



March 19, 2021

John DiMascio, Chairman
Members of the Planning Board
City of Glen Cove
9 Glen Street
Glen Cove, New York 11542

Education

Energy Utility

Healthcare

Public Works

Real Estate

Science & Technology

Re: Garvies Point Waterfront Mixed-Use Development
N+P No: 15122
Phase IIB (Blocks D, E & F)
PUD Site Development Plan Application
PS&S Project 03610-0031

Dear Mr. DiMascio and Members of the Board:

This letter has been prepared to address the review memo dated January 29, 2021 from Mr. Robert G. Nelson, Jr., PE of Nelson + Pope. Please note that the order of our responses follows the order of the original comments, and we have included the original comment followed by our response in ***bold italics***.

1. Technical Memorandum for the Application for PUD Site Plan Approval

- a. Water Resources and Attachment B Drainage, Water Use and Sewage Flow Calculations
- 1) The document includes the same water demand and sanitary wastewater flows as the 2nd PUD Amendment submittal. The tables should be modified to be consistent with the 2nd PUD Amendment submittal comments.

RESPONSE: The utility study for the overall project was expanded in scope as part of the Planning Board's review of the 2020 Amended PUD application. The water and sanitary demand calculations were revised to include both potential offsite lots, 1 Garvies Point Road and Konica Parcels A, B and C, under consideration for future mixed-use development. The revised Utility Demand Analysis and utility demand calculations were submitted as part of the Amended PUD application. Additional copies are enclosed for review of the Block D, E and F site plan application.

- 2) The document indicates that the development as shown on the Phase IIA PUD Site Plan will result in an increased water demand of approximately 11,200 GPD. The Applicant should confirm the increase included that water demand attributable to the relocated workforce housing and additional market rate units.

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RESPONSE: The difference of 11,248 gallons per day pertains to the current design for Blocks D, E and F (per the Utility Demand Analysis included with the 2020 Amended PUD application). The estimated average daily demand for water per the Phase I, Phase II and Phase III improvements is 361,296 gallons per day. Future developments under consideration at 1 Garvies Point Road and the Konica Minolta site would correspond to water demands of 21,802 GPD and 96,963 GPD respectively (which includes 19,690 gallons per day for future workforce housing). The total projected average water demand associated with the 2020 Amended PUD application, including both future offsite parcels, is 480,061 gallons per day. This daily total is well below the original planning numbers outlined in the Findings Statement. Refer to enclosed Utility Demand Analysis, revised February 24, 2021.

- 3) The document indicates that the development as shown on the Phase IIA PUD Site Plan will result in an increased sanitary wastewater flow of approximately 9,600 GPD. The Applicant should confirm the increase included that sanitary wastewater flow attributable to the relocated workforce housing and additional market rate units.

RESPONSE: The difference of 9,625 gallons per day pertains to the current design for Blocks D, E and F (per the Utility Demand Analysis included with the 2020 Amended PUD application). The estimated average daily sewer demand per the Phase I, Phase II and Phase III improvements is 328,451 gallons per day. Future developments under consideration at 1 Garvies Point Road and the Konica Minolta site would correspond to sewer demands of 19,820 GPD and 88,148 GPD respectively (which includes 17,900 gallons per day for future workforce housing). The total projected average sewer demand associated with the 2020 Amended PUD application, including both future offsite parcels, is 436,419 gallons per day. This daily total is well below the original planning numbers outlined in the Findings Statement and utilized for the design of the pump station. Refer to enclosed Utility Demand Analysis, revised February 24, 2021.

- 4) Previous submittals have included a Proposed Drainage Area Map delineating the various Blocks D, E and F sub-drainage drainage sheds tributary to the overall PUD drainage infrastructure and a table entitled "Drainage Storage Required/Provided per Nassau County" (Drainage Storage Table). While included with the submission, the Technical Memorandum should cross-reference the map which is necessary for the review of the Drainage Storage Table.

RESPONSE: The Proposed Drainage Area Map and Stormwater Calculations associated with Blocks D/E/F (previously submitted) showed compliance with the applicable drainage and water quality requirements. The overall stormwater strategy for Garvies Point is described in the Utility Demand Analysis, revised February 24, 2021. See enclosed Water Quality Drainage Area Map and Drainage Calculations.



