

Hampshire Country Club Planned Residential Development
Village of Mamaroneck,
Westchester County, New York
Final Environmental Impact Statement

S WJWW Letter



MEMORANDUM

TO: Paul Kutzy, P.E.
Westchester Joint Water Works

FROM: William Merklin, P.E.
Michael Savarese, P.E.
Stephen Laun, P.E.
D&B Engineers and Architects, P.C.

DATE: February 14, 2018

RE: Evaluation of Hampshire Country Club Development
D&B No. 3619

Introduction:

D&B was requested by Westchester Joint Water Works (WJWW) to utilize the hydraulic model of their distribution system to evaluate their ability to provide additional flow for increased demands associated with the proposed Hampshire Country Club development located between Eagle Knolls Road and Orienta Avenue in the Town of Mamaroneck.

The hydraulic modeling was performed using the software WaterCAD by Bentley Systems Inc. with a hydraulic model of the WJWW distribution system that had been previously developed and calibrated. The projected water supply demand estimate for the Hampshire Country Club development was provided by WJWW in the form of a letter and drawing from Kimley-Horn of New York, P.C. (Attachment No. 1).

Hampshire Country Club Development Evaluation Assumptions:

The following parameters were utilized in the hydraulic model to conduct the evaluation:

- Maximum day and peak hourly flow conditions during both the irrigation and non-irrigation seasons.
- Existing conditions of the distribution system (Kenilworth pump station operational) and the proposed conditions of the distribution system (16" diameter main in place, Macy Road pump station operational, new pumps at the Weaver Street pump station, and expansion of the intermediate pressure zone).
- Worst-case scenario water supply demands provided by Kimley-Horn in their letter requesting a water availability evaluation, 34,490 gallons per day (23.95 gpm) for maximum day domestic and commercial usage by the development, an additional 31,844 gallons per day (22.11 gpm) for maximum day residential irrigation usage,

D&B Engineers and Architects, P.C.

and 10,000 gallons per day (6.94 gpm) for maximum day golf course irrigation usage during the irrigation season.

Hampshire Country Club Development Evaluation Results:

D&B conducted hydraulic model runs in accordance with the above stated assumptions for the maximum day and peak hourly flow conditions to evaluate the effect of adding additional demand to the system from the Hampshire Country Club development. The results of each model run are included in the “Hydraulic Modeling Results Table” (Attachment No. 2).

During the non-irrigation period, the distribution system was able to handle the additional demand with approximately a one psi reduction in local pressure. All observed pressures throughout the service area remained above the required normal working pressure of 35 psi, as recommended in the Recommended Standards for Water Works (Ten State Standards).

During the irrigation season, the distribution system was able to handle the additional demand with approximately a one psi reduction in local pressure. All observed pressures throughout the service area remained above the required normal working pressure of 35 psi, as recommended in the Recommended Standards for Water Works (Ten State Standards).

Enclosures:

Attachment No. 1: Kimley-Horn of New York, P.C. Water Supply Connection Request Letter and Plan

Attachment No. 2: Hydraulic Modeling Results



September 20, 2017

Mr. Terry O'Neill
Westchester Joint Water Works
1625 Mamaroneck Avenue
Mamaroneck, New York 10543

Re: Hampshire Country Club
1025 Cove Road
Mamaroneck, New York

Dear Mr. O'Neill,

This letter is being submitted by Kimley-Horn of New York P.C. on behalf of Hampshire Recreation LLC c/o New World Realty Advisors for the above referenced project.

This is a follow up to our meeting on September 19, 2017 in regards to the Hampshire Country Club redevelopment. Based on the conversations during the meeting, below is a revised water demand that includes irrigation demands for individual homes and the redeveloped 9 hole golf course.

As part of the Draft Environmental Impact Statement (DEIS) completeness process, the Village has asked us to request a confirmation from Westchester Joint Water Works that the proposed connection point is acceptable from the proposed development. For your reference the following provides information on the proposed development water demand.

