

DRAFT

Appendix F \

Sanitary Sewer Report



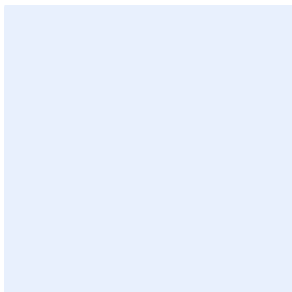
BLUE RILL ESTATES

Senior Housing Development

DRAFT SEWER REPORT

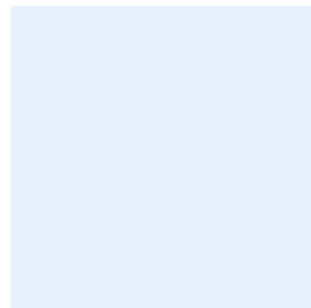
10/16/2024
MJ Project #1587.01

PREPARED FOR:



Blue Rill Estates LLC
ROCKLAND COUNTY,
NEW YORK

PREPARED BY:



**Engineering
Architecture
Landscape Architecture
and Land Surveying, P.C.**

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1.0 INTRODUCTION

1.1 PROJECT LOCATION

The project site is the former Blue Rill Day Camp located off Saddle River Road approximately 78 feet south of Long Meadow Drive in the Village of Airmont. The physical address is 444 Saddle River Road. The project comprises the following tax parcels 62.11-2-8, 62.11-2-9 and 62.11-2-10 totaling approximately 17.99 acres, as seen in Figure 1.1. The land is currently owned and being developed by Blue Rill Estates, LLC.



Figure 1.1: Site Location Map

1.2 PROJECT DESCRIPTION

Blue Rill Estates, L.L.C. is proposing to redevelop the site as a residential development restricted to those 55 years of age and older. The Project is designed to assist the Village of Airmont in expanding opportunities for housing arrangements to meet the increasing needs of the seniors in a maintenance-free community as they start to downsize from larger single-family homes in the community. The project scope includes the removal of all existing structures and features on site and the construction of 105 semi-attached two-story homes. Each unit will have a footprint of approximately 1,292 square feet and a total floor area of approximately 2,000 square feet. The development will also consist of two community centers as well as active and passive recreation areas to be used by the residents. The development will also consist of off-street parking, sidewalks, landscaping, site lighting, etc. The site will be served by two entrances on Saddle River Road.

1.3 SOILS

The county soil survey shows that the site contains the following mapped soils; Alden silt loam (Ad), Wethersfield gravelly silt loam, 3 to 8 percent slopes (WeB, Wethersfield gravelly silt loam, 8 to 15 percent slopes (WeC), and Wethersfield-Urban land complex, 2 to 8 Percent slopes (WuB). Soil map unit WeB is considered prime farmland and soil map unit WeC is considered farmland of statewide importance. Soil map units WeB, WeC, and WuB are classified as well drained soils and soil map unit Ad is classified as very poorly drained soils. Refer to Table 1.1 below.

Table 1.1 Characteristics of Project Site Soil Strata							
Map Unit Symbol	Map Unit Name	Acres/% of Parcel	Slope	Depth to Groundwater	Depth to Restrictive Layer	Hydrologic Group	Drainage Class
Ad	Alden silt loam	2.6 / 14.6%	0-3%	0"	More than 80"	C/D	Very Poorly Drained
W	Water	0.2 / 1.3%	0%	-	-	-	-
WeB	Wethersfield gravelly silt loam	8.0 / 44.7%	3-8%	18-30"	20-38"	C	Well Drained
WeC	Wethersfield gravelly silt loam	2.4 / 13.5%	8-15%	18-30"	20-38"	C	Well Drained
WuB	Wethersfield-Urban land	4.7 / 26.0%	2-8%	18-30"	20-28"	C	Well Drained

1.4 WETLANDS

The NYSDEC Environmental Resources Mapper (ERM) was used to determine if freshwater wetlands were within or adjacent to the project area. The ERM does not indicate the presence of any wetlands; however, it does depict one New York State Department of Environmental Conservation (NYSDEC) freshwater stream on site along the west border of the Subject Property, mapped concurrently with Saddle River. Within the Subject property, certain portions of this stream are listed as Class C (C) while other portions are listed as Class (B).

A site-specific wetland delineation conducted by HUNTEAS on behalf of MJ Engineering, Architecture, Landscape Architecture, and Land Surveying, P.C.(MJ) was completed on May 26th, 2023, with an Army Corps of Engineers (ACOE) jurisdictional determination forthcoming.

The wetland delineation effort resulted in the identification of one (1) wetland, one (1) stream, and one (1) pond. The resource boundaries are identified per the attached Appendix B. Ordinary High-Water marks (OHWM), recorded as GPS points, were determined based on the presence of hydrology and stream bank characteristics.

1.5 100- YEAR FLOOD PLAIN

A review of the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Panel 36087C0154G, dated September 25, 2009, shows that portions of the western side of the project site are located in a 100-year floodplain. The flood zone mapping is included in Appendix C.

These areas are generally adjacent to the bed and banks of the Saddle River. The project is proposing no development within areas designated as Zone AE, and therefore is not subject to any flood plain restrictions.

