OREM CITY

WATER MASTER PLAN

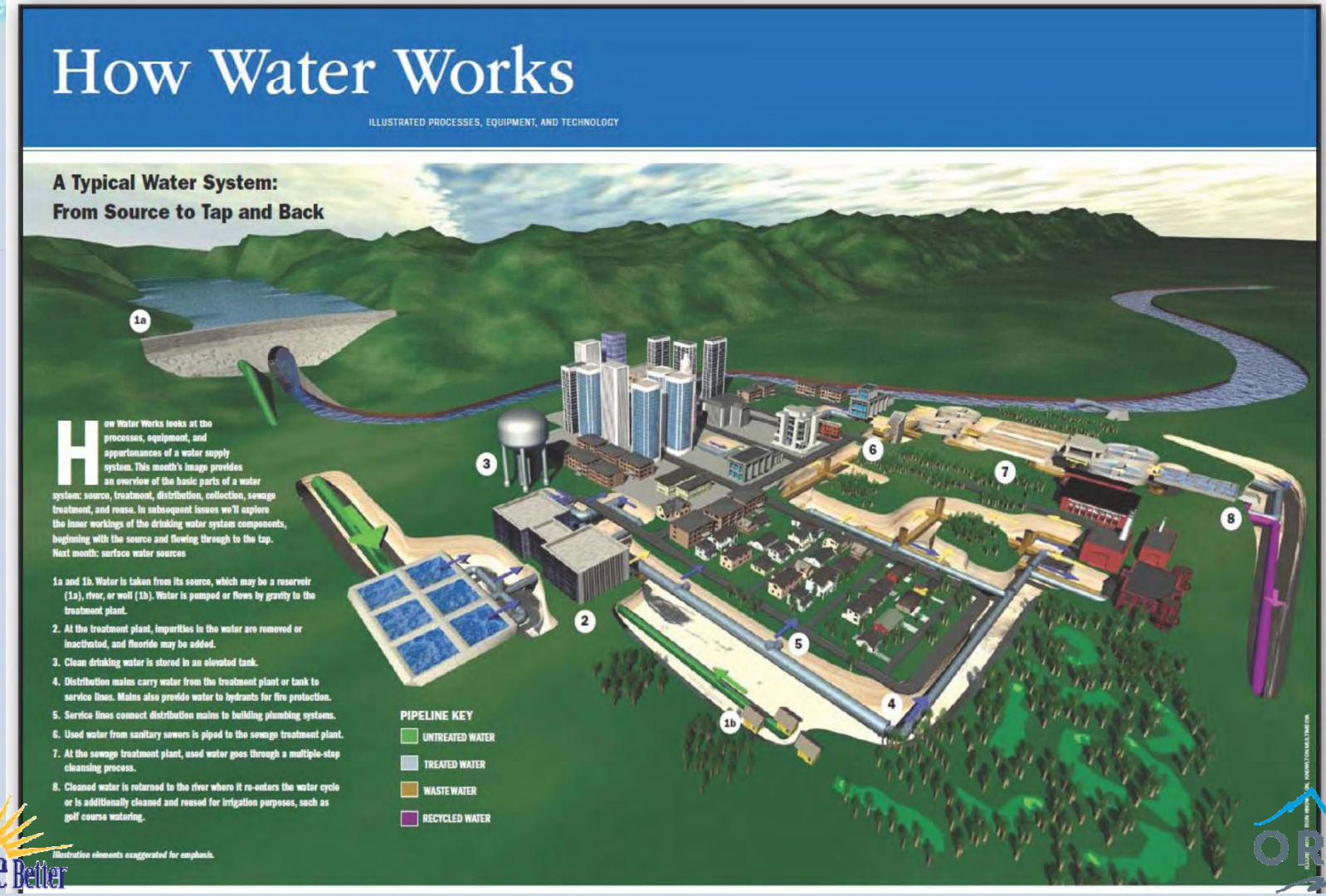
City Council
Work Session

April 12, 2016

OBJECTIVES

1. Approve the Water Master Plan.
2. Recommend a Financial Plan.
   A. Recommend FY 2017 Rate

WATER SYSTEMS 101



Making Life Better

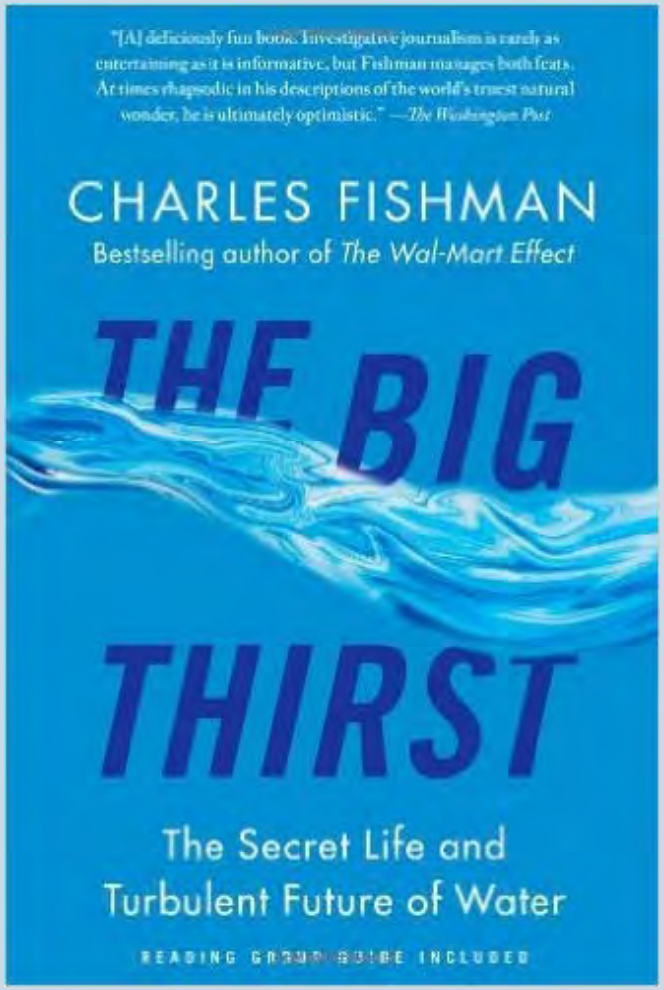
OREM

WATER SYSTEMS 101

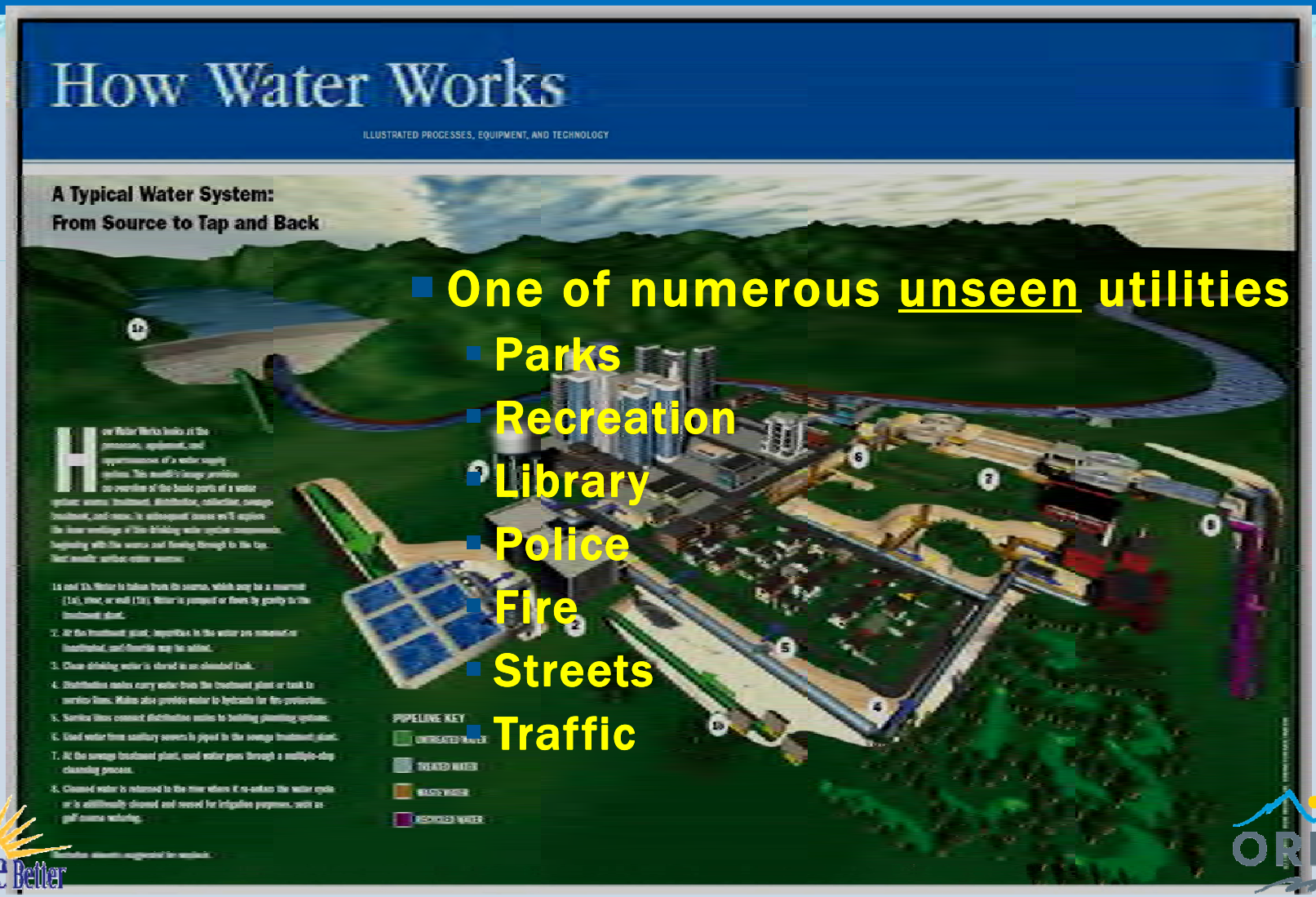
1. Sources - rights
   A. MWDO – Surface Water, Canal Companies, PRWUA, CUP
   B. Wells
   C. Springs
2. Conveyance
   A. Provo River, Weber River, Duchesne River, Olmsted, Salt Lake Aqueduct, Alpine Aqueduct
   B. CUWCD - Treatment
3. Storage – 22 MG
4. Distribution – 354 miles of pipes

WATER UTILITY CHALLENGES

- "The Big Thirst" Charles Fishman
- Visible Services vs. Invisible
  - Hypothesizes that the "invisibility" of water systems and prevalent philosophies on water being free (of cost) are its biggest vulnerabilities.



WATER UTILITY INFO



- One of numerous <u>unseen</u> utilities
  - Parks
  - Recreation
  - Library
  - Police
  - Fire
  - Streets
  - Traffic

Making Life Better

OREM

OREM WATER

- 60%
  - Surface
- 25%
  - 9 Deep Wells, 600-900 Feet
- 15%
  - Alta Springs and Canyon Springs
- CUWCD
  - Treatment, Conveyance, Reservoir Storage
- Vineyard
  - Interlocal agreement, pass-through, MWDO
- Wise Water Use
  - CUWCD, website, Example - parks

UTAH DEPARTMENT of ENVIRONMENTAL QUALITY
WATER QUALITY

Making Life Better

OREM

HISTORY 1953

THURSDAY, MAY 28, 1953
Utah County, Utah

$1 (1953) =

$8.85 (2016)

Orem City Dads Study $1 Hike in Water Rates

OREM—City fathers in Orem are contemplating a small hike in water rates to defray costs on needed improvements in the water system.

According to Mayor Loveless, several Orem citizens who are getting extremely inadequate service have indicated a willingness to have $1 added to their monthly bill to pay for the installation of more efficient water lines.

The list is long and becoming longer where inadequate water pipes makes water pressure so low that "some people wonder if their home is connected to the city water lines" according to the mayor.

He was particularly anxious to spend this time putting the water system in Orem in better shape before the enormous task and expense of putting in a complete sewer system is upon the city. It was the feeling of the council that the citizens would rather spend a little now instead of so much all at once.

Mayor Loveless pointed out that with the 2500 water connections, the city could collect in extra revenues of $1 per month, the sum of $25,000 to $30,000 in a year. He felt this would pay for a lot of new water lines with pipes adequate to serve the community.

He asked that citizens either call him at the city hall at 0810R1 or write him a letter stating their feelings on the subject because the council would prefer to know the opinions of the people before a rate increase is ordered.

HISTORY 1955

Orem on Threshold of New Expansion; Home Building Booms

Applications to Build New Homes Pouring In

"It is usually the habit of most individuals to take stock of themselves upon the arrival of a new year and likewise at this time, Orem city as a community of citizens endeavors to weigh its prospects for the year of 1955 and the accomplishments it has gained in the past year to make Orem a better city," says City Manager O. V. Farnsworth.

"Nature has already provided Orem with a good place to live, including clean mountain air, plenty of snow and rain, beautiful scenery and seclusion, and it is the role of the city officials to complete the atmosphere by providing the remaining comforts such as sufficient domestic water, sanitary facilities, modern roads, resorts and parks and protection from law violators," he said.

With Orem's new form of government of city manager working cooperatively with the council and the mayor, Orem has made strides in gaining new water sources, plans for a sanitary sewer and improvement of roads and water system.

Apparently the results from the above improvements are beginning to show as illustrated by the numerous applications for new homes and the many favorable comments relative to Orem as a pleasant community in which to reside. At the present time, there are aplications in for 215 new homes, with the prospect of doubling this figure when the building program gets under way.

Mayor LeGrande Jarman, council members, V. Emil Hansen, Howard Hall, David Howley Jr. Parlell Peterson and Weston Kofford and City Manager Farnsworth, extend their appreciation and thanks to the people of Orem for their opportunity in making Orem a better community in which to reside.

Manager of Scera M. Dover Hunt had this to say: "There is no way now of stopping Orem's growth. It is snowballing and I expect to see the population grow faster than it has in the past. I am planning to stay and watch Orem grow."

A statement from the Orem Chamber of Commerce was made by president Joseph T. Smith: "I firmly believe that Orem is on the threshold of great expansion what with the present construction of Consolidated Western Pipe Plant and the proposed construction of the ammonia plant by the Geneva Steel Company.

"It is the aim of the Orem Chamber of Commerce this year to interest capital into coming into Orem and creating a shopping center.

OREM PROBLEMS ARE THEIR PROBLEMS—M. Dover Hunt, Scera manager; Joseph T. Smith, Orem Chamber of Commerce president; and O. V. Farnsworth, city manager, get together to discuss Orem community problems and the relationship of their respective organizations in working for progress of the city.

Post Office May Rate First Class

OREM—A first-class status for the Orem Post Office will soon be attained if postal receipts continue to climb at the present rate.

Receipts are up 20 per cent higher this year than in the previous year and if there is a 30 per cent increase over the 1954 record, it will bring the post office up to the $40,000 bracket necessary to boost it into first-class status.

Clyde E. Weeks Jr., postmaster, reported that postal receipts for 1954 totaled $29,915.30 compared with $24,936.22 for 1953 showing an increase of $5,079.08.

'A GOOD PLACE TO LIVE'—Orem is a fine residential area, with many new subdivisions under construction or completed in the past several years. Above is a view of some of the homes in the new Philo T. Edwards Subdivision, one of the many new residential areas of moderately-priced homes.

$100,000 Road Widening Project Okehed

OREM—Another facet of progress in Orem is shown in the approval of a $100,000 project in road widening recently approved by the Utah State Road Commission. The road will be widened on Eighth North, the widely used canyon road from State Street to Olmsted. The project is part of the federal aid highway construction program for 1955-56 and is sponsored through the state road commission and is part of a $11,168,000 program.

The project was initiated through the Orem Chamber of Commerce under the direction of the president, Clyde E. Weeks Jr. and D. H. Whittenberg, chairman of the Utah State Road Commission. This road has been dangerously narrow and has been the cause of much concern of Orem citizens for some time and the Chamber were very glad that the project had a satisfactory conclusion since it has been recognized as a traffic problem for a long time.

Columbus' voyages to the New World were in 1492, 1493 and 1494 (same voyage), 1498 and 1502.

Orem Notes Terrific Building Pace;

By MRS. KEN WHITWOOD

OREM—Orem—the city of tomorrow. This city of phenomenal growth has only just begun to grow as Utah County extends in its industrial expansion. The building has spurted ahead to an unheard-of figure of over 300 per cent in the past 10 years and has doubled itself in the past five years.

According to building report figures over the past few years, it showed in 1951, building permits of $1,115,130; 1952, $1,542,575; 1953, $2,229,350; and in 1954, $2,484,575.

During the past year, a number of new subdivisions have been started to take care of the rise in population. One of the largest is of Cherry Lane Estate on canyon road where 125 homes are being erected of a smart-looking construction material and the three-bedroom homes are moderately priced. Forty-five homes have already been constructed by the Atlantis Investment Company of Pueblo, Colo.

Another fine subdivision is the Orchard Acres which features large plate glass front construction with 20 homes to be built. This subdivision of average cost homes is located at Sixth North and 680 West just east of the Beverly subdivision by the Stein-McClintock Real Estate Co. Two rows of the homes have already been constructed. This company is also constructing Clark Acres, 12 homes located at Eleventh South and Eighth East.

The Monterey Gardens located northeast of Safeway stores is going to be a deluxe type of subdivision with homes to be sold as constructed and a possible 20 homes to be built by Paul Errierson.

The Livable Home subdivision just north of the Timp-View Drive-In has five homes begun and a considerable number more to be built by Dell Kenner.

The Allen subdivision located just north of Beverly subdivision on Seventh West and Seventh North where eight homes have been built by D. Orlo Allen. The Jensen Lake View subdivision is constantly increasing and so is the Geneva Gardens built by E. H. Johnson.

Subdivisions which have been approved by the planning commission include the Artemis A. Newell subdivision located between 400 and 600 North where a group of 30 frame homes are to be built. The plot plan for the Alred subdivision between 600 and 800 West and Center and First South has been approved where a total of 69 brick and frame homes will be built.

A plot plan for Dirker and Duffin subdivision located between First and Second South between Third East and Fourth East, 29 deluxe homes ranging in price between $18,000, and $25,000 are in the planning stage.

Orem Business District Grows

Orem's business district is growing gradually, with the addition of many new business houses during the past few years.

The city has the longest business district in the county. It stretches along most of the length of Highway 91 which traverses the community.

OREM HAS FINE RECREATION SETUP

Orem boasts one of the most outstanding recreation programs in the state.

The program is fostered by the Scera organization and the city

2-C SUNDAY HERALD
SUNDAY, MARCH 6, 1955
Utah County, Utah

Development Of Water Progresses

OREM — Orem's rapid rate of growth has called for expansion in water facilities and the need has been essential to obtain more water before industry and home construction could continue at the present rate of growth.

Recognizing this fact, the mayor, city manager and council members and the citizens water committee working in conjunction with the Metropolitan water board of Orem have constantly been on the look-out for possible sources of additional water supply.

A big boost in the culinary water supply is the new well drilled at Eighth East and 16th South which proved such a success. Drilled to the depth of 700 feet the well showed the capacity for producing over nine second feet of water per minute but the engineer recommended pumping between six and seven second feet of water per minute to insure a stable underground water table.