- 5) The prior SEQRA and Site Plan approvals for the PUD were based on the PUD drainage infrastructure be designed to handle substantially all rainfall within the PUD's drainage tributary to minimize the discharge of untreated stormwater runoff to the City drainage system (Garvies Point Road, Dickson Street and Herb Hill Road). Both the Drainage Area Map and Drainage Storage Table in the submission do not show Block G (Georgica Green workforce rental units) connected to the PUD drainage infrastructure. The Applicant should update the Drainage Area Map and Drainage Storage Table to reflect Block G's connection to the PUD drainage infrastructure.

RESPONSE: Block G discharges to the City storm system per the approved stormwater design of the overall Phase 1 and Phase 2 Garvies Point Redevelopment; see enclosed Water Quality Drainage Area Map, dated February 17, 2021.

- 6) The Drainage Plan does show a small portion of the southerly driveway from Block D draining directly to Garvies Point Road. A review of the grading and drainage plans included in the Phase IIA PUD Site Plan, indicated that this area, estimated at less than 1,000-sf of pavement, is inconsequential when compared to the overall tributary area. The area overflows to the City system in Garvies Point Road which has its own stormwater treatment system.

RESPONSE: No response required.

- 7) The collection, treatment and discharge was addressed in the Findings Statement as an overall plan with an overall rainfall volume threshold of 2-inches in accordance with the Nassau County Department of Public Works requirements. While DA-3 of the IIA PUD Site Plan drainage infrastructure collects and treats 1.86 inches, the overall PUD collects and treats 2.37 inches or rainfall, exceeding the 2-inch minimal threshold and therefore in compliance with the Findings Statement.

RESPONSE: No response required.

b. Transportation and Attachment C

The Transportation section of the Technical Memorandum should be modified to reflect the comments from the review of the 2nd PUD Amendment and include the trip generation attributable to the relocated work force housing and additional market rate units.

RESPONSE: The Technical Memorandum prepared by VHB for the 2020 Amended PUD application was updated and resubmitted per the City's comments.



The Walker Consultants' Parking Analysis Memorandum (Attachment C) evaluated the Phase IIA PUD Site Plan parking utilizing the values consistent with the Finding Statement. Utilizing these values, they evaluated the peak parking demand for the Phase IIA PUD Site Plan assuming the ferry parking fully occupied Block D and at the same time the restaurant was experiencing its full parking demand. This resulted in Phase IIA PUD Site Plan having a deficiency of 93 stalls during the weekday peak demand. In the SEQRA Findings Statement, there was flexibility provided allowing the Board to reduce the required parking through the use of shared parking, reducing the parking demand by 18.7%. Appendix A of the Walker report addresses the use of shared parking, referencing the Urban Land Institute's (ULI) *Shared Parking* document. While the parking demand computation for restaurant parking does not differentiate between weekday demand and weekend demand, research has demonstrated that restaurant peak demand falls between Friday PM through Sunday, a period when the ferry demand is anticipated to be less than peak. The Walker analysis indicates that there should be sufficient parking available to accommodate the PUD residents, guests and restaurant demand in the vicinity of Blocks E and F. The Applicant should expand the shared parking discussion with tables and figures to demonstrate the available on-street and off-street public parking in the vicinity of Blocks D, E, and F considering share parking demand to satisfy the PUD demand.

RESPONSE: The overall project parking considerations were addressed as part of the Parcel D/E/F Parking Analysis, prepared by Walker Consultants, dated February 16, 2021 (enclosed).

The Walker report also discussed the use of valet parking to mitigate the availability of parking during peak use periods. The use of valet parking during peak periods, along with the inclusion of shared parking could mitigate the potential of the actual parking demand exceeding the supply. The Walker report should be revised to demonstrate and illustrate the available on-street and off-street parking in the vicinity of Blocks D, E, and F under this scenario.

RESPONSE: The overall project parking considerations were addressed as part of the Parcel D/E/F Parking Analysis, prepared by Walker Consultants, dated February 16, 2021 (enclosed).

