

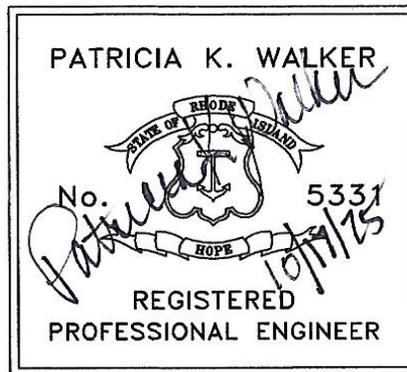
# Walker Engineering, Ltd.

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## Water Design Calculations

**Hoxie Court Place  
Hoxie Court, Notre Dame Street & Kernan Street  
AP 88, Lots 87 & 88.2  
Coventry, RI**



**October-25**

**Hoxie Court Place  
Hoxie Court, Notre Dame Street & Kernan Street  
AP 88, Lots 87 & 88.2  
Coventry, RI**

**DESIGN CALCULATIONS**

**1 General Project Information**

Hoxie Court Place is a residential subdivision. The proposed subdivision will result in the creation of 3 new lots.

Following the Town's Pre-application process, coordination has occurred between KCWA and Central Coventry Fire District (CCFD) related to requirements and the following summarizes said coordination:

CCFD	Maximum hydrant spacing is 800 feet Maximum hydrant spacing is 600 feet to each residence
KCWA	Eliminate two existing dead end mains Provide 8" main extension if a public hydrant is required Provide KCWA approved easement for main extension as required

**2 Hoxie Court Place Project Description**

Proposed Lot 2

The existing single family residence, proposed to be located on Lot 2 shall remain. Its existing connection to the public water line shall remain and thus its water demands are not included in these Calculations

Proposed Lots 1 & 3

New single family residences are proposed for Lots 1 & 3. Each residence will contain 3 bedrooms.

Preliminary house designs have been prepared by JWF Design for the applicant, dated 7/16/25 and have been provided for use by Scituate Surveys, Inc. (related to the OWTS designs) and WEL for use in the water design.

At this time, it is anticipated that each proposed residence will contain:

- Double kitchen sink
- Dishwasher
- Refrigerator with water and ice dispensers
- Half bath with a toilet and sink
- Bathroom with a toilet, tub shower and sink
- Master Bath with toilet, 2 sinks and stall shower
- Clothes washer
- No irrigation or lawn sprinklers are proposed
- 2 exterior hose spigots

### 3 Estimated Water Use

The water calculations presented herein are in accordance with the "Rules and Regulations of the Kent County Water Authority" dated March 2024

All current State plumbing codes shall be followed, in particular to:

- \* All toilets installed during new construction shall be water conserving and use no more than 1.6 gallons per flush
- \* All shower heads and faucets must be of flow-reducing designs

Due to the type of project, no water modeling is anticipated at this time.

#### Estimated Average Daily Water Flow

Per KCWA Rules & Regulations, Section 3.4.5

Average Daily Flow for Residential  
100 gppd  
2 persons per bedroom

Based on the Hoxie Court Place project containing 2-3 bed residences

#### Average Daily Water Consumption

= 2 residences x 3 bedrooms per unit x 2 persons per bed x 100 gppd  
= 1200 gpd based on KCWA requirements  
= 0.83 gpm

#### Maximum Daily Water Consumption

Multiplier for Single Family Residence = 2.3 per KCWA  
= 2760 max gpd  
= 1.92 max gpm

### Peak Hour Water Consumption

Peak Hour Flow Factor = 4 per accepted standards  
= 4800 gpd  
= 3.33 gpm

#### **4 Water Service Connection**

The proposed water service size is 1" inch installed with 5 feet of minimum cover to each proposed residence.

As coordinated with KCWA, there are currently two dead end water mains.  
8" on Hoxie Court  
6" on Notre Dame Street

In order to eliminate these dead end mains and provide a loop connection between the existing mains, a new 8" water main is proposed to eliminate the existing dead-end mains and to be able to provide a required public hydrant.

The proposed water service main shall connect to the existing 8' DI water main located in Hoxie Court to the existing 6" DI water main in Notre Dame Street and be installed at a minimum depth of 5 feet.

An RPZ Backflow Preventer and water meter will be installed within each of the basements of the proposed residences.

All work, materials, construction methods will conform to current KCWA requirements.

#### **4 Fire Flow Testing**

Per KCWA Rules & Regulations, Fire Flow testing is not applicable for this project as it will result in the looping / connection of two dead-end water mains. In addition a new public hydrant is proposed as part of the project near the Notre Dame Street end of the proposed cul-de-sac.

The proposed public hydrant is the result of coordination with Chief Cady, CCFD. Per survey, there is only a public hydrant on Hoxie Court and no public hydrant located on Notre Dame Street within the vicinity of the Notre Dame Street roadway extension as shown on the accompanying plan set.

The project has also been submitted for review by Chief Cady, CCFD for review in addition to the KCWA preliminary submission. The CCFD review letter will be provided as part of the KCWA Final submission as required and the new hydrant has also been incorporated in the KCWA Preliminary application forms and plan set.