APPROVED BY BOARD OF TRUSTEES – May 8, 2018

TITLE 1 - CHAPTER 5 - ADMINISTRATIVE POLICIES AND PROCEDURES WATER SUPPLY DECONTAMINATION PLAN

1.5.1. PURPOSE

This shall be known as the Kearns Improvement District ("District") Water Supply Decontamination Plan (the "Plan"). The District is responsible for the quality of water delivered to its customers. Certain water quality standards established by Rule 309-200 of the Utah Administrative Code (the "Administrative Code") are applicable to the District. Rule 309-600 of the Administrative Code outlines the District's responsibility to protect its groundwater sources from contamination. The District obtains most of its water from the Jordan Valley Water Conservancy District, but the District does operate water wells that are subject to the requirements of Rule 309-600. The District has delineated protection zones and management areas as required by Rule 309-600-9 and has inventoried the potential sources of pollution within each of those zones. The Plan is adopted to outline the District's response should any of its wells become "contaminated". According to the Safe Drinking Water Act, drinking water contamination is "any physical, chemical, biological, or radiological substance or matter in water."

1.5.2. DEFINITIONS

Words and phrases that are defined in Rule 309-600 shall have the same definition in the Plan. Other words and phrases may be defined throughout the Plan.

1.5.3. BEST AVAILABLE TECHNOLOGY

A. **Contamination Treatments:** The primary line of defense against contaminants is treatment. Different treatments may be necessary depending upon the type of contamination to be removed. In each instance, the best available technology ("BAT") will be determined for the type of contamination that is present.

B. **Volatile Organic Compounds:** At present, for volatile organic compounds ("VOCs") with a high vapor pressure, air stripping or steam stripping is one of the most effective means of removal. For organic compounds with low vapor pressure, air stripping is not effective, and carbon filtration is the BAT at this time. With this process, the contaminated water is filtered through activated carbon, which absorbs the organic compounds. Some organic compounds do not lend themselves to air stripping, carbon filtration or biological treatment. With the possibility of such a compound becoming a contaminant being very low, if such contamination ever occurs, treatment will be investigated at that time and a decision will then be made to either treat the water or abandon the well.

C. **Inorganic Compounds:** Most inorganic compounds can be removed by precipitation and filtration. Some pH treatment may be necessary. At present, nitrates may only be removed with ion exchange processes, reverse osmosis, or electrodialysis. All of these

treatment processes are, at the present time, relatively expensive and may not be cost effective. The District will analyze the cost of such treatment processes and the availability of other water sources and technology and conduct a cost-benefit analysis to determine if the cost of removing the inorganic compounds justifies the benefit, or if abandonment of the well is the most cost effective course of action.

D. **New Technology:** Because of the relatively unlimited number and variation of types of potential contaminants, and with continuing research into treatment processes, it is not possible or practical to list each possible treatment process for each possible contaminant. As technological advances take place, there may be significant changes in the BAT for a particular type of contamination. The BAT for a particular type of contamination will be evaluated at the time of the identification of the contaminant and a decision will be made to either treat the water or abandon the well.

1.5.4. IMPLEMENTATION

A. **Monitoring:** The District will monitor each of its wells and any other groundwater source utilized by the District in accordance with applicable provisions of the Administrative Code and identify any contaminant of future origin.

B. **BAT Determination:** Should the District's monitoring reveal that any contaminant has reached a concentration level where treatment is necessary to meet any standard which is then applicable, the District will, if circumstances (particularly health concerns) so dictate, cease taking water from the groundwater source and identify the BAT for the contaminant. The District will then conduct pilot studies using samples of the contaminated water.

C. **Evaluation and Implementation of Alternatives:** Once the BAT has been identified, the District will consider and evaluate any available alternatives including (i) treatment of the contaminant using BAT; (ii) elimination or control of the source of pollution (through such means as condemnation, negotiation and implementation of a land use agreement with the owner of the source of pollution, entering into a joint management agreement with a municipality or county having zoning and other regulatory authority over the source of pollution, etc.); or (iii) abandoning the groundwater source and replacing the water with acceptable water from another source, such as the Jordan Valley Water Conservancy District.

D. **Further Monitoring:** The District will continually monitor treatment technology. A groundwater source that is discontinued due to contamination may, if cost effective treatment processes are subsequently developed, be reestablished as a water source for the District with the water to be treated using BAT and distribution of the water to be in accordance with all applicable state and local health and other regulations.

1.5.5. REPORTING

The District has continuing monitoring, testing and reporting responsibilities under Rule 309-600. The District Engineer shall be designated by the Board of Trustees as the District's representative in matters involving the State Division of Drinking Water ("DDW"). The DDW Executive Secretary shall be notified concerning the identity of the District's designated representative. The Executive Secretary shall also be notified within thirty (30) days after any change of the District's representative.

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