Proposed Water Flow

The total estimated water demand for the proposed development is 81,234 gallons per day. The domestic flows were calculated with an estimated peak rate of 110 gpm utilizing the industry standard values for wastewater. For the individual irrigation demands it is assumed that 5,000 square feet will be irrigated for the Carriage Homes and 10,000 square feet will be irrigated for the Single Family Homes. The irrigation flows for both the Carriage Homes and the Single Family Homes were calculated with an estimated peak rate of .5 inches per square foot per week. Additionally, the irrigation flows for the redeveloped 9 hole golf course were based on the average annual consumption of the existing 18 hole golf course. The anticipated water demand calculations are illustrated below.

| Unit Type | Number of Units | Bedrooms/Unit | Hydraulic Load (gpd/bedroom) | Design Flow Rate (gpd) |
|-----------------------|-----------------|---------------|---------------------------------|---------------------------|
| Carriage Home | 61 | 3 | 110 | 20,130 |
| Single Family Home | 44 | 4 | 110 | 19,360 |
| Total | 105 | | | 39,490 |

| Unit Type | Number of Units | Average Lot Area to be Irrigated (SF) | Hydraulic Load (.5 in/SF/week) | Design Flow Rate (gpd) |
|--------------------|-----------------|---------------------------------------|--------------------------------|------------------------|
| Carriage Home | 61 | 5,000 | .04 FT | 13,037 |
| Single Family Home | 44 | 10,000 | .04 FT | 18,807 |
| Total | 105 | | | 31,844 |

| Area | Historical 18 Hole Golf Course Water Demand (gpd) | Hydraulic Load (gpd) | Design Flow Rate (gpd) |
|--------------------------------|---|----------------------|------------------------|
| Redeveloped 9 Hole Golf Course | 18,000 | 10,000 | 10,000 |
| Total | | | 10,000 |

| Flow Contributor | Total Design Flow (gpd) |
|--------------------|-------------------------|
| Domestic Demand | 39,490 |
| Irrigation Demand | 31,844 |
| Golf Course Demand | 10,000 |
| Total | 81,334 |

Please provide written response to your opinion on the proposed system design, location and the adequacy of the system to provide the proposed water demand.

If you require any more information, please don't hesitate to call me at 914-368-9200 or mike.junghans@kimley-horn.com.

Very truly yours,

KIMLEY-HORN OF NEW YORK, P.C.



Michael W. Junghans, P.E.
Senior Project Manager

cc. Dan Pfeffer – HR
Tom Nappi – HR
Robert Wasp – SITES Remediation & Technologies

Saved: Thursday, October 27, 2016 5:35:42 PM \\CHENG\Plotted Thursday, October 27, 2016 5:45:43 PM Cheng, Jason