2.0 DESIGN STANDARDS

2.1 SANITARY SEWAGE FLOW RATES

In developing sewage generation rates for the project, a typical per-unit hydraulic sewage loading rate provided in Table B-3 of the NYSDEC Design Standards for Intermediate Sized Water Treatment Systems (2014) was used, taking into account a 20% water use reduction as permitted under Environmental Conservation Law (ECL) §15-0314. A summary of the estimated sewage generation rates is summarized in Table 2.1.

Table 2.1 Sewer Flows			
Units	Average Daily Flow (GPD)	Average Flow (GPM)	Peak Flow (GPM)
105 - 2-bedroom units ¹	23,100	16.04	64.16
2-Community Center units ²	700	0.48	1.92

¹(110 gpd per bedroom x 2 bedrooms max per unit x 105 units)

²(0.1 gpd per square feet x 2 (3500 square feet) units)

2.2 FUTURE GROWTH POTENTIAL

The project is a single-phase development with no additional lots proposed. As such, the design flows stated above remain applicable for the sizing of the new sewer infrastructure associated with the project.

2.3 RECEIVING SANITARY SEWER SYSTEM

The existing parcel is within Rockland County Sewer District No. 1. Rockland County Sewer District No. 1 owns and operates a trunk sewer located along the western edge of the project and the Town of Ramapo owns and operates a sewer main along Saddle River Road on the eastern edge of the project.

Sanitary waste from the Project will be pumped to the closest and uppermost gravity sewer manhole in the Rockland County Sewer District No.1 sanitary sewer system (MH 10352). The routing to the Rockland County Sewer District No.1 was suggested by the sewer district as the Rockland County Sewer District No.1 indicated there is adequate capacity within the downstream system.

The wastewater generated from the Project is approximately 75 gallons per minute (gpm) peak hourly. This includes the proposed pump station rated at 70 gpm plus the gravity portion that will directly connect into the system (approximately 5 gpm). From this point heading downstream, the Blue Rills flow is conveyed into various gravity main sizing from an 8-inch to 21-inch as shown in Appendix A. The flow ultimately ends up at the Rockland County Sewer District Wastewater Treatment Plant, located at 754 Saddle River Road.

The most restrictive downstream pipe segment is from MH10193 to MH10192. The capacity of the 10-inch pipe with Manning roughness of 0.011, installed at 0.81% and running at full capacity is 1,047 gpm. The proposed flow from the development will contribute 7% of the capacity of the 10-inch gravity sewer. Refer to Table 2.2 below.

Table 2.3 Existing Downstream Sewer Main Capacity						
			AVERAGE DAY		PEAK	
From MH	To MH	Sewer Capacity (gpd)	Flow In, gpd (from MH)	% Full Capacity	Flow In, gpd (from MH)	% Full Capacity
10352	10204	151,3058	23,800	2%	95,200	6%
10204	10203	2,092,379	23,800	1%	95,200	4%
10203	10202	2,072,050	23,800	1%	95,200	5%
10202	10201	2,177,885	23,800	1%	95,200	4%
10201	10200	1,706,820	23,800	1%	95,200	6%
10200	10199	2,197,200	23,800	1%	95,200	4%
10199	10198	2,151,445	23,800	1%	95,200	4%
10198	10197	2,569,057	23,800	1%	95,200	4%
10197	10196	1,844,663	23,800	1%	95,200	5%
10196	10195	1,779,866	23,800	1%	95,200	5%
10195	10194	1,743,980	23,800	1%	95,200	5%
10194	10193	1,680,276	23,800	1%	95,200	6%
10193	10192	1,507,536	23,800	2%	95,200	6%
10192	10191	1,683,911	23,800	1%	95,200	6%
10191	10190	2,444,393	23,800	1%	95,200	4%
10190	10189	2,209,834	23,800	1%	95,200	4%
10189	10176	2,193,827	23,800	1%	95,200	4%
10176	10175	4,680,965	23,800	0%	95,200	2%
10175	10174	4,069,046	23,800	1%	95,200	2%
10174	10173	5,962,080	23,800	0%	95,200	2%
10173	10172	1,4588,721	23,800	0%	95,200	1%
10172	10171	1,281,791	23,800	2%	95,200	7%

The Rockland County Sewer District #1 wastewater treatment facility (WWTP) has a capacity of 29 million gallons per day (MGD). The proposed project will contribute a peak flow of approximately 92,400 gallons per day (0.092 MGD) or 0.3% of the capacity of the WWTP. The WWTP has the capacity to accommodate the proposed development.

2.4 ON-SITE SANITARY SEWER SYSTEM DESCRIPTION AND DESIGN

2.4.1 GRAVITY CONVEYANCE SYSTEM

Gravity sewer mains will be installed throughout the development and generally along planned roads. Sewer mains within the development will generally be 8-inch diameter, including manholes and individual service laterals for each new building unit. The majority of the gravity sewers will convey wastewater to an on-site duplex pump station located on the southwesterly portion of the site adjacent to Unit 105. Road B and the northern portion of Road E will be

connected directly into the Rockland County sewer system via gravity. Wastewater will be conveyed through a 4-inch forcemain to the north and eventually connect into a terminus sanitary manhole, located near in the center of Road E.

