



ESMERALDA COUNTY PUBLIC WORKS
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June 17, 2020
State of Nevada Department of Conservation and Natural Resources
Division of Water Resources
901 South Stewart Street, Suite 2002
Carson City, NV 89701-5250

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STATE ENGINEERING OFFICE

RE: Goldfield Town Conservation Plans June 2020

To May It Concern:

On June 16th, 2020, our Esmeralda County Board of Commissioners approved our new plans for the Goldfield Town Conservation Plans. Per the letter we received on March 7th, 2019 we included the NRS 540.141 in our new plan as instructed to do so. If you have any questions, please let me know at (775) 485-3483. Attached are the plans and the county commissioners who signed this for approval.

Sincerely,

A handwritten signature in blue ink, appearing to read "Angela Jewell".

Angela Jewell
Administrative Assistant for Michael Anderson

Goldfield Town Water

Water Conservation Plan

June 2020

Prepared for:

**Goldfield Town Water
P.O. Box 145
337 Elliott Street Goldfield, NV 89013
(775)485-3483**

Assisted by:

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Introduction

The water supply in Nevada is a precious commodity and plays an important role in determining Nevada's future. Nevada is the one of the driest states in the nation as well as one of the fastest growing ones. Nevada's future, both from an economic and a quality of life view, depends heavily upon the wise management of the water supply.

Groundwater, in general, provides about 40 percent of the total water supply used in Nevada. In some areas, groundwater provides the entire water supply. Groundwater usage may vary considerably from year-to-year as it is sometimes pumped to supplement surface water sources.

Water use in Nevada can be classified as:

- Domestic (household, both indoor and outdoor) – Met by public supply or private supply (e.g. wells).
- Commercial (businesses) – Met by public supply or private supply (e.g. non-community systems).
- Industrial (manufacturing/construction) – Met by public supply or private supply (e.g. non-community systems).
- Thermoelectric (electric/fossil fuel/geothermal power generation) – Met by public supply in a minor fraction.
- Mining (mining processes) – Supply source varies widely from operation to operation and is dependent upon the mineral being recovered and the recovery process employed.
- Irrigation (land use) – Met by self-supplied or supplied by irrigation companies or districts.
- Livestock (farm needs) – Supply source varies.

While all classifications of water usages have shown an increase over the years, it has historically been irrigation water use which has accounted for the majority of the water use in Nevada.

It has been estimated that the domestic water use accounts for less than 15 percent of the water used in Nevada, but this is expected to rise to nearly 25 percent as the population increases (based upon existing water use patterns and conservation measures). It is expected that Nevada's population will become increasingly concentrated in its primary urban areas of Las Vegas (Clark County), Reno/Sparks (Washoe County) and Carson City, with varied spillover effects on neighboring counties.

It is vitally important that all residents understand the fundamental science of water, how it is managed in the state, and the issues affecting its management. Water education must become a priority and must include education of children as they are our future.

Because Nevada does not have a comprehensive state-wide conservation program, it is reliant upon the individual water suppliers for developing their own conservation programs. In 1991, Nevada enacted a law requiring adoption of conservation plans by water suppliers. Minimum standards for plumbing fixtures were adopted in 1991 (Assembly Bill 359) by Nevada and in

1992 minimum flow standards for plumbing fixtures were adopted by the federal government (National Energy and Policy Conservation Act).

Conservation is an essential part of ensuring adequate water supply as it is no longer feasible to develop new sources. It has proven to be a cost-effective way to reduce demands and/or to extend a given water supply. It can easily be pursued by all water users regardless of the water system type. Key to evaluating the program's effectiveness is the water use measurement (through meters and other measurement devices). Various conservation measures can be put into place and the achievement of the goals set with these measures is vital to combating the expected increase in water usage.

This plan is available for inspection during normal business hours at 337 Elliott Street, Goldfield. The Plan can also be inspected at the County Clerk's Office or at the library.

The original Water Conservation Plan for **Goldfield Town Water** was developed in 1992 and modified in 2016.

In accordance with NRS 540.131, this plan will be reviewed from time-to-time to reflect changes and must be updated every five (5) years to comply with NRS 540.131 and NRS 540.141. The next update of this plan is to be on, or before, June 2026.

Statutory Requirements

This water conservation plan was prepared by **Goldfield Town Water** in accordance with Nevada Revised Statute (NRS) 540. As outlined in:

NRS 540.131 Plan of water conservation: Procedure for adoption and updating of plan;

Briefly states:

1. The plan:
 - a) Must be available for inspection by members of the public during office hours at the offices of the supplier of water;
 - b) May be revised from time to time to reflect the changing needs and conditions of the service area. Each such revision must be made available for inspection by members of the public; and
 - c) Must be updated every 5 years and comply with the requirements of this section and [NRS 540.141](#).
2. Suppliers of water:
 - a) Who are required to adopt a plan of water conservation pursuant to this section; and
 - b) Whose service areas are located in a common geographical area, may adopt joint plans of water conservation based on the climate and living conditions of that common geographical area. Such a plan must comply with the requirements of this section and [NRS 540.141](#).
3. The board of county commissioners of a county, the governing body of a city and the town board or board of county commissioners having jurisdiction of the affairs of a town shall:
 - a) Adopt any ordinances necessary to carry out a plan of water conservation adopted pursuant to this section which applies to property within its jurisdiction;
 - b) Establish a schedule of fines for the violation of any ordinances adopted pursuant to this subsection; and
 - c) Hire such employees as it deems necessary to enforce the provisions of any ordinances it adopts pursuant to this subsection.