Another project which promises a new supply of water for Orem is the piping of the Alta Ditch which will increase the flow of that spring from 50 per cent of the 10 second feet in the winter to two to three additional second feet in the summer. The water is lost through seepage, clogging and in the winter through snow and ice. The project of piping the 4½ miles of ditch with cost approximately $184,000 and will be financed jointly with the Alta Ditch Co. and Orem city according to stock owned with Orem city financing 34 per cent. The council have indicated that enough funds from the water budget are available to take care of this project without raising either the mill levy or water rates.

HISTORY 1955

OREM

NEW WELL—Orem city officials look over the new well just drilled which will furnish Orem with seven additional second feet of fresh spring water.

BEAUTIFUL SUNSET VISTA HOMES—Orem is justly proud of her city of fine homes, a credit to any community and an evidence of her top rank in the cities of Utah.

ORCHARD ACRES SUBDIVISION—One of the nicer, moderate priced home subdivisions located just east of the present Beverly subdivision. This group of homes show modern design combined with moderate price.

POPULATION AND GROWTH

Orem, already the fifth largest city in Utah, has had the most Phenomenal growth of any city in the West. With a population nearing 12,000 with the two-thirds growth in the past ten years, new homes are being built in the area at the rate of 30 or 40 each month with plot plans for subdivisions from 10 to 150 homes being approved regularly. And most citizens agree the expansion has just begun.

COMMERCIAL EXPANSION

Orem's 25 square miles situated in lush Utah Valley at the base of Utah's "Alps" offers plenty of room and facilities for commercial expansion. Geneva Steel Company is the magnet which continues to draw in new industries and progressive citizens see a shopping center in the near future for Orem.

RECREATION

Every citizen in Orem owns a personal stake in Orem's recreational center, the nationally famous Scera. This lovely motion picture theatre is not only used as a public auditorium for all big occasions, the lounge for club meetings, but all the profits from the motion pictures is used in maintaining and operating one of the finest swimming pools in the county. Orem also has one of the most inclusive recreational programs in the nation, for all ages.

DEVELOPMENTS

Orem City is planning developments such as the Orem city park and the canyon park to further add to its desirability as a place to live. The city is already beginning work on a new softball park adjoining the other field, a children's playground, picnic areas and large additions of lawns and trees. The longest Main Street of any city in Utah and the long stretches, part rural and part city which have been difficult to service with water, sewer and other improvements are gradually being overcome as Orem continues to grow and fill in the thinly populated areas and which has made city developments such a financial hurdle in the past, even though they have maintained one of the lowest tax levies in the county due to judicious city officials.

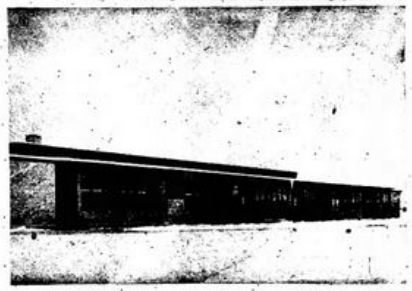
EDUCATION

Orem's unprecedented growth has demanded more and more schools. In only a few short years, since the war, Orem has added four new elementary schools to the four used previously: the Geneva, Westmor, Hill Crest and Sharon, all of the most modern in design and functional use. At present, ground will be broken this spring for the new Orem high school which will accommodate 1200 students.

CULINARY WATER SUPPLY

Water facilities are keeping pace with residential and commercial growth. A new well tapping underground springs will begin in April to furnish Orem residents with between six and ten second feet of additional culinary water. In addition, it is planned to drill additional wells which give cold, pure water which requires no treatment and a project to pipe the sparkling water from the Alta Spring in Provo Canyon, now being carried by ditch, is in the first stages of completion.

NEW OREM TELEPHONE BUILDING—Keeping pace with progress is the new telephone building and dial installations which will be completed and ready for use on April 16, according to Mt. States Telephone and Telegraph Co.



HILLCREST ELEMENTARY SCHOOL—One of the schools which employ new ideas in elementary school design at a surprisingly low economic cost. This building is a twin to the new Sharon school in Orem in the northeast part of the city.

CHRISTIANSEN FURNITURE STORE—This modern, up-to-date furniture store just recently completed by Mack Christiansen is indicative of new commercial expansion in the Orem area.

Manager Tells Program To Increase Orem Water

By CARMA ANDERSEN

OREM—The peak demand for culinary water reached 11.69 million gallons in one single day in a report issued today on 1959 by Orem City Manager O. V. Farnsworth. This, Mr. Farnsworth stated, is equivalent to a continuous flow of 18 second feet of water over a period of 24 hours. The peak day was in late July.

In order for a community to survive and maintain its standards with other cities, the acquisition and disposition of culinary water is of major importance.

Paralleling the attitude of most other western cities, Orem's water supply becomes very complicated and scattered as time progresses. This is no fault of inadequate planning but has been created through the necessity of obtaining culinary water at the most available and economic source when conditions demand such moves. Had the Orem culinary water reservoirs been concentrated in one single location, the supply and demand problem would have been simplified considerably; consequently, that was not the case and Orem's reliance for additional water was transmitted to small supply areas, such as springs, reservoirs and underground sources, each contributing a small amount of water to afford an adequate supply.

The maximum supply of any one source of water was less than two second feet, previous to Orem's connection with the Salt Lake Aqueduct. Following the connection this one source increased the city's water from this source to eight second feet, overcoming a deficiency problem encountered during hot weather when the demand was high. However, the total amount of water at the city's disposal through the aqueduct was limited to the city's rights in Deer Creek amounting to less than 2300 acre feet, plus any additional storage water the city was able to purchase from others.

In addition the city has in reserve rights to irrigation water amounting to approximately seven second feet with this water being transported in the various canals and irrigation ditches and rented.

Orem City's present plans emphasize the transition of this type water, either through the process of exchange irrigation water for culinary water or transporting the water via the Salt Lake Aqueduct, bringing it into the city's water system.

Population increases at the present and in the future demand long range sight into the acquisition of culinary water. Present plans of the city include the drilling of a well at 650 N. 1020 W. with hopes of obtaining an additional three second feet.

Other plans include increasing the size of the pump at the Canyon Road Well and exchange of irrigation water to preserve the entire Deer Creek storage for culinary use.

This long range plan involves the acquisition of either storage or primary waters of the Provo and Weber River drainage areas. This study will involve considerable time, expense and study, but will ultimately solve Orem City's culinary water problems, Mr. Farnsworth said.

Man Bound Over On Check Charge

Joyce LeRoy, 563 S. 3rd E., Springville, charged with issuing a fraudulent check, was bound over to Fourth District Court from Provo City Court.

Workshop Slated For Engineers

An Engineer In-Training Refresher Workshop has been scheduled by Brigham Young University to be held each Monday at 7 p.m. in room 286 of the Harvey Fletcher Engineering Laboratory Building for 10 weeks beginning Feb. 1.

The course is being sponsored by the BYU Adult Education and Extension Services and the College of Physical and Engineering Sciences. It is open to all who expect to take the Utah State licensing examination to be held in May.

Those interested may register by mail at the Extension Services offices or at the first class meeting.

HEADS CONTRACTORS—Kenneth S. Witt who will be installed Saturday as president of Associated General Contractors, Intermountain Branch, in Salt Lake City.

Intermountain Area

Contractors Headed by Provo Man

Kenneth S. Witt, owner-manager of the Kenneth S. Witt Construction Co., will be installed as president of the Associated General Contractors, Intermountain Branch, at the annual meeting Saturday. He has served as vice president during the past year.

Mr. Witt has been in the construction business in Provo for the past 10 years.

He is the only general officer of the organization from this area.

Mapleton Woman Breaks Arm

MAPLETON—Mrs. Peter (Ruby) Jensen fell last week on ice at her home and suffered a broken arm. She recently celebrated her 75th birthday.

Mr. and Mrs. Duane Rowberry and three children moved into their new home over the weekend.

Visitors at the Harold DeGraw residence for the past several weeks have been their children from Kearns.

Mr. and Mrs. Peter Banks have two grandchildren visiting them from Kearns.

Ralph Gren is expected home this weekend after undergoing surgery at the Utah Valley Hospital.

S. Dilworth Young To Address 'Y' Stake Conference

Elder S. Dilworth Young, member of the First LDS Council of Seventy, will address the Brigham Young University Stake conference Saturday and Sunday.

Two meetings are scheduled Saturday evening in the Joseph F. Smith Family Living Center. The first at 6 p. m. is a leadership meeting.

At 7:30 p. m. also in the Family Living Center will be a special meeting for married couples of the stake. All married couples are urged to attend.

General sessions will be held Sunday at 10 a. m. and 2:30 p.m. At 8:30 a. m. Sunday, a special meeting is scheduled for the stake presidency, High Council and ward bishoprics. Ward clerks are not required at this meeting.

At 7 p. m. Sunday a special meeting will be held under the direction of the stake YWMIA and YMMIA.

C. Edwin Dean Chairman of Computer Group

C. Edwin Dean, director of the Brigham Young University Computing Research Center, has been elected chairman of the Salt Lake Area Computer Users Organization.

Other officers are Eugene Brough of El Paso Natural Gas Company, vice-chairman; Clyde Nielson, Hercules Power Company, secretary; Donald Barney, First Security Bank of Utah, treasurer.

The group is composed of mathematicians involved in the operation of so-called "electronic brains."

The local organization also voted to affiliate as a chapter of the national organization, the Association for Computing Machinery.

James Cullimore Receives Honor

James A. Cullimore, former Brigham Young University student body president, has been presented with the Fourth Annual Achievement Award of the New York University School of Retailing Alumni Association.

Mr. Cullimore

This outstanding honor is awarded to only one alumnus of the New York School of Retailing each year.

A Pleasant Grove native, he worked his way through BYU and upon his graduation he received a scholarship grant to attend the New York School of Retailing. He earned his master's

Kiwanis Club Guest

Wotherspoon Speaks On 'The 4 Faiths'

A plea for a return to the faith of our pioneering ancestors, a living, vital force which sustained and guided them as they toiled and fought to lay the foundation and carve the uprights of our nation, was voiced by William K. Wotherspoon, manager of the Provo Chamber of Commerce, Thursday noon, in a luncheon meeting talk to the Provo Kiwanis club.

Tracing the growth of the writings of Karl Marx, the speaker pointed out that under the Marxist idea, man has only one right, the right to follow blindly and unquestioningly the dictates of the State and to slave and die uncomplainingly for it.

All-Powerful State

"This theory of the all-powerful state is now locked in a death struggle with the concept of freedom, justice and dignity of man," he said. "It is a global struggle with a philosophy which seeks constantly and craftily to destroy everything we hold dear.

"It is a conflict between human dignity and Godless tyranny, between freedom and slavery, between God-given rights and State-granted privileges. Thus today we stand at the crossroads in the history of our great nation.

"The time has come when we must act, not procrastinate, when we must lead, not follow; when we must speak, not listen; when we must unite, not divide.

Four Great Faiths

"In this crisis we have at our command the strength, the courage and the inspiration which lay in the Four Great Faiths of our founding fathers: Faith in God, Faith in ourselves, faith in our fellow men and faith in freedom. Our nation was founded upon these faiths.

"The men who signed the Constitution, the men and the women who braved the prairie and the mountain to pioneer our land, lived and died by those faiths. That is the kind of faith we need today to fortify our material strength and build communities. That is the kind of faith we can have today if we are willing to look to God for guidance, to seek Him, to follow his teachings.

"Now is the time to take our stand. Tomorrow may be too late."

The speaker was introduced by Charles E. Peterson, program chairman. Smoot Brimhall, club president, was in charge of the meeting.

Class Teacher Group Sets Meet

Central Utah Conference of the Utah Classroom Teachers' Association will meet Saturday, Jan. 30 at the Orem High School to discuss "Conditions of Work for

Editor's Mail Bag

Peace Begins At Home—Everyone Can Help to Achieve It

Editor Herald .

Deep strong and remarkably united are humanity's aspirations

Payson Man Renews Appeal for Speeding Dike Over Utah Lake

Editor Herald:

About four months ago I wrote an article to your paper stating

HISTORY 1962

Orem Plans Water, Sewer Rate Increase

OREM — Orem's city council Monday night authorized the city attorney to draw up an ordinance proposing a 90-cent per month increase on minimum water rates, and an additional 90 cents monthly on sewer rates.

Orem residents now pay $3 a month for the first 12,000 gallons of water, with a graduated scale in addition for added usage. The ordinance would not increase the higher bracket charges. Citizens also pay $3 a month sewer charge, which would be $3.90 under the proposed ordinance.

Action Monday night consisted only of authorizing the drafting of the proposed ordinance. It still must be passed by the council to become law.

City officials pointed out that the increase would enable them to construct an ultimately necessary water treatment plant without raising the tax levy. The increase should enable payment of bonds which it would be necessary to float for such a plant.

A discussion was held on the possibility of holding a public meeting at which the need for water rate increase and other

$0.90 (1962) =

$7.10 (2016)

Both Water and Sewer = $14.20

HISTORY 1962

Orem Water Distribution Problem Aired

OREM — The Orem City Council explored various methods of delivery of a sufficient culinary water supply for use of residents during the summer at an Orem City Council session which adjourned at 2 a.m. today.

The problem of water delivery through a complex system which in some places is composed of small lines laid many years ago in areas where housing has since concentrated was discussed at length.

The problem of adequate pressure in such areas has brought concern to council members during the rapid residential growth of the city experienced in recent years. The council recently authorized the study of the entire system by a consulting engineering firm. The study has been scheduled for completion and presentation to the council by the consulting firm on June 18. Following the submission of the data, the council can then proceed in planned and organized long-range distribution system improvements.

Water production at Well No. 2, a recently-drilled well located in the nortnwest section of the city was among other problems dis-

The Daily Herald

25 PROVO, UTAH COUNTY, UTAH TUESDAY, JUNE 12, 1962

Orem Water Needs To Be Outlined

OREM—Orem City's plans for a $1½ million dollar bond issue to finance improvements in the city's water system will be the topic of discussion tonight at a public meeting at 7:30 in the Orem High School auditorium.

"The meeting, which has been arranged by the Orem City Council, is designed to give full information to the public about needed improvements to the water system and plans for financing them," according to Mayor G. Milton Jameson.

Dean Fuhriman, consulting engineer, will review a study of Orem's water needs which was recently completed by his firm. One of the recommendations of the study was the construction of a culinary water purification plant which would cost an estimated million dollars. The plant would treat surface water from the Alta Springs and Provo River. These waters are now subject to contamination and have been declared unsafe for human consumption by the Utah State Department of Health.

Since Orem City buys its water from the Orem Metropolitan Water Board, it would be necessary for voters to give the water board approval to borrow the money necessary to build the plant.

According to the engineering study, there are many deficiencies in the water distribution system which need to be corrected, and approximately $500,000 is needed to finance construction of larger lines, replace old ones and install 116 additional fire hydrants in the city.

Thursday, Nov. 6, the issue of the 1½ million dollars in bonds will be put to a vote of the taxpayers. It is the plan of the city to repay the bonds entirely from the recent increase of 90 cents monthly on the water rate and 90 cents on the sewer charges. This would eliminate any necessity to raise the taxes to pay for water improvements, according to Mayor Jameson.

THURSDAY, SEPT. 27, 1962 Utah County, Utah DAILY HERALD 5

SPEEDS MAIL SERVICE

PORTLAND, Maine (UPI) — The Post Office Department next month will start rapid four-hour mail delivery service here.

Sen. Edmund S. Muskie, D-Maine, said Wednesday that under the pilot plan regular first class mail deposited in certain mail boxes by 11 a.m. will be delivered in the business district by 3 p.m.

FRIDAY, OCTOBER 12, 1962
Utah County, Utah

Engineer's Report Urges Okeh of Orem Water Bond

Support for Orem City's proposed $1,500,000 culinary water improvement program came today from Dean Fuhriman, president of the engineering firm of Fuhriman & Rollins which designed Orem's sewage treatment plant and recently completed a study on Orem's water problems.

Orem citizens, on a separate ballot Nov. 6, will be asked to vote on a proposed $1,500,000 revenue bond issue to build a water purification plant and otherwise improve its water system. Orem's mayor pledges revenues of the system, bolstered by a recent 90 cent monthly increase for both sewer and water service, will be used to repay the bond issue if voters approve it.

Chlorination Not Enough

Mr. Fuhriman pointed out that simple chlorination of water from surface water and using its wells on a supplementary basis. We have recommended an initial water treatment plant having a capacity of 10 cubic feet per second.

"This would deliver 20 acre feet per day and along with present and future wells would give sufficient water to meet the demand up to the year 1980.

"We have recommended the expansion of water lines in the city, as well as installation of 116 new fire hydrants. This will improve the water pressure in many areas and make for better fire protection.

"Approval by Orem voters of this $1,500,000 issue will make this program possible in the immediate future."

HISTORY 1976

OREM'S METROPOLITAN WATER District President Woodruff Jensen signs a pact with the Central Utah Conservancy District for 7,500 annual acre feet of water from the Central Utah Project. Looking on, are from left, Lynn Ludlow, CUWCD general manager; Merrill Gappmayer, Orem City Councilman, and Clyde Ritchie, CUWCD president.

Water Meet Noted By Voters League

The League of Women Voters will meet Friday at 10 a.m. in the Provo City Commission chambers.

The subject of their meeting will be water and a film will be shown, a league spokesman said.

★ Missionary

(Continued from Page 1)

internal injuries and is paralyzed from the waist down. He also has damaged kidneys

Agreement Bolsters Orem Water Supply

With the signing of an agreement with the Central Utah Water Conservancy District (CUWCD), Orem City has prevented a project water shortage that could hit the growing community by 1980.

Under the agreement, Orem will get 7,500 acre feet annually for culinary use. The initial delivery of water will be in 1979 when 1,000 annual acre feet will be available for city use.

Officials point out the amount received will increase periodically until 1996 when Orem will be receiving the entire 7,500 annual acre feet.

In connection with the water, a purification plant will be built on a bench area north of the mouth of Provo Canyon and will be designed to also purify water for other North Utah County communities that decide to subscribe to the delivery service.

Thursday, February 12, 1976, THE HERALD, Provo, Utah—Page 5

Agreement Bolsters Orem Water Supply

With the signing of an agreement with the Central Utah Water Conservancy District (CUWCD), Orem City has prevented a project water shortage that could hit the growing community by 1980.

