD: 10 FT FROM SEEWALK</p> <p>HEIGHT REQUIREMENTS (PER 14-10-107): 20 FT MINIMUM 25 FT MAXIMUM 65 FT ALONG MAIN STREET (PER ORD. NO. 2019-05) MAXIMUM HEIGHT FOR RENAISSANCE CENTRE DEVELOPMENT IS 110 FT (PER ORD. NO. 2019-05)</p> <p>OCCUPANCY TYPE (PER 2018 IBC): R-2 (RESIDENTIAL) S-2 (PARKING GARAGE)</p> <p>CONSTRUCTION TYPE (PER 2018 IBC): IIIA</p>				<p>UNIT MIX RENAISSANCE TOWNE CENTRE - BOUNTIFUL, UTAH</p> <table border="1"> <thead> <tr> <th>UNIT TYPE</th> <th>UNIT DESCRIPTION</th> <th>BUILDING 1000</th> <th>BUILDING 2000</th> <th>BUILDING 3000</th> <th>QUANTITY</th> <th>UNIT TYPE</th> <th>AREA NET HEATED</th> <th>BALCONY</th> <th>UNDECK</th> <th>UNDECK TOTAL</th> <th>ACTUAL</th> </tr> </thead> <tbody> <tr> <td>STUDIO UNITS</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>S1</td> <td>1 BED / BATH</td> <td>1</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>152</td> <td>1,148</td> <td>0</td> <td>1,148</td> <td>1%</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2</td> <td></td> <td>304</td> <td>2,296</td> <td></td> <td>2,296</td> <td></td> </tr> <tr> <td>1-BEDROOM UNITS</td> <td></td> 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<td></td> <td></td> </tr> <tr> <td>B1</td> <td>2 BED / BATH / DEN</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0%</td> </tr> <tr> <td>B2</td> <td>2 BED / BATH / DEN</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0%</td> </tr> <tr> <td>B3</td> <td>2 BED / BATH / DEN</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0%</td> </tr> <tr> <td>B4</td> <td>2 BED / BATH / DEN</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0%</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0</td> <td></td> <td>0</td> <td>0</td> <td></td> <td>0</td> <td></td> </tr> <tr> <td>3-BEDROOM UNITS</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>C1</td> <td>3 BED / BATH</td> 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<td>0</td> <td>0</td> <td>0%</td> </tr> <tr> <td>D2</td> <td>4 BED / BATH / DEN</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0%</td> </tr> <tr> <td>D3</td> <td>4 BED / BATH / DEN</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0%</td> </tr> <tr> <td>D4</td> <td>4 BED / BATH / DEN</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0%</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0</td> <td></td> <td>0</td> <td>0</td> <td></td> <td>0</td> <td></td> </tr> <tr> <td>TOTALS PER FLOOR</td> <td></td> <td>13</td> <td>10</td> <td>16</td> <td>16</td> <td>13</td> <td>33</td> <td>36</td> <td>14</td> <td>30</td> <td>30%</td> </tr> <tr> <td>TOTALS PER BUILDING</td> <td></td> <td></td> <td></td> <td></td> <td>14</td> <td></td> <td>56</td> <td>56</td> <td></td> <td>112</td> <td></td> </tr> </tbody> </table>	UNIT TYPE	UNIT DESCRIPTION	BUILDING 1000	BUILDING 2000	BUILDING 3000	QUANTITY	UNIT TYPE	AREA NET HEATED	BALCONY	UNDECK	UNDECK TOTAL	ACTUAL	STUDIO UNITS												S1	1 BED / BATH	1	0	0	0	0	152	1,148	0	1,148	1%						2		304	2,296		2,296		1-BEDROOM UNITS												A1	1 BED / BATH	0	4	4	4	2	4	16	0	16	2%	A2	1 BED / BATH	4	4	4	4	4	16	16	0	32	3%	A3	1 BED / BATH	1	2	2	2	2	8	8	0	16	2%	A4	1 BED / BATH	0	1	0	0	1	4	4	0	4	0%						14		56	56		112		2-BEDROOM UNITS												B1	2 BED / BATH / DEN	0	0	0	0	0	0	0	0	0	0%	B2	2 BED / BATH / DEN	0	0	0	0	0	0	0	0	0	0%	B3	2 BED / BATH / DEN	0	0	0	0	0	0	0	0	0	0%	B4	2 BED / BATH / DEN	0	0	0	0	0	0	0	0	0	0%						0		0	0		0		3-BEDROOM UNITS												C1	3 BED / BATH	2	2	2	2	1	1	1	1	4	5%	C2	3 BED / BATH	3	3	3	3	2	2	2	2	8	10%	C3	3 BED / BATH	0	0	0	0	0	0	0	0	0	0%	C4	3 BED / BATH	1	1	1	1	1	1	1	1	4	5%						6		24	24		48		4-BEDROOM UNITS												D1	4 BED / BATH / DEN	0	0	0	0	0	0	0	0	0	0%	D2	4 BED / BATH / DEN	0	0	0	0	0	0	0	0	0	0%	D3	4 BED / BATH / DEN	0	0	0	0	0	0	0	0	0	0%	D4	4 BED / BATH / DEN	0	0	0	0	0	0	0	0	0	0%						0		0	0		0		TOTALS PER FLOOR		13	10	16	16	13	33	36	14	30	30%	TOTALS PER BUILDING					14		56	56		112	
UNIT TYPE	UNIT DESCRIPTION	BUILDING 1000	BUILDING 2000	BUILDING 3000	QUANTITY	UNIT TYPE	AREA NET HEATED	BALCONY	UNDECK	UNDECK TOTAL	ACTUAL																																																																																																																																																																																																																																																																																																																																																																	
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A1	1 BED / BATH	0	4	4	4	2	4	16	0	16	2%																																																																																																																																																																																																																																																																																																																																																																	
A2	1 BED / BATH	4	4	4	4	4	16	16	0	32	3%																																																																																																																																																																																																																																																																																																																																																																	
A3	1 BED / BATH	1	2	2	2	2	8	8	0	16	2%																																																																																																																																																																																																																																																																																																																																																																	
A4	1 BED / BATH	0	1	0	0	1	4	4	0	4	0%																																																																																																																																																																																																																																																																																																																																																																	
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B1	2 BED / BATH / DEN	0	0	0	0	0	0	0	0	0	0%																																																																																																																																																																																																																																																																																																																																																																	
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C1	3 BED / BATH	2	2	2	2	1	1	1	1	4	5%																																																																																																																																																																																																																																																																																																																																																																	
C2	3 BED / BATH	3	3	3	3	2	2	2	2	8	10%																																																																																																																																																																																																																																																																																																																																																																	
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C4	3 BED / BATH	1	1	1	1	1	1	1	1	4	5%																																																																																																																																																																																																																																																																																																																																																																	
					6		24	24		48																																																																																																																																																																																																																																																																																																																																																																		
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D3	4 BED / BATH / DEN	0	0	0	0	0	0	0	0	0	0%																																																																																																																																																																																																																																																																																																																																																																	
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TOTALS PER FLOOR		13	10	16	16	13	33	36	14	30	30%																																																																																																																																																																																																																																																																																																																																																																	
TOTALS PER BUILDING					14		56	56		112																																																																																																																																																																																																																																																																																																																																																																		

PARKING GARAGE

GROSS BUILDING - PARKING DECK

BLDG NUMBER	Area Use	Area
LEVEL 1 PLAN	PARKING DECK	112,018 SF
LEVEL 2	PARKING DECK	121,548 SF
LEVEL 3	PARKING DECK	124,051 SF
LEVEL 4	PARKING DECK	124,051 SF
LEVEL 5	PARKING DECK	124,051 SF
LEVEL 6	PARKING DECK	124,051 SF
GRAND TOTAL		745,816 SF

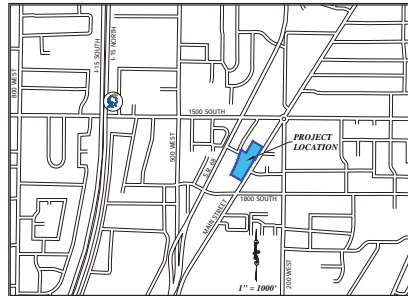
PARKING COUNT BY LEVEL

SPACE TYPE	WIDTH	DEPTH	QUANTITY
BASEMENT	8'-0"	20'-0"	0
	8'-0"	20'-0"	0
	8'-0"	20'-0"	0
LEVEL 1	8'-0"	20'-0"	1
	8'-0"	20'-0"	0
LEVEL 2	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 3	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 4	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 5	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 6	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 7	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 8	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 9	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 10	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 11	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 12	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 13	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 14	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 15	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 16	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 17	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 18	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 19	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 20	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 21	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 22	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 23	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 24	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 25	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 26	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 27	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 28	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 29	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 30	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 31	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 32	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 33	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 34	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 35	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 36	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 37	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 38	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 39	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 40	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 41	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 42	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 43	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 44	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 45	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 46	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 47	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 48	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 49	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 50	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 51	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 52	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 53	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 54	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 55	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 56	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 57	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 58	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 59	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 60	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 61	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 62	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 63	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 64	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 65	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 66	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 67	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 68	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 69	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 70	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 71	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 72	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 73	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 74	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 75	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 76	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 77	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 78	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 79	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 80	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 81	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 82	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 83	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 84	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 85	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 86	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 87	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 88	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 89	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 90	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 91	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 92	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 93	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 94	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 95	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 96	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 97	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 98	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 99	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 100	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 101	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 102	8'-0"	20'-0"	2
	8'-0"	20'-0"	0
LEVEL 103	8'-0"	20'-0"	2

RENAISSANCE TOWNE CENTER LOT 14

1650 S MAIN STREET
 LOT 13, RENAISSANCE TOWNE CENTER PHASE 3, PLAT 2
 LOCATED IN THE SW 1/4 OF SECTION 30, T.2N., R.1E., S.L.B.&M.
 BOUNTIFUL CITY, DAVIS COUNTY, UTAH

VICINITY MAP



CIVIL DRAWING INDEX

SHEET	TITLE
C100	CIVIL COVER & INDEX
C101	NOTES & LEGEND
C200	TOPOGRAPHIC PLAN
C400	SITE PLAN
C500	GRADING PLAN
C600	UTILITY PLAN
C900	SITE DETAILS
C910	UTILITY DETAILS

GENERAL NOTES

- ALL WORK WITHIN A PUBLIC RIGHT-OF-WAY SHALL CONFORM TO THE RIGHT-OF-WAY OWNER'S STANDARDS & SPECIFICATIONS.
- ALL UTILITY WORK SHALL CONFORM TO THE UTILITY OWNER'S STANDARDS & SPECIFICATIONS.
- THESE PLANS DO NOT INCLUDE DESIGN OF DRY UTILITIES. THESE PLANS MAY CALL FOR RELOCATION, AND/OR REMOVAL AND/OR CONSTRUCTION OF DRY UTILITIES, BUT ARE NOT OFFICIAL DRAWINGS FOR SUCH. DESIGN AND COORDINATION OF DRY UTILITIES IS BY OTHERS.
- THE CONTRACTOR SHALL COORDINATE AND OBTAIN ANY PERMITS REQUIRED FOR THE WORK SHOWN HEREON.
- THE LOCATION AND ELEVATIONS OF UNDERGROUND UTILITIES SHOWN ON THESE PLANS IS A BEST ESTIMATE BASED ON UTILITY COMPANY RECORDS, BLUESTAKES, AND FIELD MEASUREMENTS OF READILY OBSERVABLE ABOVE-GROUND FEATURES. AS SUCH, THIS INFORMATION MAY NOT BE COMPLETE, UP-TO-DATE, OR ACCURATE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO STOP WORK AND NOTIFY THE ENGINEER IF CONFLICTING INFORMATION IS FOUND IN THE FIELD.
- THE CONTRACTOR IS TO FIELD VERIFY THE LOCATION AND ELEVATIONS OF EXISTING MANHOLES AND OTHER UTILITIES PRIOR TO STAKING AND CONSTRUCTION.
- CALL BLUESTAKES AT LEAST 48 HOURS PRIOR TO DIGGING. DO NOT PROCEED UNTIL BLUESTAKES ARE MARKED.
- IT SHALL BE THE CONTRACTOR'S AND SUBCONTRACTOR'S RESPONSIBILITY TO MEET ALL APPLICABLE HEALTH AND SAFETY REGULATIONS, AND THEY SHALL ASSUME SOLE RESPONSIBILITY FOR JOB-SITE CONDITIONS DURING CONSTRUCTION OF THIS PROJECT, SO THAT ALL EMPLOYEES ARE PROVIDED A SAFE PLACE TO WORK, AND THE PUBLIC IS PROTECTED.

PRELIMINARY
 NOT FOR CONSTRUCTION

Know what's below.
 Call **811** before you dig.

BLUE STAKES OF UTAH
 UTILITY NOTIFICATION CENTER, INC.
 www.bluestakes.org
 1-800-662-4111

BENCHMARK: NONE
 ELEVATION: 0000.00

1470 South 600 West
 Woods Cross, UT 84010
 Phone: 801.298.2236
 www.Entellus.com

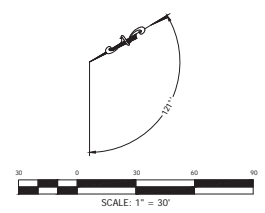
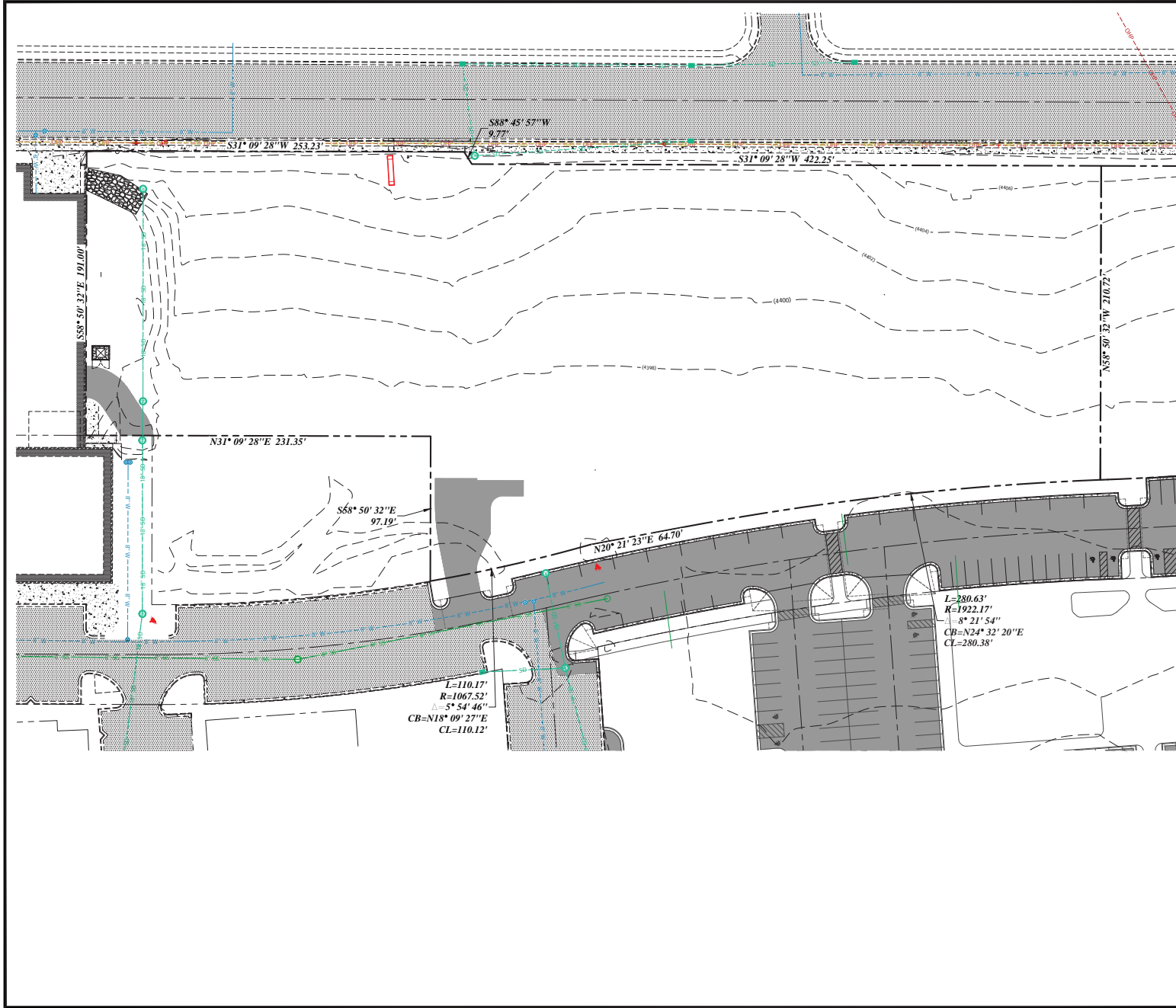