NRS 540.141 Required provisions of plan or joint plan of water conservation;

Briefly states:

1. A plan or joint plan of water conservation must include provisions relating to:
 - a) Methods of public education
 - 1) Increase public awareness of the limited supply of water in this State and the need to conserve water.
 - 2) Encourage reduction in the size of lawns and encourage the use of plants that are adapted to arid and semiarid climates.
 - b) Specific conservation measures required to meet the needs of the service area, including, but not limited to, any conservation measures required by law.
 - c) The management of water to:

- 1) Identify and reduce leakage in water supplies, inaccuracies in water meters and high pressure in water supplies; and
 - 2) Where applicable, increase the reuse of effluent.
- d) A contingency plan for drought conditions that ensures a supply of potable water.
 - e) A schedule for carrying out the plan or joint plan.
 - f) A plan for how the supplier of water will progress towards the installation of meters on all connections.
 - g) Standards for water efficiency for new development.
 - h) Tiered rate structures for the pricing of water to promote the conservation of water, including, without limitation, an estimate of the manner in which the tiered rate structure will impact the consumptive use of water.
 - i) Watering restrictions based on the time of day and the day of the week.
2. In addition to the requirements of subsection 1, a plan or joint plan of water conservation submitted to the Section for review by a supplier of water providing service for 500 or more connections must include provisions relating to:
 - a) Measures to evaluate the effectiveness of the plan or joint plan.
 - b) For each conservation measure specified in the plan or joint plan, an estimate of the amount of water that will be conserved each year as a result of the adoption of the plan, stated in terms of gallons of water saved annually.

NRS 540.151 Supplier of water required to adopt plan to provide certain incentives; procedure for adoption of plan

Briefly states:

1. Each supplier of water which supplies water for municipal, industrial or domestic purposes shall adopt a plan to provide incentives:
 - a) To encourage water conservation in its service area;
 - b) To retrofit existing structures with plumbing fixtures designed to conserve the use of water; and
 - c) For the installation of landscaping that uses a minimal amount of water. The supplier of water may request assistance from the DWR to develop its plan.
2. As part of the procedure of adopting a plan, the supplier of water shall provide an opportunity for any interested person to submit written views and recommendations on the plan.
3. The supplier of water shall file a copy of the plan with the DWR for informational purposes.

System Description

Goldfield Town Water is a publicly-owned residential/commercial non-transient community water system and has a current water operation permit, NV0000072. **Goldfield Town Water** serves water to 306 residential / 29 commercial / 2 bulk customers in its service area in Goldfield, which is located in **Esmeralda County**. The service area boundaries are Alpine Street and Grant Street to the north; Lida Ave. to the south; 4th Street to the west; and U.S. 95 to the east and covers approximately 1 square mile. The service area's terrain is a gentle slope.

The estimated population served in 2019 is 300 residents. **Goldfield Town Water** estimates that its customer base will increase by 20% on a yearly basis through 2020. The State of Nevada, through its State Water Plan, estimates the population growth for Esmeralda County through 2020 to be 0.28% annually.

The water supply is from groundwater which is located within the Alkali Spring Valley (142) Basin. There is a total of two (2) wells supplying the system and a total of two (2) storage tanks. Each of these is identified in the tables below (Table 1 and Table 2).

Table 1 – Source of Supply

Well No.	Depth (feet)	Production (gpm)
Klondike 1	412	300
Klondike 2	400	296

Table 2 – Storage Tanks

Tank No.	Volume (gallons)
1	200,000
2	366,000

Goldfield Town Water has been granted water rights in the total amount of 300 acre-feet per year. The current water rights are listed in the table below (Table 3). These water rights were taken from, **Esmeralda County Updated Water Rights Management Plan, completed by Lumos and Associates in September 2010, Job No. 4453.012WR.**

Table 3 – Water Rights

Certificate Number	Permit No.	Well No. & Name	Rate of Diversion (max, CFS)	Annual Use (MGA)
	60963	Klondike #1	1.5	
13195	41861	Klondike #1	0.188	44.36
	55627	Klondike #2	1.5	48.88
	76340	Klondike #1	0.003	0.73