2. Phase IIA PUD Site Plan

The Phase IIA PUD Site Plan entitled Phase IIB Land Development Site Plans and Blocks D, E & F, prepared by PS&S last revised December 28, 2020 were provided as part of the application submittal. The plans submitted were generally consistent with site plans submitted in previous applications, however there were a few items observed that should require clarification and/or revision.

a. Cover Sheet:

- 1) Include, as provided in prior site plan submissions, the Parking Summary (Chart A) and a Parking Provided (Chart B) tables



summarizing the overall PUD parking to include the parking required and provided computations, the location of the parking, public on-street and off-street parking, private on-street and off-street parking, handicap parking and landbanked parking.

RESPONSE: The requested parking summary tables have been included on the Cover Sheet; see C-1.

- 2) Include a line item for the Phase II Blocks D, E and F open space computation in the Zoning schedule Table coordinated with the open space summaries presented in the 2nd PUD Amendment Technical Memorandum.

RESPONSE: The zoning table on the Cover Sheet has been updated to include a summary of the open space areas; see C-1.

- b. Existing Conditions Plan: The plan reflects an updated topographic survey for Parcel D, however existing conditions for Blocks E and F are from 2012. Blocks D and F along with the curb/gutter line along the Garvies Point Road and Dickson Street frontage should be updated.

RESPONSE: The site plans have been updated to reference the 2019 topographic and utility survey of Block D. Linework associated with Phase 1 improvements are screened and are consistent with the as-built topographic survey prepared by Layout Inc. in October 2020.

- c. Overall Site Plan: Coordinate the parking spaces shown on the overall plan to be consistent with the documents submitted as part of the 2nd PUD Amendment.

RESPONSE: The proposed parking counts have been checked for consistency with the plans submitted as part of the Amended PUD.

- d. Site Plan:
 - 1) Coordinate the turning radius for vehicles entering and leaving the Loading/Refuse Driveway to clear the center island on Road E.

RESPONSE: A turning analysis for Road E and the connecting driveways has been studied for the anticipated vehicles. The clear areas associated with those vehicle turning movements were considered in conjunction with the design for the proposed center island. The turning movement for a WB-40 intermediate semi-trailer is provided as an exhibit on the Site Plan (see C-5).

- 2) Distribute a portion of the handicap parking for public use at the southerly Block D parking lot driveway.

RESPONSE: Proposed grading is constrained within the Block D lot due to environmental and drainage conditions, restricting the ability to locate accessible



spaces at the southern end. Additionally, ADA parking requirements stipulate that the accessible spaces be located “on the shortest accessible route of travel to an accessible facility entrance”. Per the current overall site layout, the proposed Block D parking lot would primarily serve the retail and public spaces located either to the north and to the east of Block D. The remaining spaces would be available as additional on-site parking. Therefore, the six proposed accessible parking spaces are located in close proximity to the Road E sidewalk and Garvies Point Circle.

- 3) Review access and turning movements for vehicles, including emergency vehicles, utilizing the Residential and Spa/Wellness Drop-off Area.

RESPONSE: The turning movements at the Dickson Street drop-off area have been analyzed for passenger, emergency (ambulance) and delivery vehicles. The current configuration can accommodate the anticipated vehicles. The turning movement for a SU-30 single unit truck is provided as an exhibit on the Site Plan (see C-5).

- 4) Confirm the emergency access road along the northside of Building E/F complies with the 2020 Fire Code of NYS, including Appendix D of the code.

RESPONSE: The proposed site design complies with the minimum number of access roads and the acceptable configurations. The site plans and the proposed Fire Access Plan were reviewed with the City Fire Marshall as part of a preliminary discussion of the project. The Fire Marshall did not express any concerns with the site design or building access. A final, signed and sealed version of the Fire Access Plan will be filed as part of resolution compliance.

- 5) Review the proposed fire access road construction and materials for compliance with the ADA accessible route requirements, including compliance with the requirement that accessible route material be firm and smooth.

RESPONSE: The 20-foot-wide emergency access path includes a 5-foot-wide paved walkway which will serve as the accessible path for pedestrians.

e. Grading Plan

- 1) Designate an ADA compliant walkway route within the Block E and F open space area, at a minimum to and from the gazebo and pond and connecting them to the public ROW.

