MEMORANDUM

WPE WEST PLAINS ENGINEERING, INC.

SIOUX FALLS

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Date: December 03, 2015 **WPE#:** BS15057

To: Joel Dykstra **From:** Aaron J. Kompelien, P.E.

Project: Graystone Heights Apartments

Location: Sioux Falls, SD

Re: Public Utilities Commission (PUC) Variance for Building Wide Water Heating for the Graystone Heights Apartments

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Domestic water heating in the Graystone Heights apartments will be provided from a central plant. Six gas fired water heaters provide hot water to each apartment for tenant use. Hot water piping rises out of the parking garage and supplies four apartments in the stack and a circulator pipe is installed back to the water heating plant.

To keep the water system hot, a pump is installed at the central water heating plant and is piped to each four apartment stack. The hot water pump will monitor the return water temperature and cycle when the returning water temperature is too low. By pairing the central water heating plant with a circulating system the tenants will have hot water supplied to each fixture similar having an individual water heater in the apartment space.

Central water heating requires a larger dedicated mechanical space for equipment to be installed and maintained. Placing water heating equipment in an equipment room will allow maintenance staff to service water heating equipment without disrupting tenants or coordinating repairs for individual apartments. Removing the water heating equipment from the apartment space provides more usable space for tenants since there is not a water heater in the apartment.

Please contact us if you have any additional questions or comments regarding these items.

AJK