All sewer infrastructure will be designed and constructed in accordance with the Village of Airmont and Rockland County standards. Sanitary sewers servicing the development will be privately owned and maintained by the owner of the property.

2.4.2 PUMP STATION

The on-site sewer system will include a duplex pump station. The pump station will be provided with an emergency generator to maintain the pump station in operation in the event of a power outage. The pump station will include two (2), submersible pumps based on the design operating point of 70 GPM at 15 TDH (see Appendix E).

NYS Department of Environmental Conservation (NYSDEC) Design Standards for Intermediate Sized Wastewater Treatment Systems recommend that when utilizing duplex pumps that each pump be capable of handling peak flows, thus a pumping rate of at least 70 GPM be utilized. The pump station shall be provided with duplex grinder pumps each rated for a nominal 70 GPM pump rate and a 4-inch DR-11 HDPE force main which when conveying a flow of 70 GPM would provide a velocity of approximately 2.17 FPS, adequate for solids pick up. Pursuant of the Recommended Standards for Wastewater Facilities, a cleansing velocity of at least 2 feet per second should be maintained at designed pumping rates, and a maximum velocity of 8 feet per second is recommended to avoid high head loss and protect valves.

The NYSDEC suggests a hold time within the wet well of 10 to 30 minutes. The proposed pump station has been designed for a hold time of 30 minutes. The pump station shall utilize an 8-foot diameter precast manhole, providing 376 gallons of storage per foot of depth. Because of the concrete fillet surrounding the bottom of the station there is a working/holding volume of 372 gallons between pump on and pump off levels. There is 4 feet of additional storage within the station from the pump on level to the invert of the inlet pipe for a total pump station holding capacity of 1,410 gallons. See calculations in Appendix F.

At the average sanitary flow rate this volume represents a hold time of $(1410/12=)$ 117 minutes. At the peak flow rate the hold time is $(1,410/70=)$ 20 minutes.

All sewer system components would be designed and installed in accordance with the Village of Airmont of Ramapo Standards, Rockland County Department of Health (RCDOH), the New York State Department of Environmental Conservation Regulations and Ten State Standards.

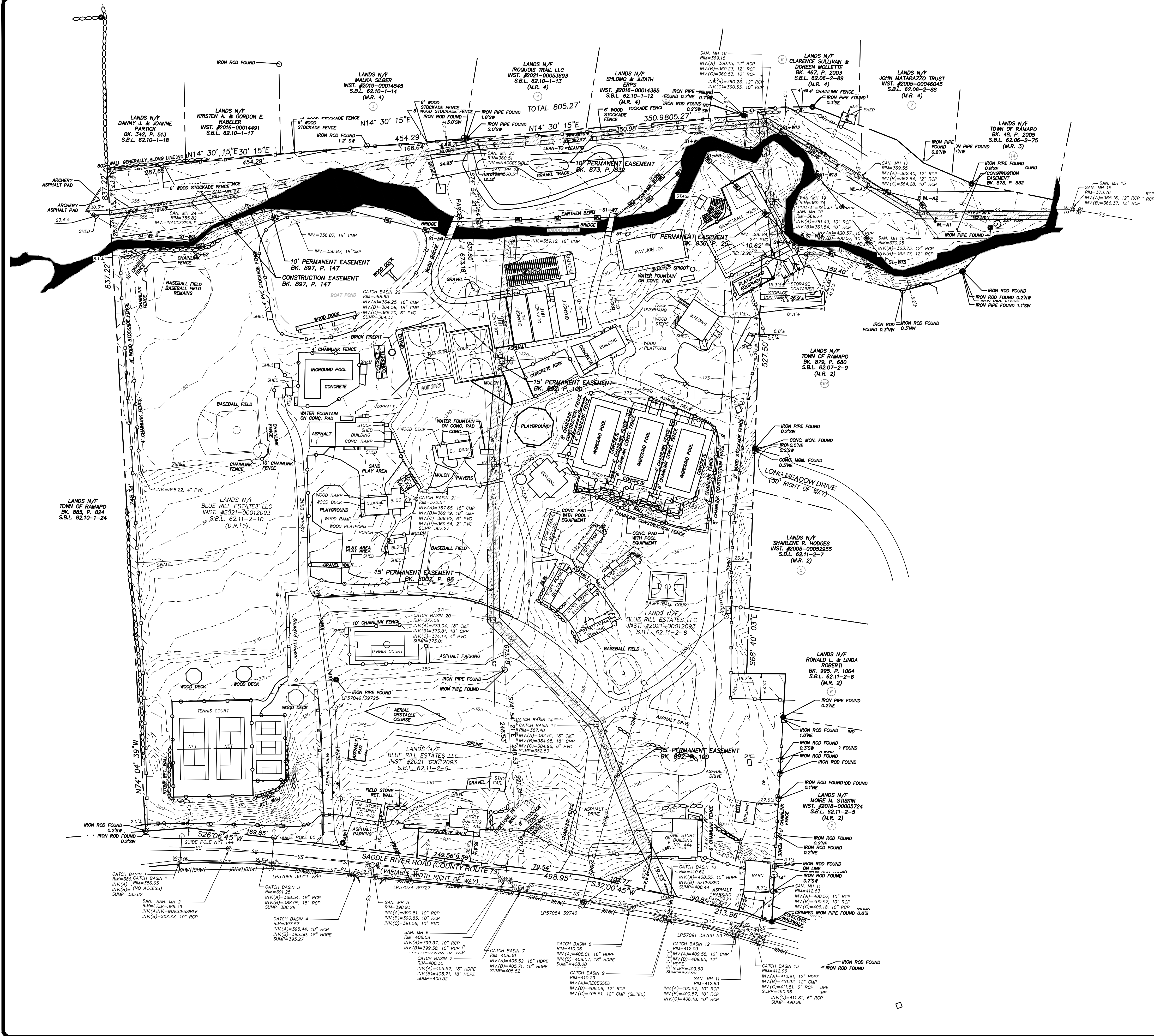
2.5 OWNERSHIP, OPERATION AND MAINTENANCE