RESPONSE: The path at the southwest corner of Block E/F is proposed as a mulch pathway connecting to the rain garden and trail extension to existing trails at Garvies Point Preserve (GPP). The existing GPP trails are through a naturalized area and are not ADA accessible. As such, the design intent of the trail extensions is a mulch pathway installed within the existing natural woodlot at the west end of Blocks E/F. Due to the steep topography in this area, and the intent to minimize disturbance to



preserve much of the woodlot, these trails are not proposed to be ADA accessible. Similarly, ADA access is not proposed to the gazebo as the gazebo is located within a natural woodlot within the site and is intended to be accessed via mulch hiking trails. The north end of the open space area will have ADA access from Dickson Street as well as the upper and lower building terraces.

- 2) Regrade southerly portion of the parking lot to allow for ADA parking.

RESPONSE: See response to comment 2.D regarding the dispersion of Block D accessible parking stalls.

- f. Utility Plan: Confirm and modify as required the plans to reflect the water, drainage and sanitary sewer horizontal clearances comply with the applicable standards.

RESPONSE: The proposed utilities comply with the applicable standards for minimum depth and minimum clearance at crossings.

- g. Soil Erosion & Sediment Control Plan: Provide inlet protection for the existing Dickson Street drainage inlets and along Garvies Point Road, west of the Block D driveway if down gradient.

RESPONSE: The Soil Erosion and Sediment Control Plan has been revised to show inlet protection for existing and as-built drainage inlets constructed as part of prior phases (see C-08).

- h. Site Details: Revise all handicap symbols to the current symbol.

RESPONSE: The accessibility symbols shown for pavement striping and signage have been substituted with the Modified International Symbol of Accessibility (see C-5, C-9 and C-10).

- i. Utility Details (Drainage Details): Revise the Biofiltration System Detail to be consistent with the previously approved detail.

RESPONSE: The updated Biofiltration System Detail is consistent with the previously approved detail (see C-11).

- j. General Comment: Plans and computations for retaining walls will need to be signed and sealed by a NYS Professional and submitted to the City of Glen Cove Building Department.

RESPONSE: Acknowledged. Notes to this effect are included in the site plan set.

3. 300-ft Radius Map:

The 300-ft radius map submitted indicates the document was revised in September 2020. However, Note 4 indicates the property owner names are from 2015. The



Applicant should clarify that the property owners and Tax Map information has been updated to reflect the current ownership.

RESPONSE: The 300' Radius Map has been updated with the current property owner names as of filing this application.

4. Landscape Plan

The Landscape Plans prepared by MPFP latest revision dated December 30, 2021 were reviewed for consistency with the Phase IIA PUD Site Plan site and infrastructure improvements. The landscape plans should be reviewed by Cleary Consulting and/or Saratoga Associates.

- a. Rendered Master Plan: The improvements at the easterly end of the PUD should be coordinated and consistent with the plans and documents submitted to the Planning Board.

RESPONSE: The Rendered Master Plan has been updated and checked for consistency.

b. General Comment:

- 1) Coordinate the type of pavement and walk materials, treatment and construction with that shown on the Phase IIA PUD Site Plan.

RESPONSE: Proposed paving materials and treatments are consistent with those shown on the Phase IIA PUD Site Plan.

- 2) Coordinate the curb details with that shown on the Phase IIA PUD Site Plan.

RESPONSE: Proposed curbs are consistent with those shown on the Phase IIA PUD Site Plan.

- 3) Plans and computations for retaining walls will need to be signed and sealed by a NYS Professional and submitted to the City of Glen Cove Building Department at the time of building permit.

RESPONSE: Acknowledged.

- c. Rain Garden Details: The rain garden detail and planting plan was not included in the submission set. Future submissions should include the rain garden detail and planting plan consistent with the prior approvals.

RESPONSE: Rain garden details were previously provided on Sheet L-613. The planting plan was previously provided on sheets L-300-301A. A Rain Garden Planting Plan has been added, see Sheet L-300A.



Mr. John DiMascio
Planning Board Members
City of Glen Cove
March 19, 2021
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Should you have any questions, please feel free to contact us.

