RULE 16 – REQUIREMENTS FOR DRILLING, COMPLETING, EQUIPPING AND REWORKING WELLS

A. No person may drill, complete, equip or rework a well or borehole without having a current Texas Water Well Driller's license or Texas Pump Installer's license. Any person who drills, completes. equips or reworks a well or borehole shall comply with the Rules and Regulations of the District, State or Federal agencies or political subdivisions having jurisdiction, including but not limited to the statutes and rules of the Texas Department of Licensing and Regulation (TDLR) and the Texas Commission on Environmental Quality (TCEQ).

B. Drilling Notification Requirement

No later than 3 days prior to commencement of drilling any new well, a well construction notification must be completed and submitted to the District along with a map indicating the well location, so that a representative of the District may attend and observe the activities, at the District's discretion. The District must also be notified the no later than 3:00 p.m. the last business day before setting the well casing, installing the filter media, or cementing the well.

C. Drilling and Completion Standards

Artesian/Confined Aquifer Wells

All water wells that are to be completed in the artesian or confined portion of an aquifer shall be completed so that water from other strata or zones is not allowed to comingle through the casing or the annular space. The annular space of the screened interval must be at least 2 inches on all sides of the casing (using casing O.D.) and a filter media set around the well screen. Casing and screen centralizers should be installed at a minimum of three (3) points around the circumference and spaced to ensure the screen and casing are properly centered in the borehole. The filter media must be compatible with the screen slot size. Where practical, the filter media should extend a minimum of two feet above the top of the screen. This extra filter media is meant to prevent cement intrusion into the well screen and allow proper development. However, the filter media interval should not be so high as to allow vertical movement of water along the well annulus or between strata, formations, or aquifers. Alternately, a two foot bentonite pellet seal may be placed above the top of the filter media to prevent grout intrusion into the well screen.

The annular space between the borehole and casing shall be pressure pumped through a tremie pipe with cement, a cement slurry, or bentonite grout from the top of the filter media to ground surface.

Outcrop Wells

All water wells that are to be completed in the outcrop portion of an aquifer shall be completed so that surface pollution is not allowed to enter the borehole-casing annulus. The annular space of the screened interval must be at least 2 inches on both sides of the casing (using casing O.D.) and must be gravel packed. Casing and screen centralizers should be installed at a minimum of three (3) points around the circumference and spaced to ensure that the screen and casing are properly

centered in the borehole. The, filter media must be compatible with the screen slot size and may not extend more than 20 feet above the top of the well screen.

The annular space between the borehole and casing shall be pressure pumped through a tremie with cement, a cement slurry, or bentonite grout from the top of the filter media to ground surface.

E. Well Development

To the extent it is practicable, wells shall be developed to remove fine sands, silts, clays and rock particles from the water bearing zone surrounding the well screen. The purpose of proper well development is to ensure that the well will yield a representative and sufficient quantity of turbidity-free water. Development shall continue until all formation cuttings, drilling fluids, and additives are removed from the well. If cement or a cement and bentonite grout is used, well development should commence no sooner than 24 hours after well construction.

The sand content should be tested after development by a centrifugal sand sampler or other acceptable means. Following development (i.e., stabilization of the formation or gravel pack) the sand content should not exceed a concentration of 5 mg/L (milligrams per liter) by weight for a complete pumping cycle of 2-hour duration when pumping at the design capacity. No fewer than 10 measurements shall be taken at equal intervals to permit plotting of sand content as a function of time and production rate and to determine the average sand content for each cycle. Sand production exceeding this limit indicates that the well may not be completely developed or may not have been properly designed. In that event redevelopment may be appropriate.

D. Well Completion Records and Reporting Requirements

Complete records shall be kept and reports thereof made to the District concerning the drilling, equipping and completion of all water wells drilled or reworked. Such records shall include an accurate Driller's log, any electric log that has been made and such additional data concerning the description and completion of the water well, its pumping capacity, and its equipment as may be required by the Board. Such records shall be filed with the District, within ninety (90) days after completion of the water well.

E. Well Production Requirements

No person may produce water from any water well hereafter drilled and equipped within the District, except an amount necessary for the testing and equipping of such well and equipment, unless or until the District has been furnished the information required by the Board.

F. Rule Conflicts

If a conflict between the requirements of this Rule and the requirements of the TCEQ Rules or TDLR Rules occur, the requirements of the District shall prevail.

G. Improperly Completed Water Wells

The District will conduct periodic audits of the drilling completion records and may also conduct field audits to verify wells are completed according to the requirements of this Rule. Water wells that are identified as improperly completed must either be recompleted to comply with the requirements of this Rule or be permanently plugged. Depending on the severity and number of instances of improperly completed water wells the Board may also file a complaint against the water well driller with the TDLR and seek penalties against the water well drilling company.

If the water well driller or the drilling company responsible for the improperly completed well fails or refuses to recomplete or plug the water well within ten (10) days after being notified in writing by the District, an Enforcement Action in accordance with Rule 27 will be taken against the water well driller and drilling company responsible for the improperly completed well. Upon finding that a well is in violation of this Rule, the Board will instruct District personnel to employ any person, firm, or corporation to enter the land and recomplete or plug the water well and may hold the water well driller, drilling company, lessee, well owner or land owner financially responsible for the cost of recompleting or plugging the well.

The Board shall consider the availability of state funds to assist in plugging any improperly completed or deteriorated water well and may on its own motion bear some or all of the expense of the plugging of any improperly completed or deteriorated water well.