All costs associated with sewer system improvements shall be the responsibility of the applicant. Upon completion all sewer infrastructure, easements and land where the proposed pump station resides would be maintained by the Homeowner Association (HOA).

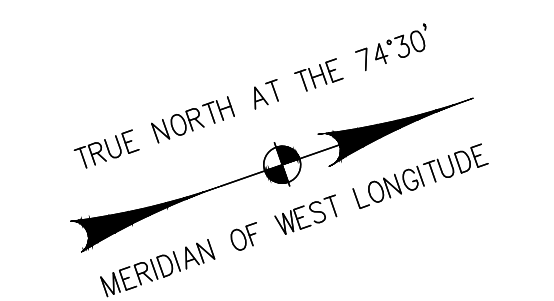
Individual homeowners will be responsible for maintaining the individual sewer laterals. These laterals are considered privately owned from the point of connection to the installed sewer mains conveyed to the Town.

**Appendix A **

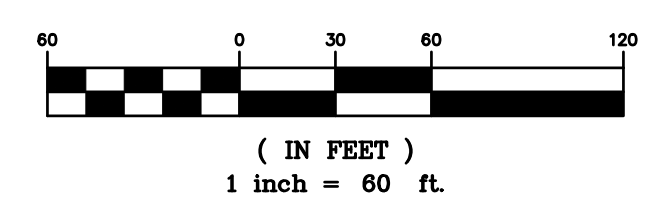
Existing Sewer Map



- GENERAL NOTES:
1. INFORMATION SHOWN HEREON IS FROM A FIELD SURVEY COMPLETED BY M.J. ENGINEERING AND LAND SURVEYING, P.C. DURING JUNE, 2023.
 2. THE HORIZONTAL DATUM IS REFERENCED TO NORTH AMERICAN DATUM OF 1983 (NAD83/2011, EPOCH 2010.00), NEW YORK STATE PLANE EAST ZONE 3101.
 3. THE VERTICAL DATUM IS REFERENCED TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVOD88), GEOID18.
 4. CONTOUR INTERVAL = 1 FOOT.
 5. NORTH IS ORIENTED TO GRID NORTH FROM GPS OBSERVATION.
 6. UNDERGROUND UTILITIES SHOWN HEREON ARE BASED ON SURFACE EVIDENCE AND INFORMATION RECORDED DURING CONVENTIONAL SURVEY METHODS. THIS MAPPING DOES NOT PURPORT TO SHOW ALL UNDERGROUND UTILITIES ON SITE AND IS SUBJECT TO FIELD VERIFICATION.
 7. SURVEY WAS PREPARED WITHOUT THE BENEFIT OF AN ABSTRACT OF TITLE. SURVEY IS SUBJECT TO ANY INFORMATION THAT AN UP TO DATE TITLE REPORT MAY DISCLOSE.
 8. SUBJECT TO ANY RIGHTS, EASEMENTS, COVENANTS, OR RESTRICTIONS OF RECORD.
 9. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2, OF THE NEW YORK STATE EDUCATION LAW. COPIES OF THIS SURVEY MAP NOT BEARING THE LAND SURVEYORS SEAL AND SIGNED WITH INK SHALL NOT BE CONSIDERED TO BE VALID COPIES.
 10. ONLY BOUNDARY SURVEY MAPS WITH THE LAND SURVEYOR'S SIGNATURE AND SEAL ARE GENUINE TRUE AND CORRECT COPIES OF THE LAND SURVEYOR'S ORIGINAL WORK AND OPINION.
 11. WETLAND FLAGS SHOWN HEREON WERE SET BY HUNT ENGINEERS, ARCHITECTS, SURVEYORS ON MAY 26, 2023 AND WERE LOCATED BY MJ ENGINEERING AND LAND SURVEYING, P.C. ON JUNE 28, 2023.
 12. A PORTION OF THE SURVEYED PROPERTY IS AFFECTED BY A SPECIAL FLOOD HAZARD AREA ASSOCIATED WITH SADDLE RIVER AS SHOWN ON FEMA FLOOD INSURANCE RATE MAP NO. 36087C0154G WITH AN EFFECTIVE DATE OF MARCH 03, 2014.