Sincerely yours,

PAULUS, SOKOLOWSKI AND SARTOR ENGINEERING, PC

Patricia A. Ruskan

Patricia A. Ruskan, P.E.
Vice President

PAR/bsl
Encl.

cc: Robert G. Nelson, Jr., PE



Paulus, Sokolowski and Sartor Engineering, PC

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PROPOSED DOMESTIC WATER DEMAND (PHASE I, II & III)

DATE:

1/18/2016

REVISED:

10/4/2016, 3/11/2020, 8/12/2020, 10/19/2020, 12/3/2020, 2/24/2021

PROJECT NO.:

03610-009

PROJECT NAME:

Garvies Point Waterfront Development - Phase 1, 2 & 3

PROJECT TOWN:

City of Glen Cove, Nassau County, NY

PREPARED BY:

JMM/BSL

WEST PARCEL - GARVIES POINT ROAD - PHASE 2			
	# of Units/Size	Unit Daily Demand⁽¹⁾ (gpd)	Average Daily Demand/Block (gpd)
RESTAURANT AT POINT			
Restaurant Seats	350	38.5	13,475
			13,475 gpd
PARK/BEACH			
Public Restroom (visitors)	100 (estimated)	5.5 ⁽⁴⁾	550
			550 gpd
BLOCK A1: Condominium Units			
1 Bedroom	25	165	4,125
2 Bedroom	87	330	28,710
3 Bedroom	24	440	10,560
	136		43,395 gpd
BLOCK A2: Condominium Units			
1 Bedroom	14	165	2,310
2 Bedroom	48	330	15,840
3 Bedroom	13	440	5,720
	75		23,870 gpd
BLOCK A3: Condominium Units			
1 Bedroom	25	165	4,125
2 Bedroom	87	330	28,710
3 Bedroom	23	440	10,120
	135		42,955 gpd
BLOCK B: Condominium Units			
1 Bedroom	36	165	5,940
2 Bedroom	102	330	33,660
3 Bedroom	29	440	12,760
Marina Support Building at Ferry Terminal (sf)	804	0.11 ⁽²⁾	88
	167		52,448 gpd
Average Daily Demand: WEST PARCEL SUB-TOTAL = 176,693 gpd (average)			
		Residential	162,668 gpd (average)
		Commercial	14,025 gpd (average)
Peak Daily Demand (Peak Factor = 3.4)⁽³⁾: WEST PARCEL SUB-TOTAL = 600,758 gpd (peak)			
		Residential	553,073 gpd (peak)
		Commercial	47,685 gpd (peak)

EAST PARCEL - PHASE 2 & FUTURE PHASE			
	# of Units/Size	Unit Daily Demand ⁽¹⁾ (gpd)	Average Daily Demand/Block (gpd)
BLOCK E-F: Rental Units			
1 Bedroom	41	165	6,765
2 Bedroom	111	330	36,630
3 Bedroom	20	440	8,800
	172		52,195 gpd
BLOCK E RESTAURANT			
Restaurant Seats	195	38.5	7,508
	195		7,508 gpd
BLOCK G: Workforce Units			
1 Bedroom	14	165	2,310
2 Bedroom	31	330	10,230
3 Bedroom	10	440	4,400
	55		16,940 gpd
MW-3: Konica Parcel A-B-C (future)			
1 Bedroom	141	165	23,265
2 Bedroom	145	330	47,850
3 Bedroom	50	440	22,000
Retail (sf)	19,982	0.11 ⁽⁵⁾	2,198
Office (sf)	15,000	0.11 ⁽⁶⁾	1,650
			96,963 gpd
MW-3: 1 Garvies Pt Rd (future)			
1 Bedroom	83	165	13,695
2 Bedroom	22	330	7,260
Retail (sf)	7,700	0.11 ⁽⁵⁾	847
			21,802 gpd
Average Daily Demand: EAST PARCEL PH 2 SUB-TOTAL = 195,408 gpd (average)			
		Residential	183,205 gpd (average)
		Commercial	12,203 gpd (average)
Peak Daily Demand (Peak Factor = 3.4) ⁽³⁾ : EAST PARCEL PH 2 SUB-TOTAL = 664,386 gpd (peak)			
		Residential	622,897 gpd (peak)
		Commercial	41,489 gpd (peak)
PHASE 2 - PROJECT AVERAGE DEMAND TOTAL = 372,101 gpd			
PHASE 2 - PROJECT PEAK DEMAND TOTAL = 1,265,143 gpd			

NOTES:

(1) Unit Daily Flows taken from "Design Standards for Wastewater Treatment Works" from NYSDEC, dated 1988, plus 10% for general rule of thumb for water demand (water-in is generally 10% more than water-out).