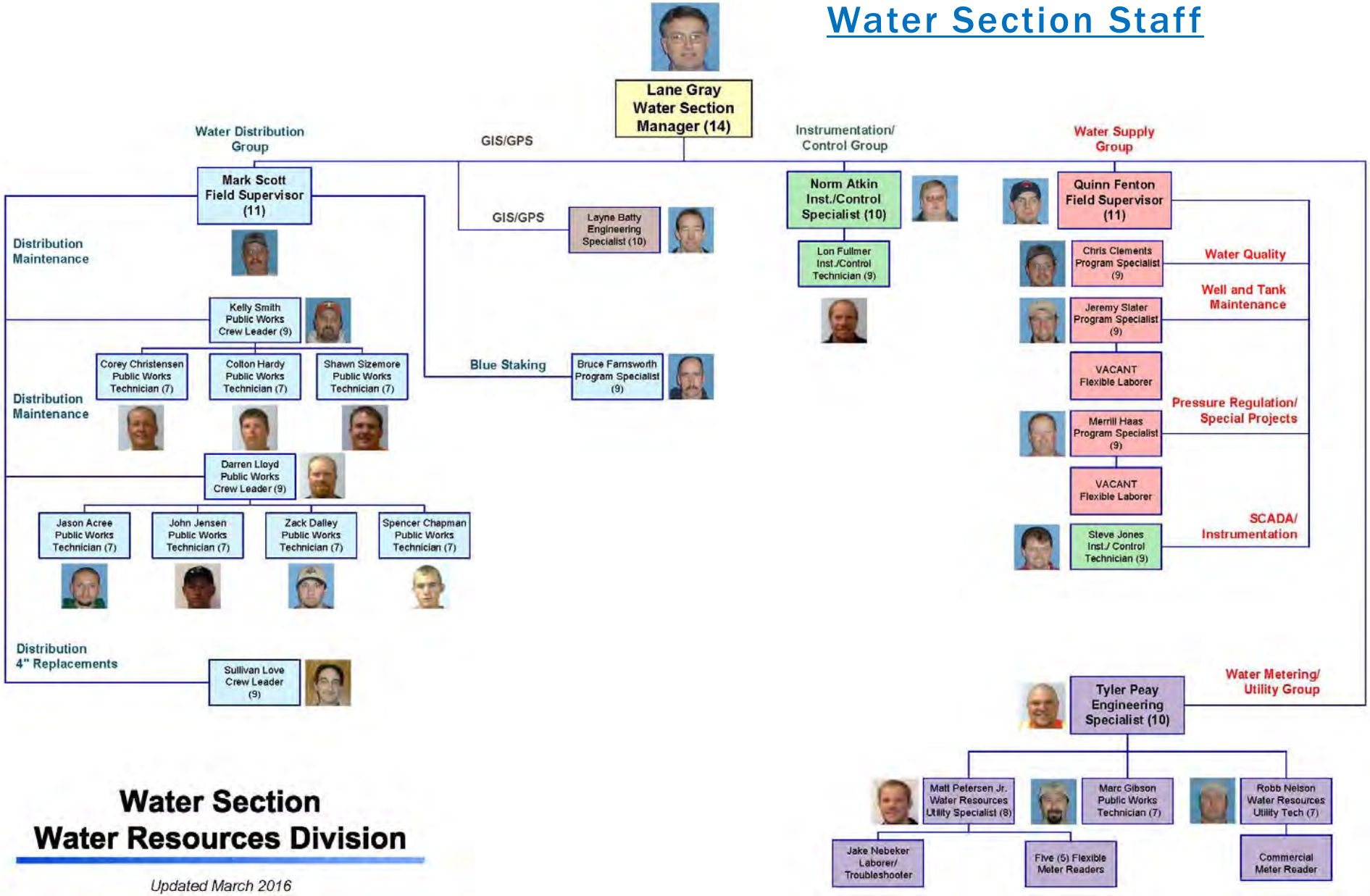
Under the agreement, Orem will get 7,500 acre feet annually for culinary use. The initial delivery of water will be in 1979 when 1,000 annual acre feet will be available for city use.

Officials point out the amount received will increase periodically until 1996 when Orem will be receiving the entire 7,500 annual acre feet.

In connection with the water, a purification plant will be built on a bench area north of the mouth of Provo Canyon and will be designed to also purify water for other North Utah County communities that decide to subscribe to the delivery service.

THANKS

Lane Gray, Water Section Manager
&
Water Section Staff



Water Section
Water Resources Division

Updated March 2016

WATER VS. SEWER VS. STORM

- Storm Water - New Pipe Network and Detention Basins
- Sewer – Treatment Plant (Recent Upgrades of $14M)
  – Collection System Repair and Replacement (Prevention)
- Water – 5 main areas of focus in the first 5 years
  1) 10 MG Tank
  2) 2” and 4” undersized lines replacement
  3) Water Reuse
  4) 2 New Wells
  5) AMI – new meters / new meter transmitters.

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OREM

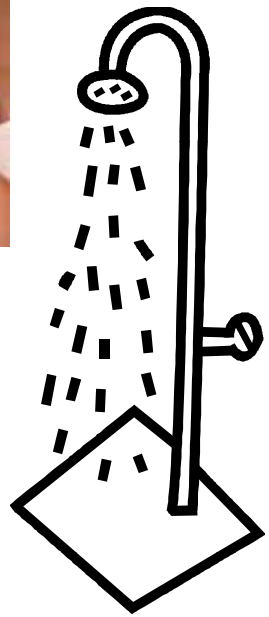
WATER UTILITY INFO

What Do You Expect???

WATER UTILITY INFO

What Do You Expect???

- Clean
- Reliable
- Abundant
- Responsible



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WATER UTILITY INFO

Zoning and Building

Parks

Utopia

Traffic Signals and Signs

Storm Water

Recreation

Libraries

Police/ Fire

Development

Safety

Lighting

WATER

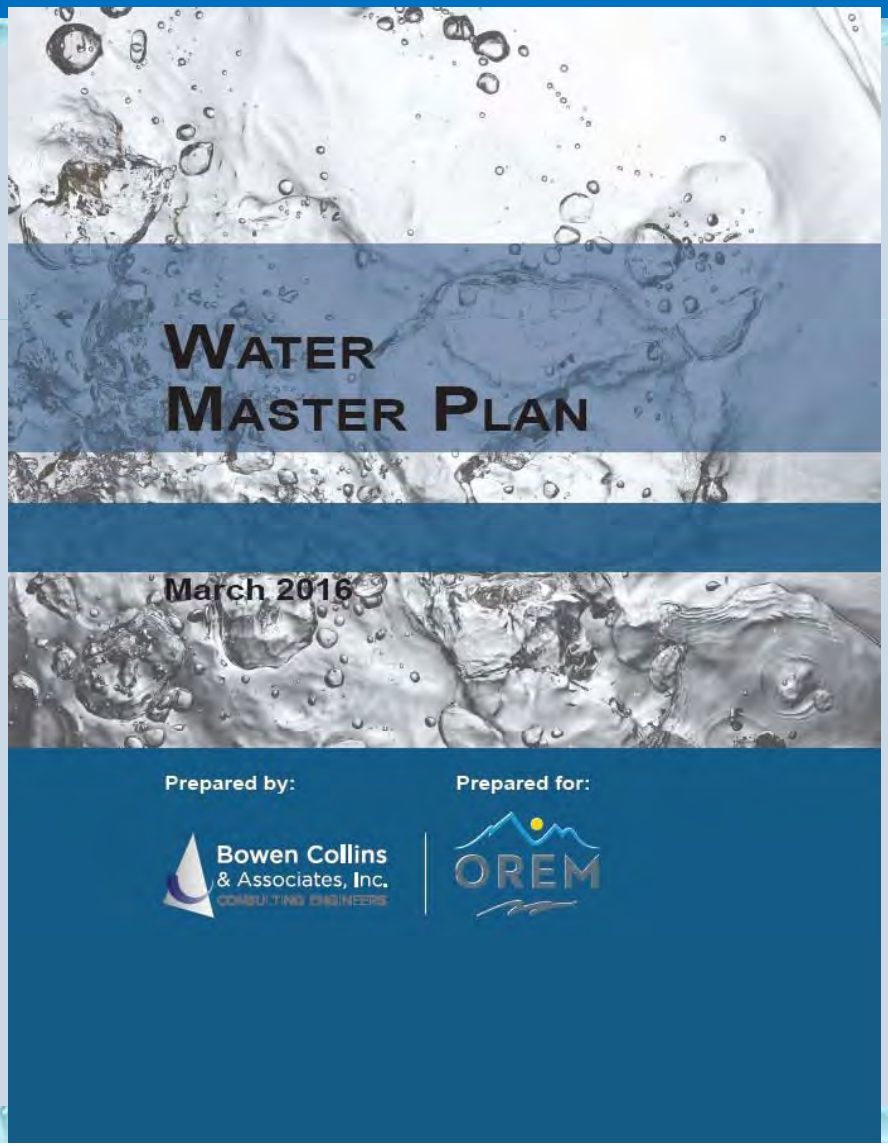
?

Sewer

Roads

Senior Care

PURPOSE OF MASTER PLAN



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PURPOSE OF MASTER PLAN

- Contracted with Bowen/Collins & Associates, Inc.
  - Provide recommended improvements to resolve existing and projected future deficiencies in the City's water system based on the adopted General Plan.
  - Conduct a Rate Study to recommend water rates for the City
  - A working document

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SCOPE OF PROJECT

- Conduct a thorough analysis of City's water utility system and its ability to meet the present and future water system needs.
  - Review
    - Existing InfoSWMM model.
    - Known deficiencies/needs with city staff
  - Collect
    - Supplemental data to update model – water use data, seasonal, peak, etc.
  - Modify
    - Existing InfoSWMM model for future conditions
  - Develop
    - **Hydraulic model based on existng, 2025, and 2060 scenarios**
    - **Solutions to existing and future deficiencies and prioritize with staff**
    - **Water Reuse, Power Generation from Springs, AMI, Source Optimization**
    - **Utility rate options for the city.**
  - Outreach
    - Public Works Advisory Commission
    - Public open houses to communicate needs to the public
    - Mailers to city residents
    - Website with planning information
    - City Council work sessions and meetings
    - Chat with a Bureaucrat

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WATER UTILITY INFO

Table 2-1
Existing Wells and Springs

Name	Address	Size (inches)	Zone	Capacity (mgd)[1]	Capacity (gpm)
Well #1	1450 S 800 E	14	Central	4.55	3,160
Well #2	710 N 980 W	12	Central	5.29	3,670
Well #3	479 N 400 E	10	Eastside	1.95	1,350
Well #4	65 S 1000 E	14	Eastside/Central	5.35	3,710
Well #5	56 N State St.	14	Central	5.14	3,570
Well #6	950 N 1000 E	12	Treatment Plant	2.00[2]	1,390[2]
Well #7	665 N Palisade Dr.	8	Eastside	0.73	500
Well #8	701 S State St.	12	Central	5.44	3,780
Well #9	800 S 900 E	14	Central	5.96	4,140
			Subtotal Wells	**36.4**	**25,270**
Alta Springs				2.9	2,000
Canyon Springs				0.7	500
			Subtotal Springs	**3.6**	**2,500**
			Total	**40.0**	**27,770**

[1] Based on maximum production from dry year data (2013)

[2] Well No. 6 is in need of maintenance and is currently operating at a reduced capacity. Orem City is planning to carry out a rehabilitation project on Well No. 6 in the near future.

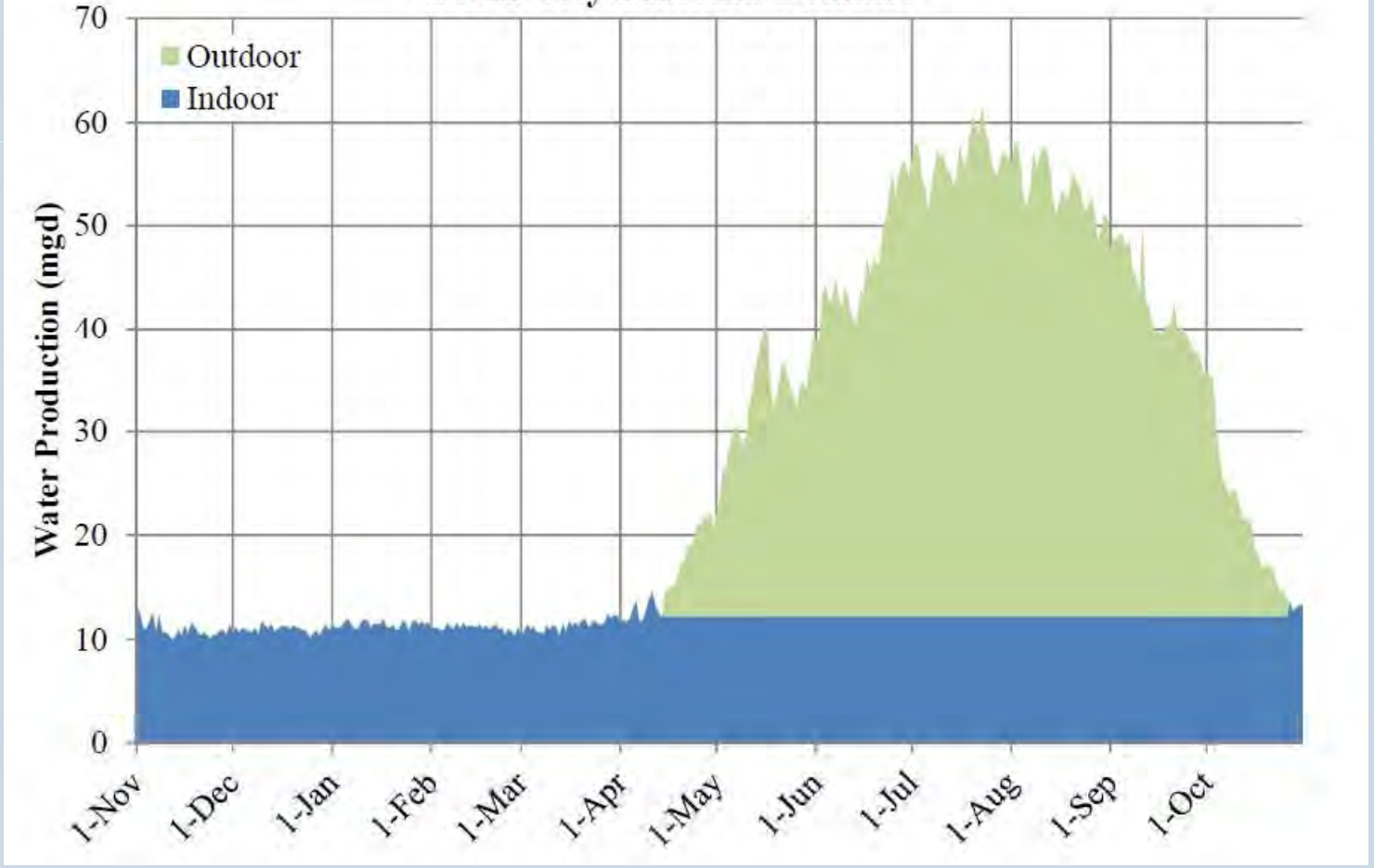
DISTRIBUTION PIPE SIZES

Table 2-4
Water Distribution Pipe

Diameter (inch)	Length (ft)	Length (mi)	Percentage
Unknown	21,521	4.08	1.2%
4	85,227	16.14	4.6%
6	749,151	141.88	40.1%
8	547,672	103.73	29.3%
10	25,524	4.83	1.4%
12	233,470	44.22	12.5%
14	37,966	7.19	2.0%
16	81,254	15.39	4.4%
20	22,225	4.21	1.2%
24	31,236	5.92	1.7%
30	13,070	2.48	0.7%
36	12,274	2.32	0.7%
48	192	0.04	0.0%
60	7,052	1.34	0.4%
Total	**1,867,833**	**353.8**	**100%**

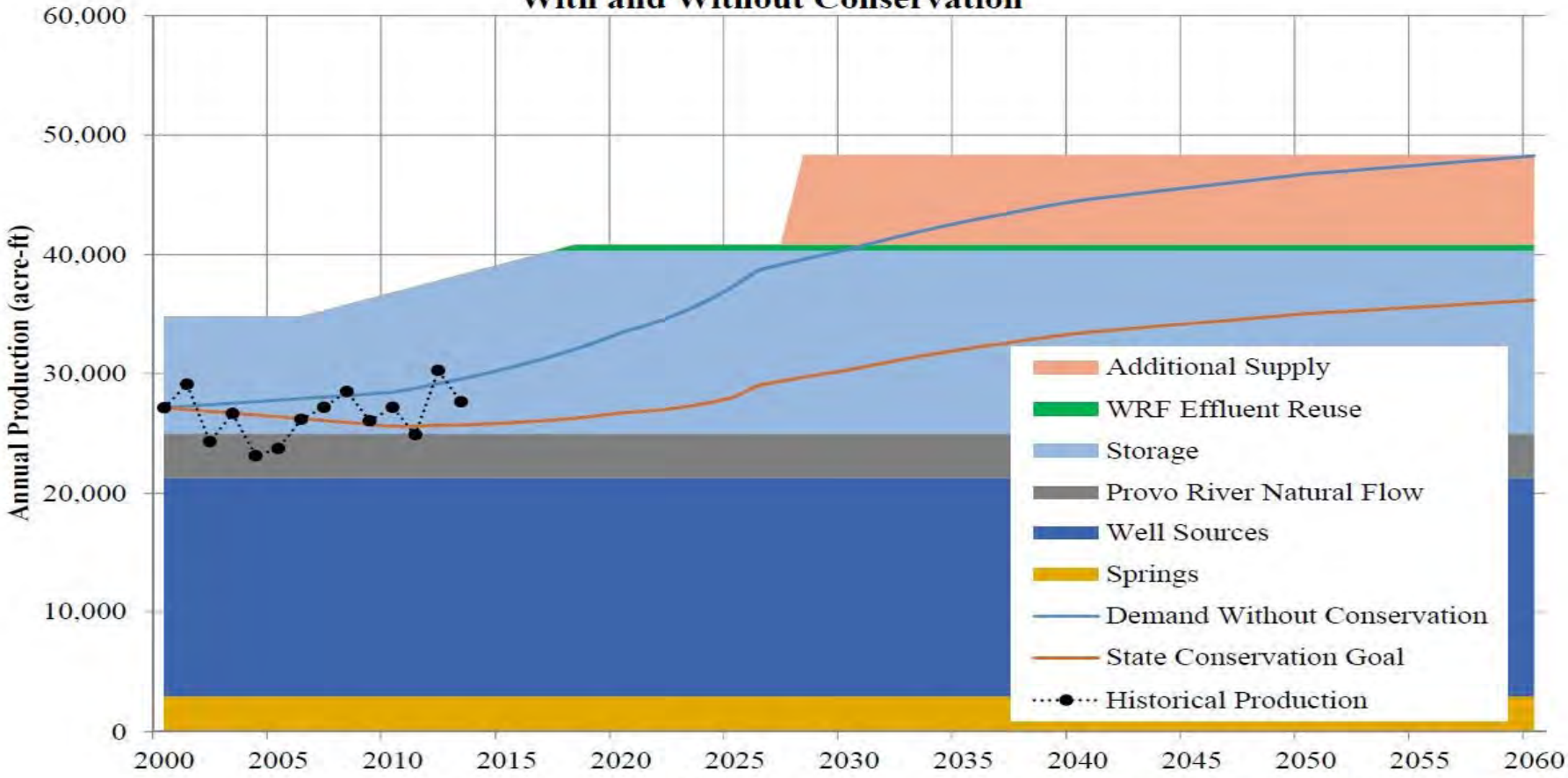
SEASONAL DEMAND

Figure 3-3
Orem City Seasonal Demand



SEASONAL DEMAND

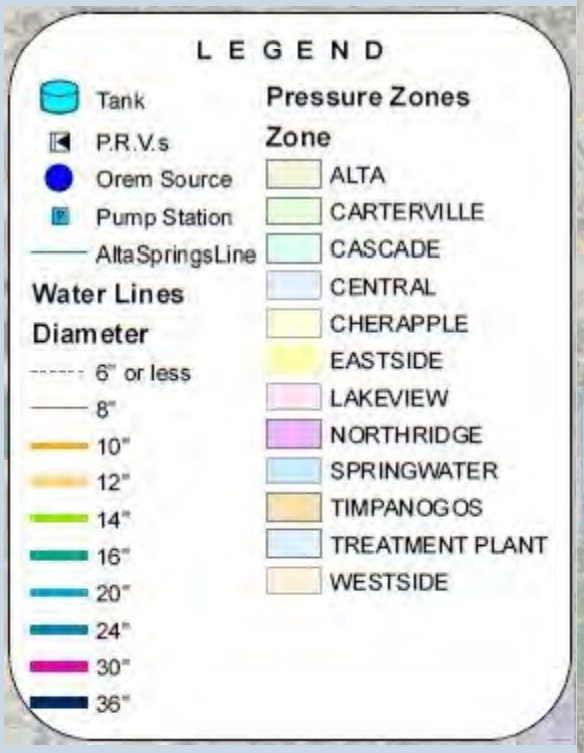
Figure 4-2
Projected Annual Production Requirements
With and Without Conservation