LEGEND	
SPIKE	✖
STAKE	✖
NAIL	✖
RAILROAD SPIKE	✖
MONUMENT	⊙
CAPPED IRON ROD	⊙
IRON PIPE	⊙
SANITARY MANHOLE	⊙
CATCH BASIN	⊙
CATCH BASIN - ROUND	⊙
WATER MANHOLE	⊙
ELECTRIC MANHOLE	⊙
UNKNOWN MANHOLE	⊙
WATER WELL	⊙
FIRE HYDRANT	⊙
GATE VALVE	⊙
ELECTRIC METER	⊙
UTILITY POLE	⊙
DECIDUOUS TREE	⊙
DECIDUOUS SHRUB	⊙
CONIFEROUS TREE	⊙
CONIFEROUS SHRUB	⊙
SINGLE POST SIGN	⊙
GUY WIRE	⊙
WETLAND FLAG	⊙
DRAINAGE INVERT	⊙
BENCH	⊙
FLAG POLE	⊙
GAS METER	⊙
DEAD UTILITY POLE	⊙
UTILITY POLE WITH LIGHT	⊙
OUTLET	⊙
LIGHT POST	⊙
BUILDING LINE	⊙
SPOT ELEVATION	⊙
MINOR CONTOUR	⊙
MAJOR CONTOUR	⊙
WOODS LINE	⊙
PLANTING BED	⊙
DROP CURB	⊙
CULVERT	⊙
STORM LINE	⊙
SANITARY LINE	⊙
ELECTRIC LINE	⊙
WATER LINE	⊙
OVERHEAD WIRES	⊙
DITCH	⊙
WETLAND LIMITS	⊙
CHAIN LINK FENCE	⊙
WOOD FENCE	⊙
STONE FENCE	⊙
GUIDERAIL	⊙
RAILING	⊙
EDGE OF WATER	⊙
FLOW DIRECTION	⊙
ACCESS EASEMENT	⊙
RIGHT-OF-WAY EASEMENT	⊙
WATER LINE EASEMENT	⊙
SANITARY SEWER EASEMENT	⊙
STORM LINE EASEMENT	⊙
UTILITY LINE EASEMENT	⊙
PROPERTY LINE	⊙
ADJOINING PROPERTY LINE	⊙



SUBMITTAL / REVISIONS					
No.	DATE	DESCRIPTION	BY	REVIEWED BY:	DATE

PROJ. MANAGER:	DL
CHIEF DESIGNER:	DL
DESIGNED BY:	DL
DRAWN BY:	BP
CHECKED BY:	DL

Engineering and
Land Surveying, P.C.