DEVELOPER
 RENAISSANCE TOWNE CENTER LOT 14
 TOWNE CENTER LLC
 CONTACT: BRUCE BRADSHAW
 1650 SOUTH RENAISSANCE TOWNE DRIVE
 SUITE 104
 BOUNTIFUL, UT 84010
 801-554-4177
 bbrad144@gmail.com

RENAISSANCE TOWNE CENTER LOT 14
 1650 S MAIN STREET
 LOT 13, RENAISSANCE TOWNE CENTER PHASE 3, PLAT 1
 LOCATED IN THE SW 1/4 OF SECTION 30, T.2N., R.1E., S.L.B.&M.
 BOUNTIFUL CITY, DAVIS COUNTY, UTAH

DRAWN: XXX
 APPROVED: STA
 PROJECT #: 1628083
 LOT 14 SITE.dwg

C100
 CIVIL COVER & INDEX



1470 South 600 West
 Woods Cross, UT 84010
 Phone: 801.298.2236
 www.Entellus.com

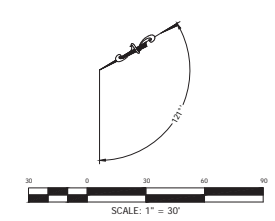



DEVELOPER
 TOWNE CENTER LLC
 CONTACT: BRUCE BRADSHAW
 1560 SOUTH RENAISSANCE TOWNE DRIVE
 SUITE 104
 WOODS CROSS, UT 84010
 801.554.4177
 bbrad144@gmail.com

RENAISSANCE TOWNE CENTER LOT 14
 1650 S MAIN STREET
 LOT 14, RENAISSANCE TOWNE CENTER PHASE 3, PLAT 1
 LOCATED IN THE SW 1/4 OF SECTION 30, T.2N., R.1E., S.1R. & M.
 BOUNTIFUL CITY, DAVIS COUNTY, UTAH

DRAWN:	XXX
APPROVED:	STA
PROJECT #:	1628003
LOT 14 SITE.dwg	

C200
 TOPOGRAPHIC PLAN



ACCESSIBLE AREA CONSTRAINTS

ALL ACCESSIBLE AREAS ARE TO MAINTAIN THE FOLLOWING MAXIMUM SLOPES AND TOLERANCES:

ACCESSIBLE PARKING:
MAXIMUM SLOPE OF 1:48 (2%) THROUGHOUT.

ACCESSIBLE ROUTE:
MINIMUM WIDTH OF 48"; MAXIMUM SLOPE OF 1:20 (5%)
ALONG THE ROUTE, MAXIMUM CROSS-SLOPE OF 1:48 (2%).

ACCESS ROUTE TURNAROUNDS:
A CLEAR 60' TURNING DIAMETER, MAXIMUM SLOPE OF 1:48 (2%) IN ANY DIRECTION.

LEVEL LANDING / EXTERIOR DOOR LANDING:
MINIMUM SIZE OF 60"x60"; MAXIMUM SLOPE OF 1:48 (2%) IN ANY DIRECTION.

ACCESSIBLE EGRESS TO PUBLIC WAY:
MAXIMUM SLOPE OF 1:20 (5%) ALONG THE ROUTE,
MAXIMUM CROSS-SLOPE OF 1:48 (2%).

ADA ACCESS RAMPS:
MAXIMUM SLOPE OF 1:12 (8.33%), WITH A MAXIMUM CROSS-SLOPE OF 2%. THE TRANSITION BETWEEN ASPHALT AND CONCRETE IS NOT TO EXCEED 1/2" VERTICAL (1/4" IF BEVELED).

Entellus
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Woods Cross, UT 84010
Phone: 801.298.2236
www.Entellus.com

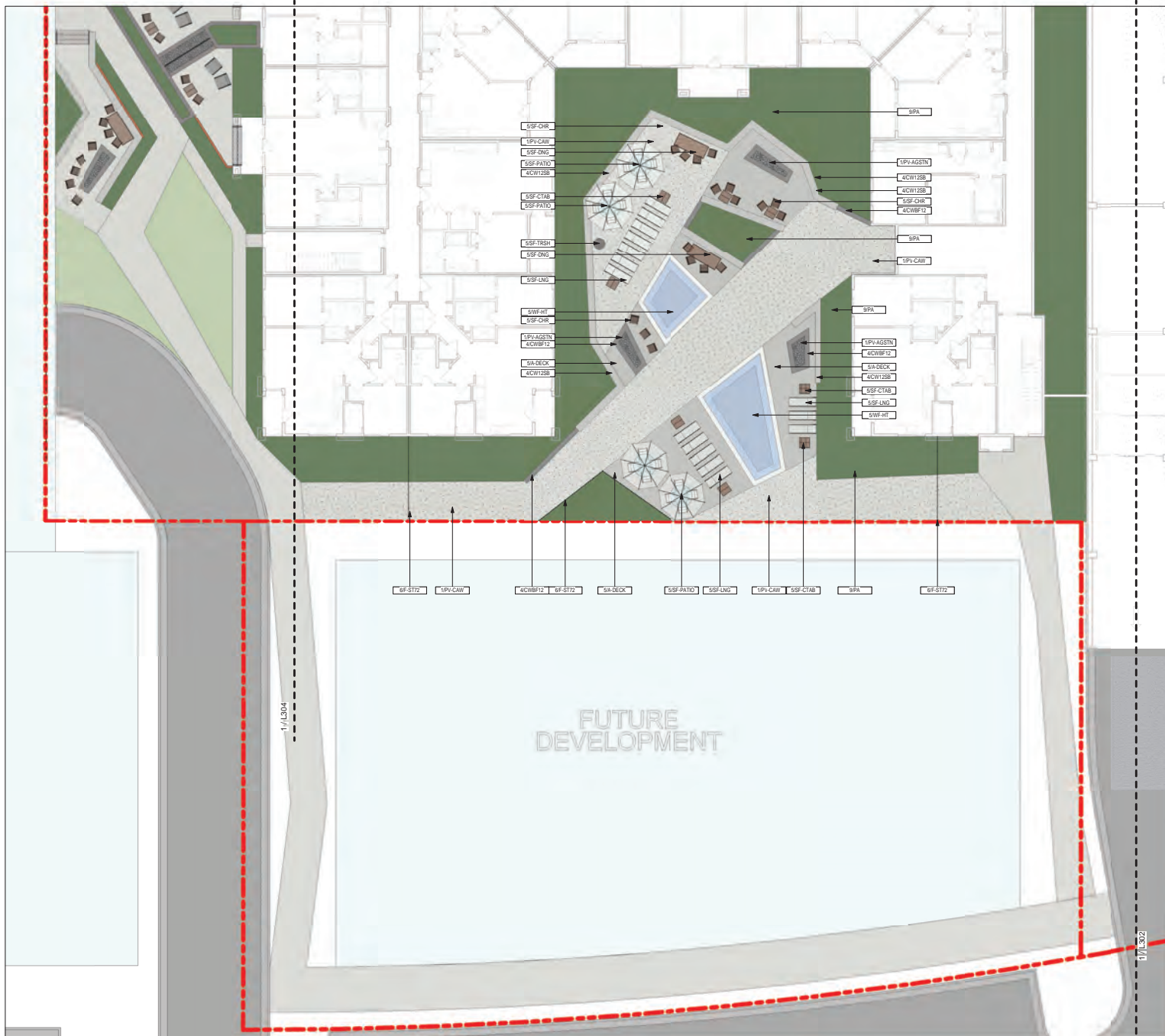


DEVELOPER
TOWNE CENTER LLC
CONTACT: BRUCE BRADSHAW
1560 SOUTH RENAISSANCE TOWNE DRIVE
SUITE 104
BOULDER, UT 84010
801.554.4177
bbrad142@gmail.com

RENAISSANCE TOWNE CENTER LOT 14
1650 S MAIN STREET
LOT 14, RENAISSANCE TOWNE CENTER PHASE 3, PLAT 1
LOCATED IN THE SW 1/4 OF SECTION 30, T2N, R1E, S1R&M
BOULDER CITY, DAVIS COUNTY, UTAH

DRAWN: XXX
APPROVED: STA
PROJECT #: 1628083
LOT 14 SITE.dwg

C500
GRADING PLAN



KEYNOTES LEGEND

01 - PAVEMENT, RAMPS, AND CURBS

Keynote	Detail	Quantity
1PV-A-CV	Asphalt (See Civil)	204,179 SF
1PV-AG	Mosaic Pebble	865 SF
1PV-AGS2	Crushed Stone	134 SF
1PV-AGS7H	Fire Feature Stone	565 SF
1PV-C-CV	Concrete (See Civil)	870 SF
1PV-C-EX	Concrete - Existing	9,539 SF
1PV-C-FUT	Concrete - Future Phase	9,280 SF
1PV-C-AM	Concrete - Acid Wash	6,676 SF
1PV-C-DF	Concrete - Brown Finish Medium with Sawcut Control Joints	13,341 SF
1PV-RANT	White Staining	124 SF
1PV-V-STN	Stone in White Concrete on Concrete Base	348 SF

02 - JOINTS

Keynote	Detail	Quantity

03 - SITE STAIRS

Keynote	Detail	Quantity
3STR3-C-FF	Concrete Stair - 6' x 12' - Modern nosing	26

04 - SITE WALLS

Keynote	H	L	Detail	VSFFF
4BR3CK	Block Wall - Match Building Exterior Brick	3.5'	267'	839 SF
4BR3CK	Block Wall - Match Building Exterior Brick	5'	941'	4,705 SF
4BR3CK	Block Wall - Match Building Exterior Brick	10'	15'	149 SF
4BR3CK	Block Wall - Match Building Exterior Brick	12'	127'	864 SF
4CWB12B	12" Concrete Wall Boardform with Seal Bench	3.5'	610'	2,158 SF
4CWB8E	8" Concrete Wall Boardform	5'	22'	108 SF
4CWB8E	8" Concrete Wall Boardform	3.5'	86'	233 SF
4CWB8E	8" Concrete Wall Boardform	5'	292'	1,485 SF
4CWB8E	8" Concrete Wall Boardform	6'	29'	179 SF
4CWB8E	8" Concrete Wall Boardform	8'	27'	222 SF
4CWB8E	8" Concrete Wall Boardform	10'	22'	186 SF
4CWB12	12" Concrete Wall Boardform	3'	206'	644 SF
4CWB12	12" Concrete Wall Boardform	3.5'	45'	164 SF
4CWB12	12" Concrete Wall Boardform	4'	24'	98 SF
4CWB12	12" Concrete Wall Boardform	10.5'	28'	289 SF

05 - SITE AMENITIES

Keynote	Detail	Count
5A-PERG1	Pergola - Cooking Area by Pool	1
5FF-8BQ	BBQ set into Counter with Cabinets underneath	3
5SFF-CHS	Garden Bistro Bench	86
5SFF-CTB	Garden Coffee Table	38
5SFF-DNG	Garden Dinner Table 220	7
5SFF-CHS	Garden Easy Chair	45
5SFF-LNG	Pool Lounger	37
5SFF-PAT10	Patio Table, 4 Chairs, and Umbrella	9
5SFF-STL	Garden Bar Chair	12
5SFF-TRSH	Trash Receptacle - Landscaping Poo	8

06 - SITE RAILINGS AND FENCES

Keynote	Detail	Quantity
6F-ST36	Fire Back Guard - Privacy Screen	131'
6F-ST22	Pool Barrier - Hinged Steel Fence - 72"	232'
6F-WD06	Fence - Steel - Horizontal 30"	481'
6H8-STL	Balcony Rail - Generic 3" Offset (See Arch)	150'

07 - LIGHTING

Keynote	Detail	Quantity

08 - SITE DRAINAGE

Keynote	Detail	Quantity

09 - PLANTING AREAS

Keynote	Detail	Quantity
9PA	Planting Area	20,745 SF
9PA-EX	Planting Area - Existing	6,120 SF
9PA-FUT	Planting Area - Future Phase	4,028 SF
9SOD-LAWN	Lawn	6,288 SF
9SINTH	Lawn - AstroTurf	340 SF

10 - MISCELLANEOUS ELEMENTS

Keynote	Detail	Quantity

epg design
 A Terracon COMPANY
 1649 South High Tech Dr.
 Englewood, CO 80150
 303.733.8534
 chris@epgdc.co



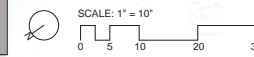
Principal: Grant Hardy
 Project Manager: Grant Hardy
 Designer: Grant Hardy
 Checked By: Grant Hardy

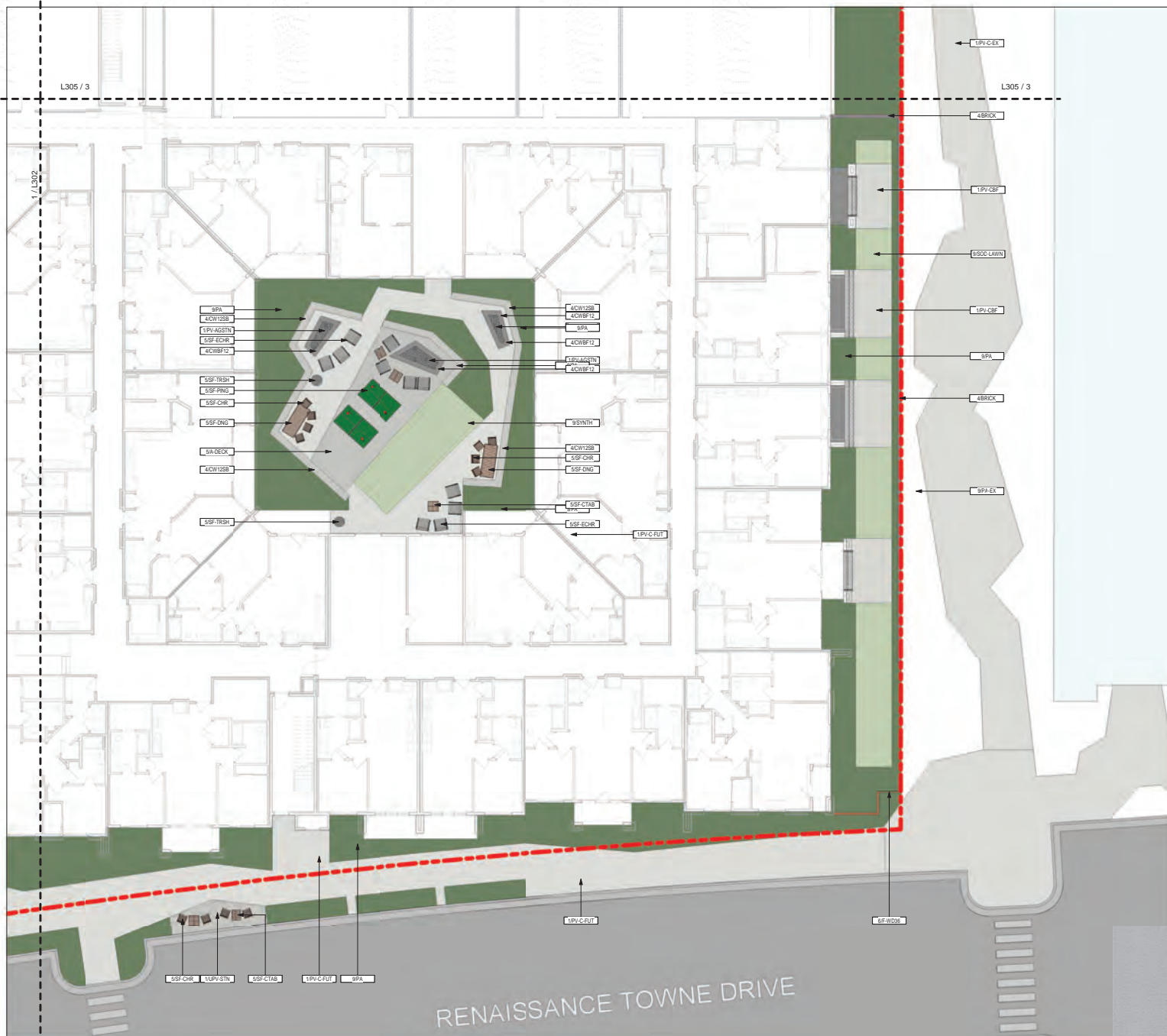
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Issue Date: 09/20/2021