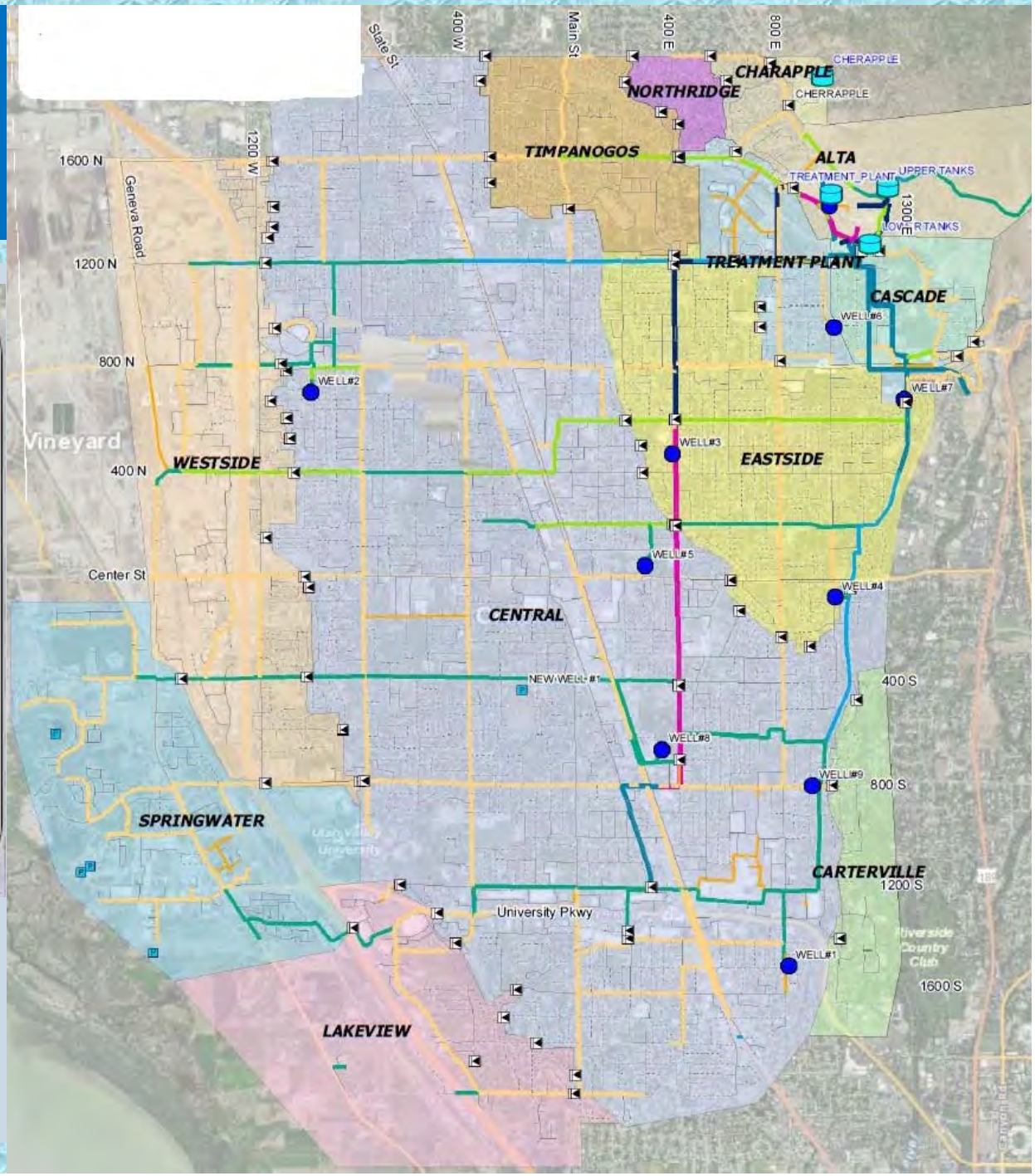


Notes: Well capacity based on maximum water rights. Storage and natural flow capacity based on Orem City Supply Report (2006) , Spring capacity based on dry year yield (2013).