Goldfield Town Water Conservation Plan

Version 3; June 2020

Certificate Number	Permit No.	Well No. & Name	Rate of Diversion (max, CFS)	Annual Use (MGA)
2795	10150	Goldfield #1	0.25	
6199	20554	Damned if I Know Spring	0.25	
6200	21314	Dahlstrom	0.30	
6216	20553	Rabbit Springs	2.0	
6217	20555	Meyer	4.0	
6218	21157	Childers	0.25	
6219	21158	Fayhen	0.35	
6220	21159	Brewery	0.11	
6221	21160	Tripod	0.30	
6222	21162	Clark	4.0	
6982	20552	Popenberger	0.25	
6201	22690	Shriver	2.0	
7670	22691	Cemetery/Slaughter House Well	.0225	0.007331
8754	27309	Duffy Springs	0.25	58.98
	85508	KLONDIKE WELL #1	1.0	723.97
	85509	KLONDIKE WELL #2	1.0	723.97

Water is produced from two (2) groundwater wells. Water is pushed to a 20,000-gallon storage tank. It is then boosted, by means of pumps, to another 20,000-gallon storage tank. From there, it is boosted to the treatment facility. Arsenic removal occurs in the facility. The treated water is then stored in the system tanks. Water is then distributed to the customers through Asbestos Cement Pipe, ACP, C-900, and Schedule 40 PVC in various sizes from 4” to 8”.

Goldfield Town Water requires, at a minimum, a **Distribution Grade 2 and Treatment Grade 2** operator. Michael Anderson is the system operator and holds Distribution Grade 2 and Treatment Grade 2 certificates.

The system/treatment operator is required to perform daily, weekly, quarterly, monthly, and yearly monitoring and testing of water quality. **Goldfield Town Water** does currently have outstanding water quality issues. Arsenic sample tests came back high. The cause for the high samples may be from the failure of the static mixer.

The last sanitary survey performed by the Nevada Department of Environmental Protection (NDEP) was completed in May 2019 and shows 4 deficiencies with the system.

1. A volatile-organic-compound VOC, test needs completed on the 200,000-gallon tank.
2. A disinfection-by-product, DBP, test needs completed.
3. Replace a screen on an air-vac.

4. Firehouse backflow is leaking.

Goldfield Town Water charges a base rate, with 2,000-gallons allotted in the rate, and a commodity charge after 2,000-gallons of usage. It does have a tiered rate usage fee. A breakdown of the customer type, number, and charge is found in the tables below.

Residential customers are billed a monthly fee in addition to a quantity charge after the first 2,000-gallons. The fees are detailed in the table below (Table 4).

Table 4 – Residential / Commercial / Industrial Customers and Use Charges

Connection Type	Number	Monthly Fee	Quantity Fee, \$/1,000 gallons
Residential	306	\$26.00 for 2,000 - Gallons	\$2.50 for 2,001 or more gallons used
Commercial A	29	\$35.00 for 1,000 - Gallons	\$3.00 1,001 – 500,000 – Gallons \$4.00 500,001 or more gallons
Commercial B	2	\$45.00 for 1,000 - Gallons	\$3.00 1,001 – 500,000 – Gallons \$4.00 500,001 or more gallons
Industrial		Monthly Fee \$200.00	Follow Commercial B Schedule

Wastewater collected from the service area is discharged into a lagoon system. Evaporation of the water helps control the discharge, if any, of effluent.

Current water rates were established on July 2005. Water rates are reviewed every year.

Plan Provisions

In accordance with NRS 540.131, this plan will be reviewed from time-to-time to reflect changes and must be updated every five (5) years to comply with NRS 540.131 and NRS 540.141. The next update of this plan is to be on, or before, June 2026.

Goldfield Town Water will assign a staff member to oversee the conservation efforts and this staff member will be responsible for implementation of conservation programs, monitoring of water use, and will review /revise the conservation plan when needed.

In an effort to promote voluntary conservation and aid in Nevada's future, **Goldfield Town Water** will enact the voluntary conservation measures found in the *Conservation Measures* section. When more stringent measures are needed, **Goldfield Town Water** will enact the measures found in the *Contingency Measures* section. All measures can be found in Appendix A.

As required by NRS 540.141, the water conservation plan or joint plan must include the following provisions:

- a. Methods of public education
 - Increase public awareness of the limited supply of water in this State and the need to conserve water.
 - Encourage reduction in the size of lawns and encourage the use of plants that are adapted to arid and semiarid climates.
- b. Specific conservation measures required to meet the needs of the service area.
- c. The management of water to:
 - Identify and reduce leakage in water supplies, inaccuracies in water meters and high pressure in water supplies, and
 - Where applicable, increase the reuse of effluent.
- d. A contingency plan for drought conditions that ensures a supply of potable water.
- e. A schedule for carrying out the plan or joint plan.
- f. A plan for how the supplier of water will progress towards the installation of meters on all connections.
- g. Standards for water efficiency for new development.
- h. Tiered rate structures for the pricing of water to promote the conservation of water, including, without limitation, an estimate of the manner in which the tiered rate structure will impact the consumptive use of water.
- i. Watering restrictions based on the time of day and the day of the week.