RENAISSANCE TOWNE CENTER
 1560 S. MAIN STREET
 PARCEL 11
 BOUNTYFUL CITY, DAVIS COUNTY, UTAH

Materials Plan
L301





KEYNOTES LEGEND

01 - PAVEMENT, RAMPS, AND CURBS

Keynote	Detail	Quantity
1PV-A-CV	Asphalt (See Civil)	294,179 SF
1PV-AG	Medium Pebble	865 SF
1PV-AGCS	Coated Stone	134 SF
1PV-AGSTN	Fire Feature Stone	565 SF
1PV-C-CV	Concrete (See Civil)	870 SF
1PV-C-EX	Concrete - Existing	9,539 SF
1PV-C-FS	Concrete - Future Phase	9,283 SF
1PV-C-AM	Concrete - Acid Wash	6,679 SF
1PV-CBP	Concrete - Brown Finish Medium with Sawcut Control Joints	12,341 SF
1PV-INT	White Striping	123 SF
1PV-STV	Stone in White Concrete on Concrete Base	348 SF

02 - JOINTS

Keynote	Detail	Quantity

03 - SITE STAIRS

Keynote	Detail	Quantity
3STR3-C-BF	Concrete Stair - 6' x 12' - Modern Rosing	26

04 - SITE WALLS

Keynote	H	L	Detail	VSFFF
4BRCK	Brick Wall - Match Building Exterior Brick	3.5'	267'	839 SF
4BRCK	Brick Wall - Match Building Exterior Brick	5'	941'	4,709 SF
4BRCK	Brick Wall - Match Building Exterior Brick	10'	15'	149 SF
4BRCK	Brick Wall - Match Building Exterior Brick	12'	127'	864 SF
4CWI12SB	12" Concrete Wall Boardform with Seal Bench	3.5'	610'	2,158 SF
4CWB8F	8" Concrete Wall Boardform	5'	22'	108 SF
4CWB8F	8" Concrete Wall Boardform	3.5'	86'	235 SF
4CWB8F	8" Concrete Wall Boardform	5'	292'	1,481 SF
4CWB8F	8" Concrete Wall Boardform	6'	29'	179 SF
4CWB8F	8" Concrete Wall Boardform	8'	27'	222 SF
4CWB8F	8" Concrete Wall Boardform	10'	22'	186 SF
4CWB12	12" Concrete Wall Boardform	3'	206'	644 SF
4CWB12	12" Concrete Wall Boardform	3.5'	45'	164 SF
4CWB12	12" Concrete Wall Boardform	4'	24'	98 SF
4CWB12	12" Concrete Wall Boardform	10.5'	28'	289 SF

05 - SITE AMENITIES

Keynote	Detail	Count
5A-PERG1	Pergola - Cooking Area by Pool	1
5FF-8BQ	BBQ set into Counter with Cabinets underneath	3
5SF-CHS	Garden Bistro Armchair	86
5SF-CTAB	Garden Coffee Table	38
5SF-DNG	Garden Drivert Table 220	7
5SF-CHS	Garden Easy Chair	45
5SF-LNG	Pool Lounger	37
5SF-PATIO	Patio Table, 4 Chairs, and Umbrella	9
5SF-STL	Garden Bar Chair	12
5SF-TRSH	Trash Receptacle - Landscapetoms Poo	8

06 - SITE RAILINGS AND FENCES

Keynote	Detail	Quantity
6F-ST36	Fire Back Guard - Privacy Screen	131'
6F-ST22	Pool Barrier - Holeside Steel Fence - 72"	232'
6F-WD08	Fence - Steel - Horizontal 30'	481'
6HR-STL	Balcony Rail - Generic 3" Offset (See Arch)	150'

07 - LIGHTING

Keynote	Detail	Quantity

08 - SITE DRAINAGE

Keynote	Detail	Quantity

09 - PLANTING AREAS

Keynote	Detail	Quantity
5PA	Planting Area - Existing	20,745 SF
5PA-EX	Planting Area - Existing	6,120 SF
5PA-FUT	Planting Area - Future Phase	4,020 SF
9500-LAWN	Lawn	6,268 SF
95NINTH	Lawn - AstroTurf	340 SF

10 - MISCELLANEOUS ELEMENTS

Keynote	Detail	Quantity

epg design
 A Terracon COMPANY
 1649 Soom High Tech Dr
 Suite 100
 Appleton, WI 54912
 920.213.6534
 diana@epginc.com



Principal: Grant Hardy
 Project Manager: Grant Hardy
 Designer: Grant Hardy
 Checked By: Grant Hardy

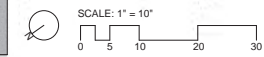
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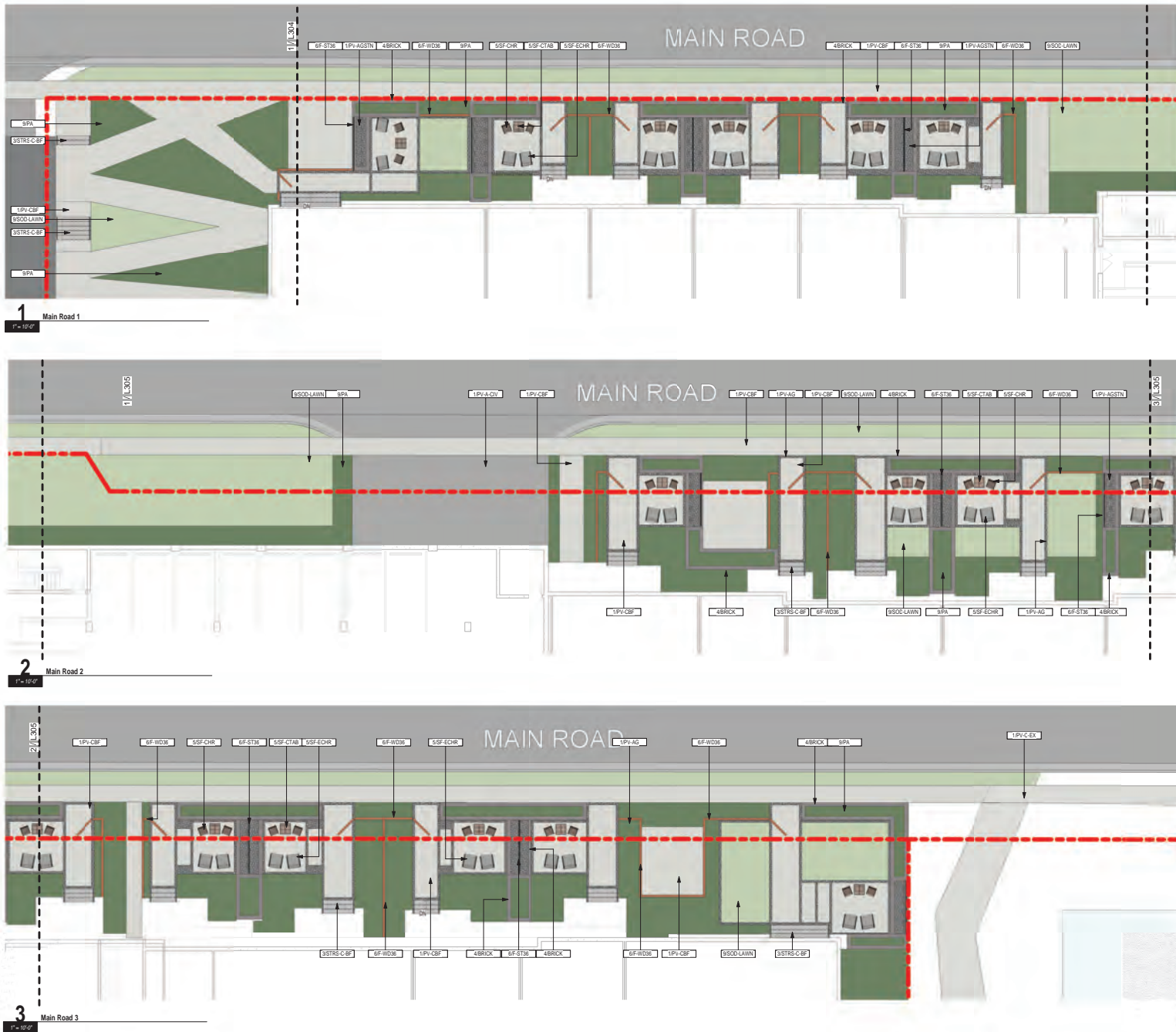
Issue Date: 09/20/2021

RENAISSANCE TOWNE CENTER
 1560 S. MAIN STREET
 BOWLING GREEN, OHIO 43403

Materials Plan

L303





KEYNOTES LEGEND

01 - PAVEMENT, RAMPS, AND CURBS

Keynote	Detail	Quantity
1PVA-CV	Asphalt (See Curb)	294.179 SF
1PVA-G	Mosaic Pebble	865 SF
1PVA-GS2	Coated Stone	134 SF
1PVA-GSTN	Fire Feature Stone	565 SF
1PVA-CV	Concrete (See Curb)	870 SF
1PVA-EX	Concrete - Existing	9,539 SF
1PVA-FJ	Concrete - Future Phase	9,280 SF
1PVA-CAI	Concrete - Acid Wash	6,674 SF
1PVA-CBF	Concrete - Brown Finish Medium with Sawcut Control Joints	12,341 SF
1PVA-WT	White Slating	124 SF
1PVA-STN	Stone in White Concrete on Concrete Base	348 SF

02 - JOINTS

Keynote	Detail	Quantity
3STRS-C-BF	Concrete Sill - 6" x 12" - Modern Nesting	26

03 - SITE STAIRS

Keynote	Detail	Quantity
3STRS-C-BF	Concrete Sill - 6" x 12" - Modern Nesting	26

04 - SITE WALLS

Keynote	H	L	Detail	VSFFF
4BRCK	Brick Wall - Match Building Exterior Brick	3.5	297	839 SF
4BRCK	Brick Wall - Match Building Exterior Brick	5	941	4,705 SF
4BRCK	Brick Wall - Match Building Exterior Brick	10	15	149 SF
4BRCK	Brick Wall - Match Building Exterior Brick	12	127	864 SF
4CWB12B	12" Concrete Wall Boardform with Seal Bench	3.5	652	2,192 SF
4CWB6	6" Concrete Wall Boardform	5	22	108 SF
4CWB8	8" Concrete Wall Boardform	3.5	86	285 SF
4CWB8	8" Concrete Wall Boardform	5	292	1,485 SF
4CWB8	8" Concrete Wall Boardform	6	29	179 SF
4CWB8	8" Concrete Wall Boardform	8	27	222 SF
4CWB8	8" Concrete Wall Boardform	10	22	186 SF
4CWB12	12" Concrete Wall Boardform	3	206	644 SF
4CWB12	12" Concrete Wall Boardform	3.5	45	162 SF
4CWB12	12" Concrete Wall Boardform	4	24	98 SF
4CWB12	12" Concrete Wall Boardform	10.5	28	289 SF

05 - SITE AMENITIES

Keynote	Detail	Count
5A-PERG1	Pergola - Cooking Area by Pool	1
5FF-8BQ	BBQ set into Counter with Cabinets underneath	3
5SF-CHK	Garden Bench Armchair	86
5SF-CTAB	Garden Coffee Table	38
5SF-DNG	Garden Dinner Table 220	7
5SF-CHR	Garden Easy Chair	45
5SF-LNG	Pool Lounger	37
5SF-PATD	Patio Table, 4 Chairs, and Umbrella	9
5SF-STL	Garden Bar Chair	12
5SF-TRSH	Trash Receptacle - Landscapetoms Poo	8

06 - SITE RAILINGS AND FENCES

Keynote	Detail	Quantity
6F-ST36	Fire Back Guard - Privacy Screen	131'
6F-ST22	Pool Barrier - Hidden Steel Fence - 72"	232'
6F-WD06	Fence - Steel - Horizontal 30'	481'
6HR-STL	Balcony Rail - Generic 3" Offset (See Arch)	150'

07 - LIGHTING

Keynote	Detail	Quantity

08 - SITE DRAINAGE

Keynote	Detail	Quantity

09 - PLANTING AREAS

Keynote	Detail	Quantity
9PA	Planting Area	20,745 SF
9PA-EX	Planting Area - Existing	6,120 SF
9PA-FUT	Planting Area - Future Phase	4,020 SF
9SOD-LAWN	Lawn	6,288 SF
9SINTH	Lawn - AstroTurf	340 SF

10 - MISCELLANEOUS ELEMENTS

Keynote	Detail	Quantity



Principal: Grant Hardy
Project Manager: Grant Hardy
Designer: Grant Hardy
Checked By: Grant Hardy

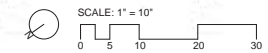
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Issue Date: 09/20/2021

RENAISSANCE TOWNE
CENTER
1560 S. MAIN STREET
PARCEL 11
BOUNTYPUL CITY, DAVIS COUNTY, UTAH

Materials Plan

L305



ISSUE	DATE	DESCRIPTION

REVISION	DATE	DESCRIPTION

OVERALL LEVEL 1 PLAN

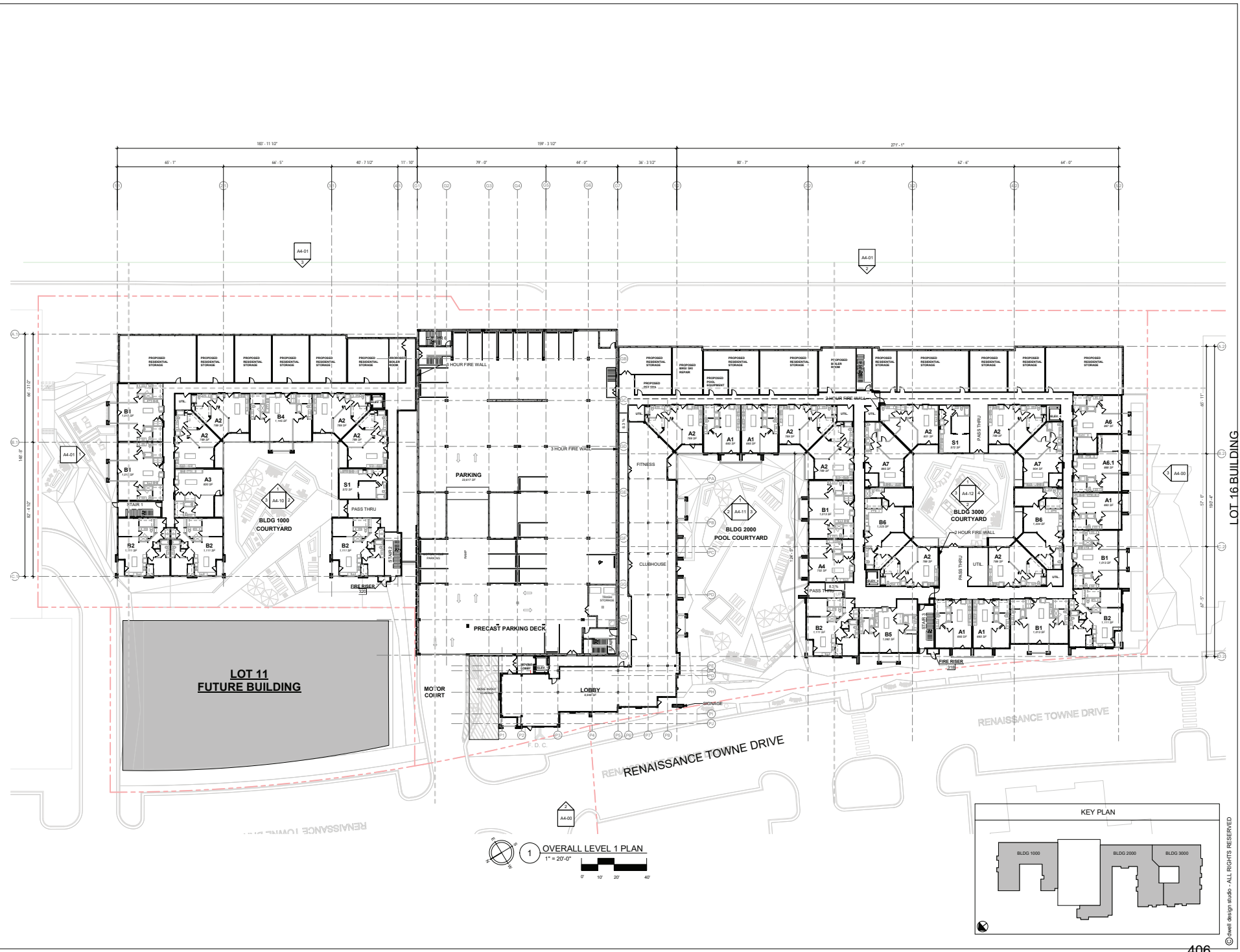
PERMIT SET- PARKING DECK

JOB NUMBER: 2034402

DRAWN BY: CL & VV CHECKED BY: TT

A0-01

NOT FOR CONSTRUCTION



LOT 16 BUILDING

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ISSUE	DATE	DESCRIPTION
1		ISSUE: SUBMITTAL OF CONSTRUCTION PERMIT
2		ISSUE: SUBMITTAL OF CONSTRUCTION PERMIT
3		ISSUE: SUBMITTAL OF CONSTRUCTION PERMIT
4		ISSUE: SUBMITTAL OF CONSTRUCTION PERMIT

