VI. NEW WELLS EVALUATION

The goal of this element is to provide a mechanism for incorporating new wells or well fields into the WHP program. In the future, the City may find it necessary, as a result of either existing or projected increased water demand, to explore the development of additional groundwater sources for drinking water. Wellhead protection provides a mechanism that can be used to help select the best site and to identify areas that should be protected now in order that they will provide quality drinking water in the future when they are needed. Additionally, it should be realized that the development of a new groundwater source in the vicinity of existing sources may modify the movement of groundwater in the subsurface, perhaps changing the shape and orientation of the existing WHPA. Evaluation of the significance of those changes is necessary in order to ensure that the management strategy that is in place will continue to protect the community's drinking water supply.

A new groundwater source is defined as either an additional groundwater source, or an existing groundwater source that has been modified in a manner to increase its capacity or discharge to the system. When the City begins planning the development of a new groundwater source, several steps should be followed. First of all, the City should conduct a “draft” delineation and preliminary potential contaminant source inventory for each site being considered. “Draft” delineation is defined as applying the existing WHPA delineation to the considered additional well sites.

If the “draft’ delineation and potential contaminant source inventory indicate that the considered well site is favorable, the City would determine the WHPA for the new well using current MDEQ delineation guidance. This may include obtaining sufficient information from existing data sources or from field measurements to complete the delineation using an MDEQ accepted analytical or numerical groundwater modeling method.

If more than one potential site is available for a new source, the City should proceed in its evaluation of those sites according to the discussions above. If the City develops a new well, or increases the capacity of an existing well that is within an already delineated WHPA, it is likely that the new or modified source will have a significant impact on the existing WHPA. In all cases, the affect of the new well on the existing WHPA geometry and orientation should be evaluated.

The groundwater models that were used to delineate the WHPA for the existing production wells may also be used to develop a WHPA for a new well. Any new or adjusted WHPA boundaries should be compared to the existing WHPA boundaries. If significant differences are observed, the City should consider modifying the existing wellhead protection plan to encompass the new delineation.

In summary, the following specific WHP program tasks would be completed when considering a new well location:

- A “draft” delineation area and contaminant source inventory would be completed using existing information.
- If the location were favorable, based on review of the “draft” information, a complete MDEQ WHPA delineation would be completed based on current MDEQ guidance.
- A contaminant source inventory of existing and potential sources of contamination within the WHPA would be completed.
- The processes, procedures and requirements set forth in existing MDEQ guidance and regulations must be applied in the location, selection, well design and system implementation of any new wells.