Each provision is discussed below.

Public Education

Public education is a key for cooperation with conservation efforts, so funding for public education is crucial. **Goldfield Town Water** recognizes this and will establish a conservation education program and corresponding budget.

It is the goal of **Goldfield Town Water** to increase public awareness to conserve water, encourage reduction in lawn sizes, encourage the use of climate-appropriate plants, encourage the use of drip irrigation, and encourage conscious decisions for water use.

The conservation education program includes education materials such as bill inserts, pamphlets, flyers, and posters. New customers will be provided these materials when service is established, while existing customers will receive these materials periodically through bill inserts or direct mail. Educational pamphlets will be provided to all customers upon request and should include an explanation of all costs involved in supplying drinking water and demonstrate how the water conservation practices will provide water users with long-term savings. Education materials should also encourage reduction of lawn sizes, use of drip irrigation, use of climate-appropriate plants, and conservation tips and techniques (see Appendix B).

Customers should also be able to read and understand their water bills. Bills should be informative, going beyond the basic billing information. Bills should include comparisons to previous bills and tips on water conservation that can help customers make informed choices about their water usage. Bill inserts can also include this information.

Goldfield Town Water would participate in public outreach opportunities such as Earth Day, provide information at a variety of school programs, participate at workshops for plumbers/suppliers/builders, and could provide incentives for conservation efforts (e.g. plumbing retrofit rebates, water conservation landscaping rebates, etc.).

Goldfield Town Water could also establish a water conservation advisory committee that would involve the public in the conservation process and provide feedback to the system concerning its efforts, thus fostering support for conservation in the community.

Specific Conservation Measures and Incentives

In an effort to promote conservation and voluntarily conserve water, **Goldfield Town Water** is adopting water-use regulations to promote water conservation during non-emergency situations. These regulations include the following non-essential water use:

- 1) Use of water through any connection when **Goldfield Town Water** has notified the customer in writing to repair a broken or defective plumbing, sprinkler, watering or irrigation system and the customer has failed to make such repairs within 5 days after receipt of such notice.

- 2) Use of water which results in flooding or run-off in gutters, waterways, patios, driveway, or streets.
- 3) Use of water for washing aircraft, cars, buses, boats, trailers or other vehicles without a positive shut-off nozzle on the outlet end of the hose. Exceptions include washing vehicles at commercial or fleet vehicle washing facilities operated at fixed locations where equipment using water is properly maintained to avoid wasteful use.
- 4) Use of water through a hose for washing buildings, structures, sidewalks, walkways, driveways, patios, parking lots, tennis courts, or other hard-surfaced areas in a manner which results in excessive run-off or waste.
- 5) Use of water for watering streets with trucks, except for initial wash-down for construction purposes (if street sweeping is not feasible), or to protect the health and safety of the public.
- 6) Use of water for construction purposes, such as consolidation of backfill, dust control, or other uses unless no other source of water or other method can be used.
- 7) Use of water for more than minimal landscaping in connection with any new construction.
- 8) Use of water for watering outside plants and turf areas using a hand-held hose without a positive shut-off valve.
- 9) Use of water for decorative fountains or the filling or topping off of decorative lakes or ponds. Exceptions are made for those decorative fountains, lakes, or ponds which utilize recycled water.
- 10) Use of water for the filling or refilling of swimming pools.
- 11) Service of water by any restaurant except upon the request of the patron.

In the event these conservation measures are insufficient to control the water shortage, **Goldfield Town Water** may wish to implement the mandatory measures discussed in the *Contingency Plan* section below.

Incentives Plan NRS 540.151

Goldfield Town Water has adopted as part of this Conservation Plan, the following plan to provide incentives for the installation of landscaping that uses a minimal amount of water, and for retrofits to existing structures with plumbing fixtures designed to conserve the use of water in order to encourage water conservation in the service area.

Goldfield Town Water also promotes the development of water conserving principles into the planning, development, and management of new landscape projects such as public parks, building grounds, and golf course. Customers are encouraged to consult with the local nursery or perform an internet search on the availability of water conservation plants and how to renovate existing landscapes. Customers are also encouraged to evaluate irrigation management systems using metering, timing, and water sensing devices.

Goldfield Town Water provides the following incentives for conservation: At present, it is not viable to offer any water conservation incentives.

Water Management

Goldfield Town Water monitors and records water levels at both wells via transducers and tank sites via SCADA.

Working relationships with other local water purveyors are maintained to ensure adequate water supplies are available. No systems are close enough to form interties.

Goldfield Town Water actively monitors unaccounted-for water losses. Production versus sales and authorized usage allows the determination of unaccounted for water losses. Current-to-historical comparisons are examined and evaluation methods are examined to locate leaks, if significant differences are found. The **Goldfield Town Water** does monitor production monthly and makes year-to-year comparisons.