REVISION	DATE	DESCRIPTION

OVERALL LEVEL 2 PLAN

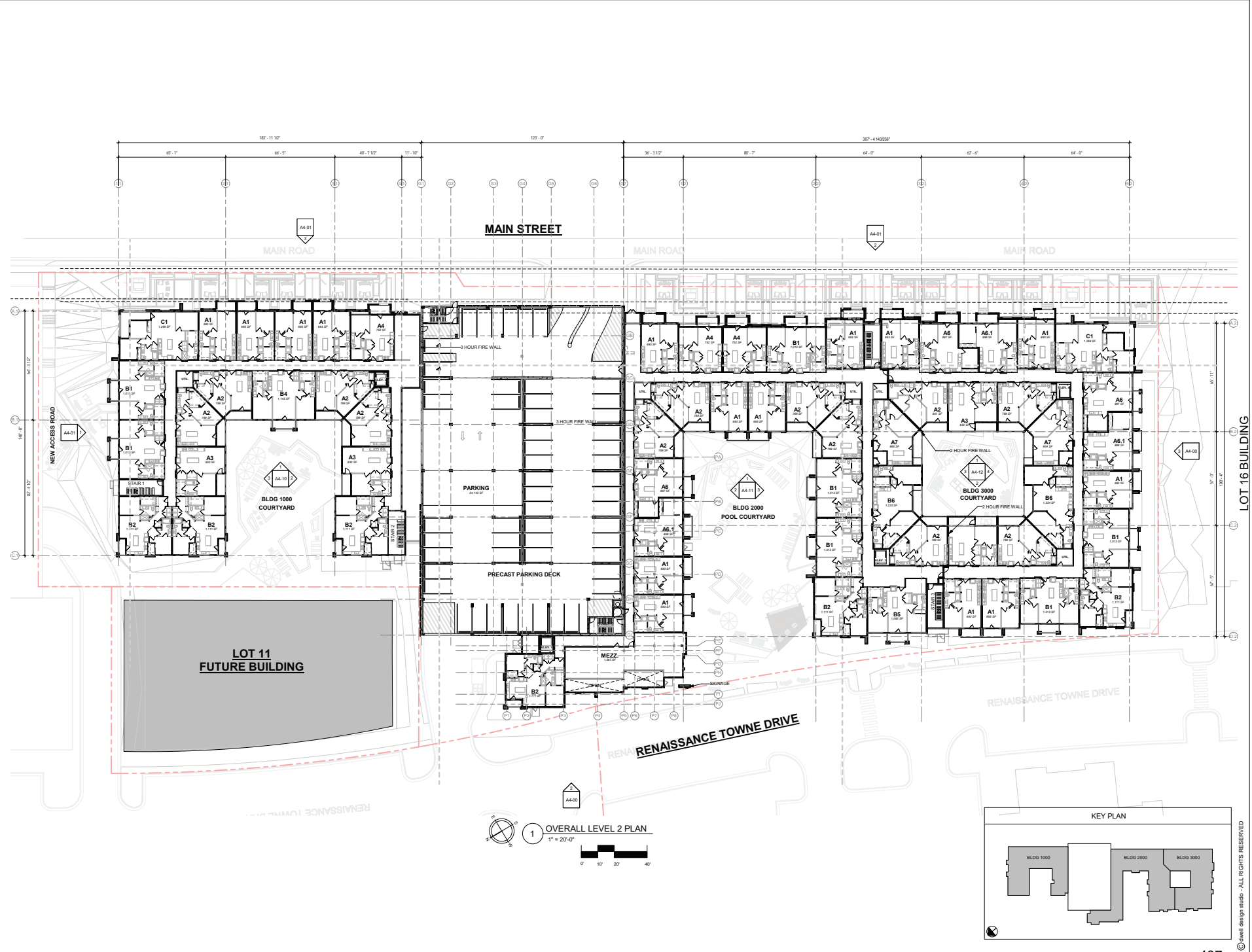
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JOB NUMBER: 2034402

DRAWN BY: CL & VV
CHECKED BY: TT

A0-02

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LOT 16 BUILDING

ISSUE	DATE	DESCRIPTION

REVISION

**OVERALL
LEVEL 3 PLAN**

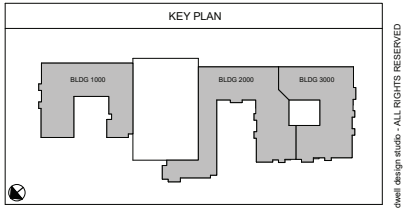
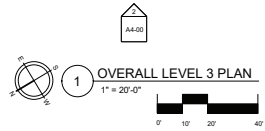
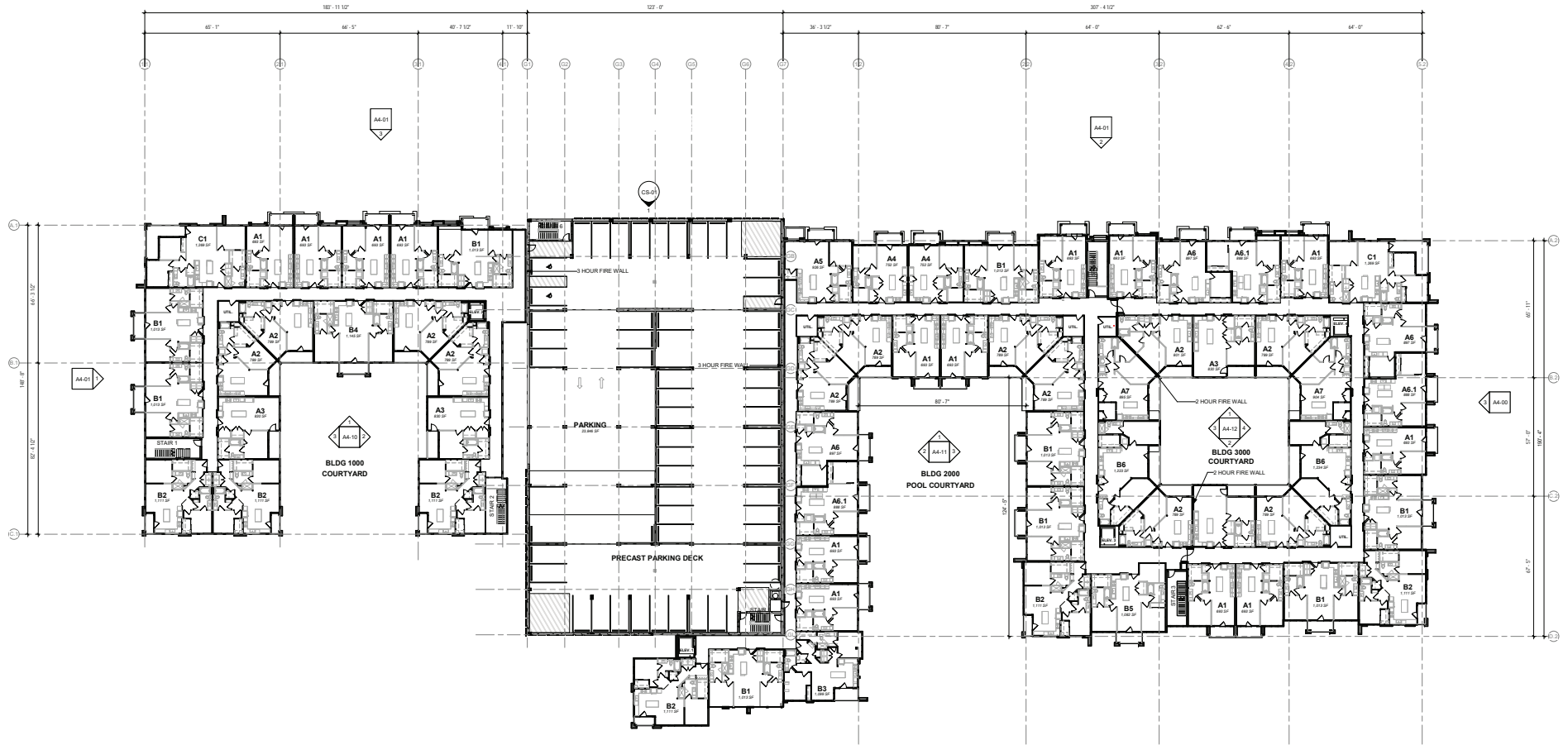
PERMIT SET - PARKING DECK

JOB NUMBER: 2034402

DRAWN BY: OL & VV
CHECKED BY: TT

A0-03

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ISSUE	DATE	DESCRIPTION

REVISION	DATE	DESCRIPTION

OVERALL LEVEL 4 PLAN

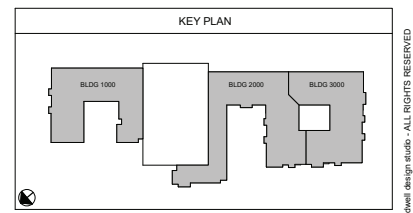
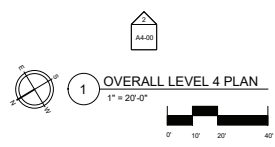
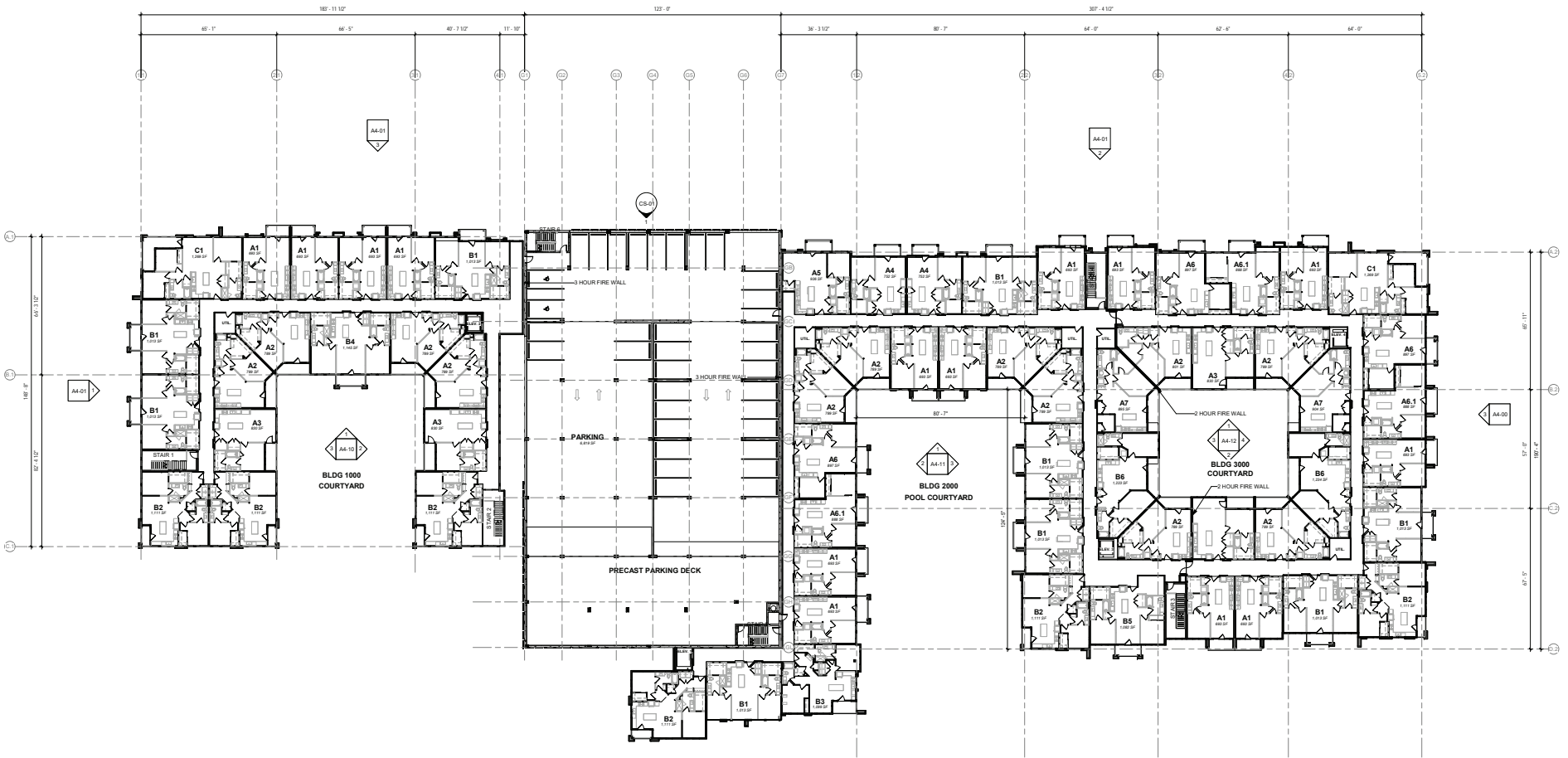
PERMIT SET - PARKING DECK

JOB NUMBER: 2034402

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A0-04

NOT FOR CONSTRUCTION



ISSUE	DATE	DESCRIPTION

REVISION	DATE	DESCRIPTION

OVERALL LEVEL 5 PLAN

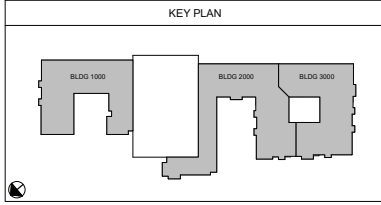
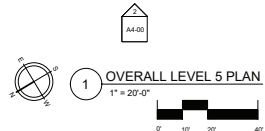
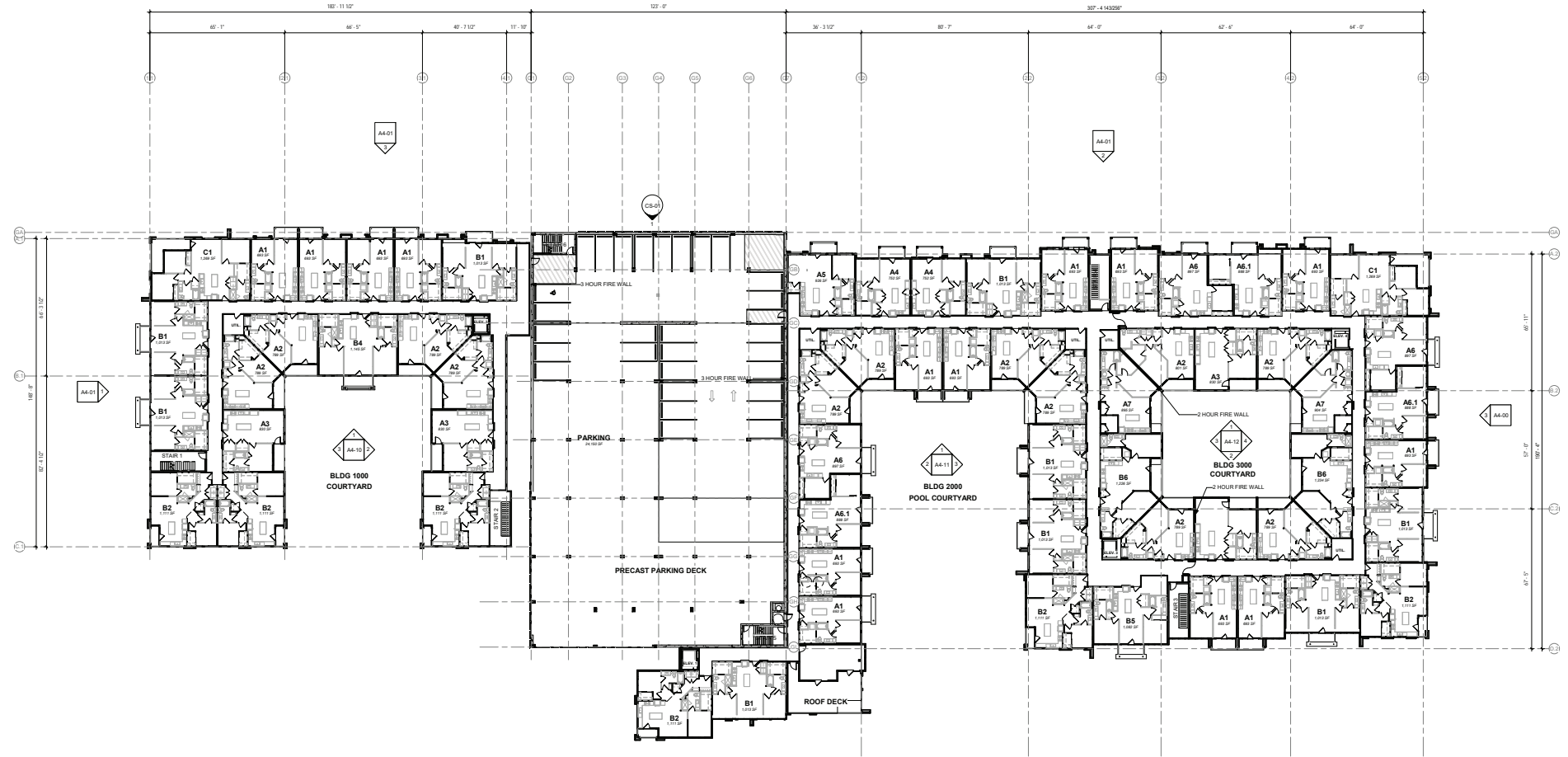
PERMIT SET - PARKING DECK