WATER UTILITY

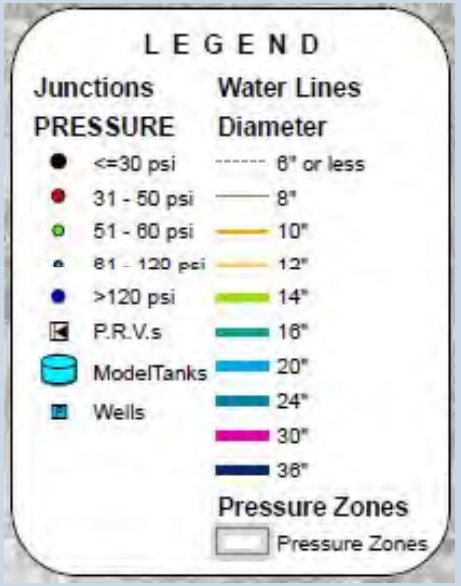
EXISTING PRESSURE ZONES

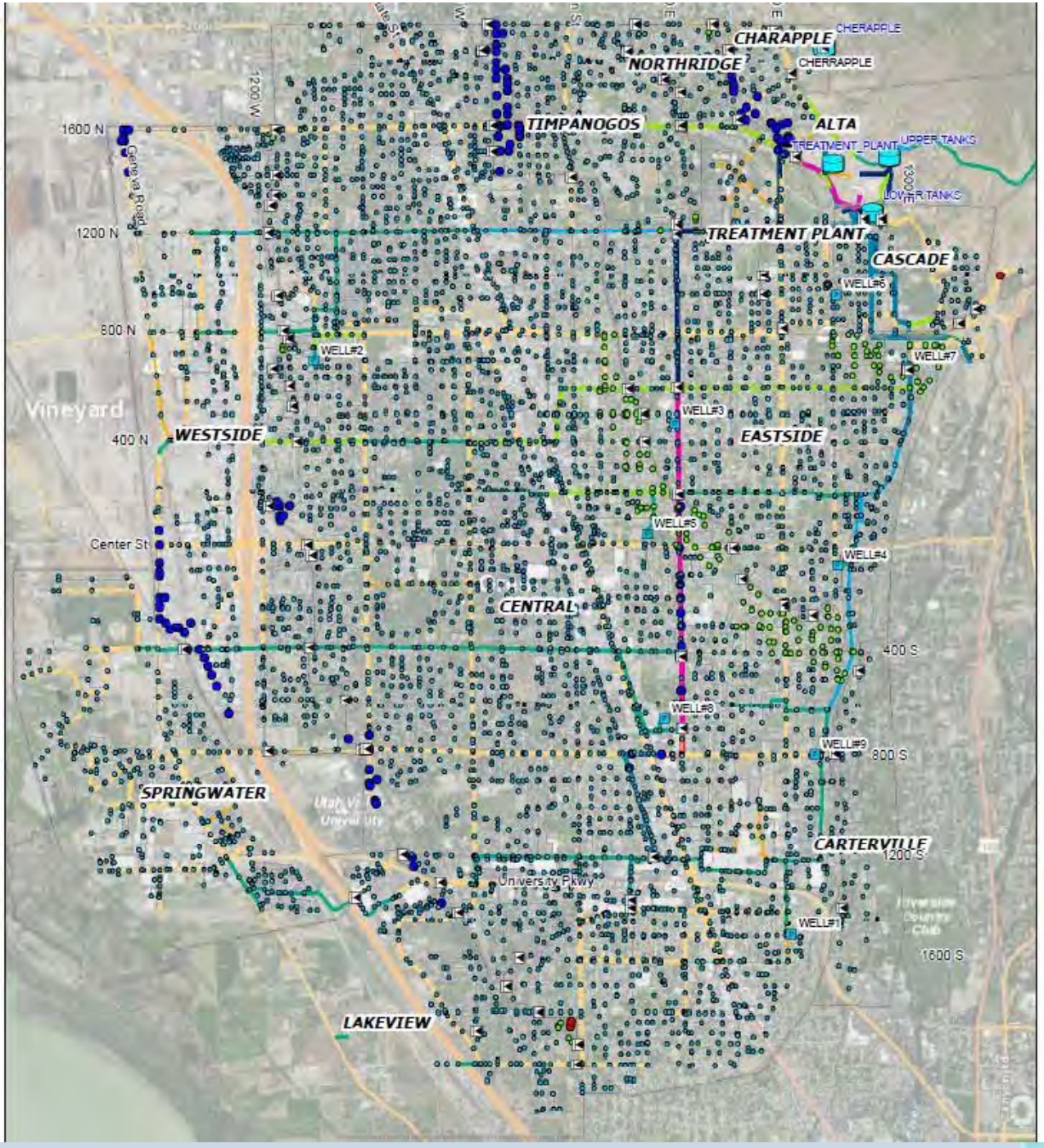




WATER UTILITY

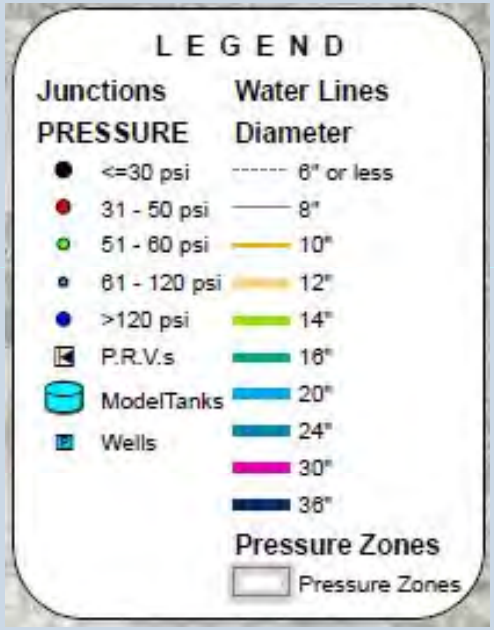
EXISTING CONDITIONS STATIC

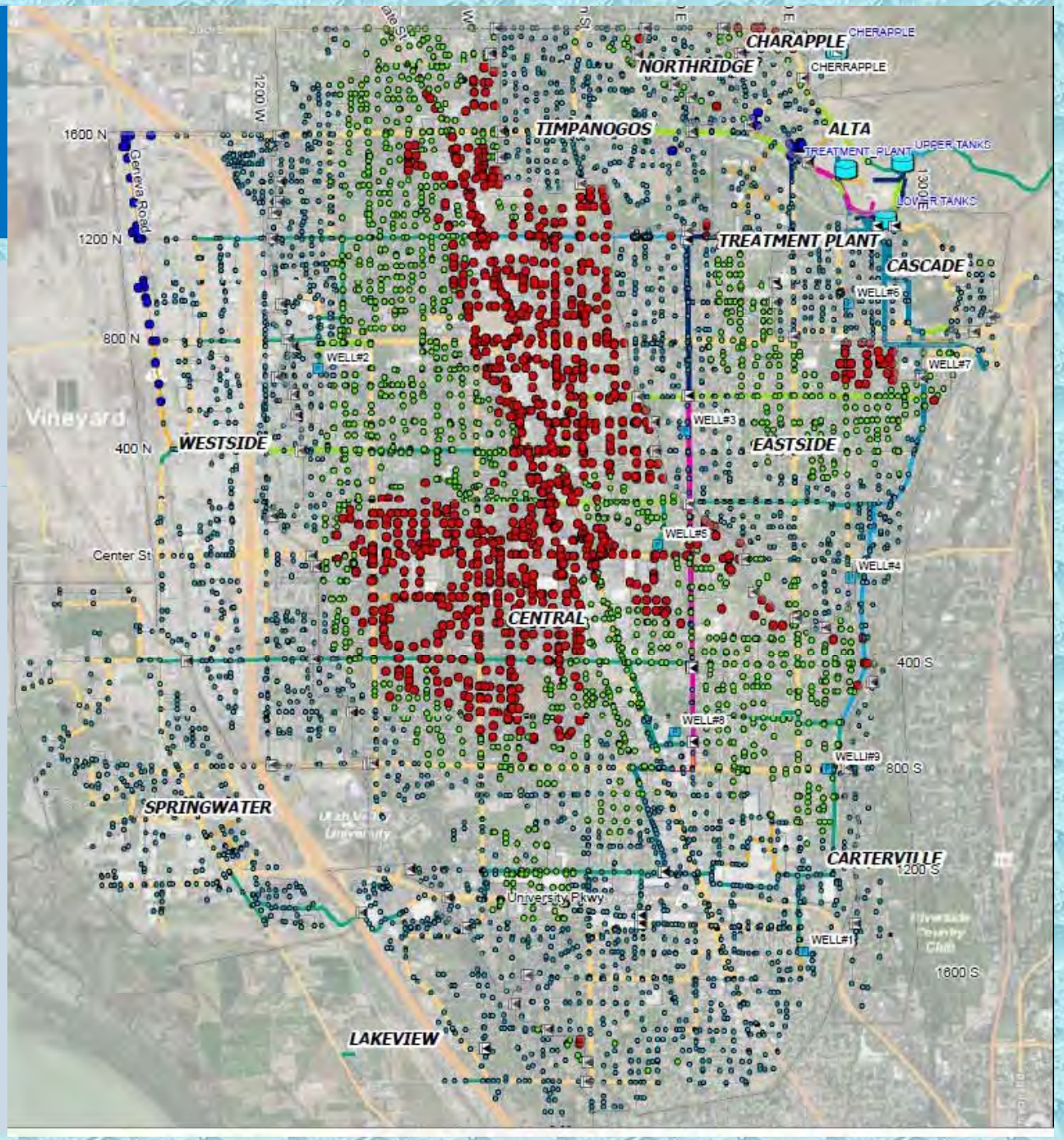




WATER UTILITY

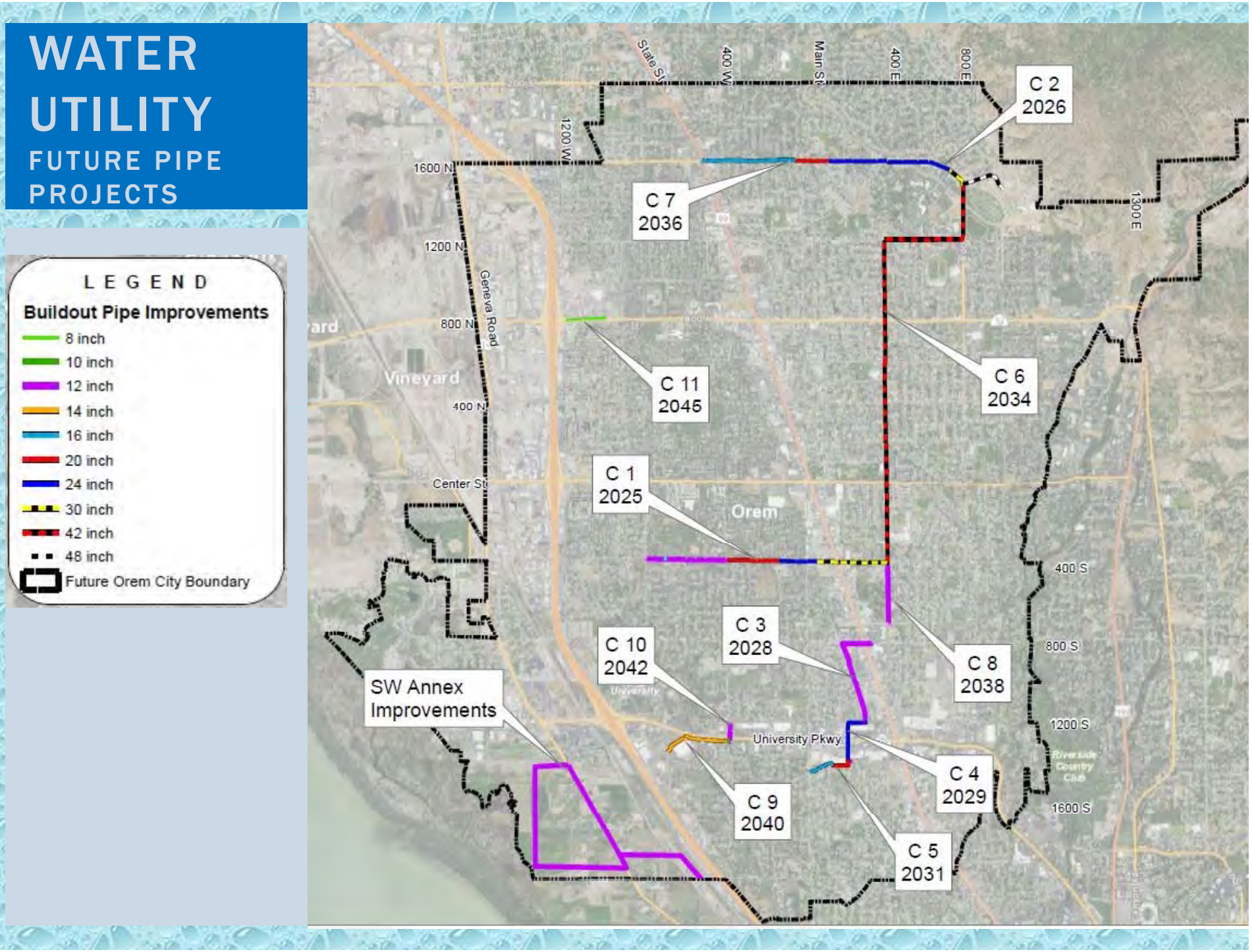
EXISTING CONDITIONS
PEAK HOUR





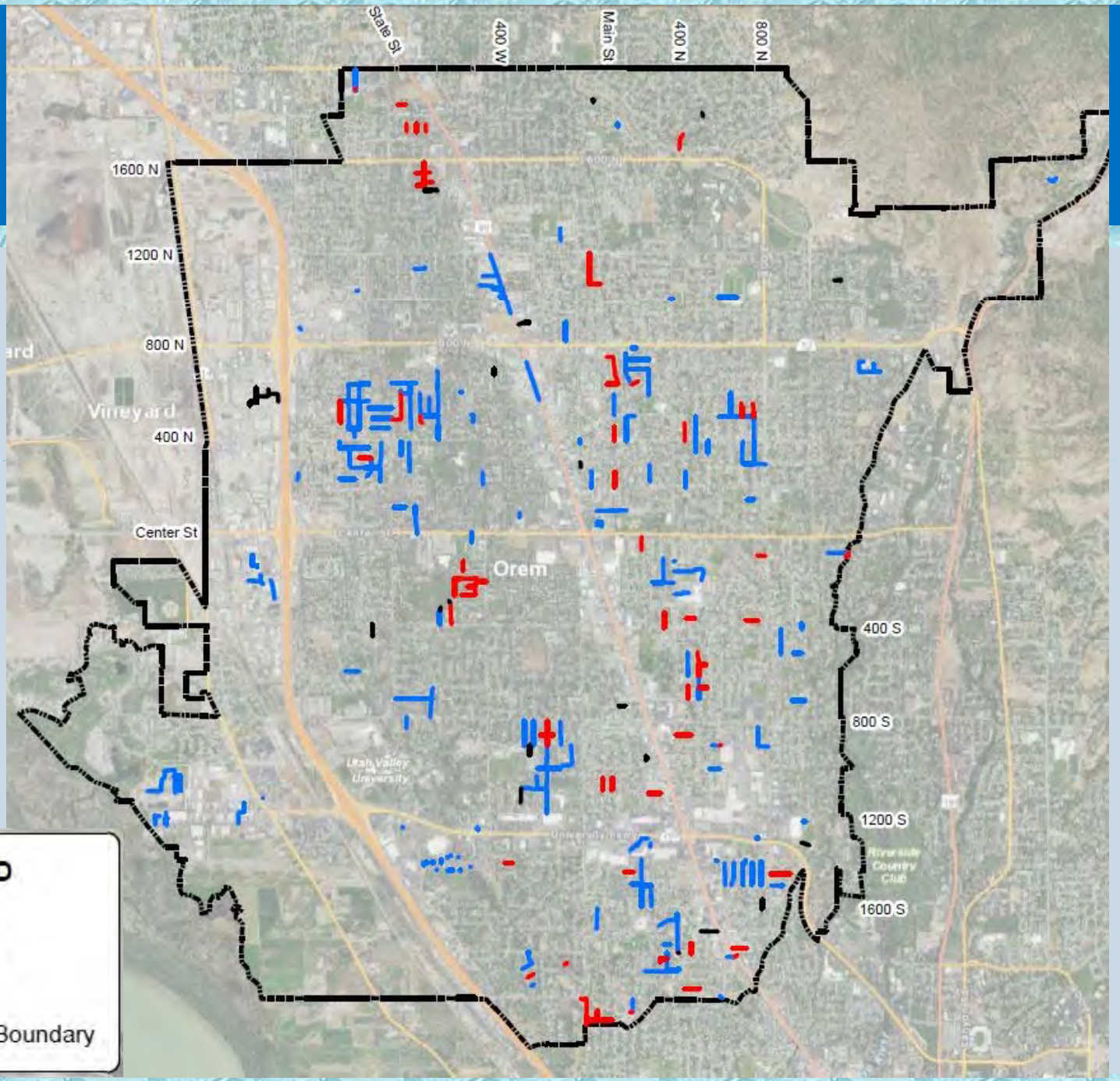
WATER UTILITY

FUTURE PIPE PROJECTS



WATER UTILITY

FIRE FLOW PROJECTS

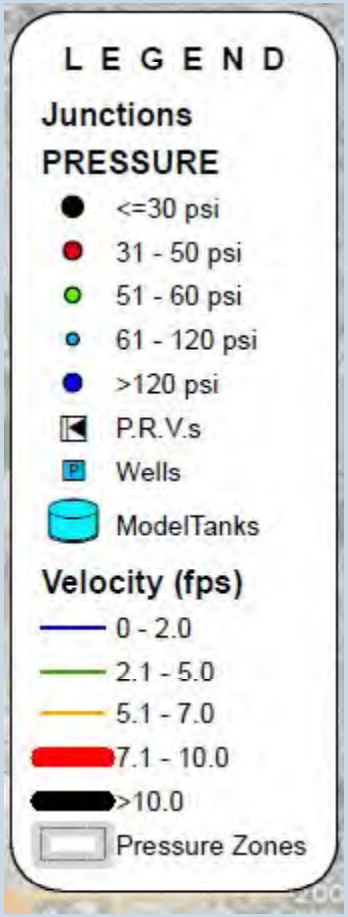


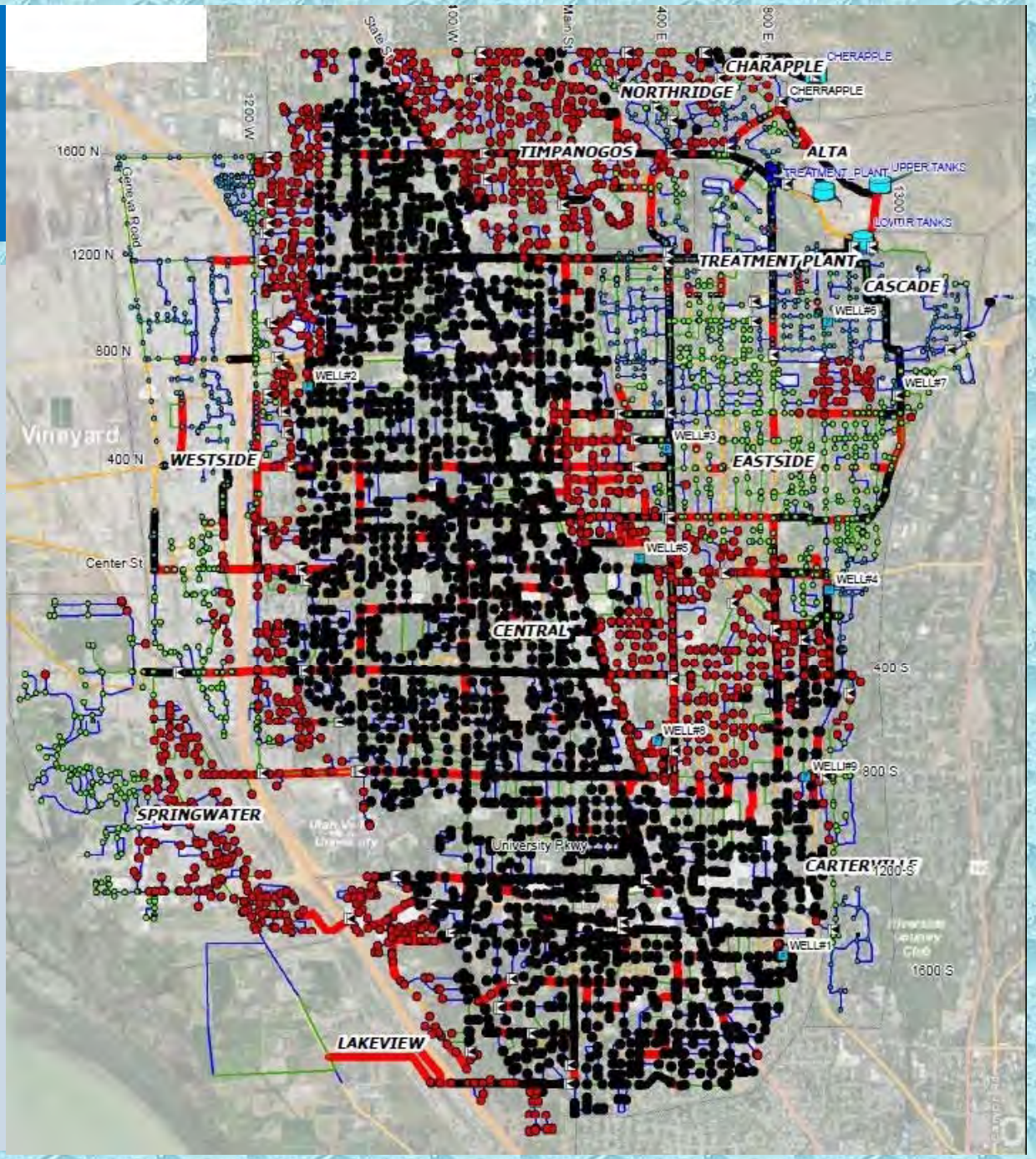
LEGEND

- Priority 1 Projects
- Priority 2 Projects
- Priority 3 Projects
- Future Orem City Boundary

WATER UTILITY

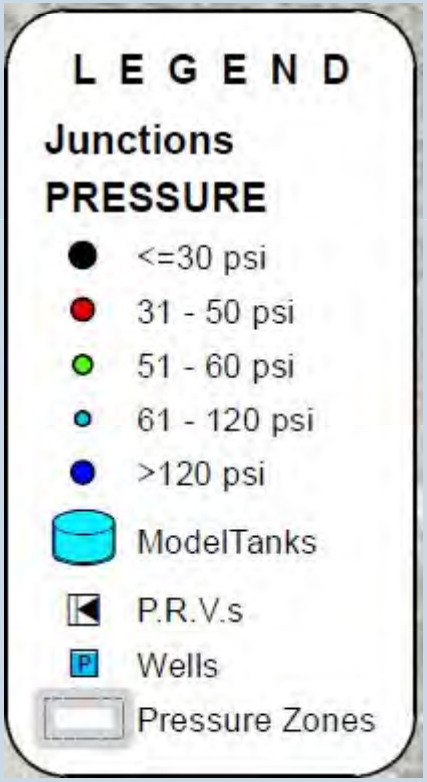
BUILD OUT WITH NO PROJECTS

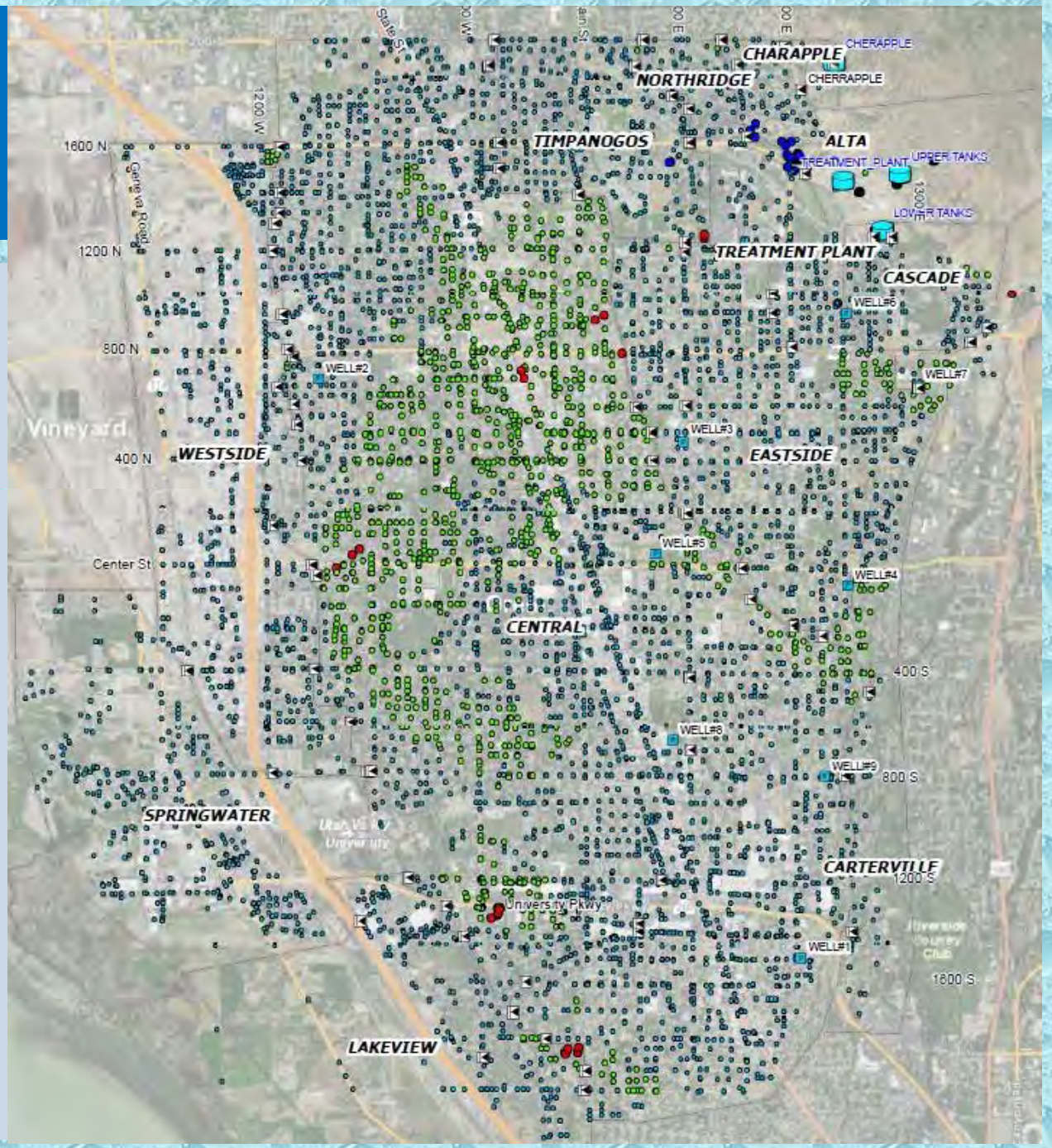




WATER UTILITY

BUILD OUT WITH PROJECTS





STORAGE SUMMARY

Table 5-1
2014 Storage Facilities Evaluation

Tank Service Area	Peak Day Summer Demand (gpm)	Peak Day Summer Equalization Storage (gallons)	Emergency Storage (gallons)	Fire Flow Storage (gallons)	Total Required Storage (gallons)	Available Storage (gallons)	Equalization Storage Surplus by Service Area (deficit) (gallons)	Total Storage Surplus by Service Area (deficit) (gallons)	Storage Surplus Total (deficit) (gallons)
Cherapple	71	25,560	25,560	240,000	291,120	400,000	374,440	108,880	108,880
Upper Tanks	4,709	1,695,240	1,695,240	-	3,390,480	4,000,000	2,304,760	609,520	718,400
WTP	8,056	2,900,160	2,900,160	720,000	6,520,320	9,550,000	6,649,840	3,029,680	3,748,080
Lower Tanks	29,885	10,758,600	10,758,600	-	21,517,200	8,000,000	(2,758,600)	(13,517,200)	(9,769,120)
Total	**42,721**	**15,379,560**	**15,379,560**	**960,000**	**31,719,120**	**21,950,000**			**(9,769,120)**

Table 5-2
2060 Storage Facilities Evaluation

Tank Service Area	Peak Day Summer Demand[1] (gpm)	Peak Day Summer Equalization Storage (gallons)	Emergency Storage (gallons)	Fire Flow Storage (gallons)	Total Required Storage (gallons)	Available Storage (gallons)	Equalization Storage Surplus by Service Area (deficit) (gallons)	Total Storage Surplus by Service Area (deficit) (gallons)	Storage Surplus Total (deficit) (gallons)
Cherapple	74	26,640	26,640	240,000	293,280	400,000	373,360	106,720	106,720
Upper Tanks	5,174	1,862,640	1,862,640	-	3,725,280	4,000,000	2,137,360	274,720	381,440
WTP	8,573	3,086,280	3,086,280	720,000	6,892,560	9,550,000	6,463,720	2,657,440	3,038,880
Lower Tanks	46,439	16,718,040	16,718,040	-	33,436,080	8,000,000	(8,718,040)	(25,436,080)	(22,397,200)
Total	**60,260**	**21,693,600**	**21,693,600**	**960,000**	**44,347,200**	**21,950,000**			**(22,397,200)**

[1]Does not include peak day summer demands for Town of Vineyard; Orem City will not provide storage to Town of Vineyard.

WHAT ARE THE CONSEQUENCES?

10 Million Gallon Tank

1. Drinking Water System Violation
2. Development moratorium – both commercial and residential
3. Difficult to provide service – operators are working 24/7
4. Overtax wells and groundwater sources
5. Running out of water during peak demand times
6. Jeopardize fire protection
7. Ultimately - water restrictions

WHAT ARE THE CONSEQUENCES?

2" and 4" Replacement

1. **Day to Day – OK**
2. **Fire Scenario – NOT OK**
   a) **Wasatch Jr. High – 4" supply**
3. **Leaks**
   a) **Water Outage**
   b) **Water Quality**

As they battled the blaze, fire officials repeatedly complained about a lack of water.

Wasatch Junior High School is just blocks from a large chunk of Millcreek Township, where Salt Lake County officials plan to create a special improvement district to fund a $14 million upgrade to improve fire protection.

In Millcreek, labyrinthine 4-inch pipe would be replaced with 90,000 feet of 8- and 12-inch sections along with 350 new hydrants.

Don Berry, Unified Fire Authority chief, says replacing the antiquated pipes is expected to provide the amount of water required by fire code.

Scott said the school fire highlights the needs for such improvements.

"There's never enough [water]," he said. "The only way you fight big fires is with big water."

Salt Lake Tribune, July 12, 2005

WHAT ARE THE CONSEQUENCES?

Water Reuse

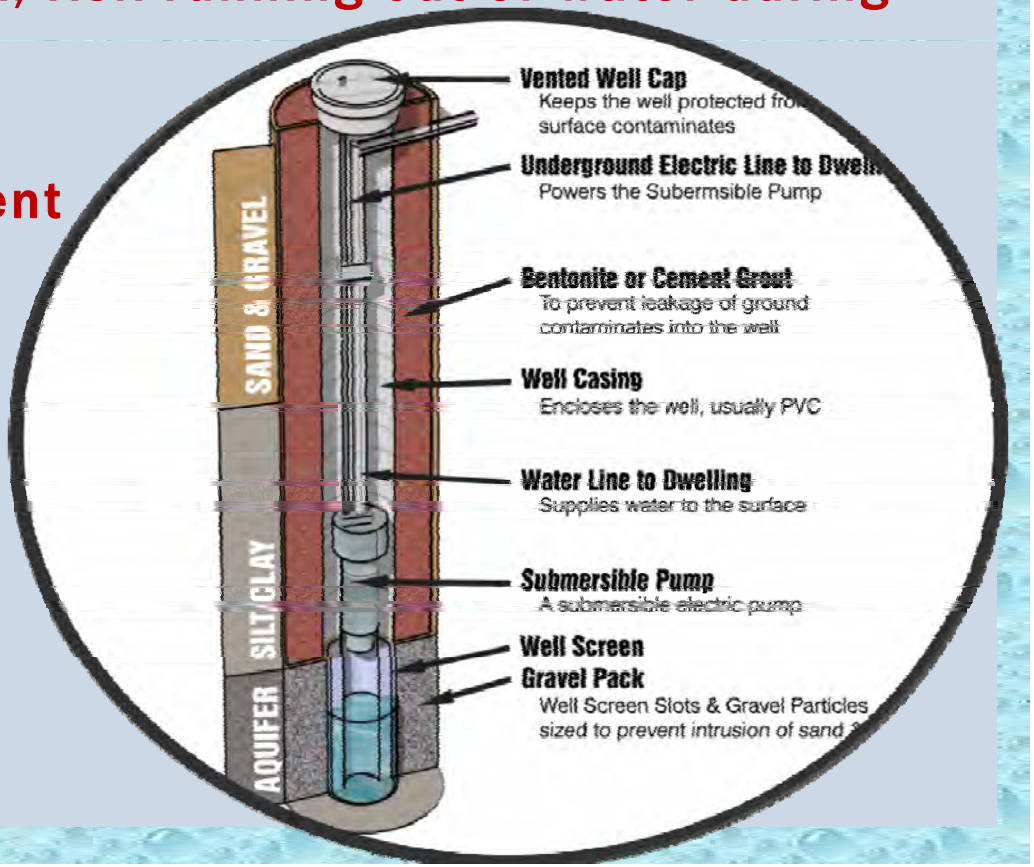
1. Construct an additional (or enlarge) distribution line from East Side tanks to Lakeside Sport Park and golf course

2. Low Pressures in the Central zone of the City – Customer Complaints
3. Not utilizing an approved and valuable source

WHAT ARE THE CONSEQUENCES?

2 New Wells

1. **Similar to the 10 MG Tank, risk running out of water during peak demand**
2. **Moratorium on development**
3. **Water use restrictions**



WHAT ARE THE CONSEQUENCES?