Goldfield Town Water does not have a formal leak detection program. All large leaks are repaired immediately and small leaks (less than 1 gallon per minute) are repaired when operational conditions permit.

The **Town of Goldfield** does not have a formal meter replacement program. Meters that have been identified as not registering properly are replaced.

The **Goldfield Town Water** distribution system consists of 1 pressure zones, pressure- isolated by pressure reducing control valves. The system design is such that water pressure is in the range of [[e.g. 40 to 65]] pounds per square inch throughout the system.

Goldfield Town Water does not have a system for reusing of effluent. Effluent from the treatment plant is sent to the lagoon system via the collection system. Excess water is evaporated off.

Contingency Plan for Drought Conditions

The objective of the contingency plan would be to manage the available resources to ensure continued supply of potable water during periods of drought or extended drought.

It is envisioned that voluntary conservation will be sufficient to ensure an adequate supply of water and reduce water usage. However, if a sustained drought is encountered, it may be necessary to implement mandatory restrictions in order to ensure an adequate supply of water to meet essential needs.

Goldfield Town Water plans for drought response would be three (3) stages of drought response: (1) warning stage, (2) alert stage, and (3) emergency stage.

The drought stages are based on the static water levels of the system wells. Static water levels are currently at a level of approximately 198 ft. The wells penetrate a saturated thickness of approx-

imately 200 ft. The pump setting in Klondike No. 1 is 235 feet and the top of well screen is 250 ft. The pump setting in Klondike No. 1 is 330 ft and the top of well screen is 250 ft.

1. Stage 1: Declared if the static water level drops to 220-feet (20 ft decline, 10% of aquifer saturated thickness).
2. Stage 2: Declared if the static water level drops to 230-feet (30 ft decline, 15% of aquifer thickness)
3. Stage 3: Declared if the static water level drops to 240-feet (40 ft decline, 20% of aquifer saturated thickness).

The stages are described as follows:

In Stage 1, the warning stage, **Goldfield Town Water** would increase monitoring of its water supplies, will deepen the pump setting in Klondike No. 1 (if not already deepened) and would begin creating public awareness of the water supply situation and the need to conserve. Conservation measures at this stage would be voluntary for residential and commercial users. Discussions will begin with industrial water users to identify possible areas of reduction in normal usage, with a voluntary goal to achieve at reduction to 75% of normal usage. Alternatives for industrial water supply will be identified and reviewed to preserve municipal water. Retrofit kits (low-flow faucet aerators, low-flow showerheads, leak detection tables, and replacement flapper valves) can be made available at cost, and can be actively distributed, if needed.

In Stage 2, the alert stage, **Goldfield Town Water** would call for wide-based community support to achieve conservation, limit the use of fire hydrants to fire protection uses (by requiring effluent for construction and dust control purposes), implement water use restrictions, and impose penalties for ignoring the restrictions. Industrial users will be reduced to 50% of normal usage. Conservation measures at this stage would be mandatory and violations would incur fines.

In Stage 3, the emergency stage, **Goldfield Town Water** would declare a drought and water shortage emergency, would enforce water use restrictions, stop supplying water to industrial customers for production needs, impose fines for violations, implement allocation of water (rationing) and impose higher fees for water usage. Media relations would be activated in order to inform the customers and monetary assistance may need to be secured in an effort to mitigate the effects of the drought (e.g. federal funding assistance). Conservation measures at this stage would be mandatory, rationing would be imposed, violations would incur fines, and over-use would be penalized by higher rates.

When a drought is declared over, voluntary conservation measures (see *Conservation Measures* section) will be reinstated and water supplies would continue to be monitored.

Schedule for Carrying Out the Plan

All of the provisions listed are currently in place and are actively working to achieve results.

Meter Installation

The water system is currently metered.

A capital improvement plan is in place; is currently being funded through rates; and there are plans to replace distribution lines at their anticipated useful life. Lines that historically require an above average number of repairs will be prioritized for earlier replacement.

Standards for Water Efficiency for New Development.

The **Goldfield Town Water** policy is to adhere to the planning points spelled out for new systems in NAC 445A.66735.

Tiered Rate Structures

The charging of variable rates for the use of water has sometimes been shown to encourage conservation of water, but not in all systems. Oftentimes the end-user will continue to pay increasing block rates out of necessity for the water used. The use of variable water rates needs to be evaluated on a case-by-case basis.

Variable rates are in place to ease excessive use of water. Over use of the water will result in the overuse of the treatment plant. For this burden to be eased, the following tier structure has been put in place:

Connection Type	Quantity Fee, \$/1,000 gallons
Residential	\$2.50 for 2,001 or more gallons used
Commercial A	\$3.00 1,001 – 500,000 – Gallons \$4.00 500,001 or more gallons
Commercial B	\$3.00 1,001 – 500,000 – Gallons \$4.00 500,001 or more gallons
Industrial	Follow Commercial B Schedule

Watering Restrictions

Watering of plants, lawn, landscape and turf areas are prohibited the hours of 12pm – 6pm due to heavy evaporation during that time. These watering restrictions are on a voluntary basis.