JOB NUMBER: 2034402

DRAWN BY: OL & VV CHECKED BY: TT

A0-05





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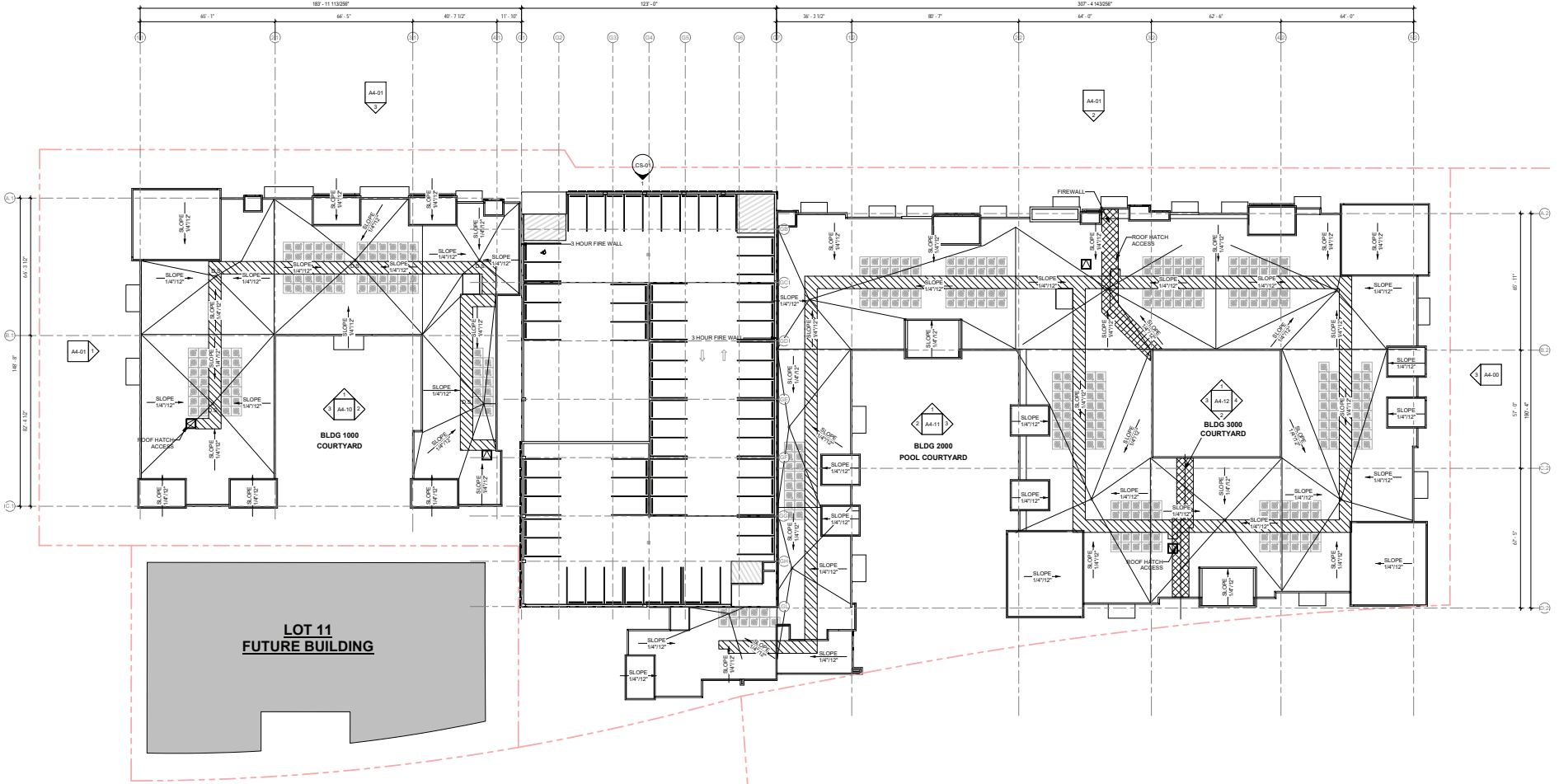


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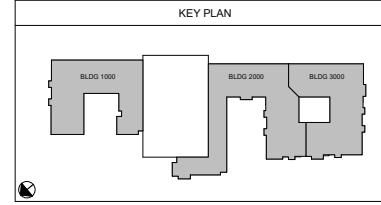
ISSUE	DATE	DESCRIPTION

REVISION	DATE	DESCRIPTION

ROOF NOTES	ROOF DRAINAGE	ROOF LEGEND
1. GAF EVERGLARD 60 MIL FULLY ADHERED SYSTEM IS BASIS OF DESIGN FOR ROOF MEMBRANE DESIGN. 2. REFER TO MANUFACTURERS DETAILS. DETAILS SHOWN REPRESENT DESIGN INTENT ONLY. INSTALLATION SHALL BE PER MANUFACTURERS RECOMMENDATIONS. 3. PROVIDE TAPERED INSULATION AS REQUIRED AT DRAINS TO PROVIDE POSITIVE DRAINAGE TO DRAINS AT 1/4" PER 1'-0" MIN. 4. ALL MECHANICAL EQUIPMENT TO BE ON ROOF PADS WITH SOUND ISOLATORS. 5. PROVIDE WALKWAYS TO ALL ROOF TOP EQUIPMENT. 6. MAINTAIN 18" UP CLEARANCE FROM ALL ROOF TOP EQUIPMENT AND ROOF EDGE WHERE CLEARANCE CAN NOT BE MAINTAINED FALL PROTECTION WILL NEED TO BE PROVIDED. 7. SCUPPER BOXES TO CONTAIN INTEGRAL EMERGENCY OVER-FLOW SCUPPERS. 8. T.O.W. HEIGHT IS BASED ON HEIGHT FROM TRUSS BEARING LEVEL. REFER TO BUILDING ELEVATIONS.	9. PROVIDE STAINLESS STEEL INSET HOOD ABOVE ALL RESIDENTIAL LINE SETS AND ABOVE RETAIL CONDUIT GROUPINGS WITH REMOVABLE TOP. 10. VERIFY LOCATIONS OF ROOF PENETRATIONS WITH STRUCTURAL, MECHANICAL AND PLUMBING DRAWING PRIOR TO INSTALLATION. 11. CONTRACTOR TO VERIFY, COORDINATE, AND INSTALL ALL ADJACENT AND OR RELATED FLASHING, BLOCKING, WALKERS, INSULATION STOP, AND CROCKETS NECESSARY FOR THE COMPLETE INSTALLATION OF THE ROOF MEMBRANE. WALKWAYS REQUIRED FOR A COMPLETE, WARRANTED, WATER-TIGHT, AND WATERPROOF INSTALLATION. 12. MINIMUM CLASS "F" ROOF COVERING SHALL BE PROVIDED.	 CONDENSING UNIT  ROOF SLOPE ARROW  FIRE RATED SHEATHING OVER FIRE SEPARATION WALL NO PENETRATIONS  3'-0" WALKWAY D.S. INTERNAL DOWNSPOUT



1 OVERALL ROOF PLAN
 1" = 20'-0"



ISSUE	DATE	DESCRIPTION

REVISION	NO.	DATE	DESCRIPTION

PERMIT SET - PARKING DECK

JOB NUMBER: 2034402

DRAWN BY: CL & VV
 CHECKED BY: TT

OVERALL BUILDING ELEVATIONS



1 OVERALL BLDG. ELEVATION - NORTH
 1/16" = 1'-0"



2 OVERALL BLDG. ELEVATION - EAST (BUILDING 2000, 3000)
 1/16" = 1'-0"



3 OVERALL BLDG. ELEVATION - EAST (BUILDING 1000)
 1/16" = 1'-0"

EXTERIOR FINISH LEGEND						
NO.	MATERIAL DESCRIPTION	MANUFACTURER AND COLOR INFORMATION	NO.	MATERIAL DESCRIPTION	MANUFACTURER AND COLOR INFORMATION	GENERAL NOTES
[E1]	LAP SIDING - COLOR 1		[GSH]	NOIHW		
[E2]	LAP SIDING - COLOR 2		[TRM]	TRIM		
[E3]	LAP SIDING - COLOR 3		[SGF]	STOREFRONT GLASS		
[MBV]	MASONRY BRICK VENEER		[PCD]	PRECAST CONCRETE		
[CP1]	CEMENTITIOUS PANEL - COLOR 1		[PDS]	PREFABRICATED DECORATIVE SCREEN		
[CP2]	CEMENTITIOUS PANEL - COLOR 2		[MPC]	METAL CANOPY		
[CP3]	CEMENTITIOUS PANEL - COLOR 3		[TRL]	TRELLIS		
[CP4]	CEMENTITIOUS PANEL - COLOR 4					

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ISSUE	DATE	DESCRIPTION

REVISION	DATE	DESCRIPTION

**COURTYARD
BUILDING
ELEVATIONS**

PERMIT SET - PARKING DECK

JOB NUMBER: 2034402

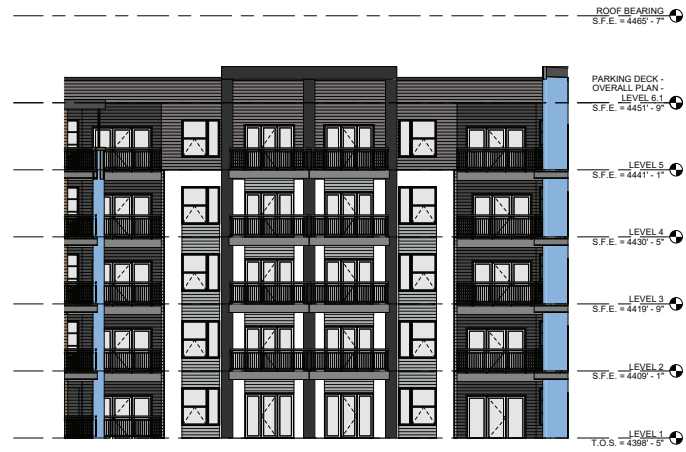
DRAWN BY: OL & VV
CHECKED BY: TT



3 BUILDING 2000 COURTYARD ELEVATION - NORTH
1/8" = 1'-0"



2 BUILDING 2000 COURTYARD ELEVATION - SOUTH
1/8" = 1'-0"



1 BUILDING 2000 COURTYARD ELEVATION - WEST
1/8" = 1'-0"

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ISSUE	DATE	DESCRIPTION

REVISION	DATE	DESCRIPTION

NO.	DATE	DESCRIPTION

NO.	DATE	DESCRIPTION

OVERALL BUILDING SECTIONS

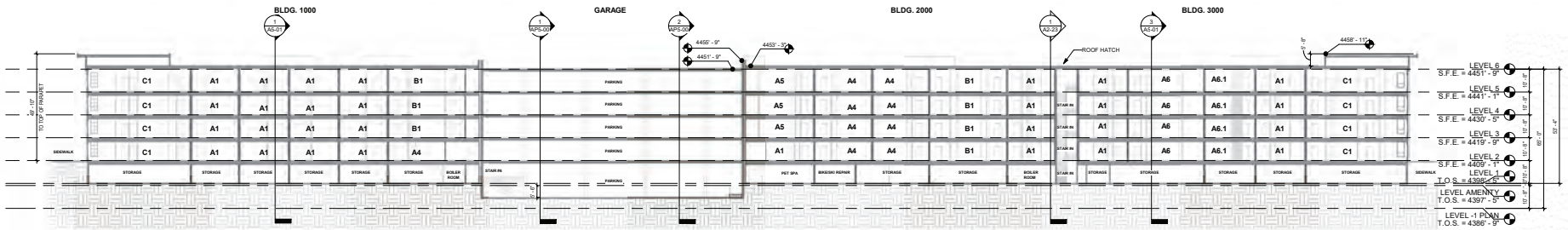
PERMIT SET - PARKING DECK

JOB NUMBER: 2034402

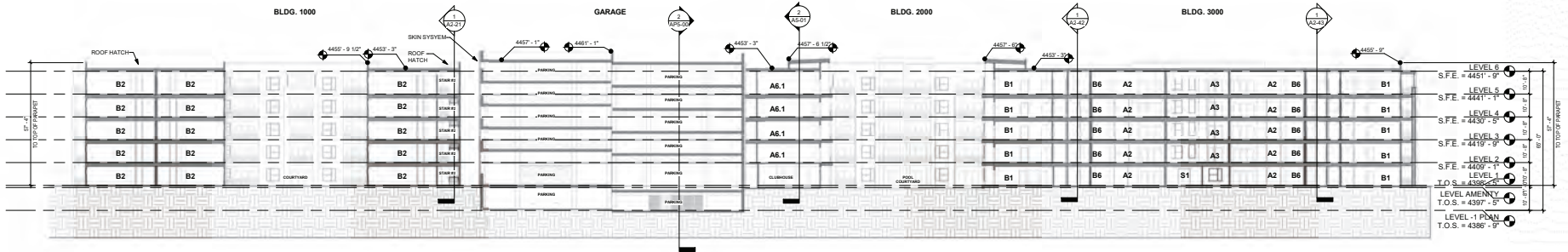
DRAWN BY: OL & VV
CHECKED BY: TT

A5-00

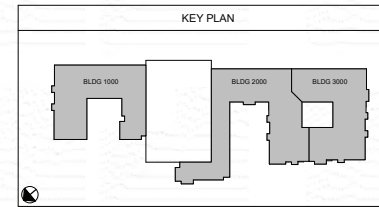
NOT FOR CONSTRUCTION



2 OVERALL BUILDING LONG SECTION B
1" = 20'-0"



1 OVERALL BUILDING LONG SECTION A
1" = 20'-0"



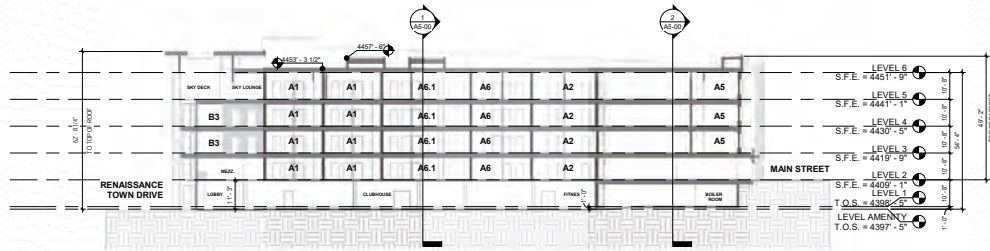
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ISSUE

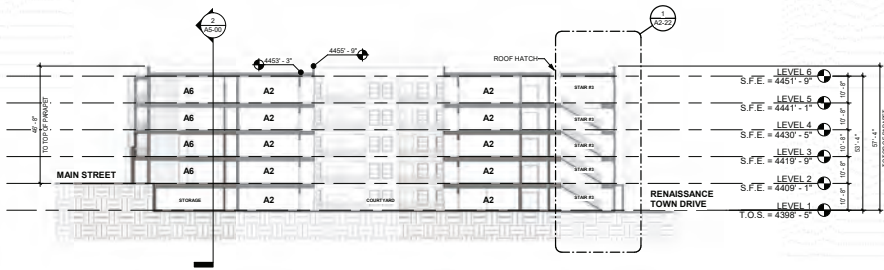
NO.	DATE	DESCRIPTION

REVISION

NO.	DATE	DESCRIPTION



2 OVERALL BUILDING CROSS SECTION BLDG 2000
1" = 20'-0"



3 OVERALL BUILDING CROSS SECTION BLDG 3000
1" = 20'-0"



1 OVERALL BUILDING CROSS SECTION BLDG 1000
1" = 20'-0"

MEMORANDUM

Date: November 8, 2021
 To: Town Center LLC
 From: Hales Engineering



Subject: Bountiful Renaissance Towne Centre Parking Study Update

UT20-1856

Introduction

This memorandum discusses the parking study completed for the proposed Bountiful Renaissance Towne Centre development located in Bountiful, Utah. This site is owned / managed by Town Center LLC, who is requesting this study to evaluate the entire site by time-of-day use. The study identifies the City parking supply rates and time of day parking distributions identified by the Institute of Transportation Engineers (ITE). The proposed development is located in Bountiful, Utah. A vicinity map of the project site is shown in Figure 1.