AMI

1. First step to meet the Governor's goal to reduce per capita usage. 25% by 2025.
2. Perpetuate inequities (which are magnified with increased rates)
3. Reduce customer's ability to understand and optimize their day-to-day water usage
4. Reduced operational understanding for water operators
5. Continued human error in meter reading
6. Continued risk by putting meter readers on the streets

Envision Utah How we grow matters.

WATER UTILITY FUNDING

- Direction from City Council was
  - 5-year
  - 7-year
  - 10-year
  - Bonding

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TEN-YEAR CIP PLAN

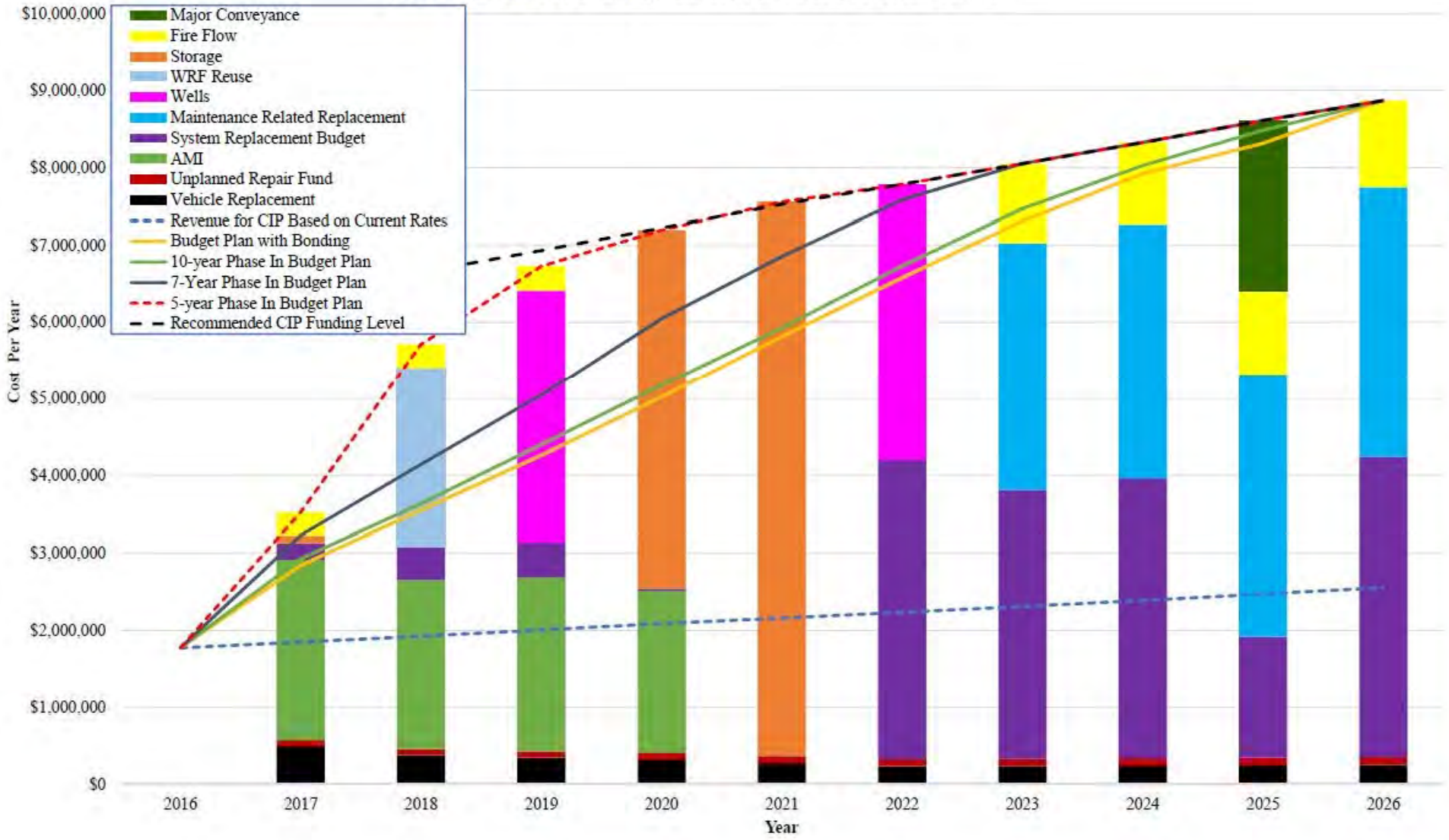
(BASED ON 5-YEAR FUNDING PROPOSAL)

Table 8-2
10-Year Capital Improvement Plan – Scenario 1, 5-Year Phase In Plan

Project Identifier	Project Description	Estimated Total Cost (2016 Dollars)	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
FF 1	Replace 6,306 feet of existing 2 and 4 inch pipe with 8 inch pipe	$871,000	$299,043	$308,015	$317,255							
FF 2	Replace 24,173 feet of existing 4 inch pipe with 8 inch pipe	$3,336,000							$1,025,715	$1,056,486	$1,088,181	$1,120,826
ST 1	Construct 10 million gallon storage reservoir	$10,422,000	$100,000			$4,650,000	$7,189,454					
RW 1	Tertiary wastewater treatment improvements	$1,200,000		$1,273,080								
RW 2	12 inch pipe extending existing reuse line to Lakeside Sports Complex	$189,000		$200,510								
RW 3	Booster Station from WRF to Sleepy Ridge Golf Course Pond	$150,000		$159,135								
RW 4	Booster Station at Sleepy Ridge Golf Course Pond	$650,000		689585								
SW 1	Install 18,774 feet of pipe for SW Annex (Paid for by developer)	$1,735,000										
W 1	Drill a new well in Orem Water System	$3,000,000			$3,278,181							
W 2	Drill a new well in Orem Water System	$3,000,000						$3,582,157				
AMI	Install new automated meter infrastructure	$8,300,000	$2,343,250	$2,201,368	$2,267,409	$2,110,329						
R 1	Maintenance related replacement/improvement projects	$10,427,375							$3,206,089	$3,302,272	$3,401,340	$3,503,380
Major Conveyance	400 South pipe replacement	$1,686,000									$2,199,848	
System Replacement	Replace system where needed	$14,098,004	$210,979	$429,488	$442,373	$29,826	$8,866	$3,876,845	$3,489,588	$3,627,836	$1,575,701	$3,888,910
Repairs	Unplanned repair fund	$750,000	$77,250	$79,568	$81,955	$84,413	$86,946	$89,554	$92,241	$95,008	$97,858	$100,794
Fleet Replacement	Fleet maintenance and replacement	$2,629,045	$498,016	$375,444	$343,157	$320,340	$272,917	$235,171	$235,970	$242,954	$245,969	$253,253
	TOTAL	**$62,443,423**	**$3,528,538**	**$5,716,192**	**$6,730,329**	**$7,194,908**	**$7,558,183**	**$7,783,727**	**$8,049,602**	**$8,324,555**	**$8,608,896**	**$8,867,163**

5- YEAR PHASE IN

Figure 8-1
Recommended Water Fund Expenditures, Scenario 1 - 5-Year Phase In



TEN-YEAR CIP PLAN

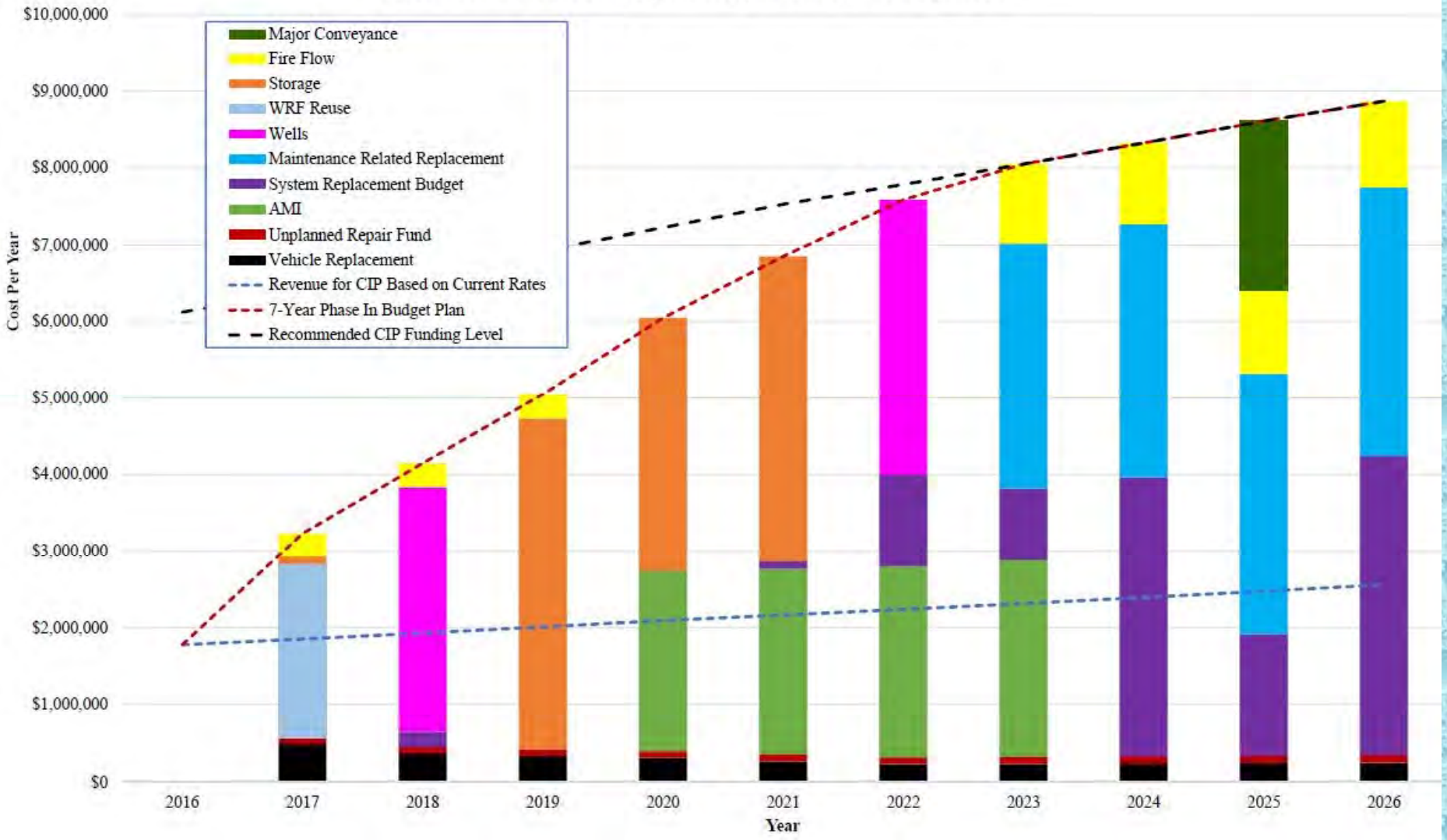
(BASED ON 7-YEAR FUNDING PROPOSAL)

Table 8-3
10-Year Capital Improvement Plan – Scenario 2, 7-Year Phase In Plan

Project Identifier	Project Description	Estimated Total Cost (2016 Dollars)	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
FF 1	Replace 6,306 feet of existing 2 and 4 inch pipe with 8 inch pipe	$871,000	$299,043	$308,015	$317,255							
FF 2	Replace 24,173 feet of existing 4 inch pipe with 8 inch pipe	$3,336,000							$1,025,715	$1,056,486	$1,088,181	$1,120,826
ST 1	Construct 10 million gallon storage reservoir	$10,422,000	$100,000		$4,306,073	$3,309,746	$3,988,676					
RW 1	Tertiary wastewater treatment improvements	$1,200,000	$1,236,000									
RW 2	12 inch pipe extending existing reuse line to Lakeside Sports Complex	$189,000	$194,670									
RW 3	Booster Station from WRF to Sleepy Ridge Golf Course Pond	$150,000	$154,500									
RW 4	Booster Station at Sleepy Ridge Golf Course Pond	$650,000	$669,500									
SW 1	Install 18,774 feet of pipe for SW Annex (Paid for by developer)	$1,735,000										
W 1	Drill a new well in Orem Water System	$3,000,000		$3,182,700								
W 2	Drill a new well in Orem Water System	$3,000,000						$3,582,157				
AMI	Install new automated meter infrastructure	$8,300,000				$2,335,431	$2,405,494	$2,477,659	$2,551,988			
R 1	Maintenance related replacement/improvement projects	$10,427,375							$3,206,089	$3,302,272	$3,401,340	$3,503,380
Major Conveyance	400 South pipe replacement	$1,686,000									$2,199,848	
System Replacement	Replace system where needed	$9,007,320	$0	$200,000	$0	$0	$100,000	$1,200,000	$937,599	$3,627,836	$1,575,701	$3,888,910
Repairs	Unplanned repair fund	$750,000	$77,250	$79,568	$81,955	$84,413	$86,946	$89,554	$92,241	$95,008	$97,858	$100,794
Fleet Replacement	Fleet maintenance and replacement	$2,629,045	$498,016	$375,444	$343,157	$320,340	$272,917	$235,171	$235,970	$242,954	$245,969	$253,253
	TOTAL	**$57,352,739**	**$3,228,979**	**$4,145,726**	**$5,048,439**	**$6,049,930**	**$6,854,032**	**$7,584,540**	**$8,049,602**	**$8,324,555**	**$8,608,896**	**$8,867,163**

7-YEAR PHASE IN

Figure 8-2
Recommended Water Fund Expenditures, Scenario 2 - 7-Year Phase In



TEN-YEAR CIP PLAN

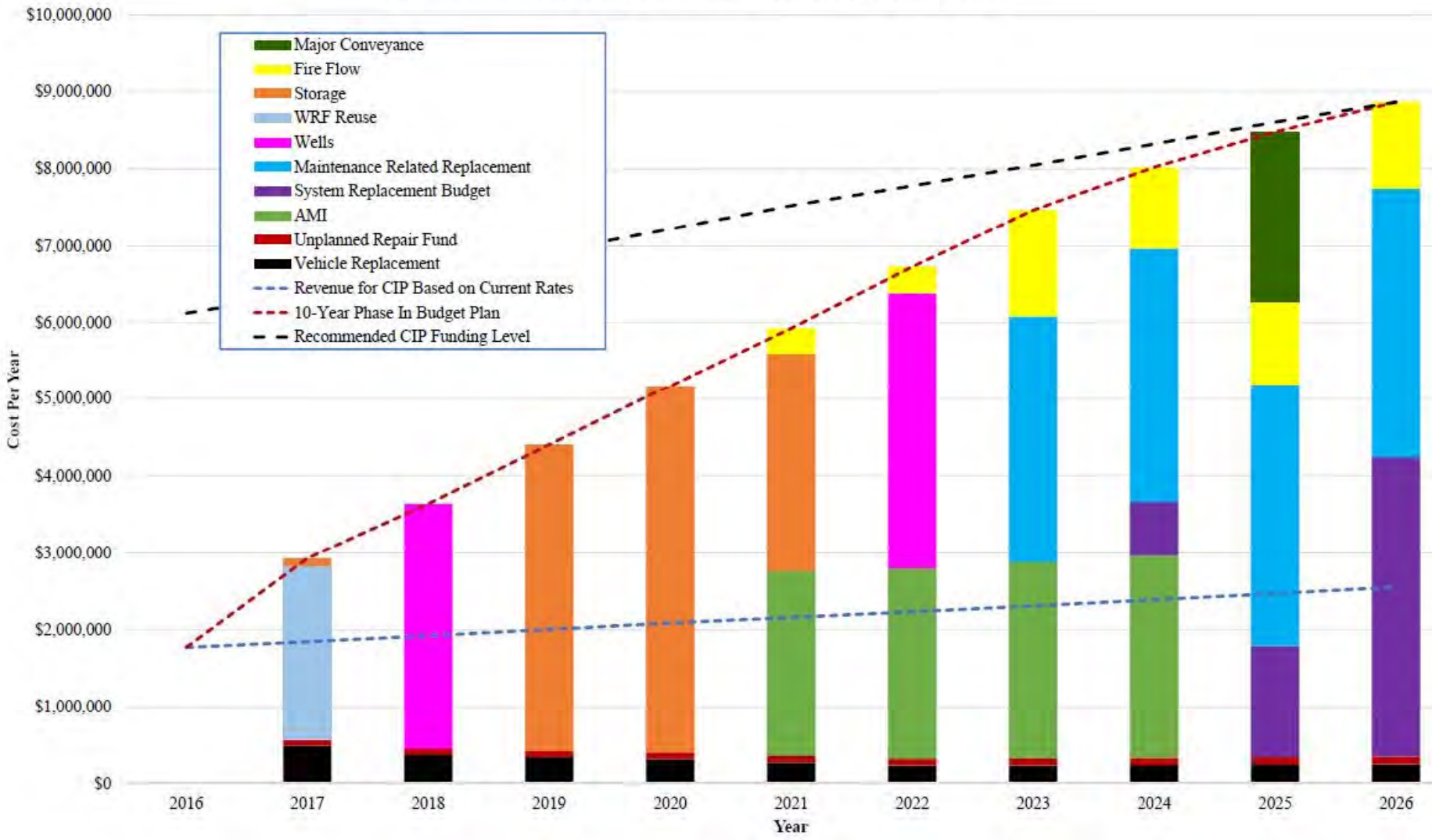
(BASED ON 10-YEAR FUNDING PROPOSAL)

Table 8-4
10-Year Capital Improvement Plan – Scenario 3, 10-Year Phase In Plan

Project Identifier	Project Description	Estimated Total Cost (2016 Dollars)	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
FF 1	Replace 6,306 feet of existing 2 and 4 inch pipe with 8 inch pipe	$871,000					$336,576	$346,673	$357,073			
FF 2	Replace 24,173 feet of existing 4 inch pipe with 8 inch pipe	$3,336,000							$1,025,715	$1,056,486	$1,088,181	$1,120,826
ST 1	Construct 10 million gallon storage reservoir	$10,422,000	$100,000		$3,978,255	$4,772,908	$2,829,402					
RW 1	Tertiary wastewater treatment improvements	$1,200,000	$1,236,000									
RW 2	12 inch pipe extending existing reuse line to Lakeside Sports Complex	$189,000	$194,670									
RW 3	Booster Station from WRF to Sleepy Ridge Golf Course Pond	$150,000	$154,500									
RW 4	Booster Station at Sleepy Ridge Golf Course Pond	$650,000	$669,500									
SW 1	Install 18,774 feet of pipe for SW Annex (Paid for by developer)	$1,735,000										
W 1	Drill a new well in Orem Water System	$3,000,000		$3,182,700								
W 2	Drill a new well in Orem Water System	$3,000,000						$3,582,157				
AMI	Install new automated meter infrastructure	$8,300,000					$2,405,494	$2,477,659	$2,551,988	$2,628,548		
R 1	Maintenance related replacement/improvement projects	$10,427,375							$3,206,089	$3,302,272	$3,401,340	$3,503,380
Major Conveyance	400 South pipe replacement	$1,686,000									$2,199,848	
System Replacement	Replace system where needed	$4,557,605	$0	$0	$0	$0	$0	$0	$0	$700,000	$1,450,000	$3,888,910
Repairs	Unplanned repair fund	$750,000	$77,250	$79,568	$81,955	$84,413	$86,946	$89,554	$92,241	$95,008	$97,858	$100,794
Fleet Replacement	Fleet maintenance and replacement	$2,629,045	$498,016	$375,444	$343,157	$320,340	$272,917	$235,171	$235,970	$242,954	$245,969	$253,253
	TOTAL	**$52,903,025**	**$2,929,936**	**$3,637,712**	**$4,403,366**	**$5,177,661**	**$5,931,334**	**$6,731,214**	**$7,469,076**	**$8,025,268**	**$8,483,195**	**$8,867,163**