Appendices

**APPENDIX A
CONSERVATION MEASURES**

Stage 1 – Warning Stage

1. **Goldfield Town Water** would increase monitoring of water supplies.
2. **Goldfield Town Water** would deepen the pump setting in Klondike No. 2 to approximately 330ft.
3. **Goldfield Town Water** would begin creating public awareness of the water supply situation and the need to conserve.
4. **Goldfield Town Water** would inform customers of voluntary conservation measures (non-essential water uses, listed below).
5. **Goldfield Town Water** will inform industrial users of a voluntary 75% of normal usage and initiate review of alternative industrial water sources.
6. **Goldfield Town Water** will have retrofit kits (low-flow faucet aerators, low-flow showerheads, leak detection tables, and replacement flapper valves) at cost, and can be actively distributed, if needed.

Non-essential water uses are:

- 1) Use of water through any connection when **Goldfield Town Water** has notified the customer in writing to repair a broken or defective plumbing, sprinkler, watering or irrigation system and the customer has failed to make such repairs within 5 days after receipt of such notice.
- 2) Use of water which results in flooding or run-off in gutters, waterways, patios, driveway, or streets.
- 3) Use of water for washing aircraft, cars, buses, boats, trailers or other vehicles without a positive shut-off nozzle on the outlet end of the hose. Exceptions include washing vehicles at commercial or fleet vehicle washing facilities operated at fixed locations where equipment using water is properly maintained to avoid wasteful use.
- 4) Use of water through a hose for washing buildings, structures, sidewalks, walkways, driveways, patios, parking lots, tennis courts, or other hard-surfaced areas in a manner which results in excessive run-off or waste.
- 5) Use of water for watering streets with trucks, except for initial wash-down for construction purposes (if street sweeping is not feasible), or to protect the health and safety of the public.
- 6) Use of water for construction purposes, such as consolidation of backfill, dust control, or other uses unless no other source of water or other method can be used.
- 7) Use of water for more than minimal landscaping in connection with any new construction.
- 8) Use of water for watering outside plants and turf areas using a hand-held hose without a positive shut-off valve.
- 9) Use of water for decorative fountains or the filling or topping off of decorative lakes or ponds. Exceptions are made for those decorative fountains, lakes, or ponds which utilize recycled water.
- 10) Use of water for the filling or refilling of swimming pools.
- 11) Service of water by any restaurant except upon the request of the patron.

Stage 2 – Alert Stage

1. **Goldfield Town Water** would set conservation goals and call for wide-based community support to achieve those goals.
2. **Goldfield Town Water** would inform customers of mandatory conservation measures (non-essential water uses, listed in Stage 1 are now mandatory).
3. **Goldfield Town Water** would inform customers of penalties if mandatory conservation measures are not observed (penalties are listed below).
4. **Goldfield Town Water** would inform customers of mandatory conservation water fees.
5. **Goldfield Town Water** limit the use of fire hydrants to fire protection uses only.
6. **Goldfield Town Water** would provide customers with retrofit kits either at cost.
7. **Goldfield Town Water** will reduce water volume to industrial users to 50% of normal usage.
8. Use of water for outside plants, lawn, landscape, and turf areas will only be permitted 2 days a week.

Penalties for violation of mandatory conservation measures are:

- 1st violation – written warning.
- 2nd violation – \$50.00
- 3rd violation – turn-off of water services.

Offenses for separate water use restriction violations will each start at the warning stage (1st violation) and the penalties for the offenses are in addition to the regular rate schedule charges.

Stage 2 water rates would be 1.5 times the normal quantity rate, or as deemed necessary.

A flow restrictor can be installed if the customer is non-responsive after the 1st violation. The flow restrictor shall not restrict water delivery by greater than 50% of normal flow. The flow restrictor may be removed only by the **Goldfield Town Water**, only after a 30-day period has elapsed and only upon payment of the \$100.00 removal charge.

If, after the removal of the flow restrictor, any non-essential or unauthorized use of water shall continue, another flow restrictor may be installed and shall remain in place until water supply conditions warrant its removal and the appropriate charge for removal has been paid.

Stage 3 – Emergency Stage

1. **Goldfield Town Water** would declare a drought and water shortage emergency and use media relations to supplement efforts to keep customers informed.
2. **Goldfield Town Water** would set rationing benchmarks for each customer class.
3. **Goldfield Town Water** would inform customers of prohibited water uses (non-essential water uses, listed in Stage 1 are now prohibited).
4. **Goldfield Town Water** would inform customers of penalties if prohibited measures are not observed (penalties are listed below).
5. **Goldfield Town Water** would inform customers of rationing water fees.
6. **Goldfield Town Water** will stop supplying water to industrial users for production needs.
7. **Goldfield Town Water** would limit the use of fire hydrants to fire protection uses only.
8. **Goldfield Town Water** would provide customers with retrofit kits either at cost or free.
9. **Goldfield Town Water** would prohibit outdoor watering.
10. **Goldfield Town Water** would seek monetary assistance in an effort to mitigate the drought (e.g. federal funding).