\\VHB\PROJ\WHITE PLAINS\28677.02_HAMPSHIRE_S\SUBDIVISION\CAD\LD\PLANSET\28677.02_PLOT



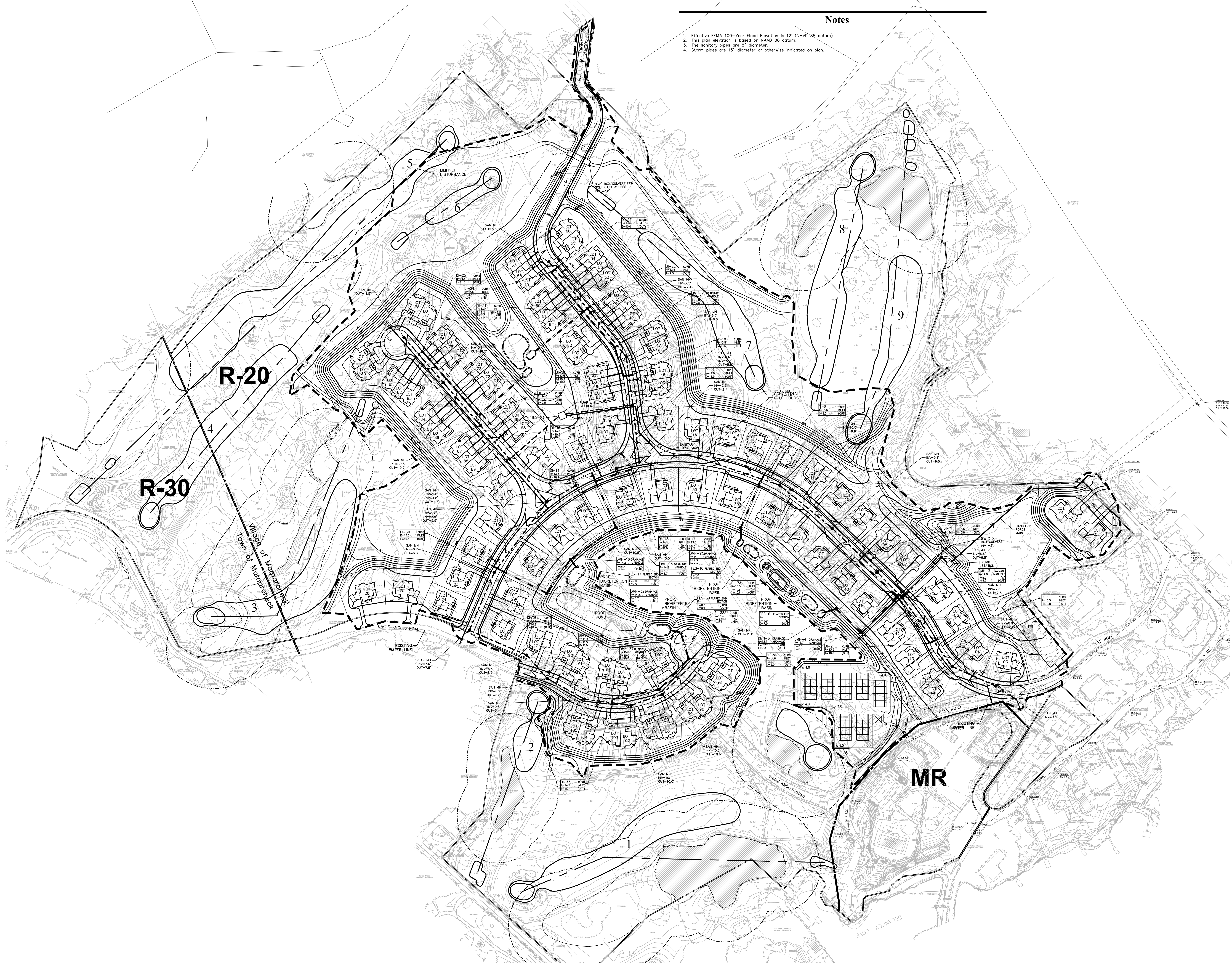
Vanasse Hangen Brustlin, Inc.

Transportation
Land Development
Environmental Services

50 Main Street - Suite 360
White Plains, NY 10606
914.467.6600 • FAX 914.761.3759

Notes

1. Effective FEMA 100-Year Flood Elevation is 12' (NAVD 88 datum)
2. This plan elevation is based on NAVD 88 datum.
3. The sanitary pipes are 8" diameter.
4. Storm pipes are 15" diameter or otherwise indicated on plan.



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| 1 | REVISED LAYOUT TO PRESERVE EXISTING GOLF COURSE | | | | 09/26/16 | MMJ |
| No. | Revision | | | | Date | Appr'd |
| Designed by | JC | Drawn by | JC | Checked by | MMJ | |
| CAD checked by | MMJ | | | Approved by | MMJ | |
| Scale | 1"=100' | | | Date | June 25, 2015 | |

Hampshire Country Club
Planned Residential
Development (P.R.D.)

Village of Mamaroneck, NY
Issued for
VILLAGE REVIEW

NOT FOR CONSTRUCTION
Drawing Title

Grading & Utility Plan



Michael W. Junghans
N.Y. Professional Engineer
NY Lic. No. 072072

Drawing Number

C-3

Project Number

28677.02

28677.02_PLOT.DWG

Westchester Joint Water Works
Hydraulic Modeling For Hampshire Country Club Development
D&B Engineers and Architects, P.C.
D&B No. 3619.19

| Season | Condition | Minimum Pressure Observed (PSI) | Maximum Pressure Observed Observed (PSI) |
|-------------------|----------------------------|---------------------------------|--|
| Non-Irr | Base Conditions Non-Irr | 104 | 117 |
| | Average Day | 103 | 117 |
| Irrigation | Base Conditions Irrigation | 88 | 112 |
| | Max Day | 87 | 111 |
| | Peak Hour | 87 | N/A |