Figure 1: Site vicinity map of the project in Bountiful, Utah

Project Description

The development consists of various land uses, including residential apartments, medical office, professional office, commercial space, and restaurants. A supply of 1,585 stalls is currently planned for the project. A site plan is provided in Appendix A.

City Parking Code

The Bountiful City code specifies parking rates for various land use types. The required parking rates found in the City code for the study land uses are shown in Table 1.

Table 1: City Parking Rates

Land Use	Unit Type	Rate (stalls per unit)
Commercial	1,000 sq. ft.	5.00
Apartments	dwelling unit	2.00
Medical Office	1,000 sq. ft.	4.00
Professional Office	1,000 sq. ft.	3.33
Restaurant	1,000 sq. ft.	10.00

Source: Bountiful City code, 2021

It should be noted Bountiful city has rates of 1.75, 2.25, and 2.75 stalls per dwelling unit for 1-bedroom, 2-bedroom, and 3-bedroom units, respectively. Based on discussions with the development team and consistent with previous assumptions in earlier iterations of this parking study, it was determined that approximately half of the apartment units will be 1-bedroom units and the other half will be 2-bedroom units with very few 3-bedroom units planned. Therefore, a rate of 2.0 stalls per dwelling unit was used to simplify calculations. The calculations for the parking required by the City are shown in Table 2. As shown, it is anticipated that the City would require 2,273 stalls for the proposed development.

ITE Parking Demand

Hales Engineering referred to the Institute of Transportation Engineers (ITE) *Parking Generation* (5th Edition, 2019) to identify parking demand rates for the study land uses. ITE has gathered actual parking demand counts at various land uses and identified average, 85th percentile, and maximum rates. The 85th percentile rate represents a demand that is higher than 85 percent of study sites. The industry standard is to apply this rate. Hales Engineering calculated the anticipated parking demand based on the 85th percentile rates. The number of stalls needed based on these rates is shown in Table 3. As shown, ITE would suggest that the parking demand for the proposed project will be 1,783 stalls.

Since the ITE rates represent actual parking demand, it is common to provide a parking supply beyond what the anticipated demand is to accommodate occasional surges in demand and to reduce the need for drivers to circle the parking lot to find an open stall. Hales Engineering recommends providing 10% additional stalls beyond the anticipated demand. Based on this, a supply of 1,962 stalls should be provided for the project based on ITE data.

Table 2: City Parking Calculations

Lot #	Land Use	Intensity	Rate	Total Stalls
1	Medical Office	88.2 1,000 sq ft	4.00	353
1	Commercial	24.0 1,000 sq ft	5.00	121
6	Professional Office	6.8 1,000 sq ft	3.33	23
6	Commercial	6.8 1,000 sq ft	5.00	35
7	Professional Office	7.8 1,000 sq ft	3.33	27
7	Commercial	7.8 1,000 sq ft	5.00	40
8	Professional Office	6.9 1,000 sq ft	3.33	23
8	Commercial	6.9 1,000 sq ft	5.00	35
9	Commercial	4.7 1,000 sq ft	5.00	24
9	Apartments	40 dwelling units	2.00	80
10	Professional Office	33.0 1,000 sq ft	3.33	110
10	Commercial	11.0 1,000 sq ft	5.00	55
11	Professional Office	31.3 1,000 sq ft	3.33	105
11	Commercial	15.6 1,000 sq ft	5.00	79
11	Apartments	96 dwelling units	2.00	192
13	Restaurant	8.1 1,000 sq ft	10.00	81
14	Apartments	287 dwelling units	2.00	574
15	Commercial	20.0 1,000 sq ft	5.00	100
16	Apartments	30 dwelling units	2.00	60
17	Restaurant	6.1 1,000 sq ft	10.00	61
18	Restaurant	4.3 1,000 sq ft	10.00	43
19	Apartments	26 dwelling units	2.00	52
TOTAL				2,273

Table 3: ITE Parking Generation

ITE Parking Demand Bountiful - Renaissance Town Centre Lot 14					
Land Use	# of Units	Unit Type	85th %-tile Rate	Demand	Supply (+10%)
Multifamily Housing (Mid-Rise) (221)	479	DU	0.87	417	459
Shopping Center (820)	96.9	1,000 sq. ft.	3.68	357	393
Medical-Dental Office Building (720)	88.2	1,000 sq. ft.	4.59	405	446
General Office Building (710)	85.8	1,000 sq. ft.	3.30	283	311
High-Turnover (Sit Down) Restaurant (932)	18.5	1,000 sq. ft.	17.40	321	353
TOTAL				1783	1962

Source: ITE Parking Generation, 5th Edition, 2019

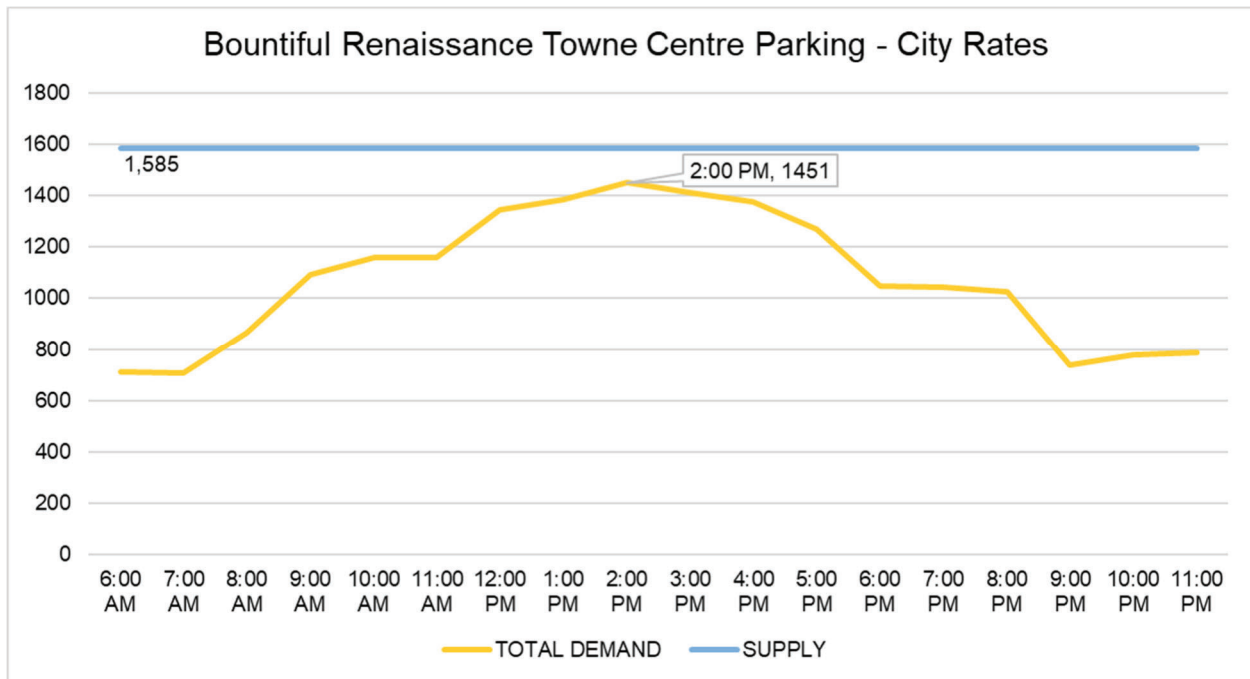
Time-of-Day Distribution

Mixed-use projects tend to have shared parking use depending on the type and intensity of its land uses. The Renaissance Towne Centre project, in particular, is an appropriate site for shared parking use because of the high amount of both office and residential uses. Office space requires parking during the day while residential space primarily requires parking overnight. This study evaluated the comprehensive parking needs of the project and not the individual location of the land uses at the owner’s request.

Hales Engineering applied time-of-day distributions to the required Bountiful City parking rates to determine the maximum anticipated demand when considering shared parking use. Varying parking demands for each land use were obtained from the Institute of Transportation Engineers (ITE), *Parking Generation*, 5th Edition, 2019.

A chart showing the overall time-of-day distribution of the parking on-site is shown in Figure 2. As shown, when considering time-of-day parking distribution, it is anticipated that a maximum demand of 1,451 stalls will be required based on City rates. ***With a planned supply of 1,585 stalls, it is anticipated that there will be sufficient stalls.***

Figure 2: Time-of-day parking distribution



Conclusions and Recommendations

The following are the key findings and conclusions of this study:

- The proposed mixed-use development will consist of medical office, professional office, apartments, retail space, and restaurants. **1,585** total parking stalls will be constructed (supplied) on the site.
- Without reductions, Bountiful City code requires 2,273 parking stalls for the proposed development.
- Based on 85th percentile ITE parking rates plus a 10% factor, it is anticipated that 1,962 parking stalls are needed, with the conclusion that supply will be sufficient for the demand.
- When considering shared parking using Bountiful City parking rates and ITE time-of-day distributions, it is anticipated that a maximum parking demand of **1,451** parking stalls will exist on site on an average weekday.

*Based on potential shared parking, it is anticipated that **1,585 stalls will be sufficient** for the anticipated demand of the land uses in the Renaissance Towne Centre project.*

APPENDIX A

Site Plan

Parking Plan

*Plan is conceptual only and subject to change. This plan is meant to show the development possibilities of the project.

Parking and Access

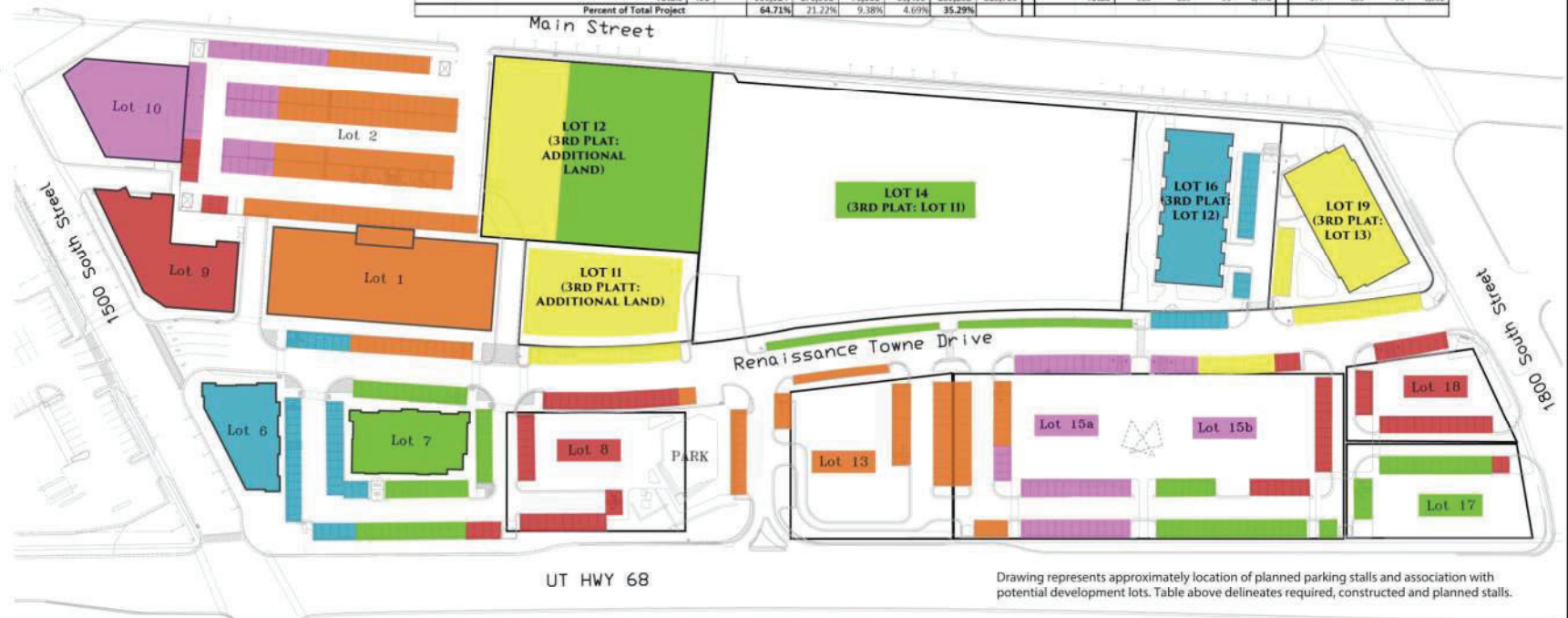
1. Parking stalls may be shared among all Lots throughout the development due to the mixed-use characteristic of the project, with the exception of the dedicated covered stalls associated with residential use. Reciprocal/shared parking is encouraged. The Land Use Authority may allow additional parking reductions during the site plan approval process.
2. Carports are not allowed without Land Use Authority approval.
3. Setbacks: All surface parking areas shall be setback at least 10 (ten) feet from a public street.
4. Residential Units: 1 (one) dedicated, covered parking stall per unit located within the footprint of or adjacent to the structure, with additional required stalls allowed along interior public and private streets, public parking garages and driveways.
5. Development of the individual pad sites needs to be consistent with the number of parking stalls required by the Bountiful City Land Use Code or may be modified by an approved parking study prepared by an accepted professional using the latest industry trends, to be analyzed individually during each Site Plan Review.
6. Parking along Main Street, 1500 South and 1800 South streets will not count towards the minimum parking requirements for this Development.
7. Each Lot submitted for site plan approval shall submit an updated Parking Study prepared by an accepted professional and shall update the Parking Plan table showing the number of planned stalls is equal to or greater than the number of required stalls as determined in the most recent Parking Study.

Dev. Plan Lot #	Platted Lot #	Status	Potential Footprint Sq.Ft.	Potential # of Floors	Potential Property Type					Total Sq.Ft.	Required Parking Stalls						Actual Stalls (Constructed and Planned)				
					Residential	Office	Commercial	Hotel / Entertainment	Total Mixed Use		Subject to the latest Parking Study						Surface Stalls	Parking Structure	Podium Parking Garage	TOTAL STALLS	
											ITE Ratio Other Mixed Use	ITE Ratio Residential	Surface Stalls	Parking Structure	Podium Parking Garage	TOTAL REQUIRED STALLS					
Lot #1	Lot #1	Existing	24,038	5		88,150	24,038			112,188	112,188	3.23		21	342		363	21	342	363	
Lot #6	Lot #6	Existing	6,831	2		6,831	6,831			13,662	13,662	2.39		33			33	40		40	
Lot #7	Lot #7	Existing	7,839	2		7,839	7,839			15,678	15,678	2.39		38			38	44		44	
Lot #8		Future Development	6,861	2		6,861	6,861			13,722	13,722	2.39		33			33	33		33	
Lot #9	Lot #9	Under Construction	11,743	5	40 Units	46,972		4,687		4,687	51,659	1.95	1.31		22	40	62		22	40	62
Lot #10	Lot #10	Future Development	11,000	4			33,000	11,000		44,000	44,000	2.39		6	100		106	18	100	118	
Lot #11		Future Development	15,625	9	96 Units	93,750	31,250	15,625		46,875	140,625	2.39	1.31	142	96		238	142	96	238	
Lot #13		Future Development	8,100	1					8,100	8,100	8,100	9.44					77	86		86	
Lot #14		Future Development	71,429	5	299 Units	334,382				334,382	334,382	1.31	1.31	93	299		392	93	299	392	
Lot #15a		Future Development	9,150	2					9,150	9,150	9,150	1.95		18			18	18		18	
Lot #15b		Future Development	10,850	2					10,850	10,850	10,850	1.95		22			22	22		22	
Lot #16	Lot #12	Site Plan Approved	11,908	4	30 Units	32,420				32,420	32,420	1.95	1.31	10		30	40	13		30	43
Lot #17		Future Development	6,100	1					6,100	6,100	6,100	1.95		12			12	19		19	
Lot #18		Future Development	4,250	1					4,250	4,250	4,250	1.95		9			9	23		23	
Lot #19	Lot #13	Site Plan Submitted	6,150	4	26 Units	23,000				23,000	23,000	1.31		9		26	35	9		26	35
Totals					491	530,524	173,931	76,881	38,450	289,262	819,786										
Percent of Total Project						64.71%	21.22%	9.38%	4.69%	35.29%											
											Totals	523	859	96	1,478	577	859	96	1,532		

Institute of Transportation Engineers (ITE) Parking Generation Ratios

(Parking Ratios from Hales Engineering Study dated March 18, 2019)

- Residential** (Apartments)
1.31 Stalls per Unit
- Medical Office**
3.23 Stalls per 1,000 sq.ft.
- Professional Office**
2.39 Stalls per 1,000 sq.ft.
- Restaurant**
9.44 Stalls per 1,000 sq.ft.
- Other Mixed Use**
1.95 Stalls per 1,000 sq.ft.