10-YEAR PHASE IN

Figure 8-3
Recommended Water Fund Expenditures, Scenario 3 - 10-Year Phase In



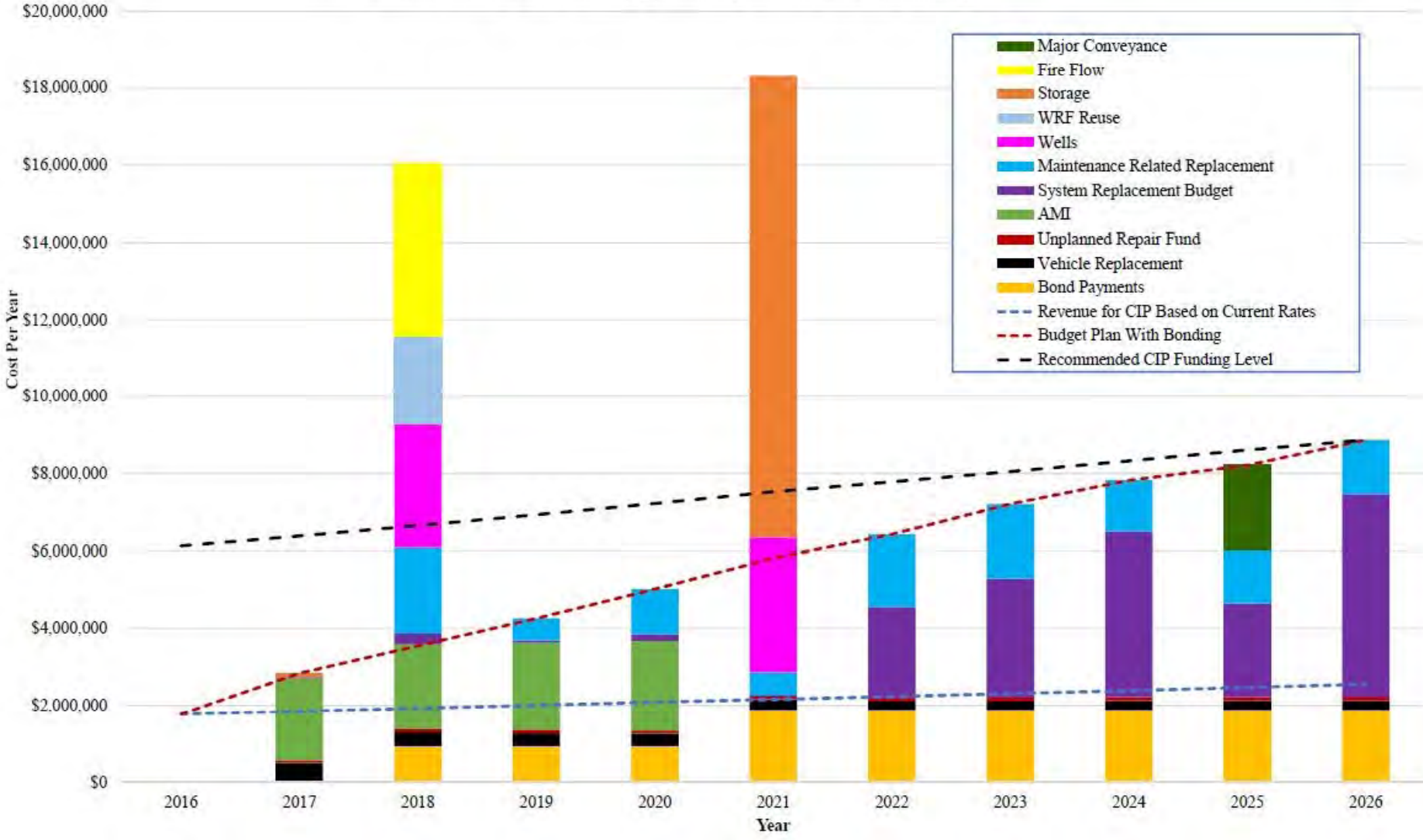
TEN-YEAR CIP PLAN
(BASED ON BONDING PROPOSAL)

Table 8-5
10-Year Capital Improvement Plan – Scenario 4, With Bonding

Project Identifier	Project Description	Estimated Total Cost (2016 Dollars)	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
FF 1	Replace 6,306 feet of existing 2 and 4 inch pipe with 8 inch pipe	$871,000		$924,044								
FF 2	Replace 24,173 feet of existing 4 inch pipe with 8 inch pipe	$3,336,000		$3,539,162								
ST 1	Construct 10 million gallon storage reservoir	$10,422,000	$100,000				$11,966,027					
RW 1	Tertiary wastewater treatment improvements	$1,200,000		$1,273,080								
RW 2	12 inch pipe extending existing reuse line to Lakeside Sports Complex	$189,000		$200,510								
RW 3	Booster Station from WRF to Sleepy Ridge Golf Course Pond	$150,000		$159,135								
RW 4	Booster Station at Sleepy Ridge Golf Course Pond	$650,000		$689,585								
SW 1	Install 18,774 feet of pipe for SW Annex (Paid for by developer)	$1,735,000										
W 1	Drill a new well in Orem Water System	$3,000,000		$3,182,700								
W 2	Drill a new well in Orem Water System	$3,000,000					$3,477,822					
AMI	Install new automated meter infrastructure	$8,300,000	$2,137,250	$2,201,368	$2,267,409	$2,335,431						
R 1	Maintenance related replacement/improvement projects	$10,427,375		$2,212,480	$569,714	$1,173,610	$604,409	$1,867,625	$1,923,653	$1,320,909	$1,360,536	$1,401,352
Major Conveyance	400 South pipe replacement	$1,686,000									$2,199,848	
System Replacement	Replace system where needed	$14,098,004	$30,670	$273,853	$57,531	$165,457	$23,981	$2,350,474	$3,072,408	$4,277,203	$2,424,071	$5,226,232
Repairs	Unplanned repair fund	$750,000	$77,250	$79,568	$81,955	$84,413	$86,946	$89,554	$92,241	$95,008	$97,858	$100,794
Fleet Replacement	Fleet maintenance and replacement	$2,629,045	$498,016	$375,444	$343,157	$320,340	$272,917	$235,171	$235,970	$242,954	$245,969	$253,253
	TOTAL	**$62,443,423**	**$2,843,186**	**$15,110,929**	**$3,319,765**	**$4,079,251**	**$16,432,102**	**$4,542,823**	**$5,324,272**	**$5,936,074**	**$6,328,281**	**$6,981,631**

BONDING

Figure 8-4
Recommended Water Fund Expenditures, Scenario 4 - With Bonding



HOW IS THE WATER UTILITY FUNDED?

- Water Base Rate Fee
  - Increases as meter size increases
  - ¾” Meter currently $14.19
- Water Volume Charge
  - Per 1,000 gallons of use. Meters read April – October
  - Currently $0.58/1,000 gallons
  - FY 2017 Summer and Winter Block Rates

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SB 28 2016

73-10-32.5 Culinary Water Pricing Structure.

A retail water provider, as defined in Section 73-10-32, shall:

✗ (1) establish a culinary water rate structure that:
(a) incorporates increasing block units of water used; and
(b) provides for an increase in the rate charged for additional block units of water used as usage increases from one block unit to the next;

✓ (2) provide in customer billing notices, or in a notice that is distributed to customers at least annually, block unit rates and the customer's billing cycle; and

✓ (3) include individual customer water usage in customer billing notices.

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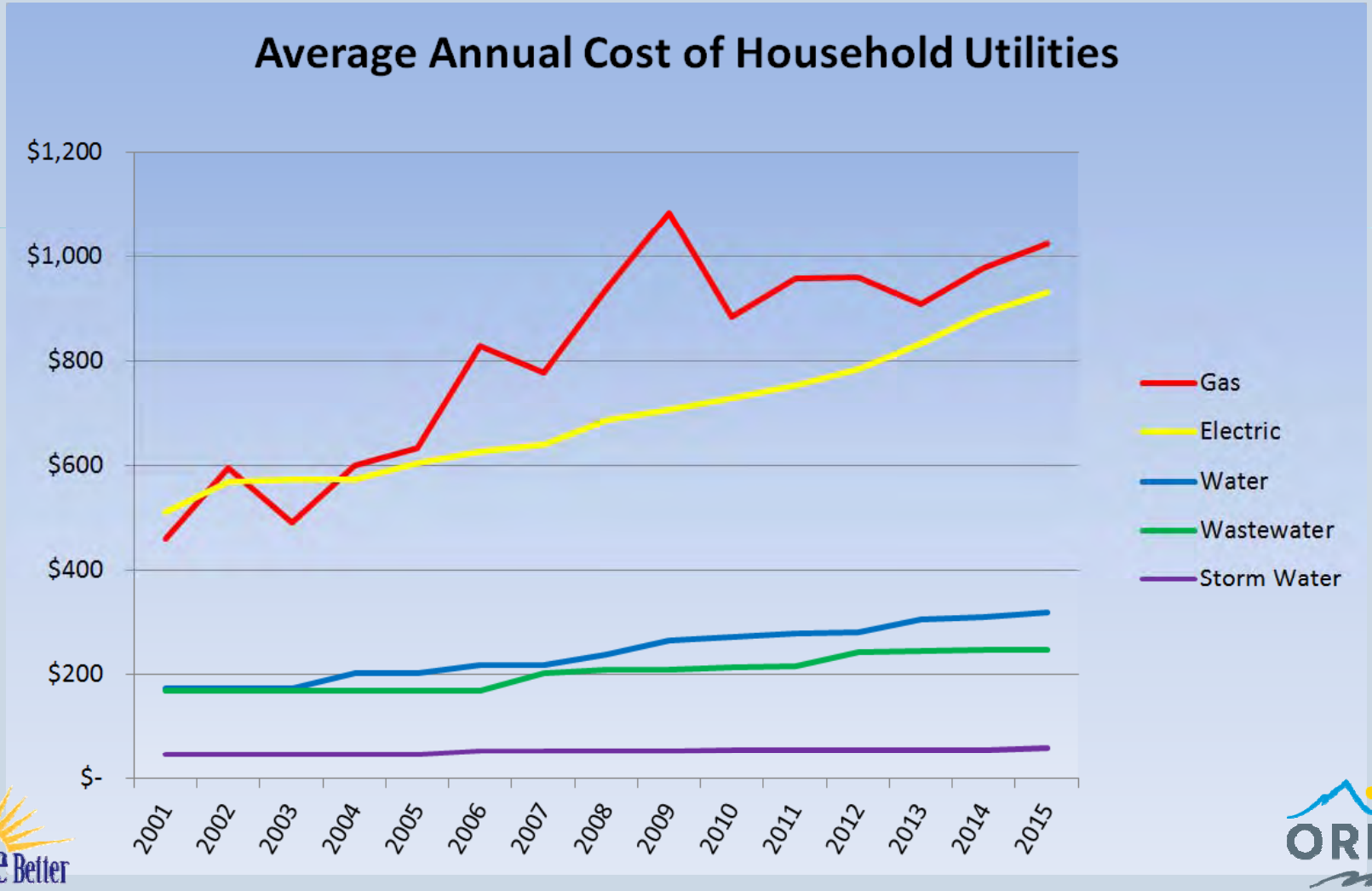
UTILITY RATES



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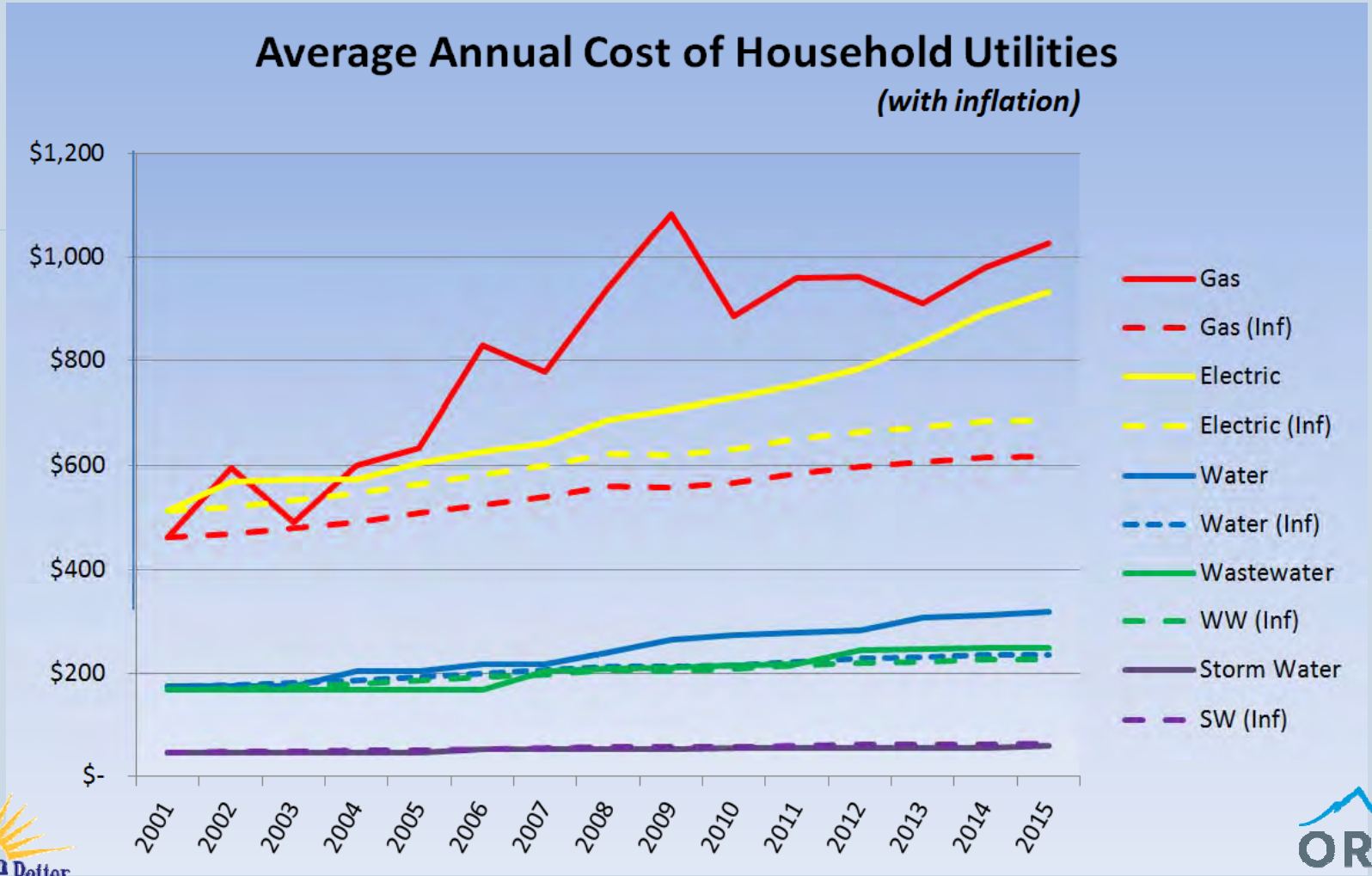
UTILITY RATES



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WATER RATE OPTIONS

Scenario 1: 5-Year						
Year	Base Rate	Winter Usage Rate	Summer Usage Rate	Monthly Bill per SFH	Monthly Increase	Total CIP
2016	$14.19	$0.58	$0.58	$26.95	$0.00	-
2017	$16.61	$0.65	$0.98	$36.85	$9.90	$3,528,538
2018	$19.10	$0.73	$1.10	$41.82	$4.97	$5,716,192
2019	$20.91	$0.79	$1.19	$45.49	$3.67	$6,730,329
2020	$21.96	$0.82	$1.23	$47.38	$1.89	$7,194,908
2021	$22.84	$0.85	$1.28	$49.28	$1.90	$7,558,183
2022	$23.53	$0.87	$1.31	$50.59	$1.31	$7,783,727
2023	$24.24	$0.89	$1.34	$51.92	$1.33	$8,049,602
2024	$24.97	$0.91	$1.37	$53.27	$1.35	$8,324,555
2025	$25.59	$0.93	$1.40	$54.51	$1.24	$8,608,896
2026	$26.10	$0.94	$1.41	$55.24	$0.73	$8,867,163
Effect on CIP	$0					

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WATER RATE OPTIONS

Scenario 2: 7-Year						
Year	Base Rate	Winter Usage Rate	Summer Usage Rate	Monthly Bill per SFH	Monthly Increase	Total CIP
2016	$14.19	$0.58	$0.58	$26.95	$0.00	-
2017	$15.74	$0.62	$0.93	$34.96	$8.01	$3,228,979
2018	$17.16	$0.66	$0.99	$37.62	$2.66	$4,145,726
2019	$18.70	$0.71	$1.07	$40.80	$3.18	$5,048,439
2020	$20.20	$0.76	$1.14	$43.76	$2.96	$6,049,930
2021	$21.72	$0.81	$1.22	$46.92	$3.16	$6,854,032
2022	$23.02	$0.85	$1.28	$49.46	$2.54	$7,584,540
2023	$24.17	$0.88	$1.32	$51.45	$1.99	$8,049,602
2024	$25.14	$0.91	$1.37	$53.44	$1.99	$8,324,555
2025	$25.89	$0.93	$1.40	$54.81	$1.37	$8,608,896
2026	$26.10	$0.94	$1.41	$55.24	$0.43	$8,867,163
Effect on CIP	$5,600,229					

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WATER RATE OPTIONS

Scenario 3: 10-Year						
Year	Base Rate	Winter Usage Rate	Summer Usage Rate	Monthly Bill per SFH	Monthly Increase	Total CIP
2016	$14.19	$0.58	$0.58	$26.95	$0.00	-
2017	$15.45	$0.61	$0.92	$34.45	$7.50	$2,929,936
2018	$16.53	$0.64	$0.96	$36.37	$1.92	$3,637,712
2019	$17.69	$0.68	$1.02	$38.77	$2.40	$4,403,366
2020	$18.93	$0.72	$1.08	$41.25	$2.48	$5,177,661
2021	$20.26	$0.76	$1.14	$43.82	$2.57	$5,931,334
2022	$21.68	$0.80	$1.20	$46.48	$2.66	$6,731,214
2023	$23.20	$0.84	$1.26	$49.24	$2.76	$7,469,076
2024	$24.59	$0.88	$1.32	$51.87	$2.63	$8,025,268
2025	$25.57	$0.92	$1.38	$54.09	$2.22	$8,483,195
2026	$26.10	$0.94	$1.41	$55.24	$1.15	$8,867,163
Effect on CIP	$10,706,169					

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WATER RATE OPTIONS

Scenario 4: Bonding						
Year	Base Rate	Winter Usage Rate	Summer Usage Rate	Monthly Bill per SFH	Monthly Increase	Total CIP
2016	$14.19	$0.58	$0.58	$26.95	$0.00	-
2017	$15.45	$0.58	$0.87	$33.43	$6.48	$2,843,186
2018	$16.53	$0.61	$0.92	$35.53	$2.10	$14,648,639
2019	$17.69	$0.64	$0.96	$37.53	$2.00	$3,404,662
2020	$18.93	$0.68	$1.02	$40.01	$2.48	$4,069,775
2021	$20.26	$0.73	$1.10	$42.98	$2.97	$16,146,210
2022	$21.48	$0.77	$1.16	$45.44	$2.46	$4,759,177
2023	$22.77	$0.82	$1.23	$48.19	$2.75	$5,488,380
2024	$24.14	$0.87	$1.31	$51.20	$3.01	$6,100,182
2025	$25.11	$0.90	$1.35	$53.01	$1.81	$6,492,389
2026	$26.10	$0.94	$1.41	$55.24	$2.23	$7,045,739
Effect on CIP	Neutral					

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HISTORY 1953

THURSDAY, MAY 28, 1953
Utah County, Utah

$1 (1953) =

$8.85 (2016)

Orem City Dads Study $1 Hike in Water Rates

OREM—City fathers in Orem are contemplating a small hike in water rates to defray costs on needed improvements in the water system.