1533 Crescent Road - Clifton Park, NY 12065

BLUE RILL ESTATES, LLC

EXISTING CONDITIONS PLAN

444 SADDLE RIVER ROAD
VILLAGE AIRMONT ROCKLAND COUNTY, NY

SCALE:
CONTRACT No.:
MJ PROJ. No.: MJ1587.02
DATE: 08/04/2023

C-100

**Appendix B **

Wetlands



Legend

- ▬ Project Boundary
- ▬ Stream
- ▬ Wetlands
- ▬ Pond

FIGURE 3
Wetland Delineation Map

**Blue Rill Day Camp - 440 Saddle Brook Road
Airmont, New York
Rockland County**

HUNT ENGINEERS | ARCHITECTS | SURVEYORS

0 62.5 125 250 375 500 Feet
1 inch = 200 feet
1:2,400

County Coverage: Rockland

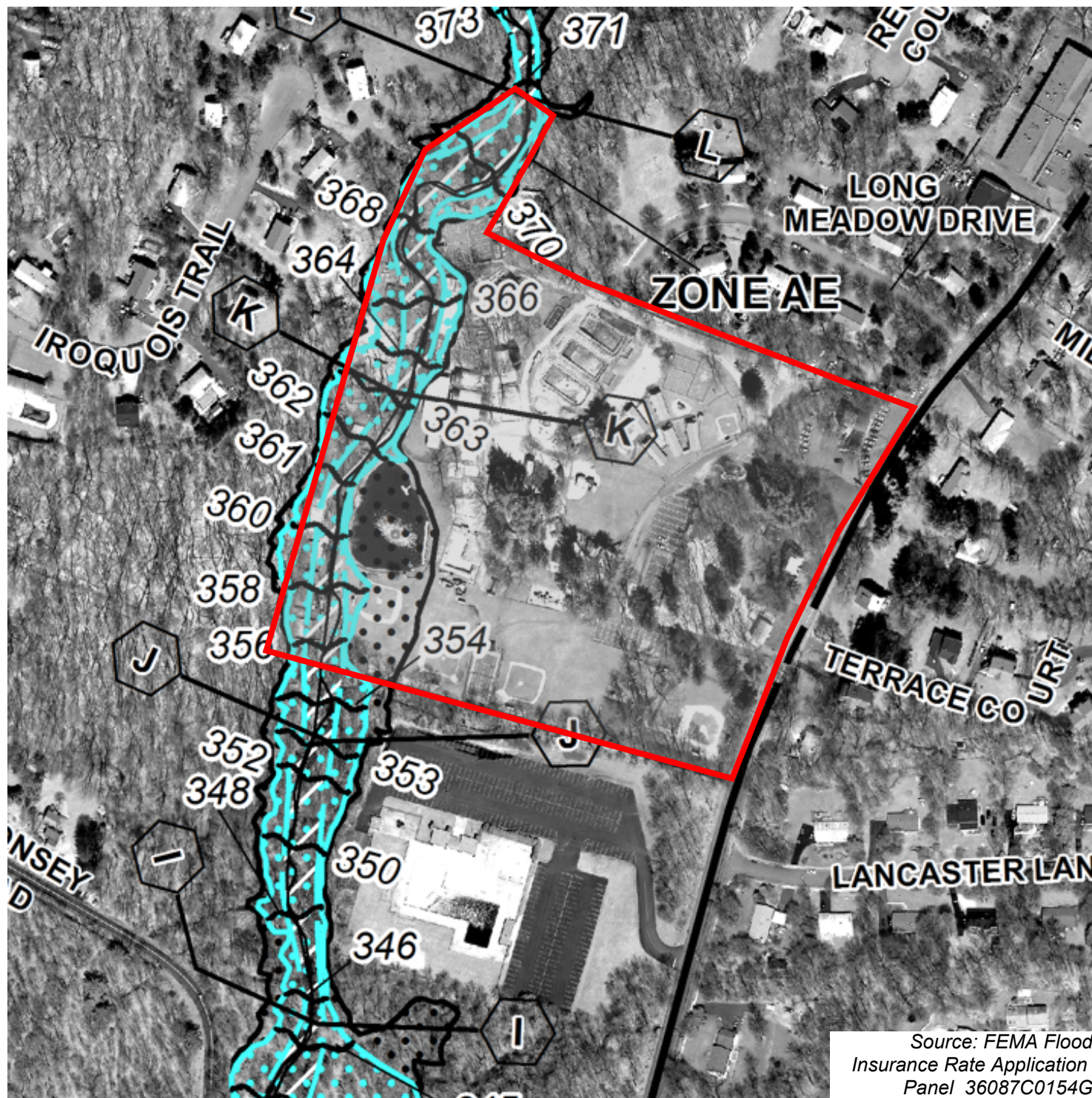
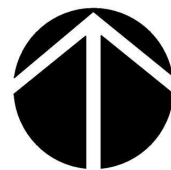
Date Prepared: November 2023

Client Name: MJ Engineering

Path: E:\2023\2371.015 - MJE Blue Rill Day Camp\Graphics\Figure 3 - WLD Map.mxd

Appendix C \

FIRM Map



21 Corporate Drive
Clifton Park, New York 12065
(518) 371-0799

BLUE RILL ESTATES

444 SADDLE RIVER ROAD
TAX ID 62.11-2-8, 62.11-2-9 & 62.11-2-10
VILLAGE OF AIRMONT, ROCKLAND COUNTY, NY

FLOOD PLAIN MAP

Not to Scale

**Appendix D **

Proposed Sewer

**Appendix E **

Pump Information

Item Number / Tags	: Default	Size	: Hydromatic - S3S/S3SD
Service	:	Stages	: 1
Quantity	: 1	Based on curve number	: SUB_S_O_AH_00001_B_6 Rev
Quote number	:		2017-11-30
		Date last saved	: 11 Oct 2024 3:27 PM

Operating Conditions

Flow, rated	: 70.00 USgpm
Head, rated (requested)	: 14.00 ft
Head, rated (actual)	: 14.54 ft
Suction pressure, rated / max	: 0.00 / 0.00 psi.g
NPSH available	: Ample
Site Supply Frequency	: 60 Hz

Performance

Speed criteria	: Synchronous
Speed	: 1165 rpm
Impeller dia.	: 6.13 in
Impeller diameter, maximum	: 6.50 in
Impeller diameter, minimum	: 4.75 in
Efficiency	: 47.14 %
True Weighted Efficiency	: 35.66 %
NPSH required / margin required	: - / 0.00 ft
nq (imp. eye flow) / S (imp. eye flow)	: 39 / - Metric units
Minimum Continuous Stable Flow	: 30.12 USgpm
Head max.	: 18.31 ft
Head rise to shutoff	: 30.81 %
Flow, best eff. point	: 135.4 USgpm
Flow ratio, rated / BEP	: 51.68 %
Diameter ratio (rated / max)	: 94.23 %
Head ratio (rated dia / max dia)	: 82.59 %
Cq/Ch/Ce/Cn [ANSI/HI 9.6.7-2010]	: 1.00 / 1.00 / 1.00 / 1.00
Selection status	: Acceptable

Liquid

Liquid type	: Water
Additional liquid description	:
Solids diameter, max	: 0.00 in
Solids size limit	: 2.50 in
Solids concentration, by volume	: 0.00 %
Temperature	: 68.00 deg F
Fluid density	: 1.000 / 1.000 SG
Viscosity	: 1.00 cP
Vapor pressure, rated	: 0.34 psi.a