Drawing represents approximately location of planned parking stalls and association with potential development lots. Table above delineates required, constructed and planned stalls.

Renaissance Town Centre
Mixed-Use Planned Unit Development
Bountiful City, Davis County, Utah



CivilScience
Engineers | Surveyors | Planners
3160 W Clubhouse Drive, Suite A, Lehi, UT 84043
801-768-7200

Town Center, LLC
1560 S. Renaissance Town Dr.
Bountiful, Ut 84010

Broadhead & Company
1560 S. Renaissance Towne Dr.
Bountiful, Ut 84010

Renaissance Towne Center																							
Potential Parking Plan																							
					Potential Property Type						Required Parking Stalls							Actual Stalls (Constructed and Planned)					
Dev. Plan Lot #	Platted Lot #	Status	Potential Footprint Sq.Ft.	Potential # of Floors	Mixed Use						ITE Ratio Other Mixed Use	ITE Ratio Residential	Surface Stalls	Parking Structures 1 & 2	Other Podium Parking Garages	TOTAL REQUIRED STALLS	Surface Stalls	Parking Structures 1 & 2	Other Podium Parking Garages	TOTAL STALLS			
					Residential	Office	Commercial	Hotel / Entertainment	Total Mixed Use	Total Sq.Ft.													
Lot #1	Lot #1	Existing	24,038	5		88,150	24,038				112,188	112,188	3.23		21	342			363	21	342		363
Lot #6	Lot #6	Existing	6,831	2		6,831	6,831				13,662	13,662	2.39		33				33	40			40
Lot #7	Lot #7	Existing	7,839	2		7,839	7,839				15,678	15,678	2.39		38				38	44			44
Lot #8		Future Development	6,861	2		6,861	6,861				13,722	13,722	2.39		33				33	33			33
Lot #9	Lot #9	Under Construction	11,743	5	40 Units	46,972		4,687		4,687	51,659	51,659	1.95	1.31		22	40		62		22	40	62
Lot #10	Lot #10	Future Development	11,000	4			33,000	11,000		44,000	44,000	44,000	2.39		6	100			106	14	100		114
Lot #11		Future Development	15,625	9	96 Units	93,750	31,250	15,625		46,875	140,625	140,625	2.39	1.31	90	148			238	142	148		290
Lot #13		Future Development	8,100	1					8,100	8,100	8,100	8,100	9.44		77				77	86			86
Lot #14		Future Development	71,429	5	287 Units	320,962				320,962	320,962	320,962		1.31	93	300			376	93	300		393
Lot #15a		Future Development	9,150	2					9,150	9,150	9,150	9,150	1.95		18				18	18			18
Lot #15b		Future Development	10,850	2					10,850	10,850	10,850	10,850	1.95		22				22	22			22
Lot #16	Lot #12	Site Plan Approved	11,908	4	30 Units	32,420				32,420	32,420	32,420	1.95	1.31	10		30	40	43	13		30	43
Lot #17		Future Development	6,100	1					6,100	6,100	6,100	6,100	1.95		12				12	19			19
Lot #18		Future Development	4,250	1					4,250	4,250	4,250	4,250	1.95		9				9	23			23
Lot #19	Lot #11	Site Plan Submitted	6,150	4	26 Units	23,000				23,000	23,000	23,000		1.31	9		26	35	35	9		26	35
Totals						479	517,104	173,931	76,881	38,450	289,262	806,366	806,366	Totals		471	912	96	1,462	577	912	96	1,585
Percent of Total Project						64.13%	21.57%	9.53%	4.77%	35.87%													

Stalls Highlighted in Gray are stalls constructed and in use

Stalls Highlighted in Green are siteplan approved stalls to be constructed

Stalls not Highlighted are planned stalls

Note:
"Other Podium Parking Garages" are Parking Garages built or planned under the Buildings (for example 40 stalls)

City Council Staff Report



Subject: 2021 Moderate Income Housing Plan Report
Author: Francisco Astorga, AICP, Planning & Economic Development Director
Date: December 14, 2021

Background

The Bountiful City Planning & Economic Development Department requests that the City Council review the 2021 Moderate Income Housing Report in order to comply with the requirements of Utah State Senate Bill (SB) 34 (2019), Affordable Housing Modification.

The Utah Municipal Land Use, Development, and Management Act (LUDMA) § 10-9a-408 states that the City Council is to review the moderate-income housing and implementation plan (attachment 1); and post a report of the findings on the city's website.

Analysis

Descriptions of how the City has implemented the adopted housing strategies (listed below) are provided on the 2021 Moderate Income Housing Report (attachment 1).

- Create or allow for, and reduce regulations related to, accessory dwelling units in residential zones
- Allow for higher density or moderate-income residential development in commercial and mixed-use zones, commercial centers, or employment centers;
- Encourage higher density or moderate-income residential development near major transit investment corridors
- Preserve existing moderate-income housing

Department Review

The 2021 Moderate Income Housing Report was prepared by the Planning Director and reviewed by the City Manager.

Significant Impacts

Bountiful continues to have a high percentage of multifamily residential developments relative to the total number of new units constructed. In 2021 (as to the date of this report) a total of 57 new residential units were permitted and under construction, including 34 single family residential units (including duplexes) and 23 multi-family units. Multi-family units constituted forty percent (40%) of the total units permitted and under construction in Bountiful in 2021. These numbers do not include the seven (7) accessory dwelling units (ADUs) administratively approved by the City during the same period.

NOTE: The data reported by Bountiful in the MIH Report are the same this year as they were last year. Unfortunately, the format and data calculator for the MIH report are provided by the Housing and Community Development Division of the Utah Department of Workforce Services (DWS) and does an inefficient job of collecting relevant information based on estimated projects.

The Utah League of Cities and Towns (ULCT) is working with DWS and the State Legislature to create a template that collects accurate information.

Recommendation

Staff requests that the City Council review the 2021 Moderate Income Housing Report. No action is required.

Attachments

1. 2021 Moderate Income Housing Report



BOUNTIFUL CITY

**2021 MODERATE INCOME HOUSING
REPORT**

December 2021

**795 South Main Street
Bountiful, Utah 84010**

Mayor Randy Lewis
rlewis@bountiful.gov

Prepared by:
Francisco Astorga, AICP
Planning and Economic Development Director
fastorga@bountiful.gov
(801) 298-6192

Background

Utah Code Section 10-9a-408 requires that the legislative body of each municipality annually prepare a report which reviews the moderate-income housing plan element of the municipality's general plan and its implementation. This report has been created to fulfill this requirement.

The current Moderate-Income Housing Plan was adopted in September of 2000 with an update in 2007 and another one in 2019. The Bountiful City Planning and Economic Development Department anticipates an update of the General Plan taking place in the next 18-24 months as Bountiful City received a grant to complete the work. The update would include the moderate-income housing element of the plan.

State law requires the moderate-income housing report to include the following:

- a) a revised estimate of the need for moderate income housing in the municipality for the next five years;
- b) a description of progress made within the municipality to provide moderate income housing, demonstrated by analyzing and publishing data on the number of housing units in the municipality that are at or below:
 - i. 80% of the adjusted median family income;
 - ii. 50% of the adjusted median family income; and
 - iii. 30% of the adjusted median family income;
- c) a description of any efforts made by the municipality to utilize a moderate income housing set-aside from a community reinvestment agency, redevelopment agency, or community development and renewal agency; and
- d) a description of how the municipality has implemented any of the recommendations related to moderate income housing described in the state code.

The goals of the moderate-income housing Plan adopted in 2000 continue to apply which include the following:

- a. Meet the needs of as many people as possible who desire to live in Bountiful.
- b. Allow all persons to benefit from and to fully participate in all aspects of neighborhood and community life.
- c. Preserve areas/neighborhoods where affordable housing already exists, in order to provide for low- and moderate-income housing to meet existing and anticipated future needs.
- d. Provide for a full range of housing choices, conveniently located in a suitable living environment, for all incomes, ages and family sizes.
- e. Encourage and maintain a positive neighborhood identity and image.
- f. Encourage neighborhood conservation by giving preference to the renovation and rehabilitation of existing dwelling units, particularly single family units, over the infill construction of new buildings.
- g. Maintain safe levels of traffic flow conducive to residential character.
- h. Encourage the development of vacant lots and the redevelopment of noncontributing buildings with structures of compatible design and character.

- i. Encourage the replacement of or adaptive reuse of vacant structures in multiple-family and mixed use zones.

Description of how the municipality has implemented any of the recommendations related to moderate income housing

The 2019 Moderate Income Housing Plan update included the adoption of the housing planning strategies listed below. The descriptions below each housing strategy describes how the City has implemented the adopted recommendations:

1. Create or allow for, and reduce regulations related to, accessory dwelling units in residential zones

In 2018 the City lifted restrictions on accessory dwelling units (ADUs) allowing for additional opportunities for these affordable housing units throughout all single-family zones in the City. The purposes of the newly adopted standards were to:

- Allow opportunities for property owners to provide social or personal support for family members where independent living is desirable.
- Provide for affordable housing opportunities.
- Make housing units available to moderate income people who might otherwise have difficulty finding homes within the City.
- Provide opportunities for additional income to offset rising housing costs.
- Develop housing units in single-family neighborhoods that are appropriate for people at a variety of stages in the life cycle.
- Preserve the character of single-family neighborhoods by providing standards governing development of accessory dwelling units.

In 2020 the City further fine-tuned ADU standards by removing the maximum percentage as a standard and implemented appropriate parking for older structures that may not meet the current parking requirement when requesting an ADU. In response to HB 82 (2021) the City amended the Land Use Code regarding ADUs and created an administrative review process for internal ADUs. In 2021 the City approved a total of seven (7) ADUs (as of the date of this report).

The City feels confident with the current ADU policy and its current process, that was last amended October of 2021.

2. Allow for higher density or moderate-income residential development in commercial and mixed-use zones, commercial centers, or employment center; and

3. Encourage higher density or moderate-income residential development near major transit investment corridors

(Same description/update for housing strategy 2 and 3 above, as they are closely aligned).

The City currently allows higher residential density along commercial/mixed use zones, including near major transit investment corridors. Since 2016 the City has taken measures to increase allowed densities in the Downtown Mixed-Use Zone (Main Street from 500 South to 400 North), which is also a transit investment corridor, by adopting increased building heights which allows for development of high density multi-family housing on properties where that previously would have not been possible. In 2018 the City further fine-tuned standards in this zone to preserve the mixed-use character of the commercial and residential uses in and adjacent to the Main Street downtown area as this zone designation does not have a maximum units per acre standard.

The City continues to plan for multi-family residential along the future South Davis Bus Rapid Transit corridor. Zone changes along this corridor have been re-approved per an applicant-guided amendment that supports high density residential development at Renaissance Town Center development.

Based on current local market trends, the City feels confident with the current policy which allows and encourages higher density residential development in mixed-used zones, including areas near major transit investment corridors.

4. Preserve existing moderate-income housing

The City recognizes that a large portion of the moderate-income housing inventory in Bountiful consists of older homes built prior to current trends for larger homes. Over sixty five percent (65%) of single-family and duplex dwellings in Bountiful were constructed before 1980. Bountiful City Land Use Code allows flexibility in remodeling and upgrading single-family and duplex dwellings built prior to 1965 that do not currently meet setback requirements and/or that do not have a required attached two (2) car garage. The goal of this criteria was primarily the preservation of these existing, affordable housing areas. In 2018 the City also adopted changes to parking and driveway standards to help these older affordable units to respond to changes in automobile ownership in the past decades. The City also allows for legal non-conforming duplexes in single family zones as a permitted use, thus allowing the preservation, upgrading, and refinancing of these units.

Revised estimate of the need for moderate income housing in the municipality for the next five years

The Housing and Community Development Division of the Utah Department of Workforce Services (DWS) provided calculators as technical assistance to Utah’s local governments in estimating the projected moderate-income housing needs within the geographic jurisdiction over the five-year period, see sections 1-8 below, downloaded from <https://jobs.utah.gov/housing/affordable/moderate/reporting/>.

Section 1: Population by tenure in Bountiful city

Table B01003 Table B25008	2017 American Community Survey	2026 Projection
Total Population: (ACS Table B01003)	43,568	43,667
Total Population in occupied housing units (ACS Table B25008)	43,192	43,758
Total Population in owner-occupied housing (ACS Table B25008)	32,883	30,669
Total Population in renter-occupied housing (ACS Table B25008)	10,309	13,089

Source 1: U.S. Census Bureau. Table B01003: Total population. American Community Survey.

Source 2: U.S. Census Bureau. Table B25008: Total population in occupied housing units by tenure. American Community Survey.

Section 2: Supply of housing units by structure type in Bountiful

Table B25001 Table B25032	2017 American Community Survey	2026 Projection
TOTAL HOUSING UNITS (ACS Table B25001)	14,962	14,487
Total occupied units (ACS Table B25032)	14,326	13,895
Owner-occupied structures (ACS Table B25032)	10,542	9,550
1 unit, detached	9,308	8,471
1 unit, attached	639	563
2 units	132	200
3 or 4 units	170	219
5 to 9 units	109	9
10 to 19 units	80	8
20 to 49 units	19	-16
50 or more units	53	79
Mobile homes	32	74
Boat, RV, van, etc.	0	-57
Renter-occupied structures (ACS Table B25032)	3,784	4,345
1 unit, detached	870	1,283
1 unit, attached	375	526
2 units	457	743
3 or 4 units	806	598
5 to 9 units	347	-30
10 to 19 units	377	346
20 to 49 units	166	264
50 or more units	368	649
Mobile homes	18	-34
Boat, RV, van, etc.	0	0

Source 1: U.S. Census Bureau. Table B25001: Total housing units. American Community Survey.

Source 2: U.S. Census Bureau. Table B25032: Tenure by units in structure. American Community Survey.

Section 3: Housing occupancy in Bountiful city

Table B25003 Table B25081	2017 American Community Survey	2026 Projection
Total households in occupied housing units (ACS Table B25003)	14,326	13,895
Total households in owner-occupied housing (ACS Table B25003)	10,542	9,550
With a Mortgage (ACS Table B25081)	6,824	5,986
Without a Mortgage (ACS Table B25081)	3,718	3,564
Total households in renter-occupied housing (ACS Table B25003)	3,784	4,345

Source 1: U.S. Census Bureau. Table B25003: Tenure. American Community Survey.

Source 2: U.S. Census Bureau. Table B25081: Mortgage status. American Community Survey.

Section 4: Housing vacancy in Bountiful city

Table B25004	2017 American Community Survey	2026 Projection
Total vacant units (ACS Table B25004)	636	592
For rent (ACS Table B25004)	119	118
Rented, not occupied (ACS Table B25004)	22	-18
For sale only (ACS Table B25004)	158	257
Sold, not occupied (ACS Table B25004)	89	23
For seasonal, recreational, or occasional use (ACS Table B25004)	112	120
For migrant workers (ACS Table B25004)	0	0
Other vacant (ACS Table B25004)	136	92

Source 1: U.S. Census Bureau. Table B25003: Tenure. American Community Survey.

Section 5: Average household size in Bountiful

Table B25010	2017 American Community Survey	2026 Projection
Average Household Size (ACS Table B25010)	3.01	3.15
Average Owner Household Size (ACS Table B25010)	3.12	3.21
Average Renter Household Size (ACS Table B25010)	2.72	3.01

Source 1: U.S. Census Bureau. Table B25010: Average household size of occupied housing units by tenure. American Community Survey.