According to Mayor Loveless, several Orem citizens who are getting extremely inadequate service have indicated a willingness to have $1 added to their monthly bill to pay for the installation of more efficient water lines.

The list is long and becoming longer where inadequate water pipes makes water pressure so low that "some people wonder if their home is connected to the city water lines" according to the mayor.

He was particularly anxious to spend this time putting the water system in Orem in better shape before the enormous task and expense of putting in a complete sewer system is upon the city. It was the feeling of the council that the citizens would rather spend a little now instead of so much all at once.

Mayor Loveless pointed out that with the 2500 water connections, the city could collect in extra revenues of $1 per month, the sum of $25,000 to $30,000 in a year. He felt this would pay for a lot of new water lines with pipes adequate to serve the community.

He asked that citizens either call him at the city hall at 0810R1 or write him a letter stating their feelings on the subject because the council would prefer to know the opinions of the people before a rate increase is ordered.

WATER RATE OPTIONS

Average Single-Family Home Monthly Bill Increase					
Year	5-Year	7-Year	10-Year	Bonding	Open House
2016	$0.00	$0.00	$0.00	$0.00	$0.00
2017	$9.90	$8.01	$7.50	$6.48	$7.63
2018	$4.97	$2.66	$1.92	$2.10	$7.49
2019	$3.67	$3.18	$2.40	$2.00	$3.75
2020	$1.89	$2.96	$2.48	$2.48	$1.45
2021	$1.90	$3.16	$2.57	$2.97	$1.78
2022	$1.31	$2.54	$2.66	$2.46	$1.83
2023	$1.33	$1.99	$2.76	$2.75	$1.89
2024	$1.35	$1.99	$2.63	$3.01	$1.95
2025	$1.24	$1.37	$2.22	$1.81	$2.00
2026	$0.73	$0.43	$1.15	$2.23	$2.06
Average	$2.83	$2.83	$2.83	$2.83	$3.18

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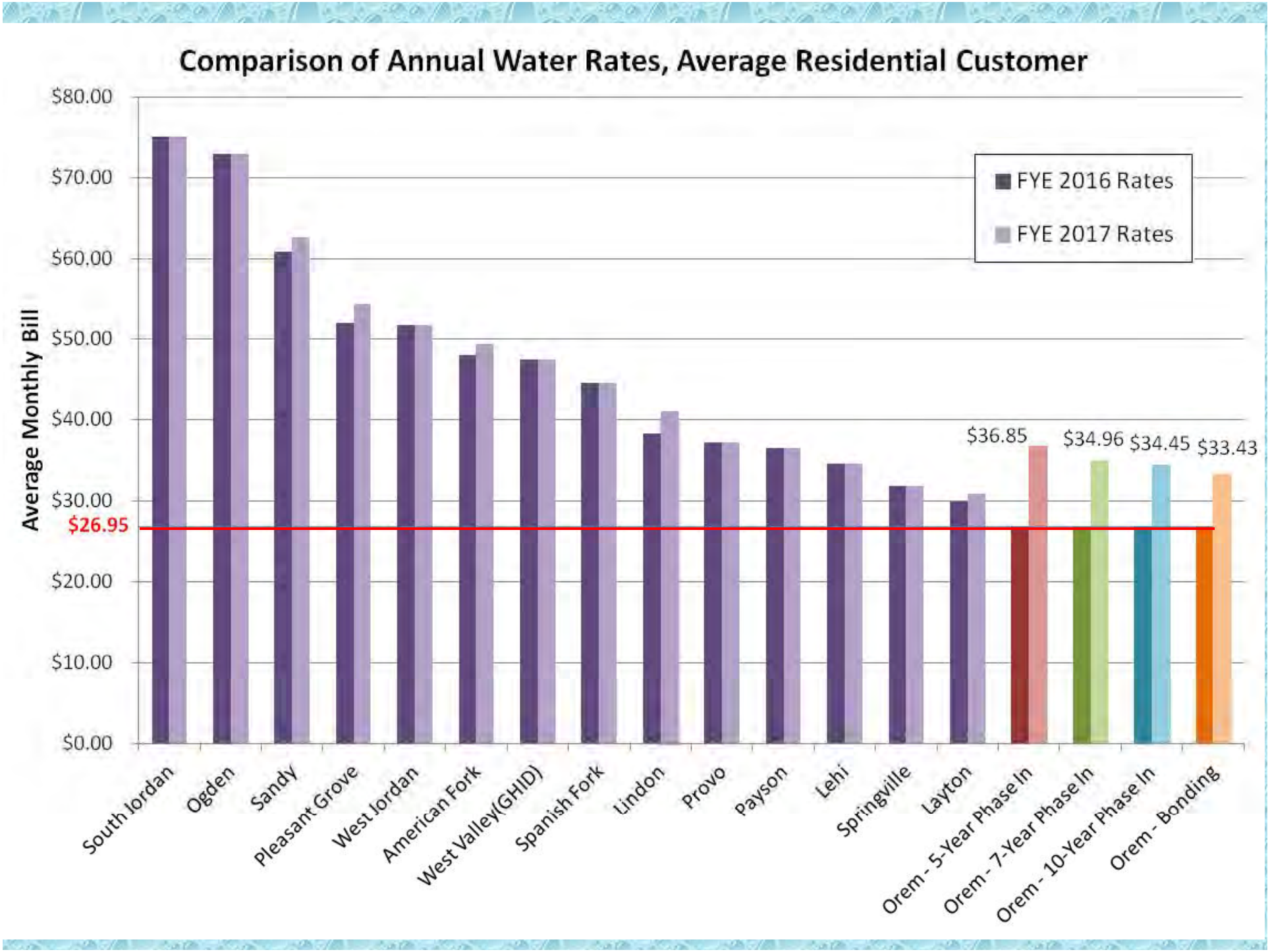
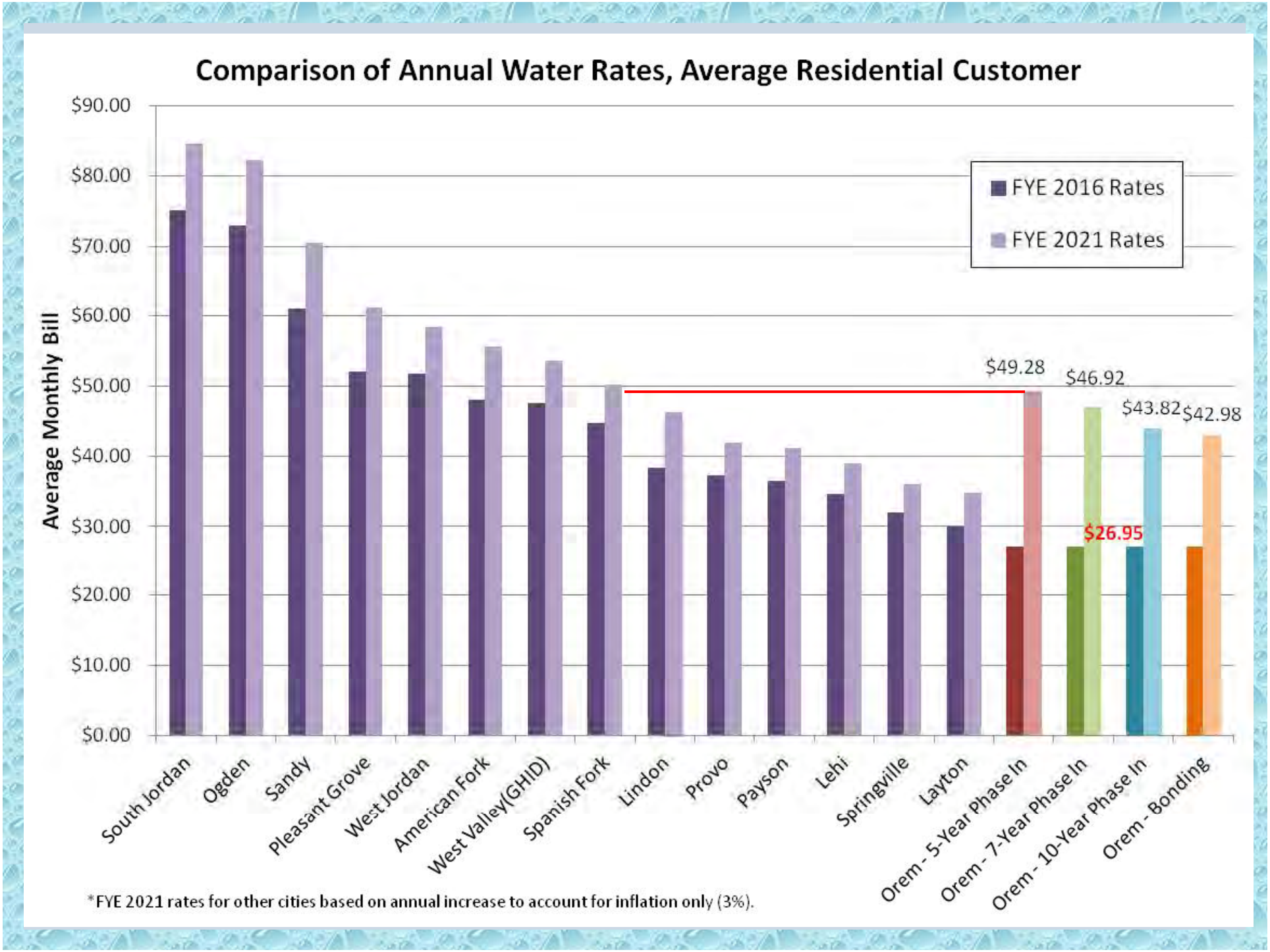
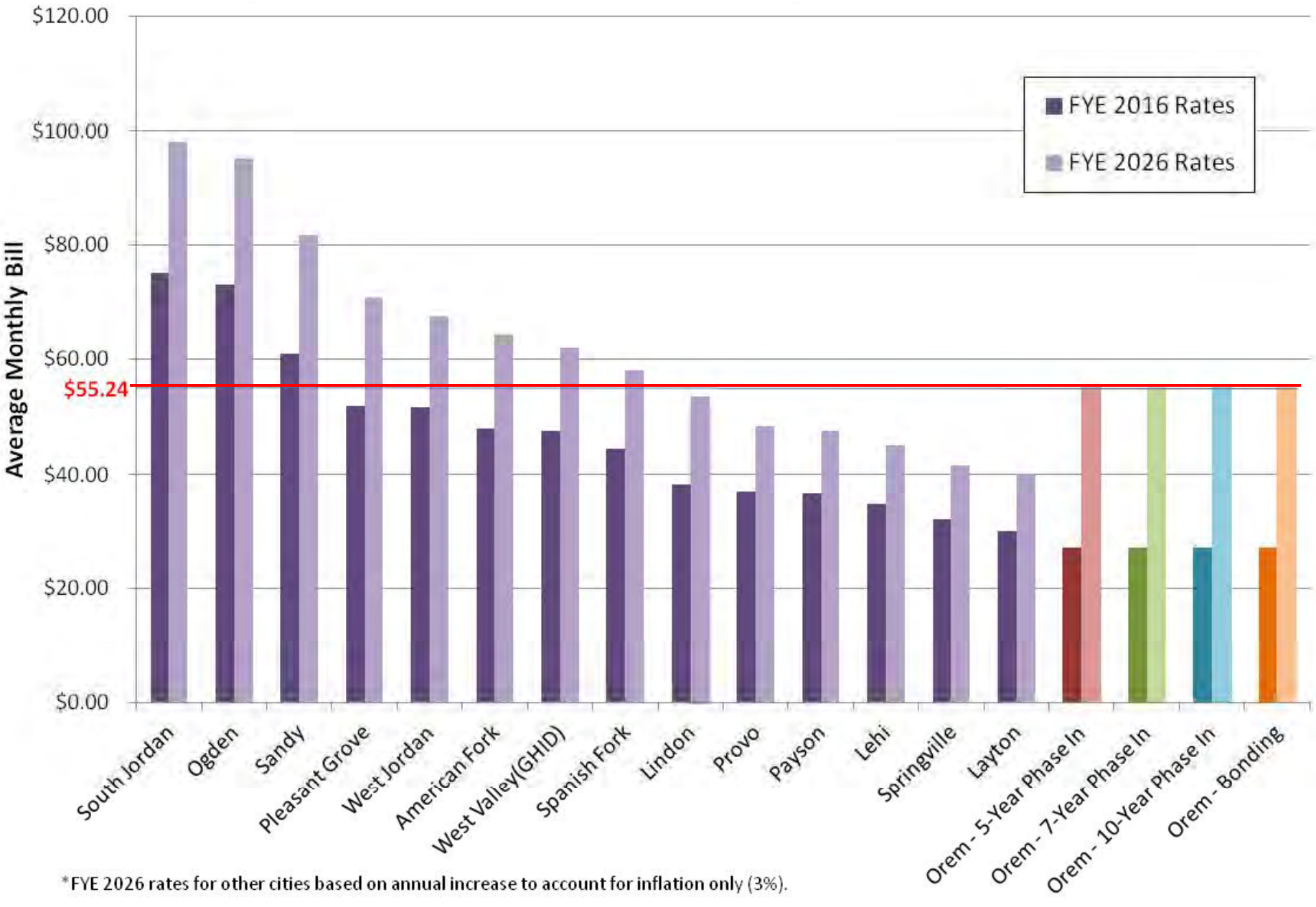

Comparison of Annual Water Rates, Average Residential Customer
Average Monthly Bill
$80.00
$70.00
$60.00
$50.00
$40.00
$30.00
$20.00
$10.00
$0.00
$26.95
FYE 2016 Rates
FYE 2017 Rates
$36.85
$34.96
$34.45
$33.43
South Jordan
Ogden
Sandy
Pleasant Grove
West Jordan
American Fork
West Valley(GHID)
Spanish Fork
Lindon
Provo
Payson
Lehi
Springville
Layton
Orem - 5-Year Phase In
Orem - 7-Year Phase In
Orem - 10-Year Phase In
Orem - Bonding

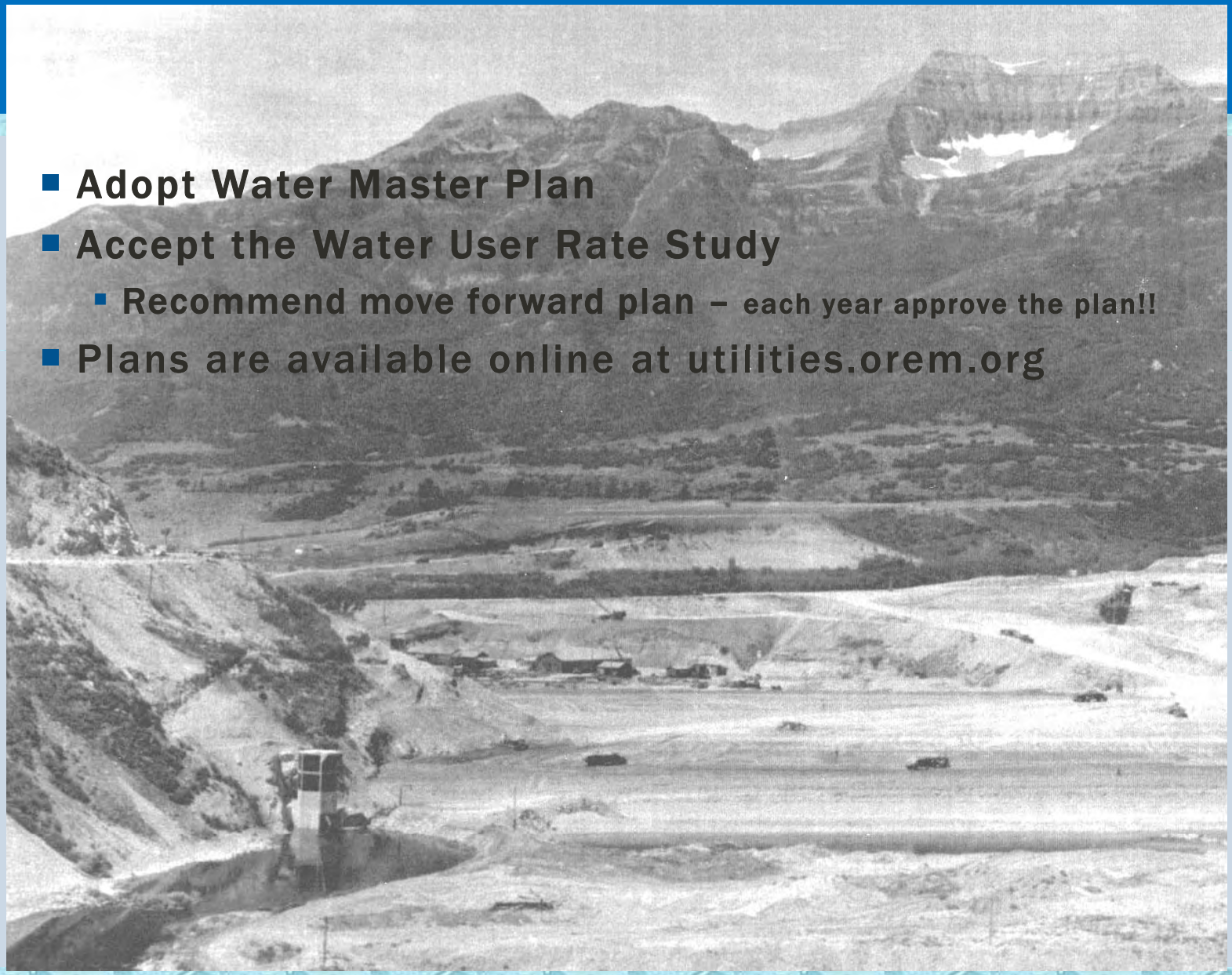

Comparison of Annual Water Rates, Average Residential Customer
Average Monthly Bill
$90.00
$80.00
$70.00
$60.00
$50.00
$40.00
$30.00
$20.00
$10.00
$0.00
FYE 2016 Rates
FYE 2021 Rates
$49.28
$46.92
$43.82
$42.98
$26.95
South Jordan
Ogden
Sandy
Pleasant Grove
West Jordan
American Fork
West Valley(GHID)
Spanish Fork
Lindon
Provo
Payson
Lehi
Springville
Layton
Orem - 5-Year Phase In
Orem - 7-Year Phase In
Orem - 10-Year Phase In
Orem - Bonding
*FYE 2021 rates for other cities based on annual increase to account for inflation only (3%).

Comparison of Annual Water Rates, Average Residential Customer



*FYE 2026 rates for other cities based on annual increase to account for inflation only (3%).

THE PATH FORWARD



- Adopt Water Master Plan
- Accept the Water User Rate Study
  - Recommend move forward plan – each year approve the plan!!
- Plans are available online at utilities.orem.org

QUESTIONS?

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