Material

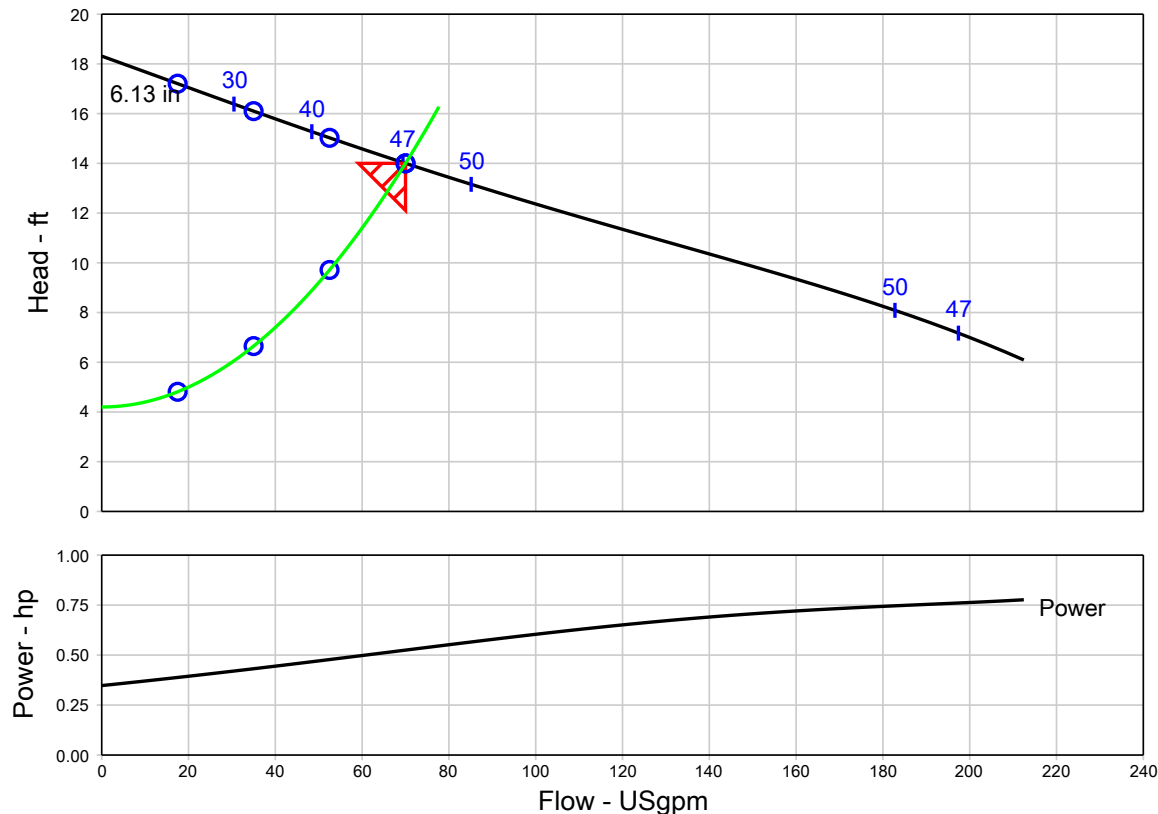
Material selected	: Standard
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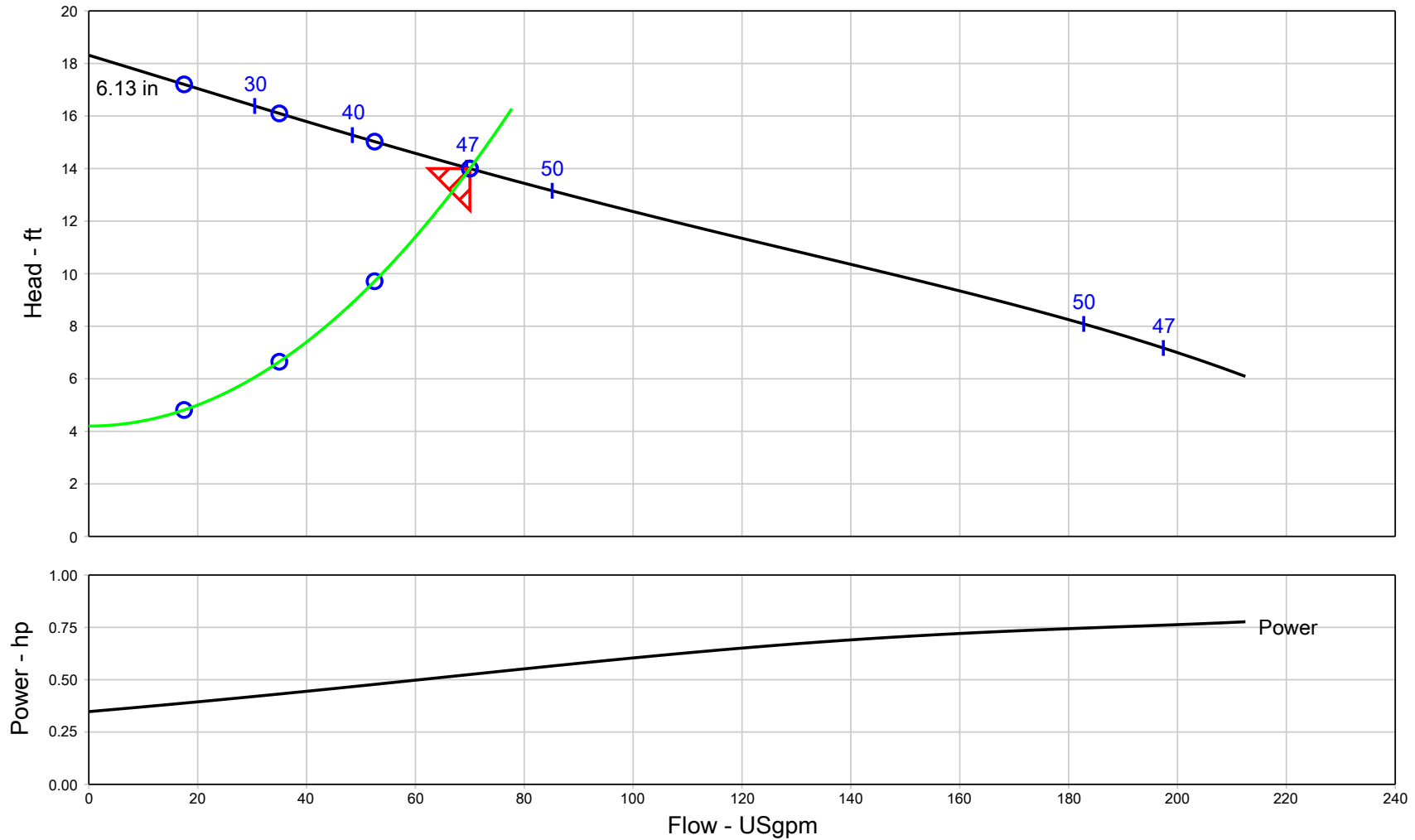
Pressure Data