Section 6: Monthly housing costs in Bountiful city

Table B25088 Table B25064	2017 American Community Survey	2026 Projection
Total owner-occupied housing unit costs (ACS Table B25088)	\$1,221	\$1,269
Units with a mortgage (ACS Table B25088)	\$1,580	\$1,594
Units without a mortgage (ACS Table B25088)	\$431	\$511
Median gross rent (ACS Table B25064)	\$959	\$1,171

Source 1: U.S. Census Bureau. Table B25088: Median selected monthly owner costs (Dollars) by mortgage status. American Community Survey.

Source 2: U.S. Census Bureau. Table B25064: Median gross rent (Dollars). American Community Survey.

Section 7: Median household income in Bountiful city

Table B25119	2017 American Community Survey	2026 Projection
Median household income (ACS Table B25119)	\$69,611	\$68,523
Owner-occupied income (ACS Table B25119)	\$84,506	\$84,889
Renter-occupied income (ACS Table B25119)	\$44,545	\$53,609

Source 1: U.S. Census Bureau. Table B25119: Median household income that past 12 months by tenure. American Community Survey.

Section 8: Davis County Area Median Income (AMI)*

Table B19019 Table B19119	2017 American Community Survey	2026 Projection
Median HOUSEHOLD income(ACS Table B19019)	\$75,961	\$122,602
1-person household	\$36,438	\$36,934
2-person household	\$73,397	\$75,729
3-person household	\$82,974	\$94,657
4-person household	\$85,642	\$92,002
5-person household	\$92,481	\$99,838
6-person household	\$95,779	\$104,404
≥ 7-person household	\$97,103	\$93,143
Median FAMILY income (ACS Table B19119)	\$83,850	\$90,475
2-person family	\$74,157	\$78,382
3-person family	\$81,473	\$94,585
4-person family	\$85,332	\$88,859
5-person family	\$91,280	\$98,872
6-person family	\$96,175	\$104,125
≥ 7-person family	\$96,614	\$92,404

Source 1: U.S. Census Bureau. Table B19019: Median household income that past 12 months by household size. American Community Survey.

Source 2: U.S. Census Bureau. Table B19119: Median family income in the past 12 months by family size. American Community Survey.

*NOTE: AMI is calculated at the COUNTY level.

Description of progress made within the municipality to provide moderate income housing, demonstrated by analyzing and publishing data on the number of housing units in the municipality that are at or below 80%, 50%, and 30% of the adjusted median family income

The Utah Housing and Community Development Division of the Utah DWS provided calculators as technical assistance to Utah’s local governments in describing the progress made by each geographic jurisdiction as found below, downloaded from <https://jobs.utah.gov/housing/affordable/moderate/reporting/>.

Calculate the municipality's housing gap for the current year by entering the number of moderate-income renter households, affordable and available rental units from TABLE 1 below:

2020 Shortage	Renter Households	Affordable Rental Units	Available Rental Units	Affordable Units - Renter Households	Available Units - Renter Households
≤ 80% HAMFI	14,890	24,074	14,499	9,184	-391
≤ 50% HAMFI	8,510	12,110	5,495	3,600	-3,015
≤ 30% HAMFI	4,250	3,550	1,500	-700	-2,750

Calculate the municipality's housing gap for the previous annual by entering the number of moderate-income renter households, affordable and available rental units from TABLE 2 below:

2019 Shortage	Renter Households	Affordable Rental Units	Available Rental Units	Affordable Units - Renter Households	Available Units - Renter Households
≤ 80% HAMFI	0	0	0	0	0
≤ 50% HAMFI	0	0	0	0	0
≤ 30% HAMFI	0	0	0	0	0

Subtract Table 2 from Table 1 to estimate progress in providing moderate-income housing

PROGRESS	Renter Households	Affordable Rental Units	Available Rental Units	Affordable Units - Renter Households	Available Units - Renter Households
≤ 80% HAMFI	14,890	24,074	14,499	9,184	-391
≤ 50% HAMFI	8,510	12,110	5,495	3,600	-3,015
≤ 30% HAMFI	4,250	3,550	1,500	-700	-2,750

HAMFI - HUD Area Median Family Income

Description of any efforts made by the municipality to utilize a moderate income housing set-aside from a community reinvestment agency, redevelopment agency, or community development and renewal agency

The City does not currently have any municipally sponsored programs subsidizing affordable housing, but there are a number of state and federally subsidized units in Bountiful City. The City currently has a total of 17 units subsidized by the Olene Walker Housing Loan Fund and an additional 167 units subsidized by the Low Income Housing Tax Credit program. The City also currently has 87 units which receive Section 8 vouchers. Bountiful currently provides information to residents regarding the programs of the Utah Housing Corporation over the counter/phone but could provide better links to this information on the City website. The Redevelopment Area of Bountiful City does not include a housing set-aside because it was approved prior to this requirement being adopted into State law. The City has not waived development fees for Moderate Income Housing in the past but has provided assistance in the form of low interest loans to mixed use developments containing multifamily residential units.

Progress Made

Bountiful continues to construct a high percentage of multifamily residential development relative to the total number of new units constructed. In 2021 (as to the date of this report) a total of 57 new residential units were permitted and under construction, including 34 single family residential units (including duplexes) and 23 multi-family units. Multi-family units constituted forty percent (40%) of the total units permitted and under construction in Bountiful in 2021. These numbers do not include the 7 accessory dwelling units administratively approved by the City during the same period.

Coordination with Neighboring Municipalities

Bountiful City actively participates with Utah League of Cities and Towns and Wasatch Front Regional Council to coordinate regional issues such as transportation and housing.

Conclusion

With the recent construction of multifamily throughout the City including near transit investment corridors including mixed use zones, the further fine-tuning of accessory dwelling units standards, Bountiful has administered policies that continue to support the provision of moderate-income housing within the City. The City provides a high percentage of multi-family/affordable housing options for moderate income persons residing in or desiring to reside within the City.

City Council Staff Report



Subject: National Opioid Settlement Participation
Author: Clinton Drake
Dept: City Attorney
Date: December 14, 2021

Background

For several years the State of Utah and other states, have been involved in litigation with several pharmaceutical companies regarding those companies' respective involvement in the opioid epidemic. Nationwide settlements have been reached with the three largest pharmaceutical distributors: McKesson, Cardinal Health and AmerisourceBergen, and manufacturer Janssen Pharmaceuticals, Inc. and its parent company Johnson & Johnson. These settlements will provide substantial funds to states and their respective political subdivisions for abatement of the opioids epidemic and will impose changes in the way opioid manufacturers conduct business. The parties have tentatively agreed to a settlement, the scope and amount of which is still to be determined depending on how many cities and counties participate (sign-on) in the settlement. The sign-on deadline for cities is January 2, 2022.

After the sign-on deadline date, the states and pharmaceutical companies will determine whether the participation rate is sufficient for the settlement to move forward.

Analysis

If the settlement is adopted, opioid distributors will pay a maximum of \$21 billion over 18 years, and manufacturers will pay a maximum of \$5 billion over nine years. It is estimated that \$22.8 billion in settlement proceeds will go to state and local political subdivisions. At least 85% of those funds must be used for abatement of the opioid epidemic.

Settlement proceeds are expected to be available April 2022 and must be utilized for pre-approved uses such as intervention, treatment, education, and recovery services. The settlement also prohibits marketing, sales, and lobbying efforts involving opioid products for ten years and implements regulation to better detect suspicious opioid orders.

If the City would like to participate it is important that the City opt in or sign on to the settlement. This is done by approving the attached Resolution 2021-24 and Settlement Participation Form. The extent of the participation by states and local governments will

determine whether the settlement agreement takes effect as parties have the option to walk away if they are not satisfied with levels of participation. Participation levels also affect how much money settling parties will receive. Essentially, the greater the level of participation, the more funds will be paid out.

The State has already agreed to a settlement amount of \$151 million. If counties and cities agree to join with the state, the amount will increase to \$270 million and could be shared with counties for more local benefit.

The State has already agreed to a settlement amount of \$151 million. If counties and cities agree to join with the state, the amount will increase to \$270 million and could be shared with counties for more local benefit.

Department Review

This Staff Report was prepared by the City Attorney and reviewed by the City Manager.

Significant Impacts

No significant impacts.

Recommendation

It is recommended that the City Council approve the Resolution 2021-24 authorizing the participation in a potential opioid settlement.

Attachments

Sample Settlement Participation Form
Bountiful City Resolution 2021-24

Settlement Participation Form

Governmental Entity:	State:
Authorized Signatory:	
Address 1:	
Address 2:	
City, State, Zip:	
Phone:	
Email:	

The governmental entity identified above (“Governmental Entity”), in order to obtain and in consideration for the benefits provided to the Governmental Entity pursuant to the Settlement Agreement dated July 21, 2021 (“Janssen Settlement”), and acting through the undersigned authorized official, hereby elects to participate in the Janssen Settlement, release all Released Claims against all Released Entities, and agrees as follows.

1. The Governmental Entity is aware of and has reviewed the Janssen Settlement, understands that all terms in this Election and Release have the meanings defined therein, and agrees that by this Election, the Governmental Entity elects to participate in the Janssen Settlement and become a Participating Subdivision as provided therein.
2. The Governmental Entity shall, within 14 days of the Reference Date and prior to the filing of the Consent Judgment, dismiss with prejudice any Released Claims that it has filed.
3. The Governmental Entity agrees to the terms of the Janssen Settlement pertaining to Subdivisions as defined therein.
4. By agreeing to the terms of the Janssen Settlement and becoming a Releasor, the Governmental Entity is entitled to the benefits provided therein, including, if applicable, monetary payments beginning after the Effective Date.
5. The Governmental Entity agrees to use any monies it receives through the Janssen Settlement solely for the purposes provided therein.
6. The Governmental Entity submits to the jurisdiction of the court in the Governmental Entity’s state where the Consent Judgment is filed for purposes limited to that court’s role as provided in, and for resolving disputes to the extent provided in, the Janssen Settlement.
7. The Governmental Entity has the right to enforce the Janssen Settlement as provided therein.

8. The Governmental Entity, as a Participating Subdivision, hereby becomes a Releasor for all purposes in the Janssen Settlement, including but not limited to all provisions of Section IV (Release), and along with all departments, agencies, divisions, boards, commissions, districts, instrumentalities of any kind and attorneys, and any person in their official capacity elected or appointed to serve any of the foregoing and any agency, person, or other entity claiming by or through any of the foregoing, and any other entity identified in the definition of Releasor, provides for a release to the fullest extent of its authority. As a Releasor, the Governmental Entity hereby absolutely, unconditionally, and irrevocably covenants not to bring, file, or claim, or to cause, assist or permit to be brought, filed, or claimed, or to otherwise seek to establish liability for any Released Claims against any Released Entity in any forum whatsoever. The releases provided for in the Janssen Settlement are intended by the Parties to be broad and shall be interpreted so as to give the Released Entities the broadest possible bar against any liability relating in any way to Released Claims and extend to the full extent of the power of the Governmental Entity to release claims. The Janssen Settlement shall be a complete bar to any Released Claim.
9. In connection with the releases provided for in the Janssen Settlement, each Governmental Entity expressly waives, releases, and forever discharges any and all provisions, rights, and benefits conferred by any law of any state or territory of the United States or other jurisdiction, or principle of common law, which is similar, comparable, or equivalent to § 1542 of the California Civil Code, which reads:

General Release; extent. A general release does not extend to claims that the creditor or releasing party does not know or suspect to exist in his or her favor at the time of executing the release that, if known by him or her, would have materially affected his or her settlement with the debtor or released party.

A Releasor may hereafter discover facts other than or different from those which it knows, believes, or assumes to be true with respect to the Released Claims, but each Governmental Entity hereby expressly waives and fully, finally, and forever settles, releases and discharges, upon the Effective Date, any and all Released Claims that may exist as of such date but which Releasors do not know or suspect to exist, whether through ignorance, oversight, error, negligence or through no fault whatsoever, and which, if known, would materially affect the Governmental Entities' decision to participate in the Janssen Settlement.

10. Nothing herein is intended to modify in any way the terms of the Janssen Settlement, to which Governmental Entity hereby agrees. To the extent this Election and Release is interpreted differently from the Janssen Settlement in any respect, the Janssen Settlement controls.

I swear under penalty of perjury that I have all necessary power and authorization to execute this Election and Release on behalf of the Governmental Entity.

Signature: _____

Name: _____

Title: _____

Date: _____



BOUNTIFUL

BOUNTIFUL CITY, UTAH RESOLUTION NO. 2021-24

MAYOR
Randy C. Lewis
CITY COUNCIL
Kate Bradshaw
Millie Segura Bahr
Kendalyn Harris
Richard Higginson
Chris R. Simonsen
CITY MANAGER
Gary R. Hill

A RESOLUTION APPROVING AND AUTHORIZING PARTICIPATION IN THE NATIONAL OPIOID SETTLEMENT AGREEMENT.

WHEREAS, the opioid epidemic has cost thousands of lives across the country and the State of Utah and has adversely impacted Bountiful City and its residents through, among other things, the costs of delivering emergency medical, law enforcement, criminal justice, mental health, substance abuse, and other services, and

WHEREAS, the State of Utah has been involved in litigation concerning the opioid epidemic and its impact on the State and its political subdivisions; and

WHEREAS, the State of Utah and certain opioid manufacturers and distributors have reached a proposed settlement; and

WHEREAS, the scope and amount of the proposed settlement depends on the participation levels of political subdivisions in the State; and

WHEREAS, Bountiful City is political subdivision of the State of Utah as defined in the Utah Code; and

WHEREAS, the Bountiful City Council finds that participation and signing on to the settlement increases the amount of settlement funds that will be distributed to the State of Utah and its political subdivisions and is in the best interests of the health, safety, and welfare of the City and its citizens.

NOW, THEREFORE, BE IT RESOLVED by the City Council of Bountiful City, Utah, as follows:

Participation in the National Opioid Settlement Agreement is hereby approved, and Staff is authorized to execute any and all necessary applications or other needed documents to effectuate the City's participation with the State of Utah in the Agreement.

**APPROVED, PASSED AND ADOPTED BY THE BOUNTIFUL CITY COUNCIL THIS
14TH DAY OF DECEMBER 2021.**

Randy C. Lewis, Mayor

ATTEST:

Shawna Andrus, City Recorder

City Council Staff Report



Subject: Public Notice of City Council's Meeting Schedule
Author: Gary Hill, City Manager
Date: 14 December 2021

Background

Under Utah Code Section 52-4-202 of the Utah Code (in the Open & Public Meetings Act), the City Council "shall give public notice at least once each year of its annual meeting schedule," and "shall specify the date, time, and place of the scheduled meetings."

Analysis

The City Council can meet when it wants to. In the 1980s and 1990s it met every Wednesday. For the last 20 years or so it has met on the second and fourth Tuesdays, which can be changed at the Council's discretion.

The Public Notice given here announces that Bountiful City Council meetings "shall take place the second and fourth Tuesdays of each month." However, it notes that there will be no meeting on Tuesday, November 22.

Department Review

This Public Notice has been reviewed by the City Manager and the City Attorney.

Significant Impacts

There are no significant impacts from this action.

Recommendation

It is recommended that the City Council approve the Public Notice of Bountiful City Council Meetings in 2022 and meet on the second and fourth Tuesdays of each month.

Attachments

The Public Notice of Bountiful City Council Meetings in 2022.

PUBLIC NOTICE

Pursuant to UCA 52-4-202(2), the City of Bountiful hereby gives public notice of its annual meeting schedule for 2022. Regular meetings of the City Council shall take place the second and fourth Tuesdays of each month, unless otherwise advertised. City Council meetings shall be held at the Bountiful City Hall, unless otherwise advertised. The meetings will begin promptly at 7:00 p.m.

Some meetings will have a work session beginning at 6:00 p.m., which is open to the public.

The City Council may meet as a Redevelopment Agency Board of Directors. These meetings shall take place in the City Council Chambers at City Hall, and shall begin after City Council meeting as needed, unless otherwise advertised.

The Council will not meet on Tuesday, November 22.

All meetings of the City Council shall be open to the public, and the public is invited to attend the meetings of the City Council and the Redevelopment Agency, except where the City Council or Redevelopment Agency Board meet in Closed Session upon proper public notice and for the purposes outlined in UCA 52-4-205.

In addition to the above scheduled regular meetings, the City Council may, from time to time, meet in special session as needed, and such meetings will be advertised by legal notice to the public in accordance with UCA 52-4-202.

Dated this 14th day of December, 2021.

Gary R. Hill
City Manager