Penalties for violation of prohibited water use measures are:

- 1st violation – written warning.
- 2nd violation – \$100.00
- 3rd violation – turn-off of water services.

Offenses for separate water use restriction violations will each start at the warning stage (1st violation) and the penalties for the offenses are in addition to the regular rate schedule charges.

Stage 3 water rates would be 2 times the normal quantity rate, or as deemed necessary.

A flow restrictor can be installed if the customer is non-responsive after the 1st violation. The flow restrictor shall not restrict water delivery by greater than 50% of normal flow. The flow restrictor may be removed only by the **Goldfield Town Water**, only after a 30-day period has elapsed and only upon payment of the \$200.00 removal charge.

If, after the removal of the flow restrictor, any non-essential or unauthorized use of water shall continue, another flow restrictor may be installed and shall remain in place until water supply conditions warrant its removal and the appropriate charge for removal has been paid.

If any customer seeks a variance from the provisions of Stage 3, then that customer shall notify **Goldfield Town Water** in writing, explaining in detail the reason for such a variation. **Goldfield Town Water** shall respond to each request.

APPENDIX B
PUBLIC EDUCATION MATERIALS

There are several publications available for use at U.S. EPA website for general distribution (currently located at <http://epa.gov/watersense/pubs/index.htm#ideas>). These publications include such topics as:

- Simple Steps to Save Water,
- Ideas for Residences,
- Ideas for Commercial,
- Using Water Wisely in the Home,
- Outdoor Water Use in the US,
- Toilet Flush Facts,
- Watering Can Be Efficient,
- Irrigation Timers for the Homeowner, and
- Water Efficient Landscaping,

These publications can be utilized until **Goldfield Town Water** develops system-specific publications.

There are also numerous websites that provide tips for conserving water. One of these is: <http://www.wateruseitwisely.com/100-ways-to-conserve/index.php>. Customers can be directed to this website for tips to conserve water.

Specific tips for landscaping that can be provided to the customers are listed below. During drought conditions outdoor watering restrictions may be imposed, and therefore some of the following tips will not apply.

Tips for Landscaping

Watering:

- Detect and repair all leaks in irrigation systems.
- Use properly treated wastewater for irrigation where available.
- Water the lawn or garden during the coolest part of the day (early morning is best). Do not water on windy days.
- Water trees and shrubs, which have deep root systems, longer and less frequently than shallow-rooted plants which require smaller amounts of water more often. Check with the local nursery for advice on the amount and frequency of watering needed in your area.
- Set sprinklers to water the lawn or garden only—not the street or sidewalk.
- Use soaker hoses and trickle irrigation systems.
- Install moisture sensors on sprinkler systems.

Planting:

- Have your soil tested for nutrient content and add organic matter if needed. Good soil absorbs and retains water better.

- Minimize turf areas and use native grasses.
- Use native plants in your landscape—they require less care and water than ornamental varieties.
- Add compost or peat moss to soil to improve its water-holding capacity.

Maintaining:

- Use mulch around shrubs and garden plants to reduce evaporation from the soil surface and cut down on weed growth.
- Remove thatch and aerate turf to encourage movement of water to the root zone.
- Raise your lawn mower cutting height to cut grass no shorter than three inches—longer grass blades encourages deeper roots, help shade soil, cut down on evaporation, and inhibit weed growth.
- Minimize or eliminate fertilizing which requires additional watering, and promotes new growth which will also need additional watering.

Ornamental Water Features:

- Do not install or use ornamental water features unless they recycle the water. Use signs to indicate that water is recycled. Do not operate during a drought.

APPENDIX C
END-USER WATER SAVINGS

Here are just a few of the end-user water savings that could be realized:

Leaky Faucets

Issue: Leaky faucets that drip at the rate of one drip per second can waste more than 3,000 gallons of water each year.

Fix: If you're unsure whether you have a leak, read your water meter before and after a two-hour period when no water is being used. If the meter does not read exactly the same, you probably have a leak.

Leaky Toilets

Issue: A leaky toilet can waste about 200 gallons of water every day.

Fix: To tell if your toilet has a leak, place a drop of food coloring in the tank; if the color shows in the bowl without flushing, you have a leak.

Showering

Issue: A full bath tub requires about 70 gallons of water, while taking a five-minute shower uses 10 to 25 gallons.

Fix: If you take a bath, stopper the drain immediately and adjust the temperature as you fill the tub.

Brushing Teeth Wisely

Issue: The average bathroom faucet flows at a rate of two gallons per minute.