Maximum working pressure	: 7.93 psi.g
Maximum allowable working pressure	: N/A
Maximum allowable suction pressure	: N/A
Hydrostatic test pressure	: N/A

Driver & Power Data (@Max density)

Driver sizing specification	: Maximum power
Margin over specification	: 0.00 %
Service factor	: 1.00
Power, hydraulic	: 0.25 hp
Power, rated	: 0.52 hp
Power, maximum	: 0.78 hp
Motor rating	: 1.00 hp / 0.75 kW





Item Number / Tags	: Default	Size	: Hydromatic - S3S/S3SD	Flow, rated	: 70.00 USgpm
Service	:	Stages	: 1	Head, rated	: 14.00 ft
Quantity	: 1	Speed	: 1165 rpm	NPSH required	: -
Quote number	:	Based on curve number	: SUB_S_O_AH_00001_B_6	Fluid density	: 1.000 / 1.000 SG
Date last saved	: 11 Oct 2024 3:27 PM		Rev 2017-11-30	Viscosity	: 1.00 cP
		Efficiency	: 47.14 %	Cq/Ch/Ce/Cn [ANSI/HI 9.6.7-2010]	: 1.00 / 1.00 / 1.00 / 1.00
		Power, rated	: 0.52 hp		

**Appendix F **

Forcemain/Wetwell Calculations

**M.J. Engineering, Architecture, Landscape Architecture, & Land
Surveying, P.C.**

21 Corporate Drive - Clifton Park, N.Y. 12065

Phone: (518) 371-0799

Fax: (518) 371-0822

Project

Blue Rill

MJ No.

P.I.N.

Sheet No.

1

of

1

Calculated By:

Date:

Checked By:

Date:

Subject: Blue Rill Estates

Design Flow =	16,949	gpd	Top of Wetwell El. =	370.5	ft	
Design Flow ¹ =	47	gpm	Pumping Rate to be 70 gpm	Base El. =	356.92	ft
Wetwell Diameter =	8	ft	8" Sewer Inv. In El. =	361.00	ft	
Wetwell Area =	50.27	ft ²	Pump Off El. =	358.00	ft	
Wetwell Volume =	376.01	gal	Wetwell Depth =	13.6	ft	

Required Pumping Volume = 1410 Gal

Wetwell Filling Time = 30 minutes > 30 minutes (corrosive gasses could be an issue)

Float Levels

HWL Alarm El. = 360.00 ft * 0.1' Below Inv. IN to Pump Station

Pump On El. = 359.50 ft * 0.50' Below "HWL"

Pump Off El. = 355.75 ft * Pump On El - Required Pumping Volume

LWL Alarm El. = 355.55 ft * 0.2' Below "Pump Off"

Wetwell Base El.

Minimum Submergence Level of the Pump = 1.50 ft

Wetwell Base El. = 354.05 ft

Wetwell Storage Volume = 3.75 ft → Pump on - Pump off

Wetwell Storage Volume = 1,410 Gal 28.2

Lower Level Lift Station- System Curve Evaluation:

Static Head:

Wetwell Low Water Level El. = 355.75 ft

Discharge El. = 367.25 ft → into existing gravity sewer manhole

Static Head = 11.50 ft

Frictional / Minor Losses:

Friction Head Loss (Hazen-Williams Equation)

Length of 2" HDPE Pipe =	6	ft
2" 90° HDPE Bend =	1.6	ft
2" Check Valve =	11	ft
2" Gate Valve =	0.8	ft
Length of 4" Pipe =	340	ft
		ft
		ft

L (ft)	19.4	340.0
Q (gpm)	70	70
C	120	120
D (in)	3.67	3.67
Velocity (ft/s)	2.12	2.12
H _L , ft	0.134	2.343
Total H_L, ft	2.5	

TDH = 11.50 + 2.48 = 13.98 ft

Pump Capable of 70 gpm @ 14.00 TDH