Fix: Turning off the tap while brushing your teeth in the morning and at bedtime can save up to 8 gallons of water per day, which equals 240 gallons a month!

Watering Wisely

Issue: The typical single-family suburban household uses at least 30 percent of their water outdoors for irrigation. Some experts estimate that more than 50 percent of landscape water use goes to waste due to evaporation or runoff caused by overwatering.

Fix: Drip irrigation systems use between 20 to 50 percent less water than conventional in-ground sprinkler systems. They are also much more efficient than conventional sprinklers because no water is lost to wind, runoff, and evaporation. If the in-ground system uses 100,000 gallons annually, you could potentially save more than 200,000 gallons over the lifetime of a drip irrigation system should you choose to install it. That adds up to savings of at least \$1,150!

Washing Wisely

Issue: The average washing machine uses about 41 gallons of water per load.

Fix: High-efficiency washing machines use less than 28 gallons of water per load. To achieve even greater savings, wash only full loads of laundry or use the appropriate load size selection on the washing machine.

Flushing Wisely

Issue: If your toilet is from 1992 or earlier, you probably have an inefficient model that uses at least 3.5 gallons per flush.

Fix: New and improved high-efficiency models use less than 1.3 gallons per flush—that's at least 60 percent less than their older, less efficient counterparts. Compared to a 3.5 gallons per flush toilet, a WaterSense labeled toilet could save a family of four more than \$90 annually on their water bill, and \$2,000 over the lifetime of the toilet.

Dish Washing Wisely

Issue: Running dishwasher partial full and pre-rinsing dishes before loading the dishwasher.

Fix: Run the dishwasher only when it's full and use the rinse-and-hold dishwasher feature until you're ready to run a full load. Pre-rinsing dishes does not improve cleaning and skipping this step can save you as much as 20 gallons per load, or 6,500 gallons per year. New water-saver dishwashers use only about 4 gallons per wash.

Goldfield Town Water Conservation Plan

Version 3; June 2020

Estimated water savings from EPA Water Conservation Guidelines 1998 (Appendix B, Table B-1):

Type	Estimated Usage (gpcpd)	Conservation Usage (gpcpd)	Savings (gpcpd)	Savings (%)
Toilet	18.3	10.4	7.9	43 %
Clothes Washers	14.9	10.5	4.4	30 %
Showers	12.2	10.0	2.2	18 %
Faucets	10.3	10.0	.3	3 %
Leaks	6.6	1.5	5.1	77 %

Benchmarks from selected conservation measures from EPA Water Conservation Guidelines 1998 (Appendix B, Table B-4):

Category	Measure	Reduction of End Use (% or gpcpd)
Universal metering	Connection metering	20 %
	Sub metering	20 – 40 %
Costing and pricing	10% increase in residential prices	2 – 4 %
	10% increase in non-residential prices	5 – 8 %
	Increasing-block rate	5 %
Information and education	Public education and behavior changes	2 – 5 %
End-use audits	General industrial water conservation	10 – 20 %
	Outdoor residential use	5 – 10 %
	Large landscape water audit	10 – 20 %
Retrofits	Toilet tank displacement devices (for toilets using > 3.5 gallons/flush)	2 – 3 gpcpd
	Toilet retrofit	8 – 14 gpcpd
	Showerhead retrofit (aerator)	4 gpcpd
	Faucet retrofit (aerator)	5 gpcpd
	Fixture leak repair	0.5 gpcpd
	Governmental building (indoors)	5 %
Pressure management	Pressure reduction, system	3 – 6 % of total production
	Pressure-reducing valves, residential	5 – 30%
Outdoor water use efficiency	Low water-use plants	7.5 %
	Lawn watering guides	15 – 20 %
	Large landscape management	10 – 25%
	Irrigation timer	10 gpcpd
Replacements and promotions	Toilet replacement, residential	16 – 20 gpcpd
	Toilet replacement, commercial	16 – 20 gpcpd
	Showerhead replacement	8.1 gpcpd
	Faucet replacement	6.4 gpcpd
	Clothes washers, residential	4 – 12 gpcpd
Water-use regulation	Dishwashers, residential	1 gpcpd
	Hot water demand units	10 gpcpd
	Landscape requirements for new developments	10 – 20 % in sector
	Greywater reuse, residential	20 – 30 gpcpd

This 2020 Goldfield Town – Water Conservation Plan shall take effect on the 16th day of June, 2020.

Proposed By: Commissioner Hipp

Passed on the 16th day of June, 2020

Vote: Ayes: 3 COMM. Tim Hipp
COMM. Ralph Keys
COMM. De Winsor

Nays: 0

Delon De Winsor
Delon "De" Winsor, Chairman
Timothy Hipp
Timothy Hipp, Vice Chairman
Ralph Keys
Ralph Keyes, Member

ATTEST: Mickelle Garcia
LaCinda Elgan, Clerk of the board
Deputy