(2) Use shopping center criteria = 0.1 gpd/sf of space plus 10%.

(3) Peak factor taken from "Recommended Standards for Wastewater Facilities", (10 States Standards), 2004 Edition, Figure 1.

(4) Use parks criteria (per picnicker, restroom only) = 5 gpd/picnicker plus 10%.

EAST PARCEL - PHASE 1 & PHASE 3			
	# of Units/Size	Unit Daily Demand ⁽¹⁾ (gpd)	Average Daily Demand/Block (gpd)
BLOCK H: Rental Units			
1 Bedroom	94	165	15,510
2 Bedroom	83	330	27,390
Retail (sf)	2,985	0.11 ⁽⁵⁾	328
			43,228 gpd
BLOCK I: Condominium Units			
1 Bedroom	114	165	18,810
2 Bedroom	94	330	31,020
	208		49,830 gpd
ANGLER'S CLUB square feet	2,170	0.11 ⁽⁶⁾	239
	2,170		238.7 gpd
BREWERY & MARINA SUPPORT Restaurant Seats	363	38.5	13,976
	363		13,976 gpd
BLOCK J: Commercial/Cultural Retail (sf)	6,250	0.11 ⁽⁶⁾	688
	6,250		688 gpd
Average Daily Flow: EAST PARCEL PH 1 SUB-TOTAL = 107,960 gpd (average)			
		Residential	92,730 gpd (average)
		Commercial	15,230 gpd (average)
Peak Daily Flow (Peak Factor = 3.4) ⁽³⁾ : EAST PARCEL PH 1 SUB-TOTAL = 367,064 gpd (peak)			
		Residential	315,282 gpd (peak)
		Commercial	51,782 gpd (peak)
PHASE 1 - PROJECT AVERAGE DEMAND TOTAL = 107,960 gpd			
PHASE 1 - PROJECT PEAK DEMAND TOTAL = 367,064 gpd			

NOTES:

(5) Use shopping center criteria = 0.1 gpd/sf of space plus 10%.

(6) Use office space criteria = 0.1 gpd/sf of space plus 10%.

EAST PARCEL - SUBTOTAL			
Average Daily Flow:	EAST PARCEL PH 2 SUB-TOTAL =		195,408 gpd (average)
	EAST PARCEL PH 1 SUB-TOTAL =		107,960 gpd (average)
	EAST PARCEL OVERALL SUB-TOTAL =		303,368 gpd (average)
Peak Daily Flow (Peak Factor = 3.4) ⁽³⁾ :	EAST PARCEL PH 2 SUB-TOTAL =		664,386 gpd (average)
	EAST PARCEL PH 1 SUB-TOTAL =		367,064 gpd (average)
	EAST PARCEL OVERALL SUB-TOTAL =		1,031,450 gpd (average)

OVERALL PROJECT (PHASE 1, PHASE 2, PHASE 3 & FUTURE PHASE)			
Projected Average Demand	Phase 2	Phase 1	Total
Residential	345,873	92,730	438,603
Commercial	26,228	15,230	41,458
Total	372,101	107,960	480,061
Projected Peak Demand	Phase 2	Phase 1	Total
Residential	1,175,970	315,282	1,491,252
Commercial	89,174	51,782	140,956
Total	1,265,143	367,064	1,632,207



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PROPOSED SANITARY SEWER SYSTEM PROJECTED FLOWS (PHASE I, II & III)

DATE:	1/18/2016
REVISED:	10/4/2016, 10/30/2017, 1/6/2020, 8/12/2020, 10/19/2020, 12/3/2020, 2/24/2021
PROJECT NO.:	03610-009
PROJECT NAME:	Garvies Point Waterfront Development - Phase 1, 2 & 3
PROJECT TOWN:	City of Glen Cove, Nassau County, NY
PREPARED BY:	JMM/BSL/GY

WEST PARCEL - GARVIES POINT ROAD - PHASE 2				
	# of Units/Size	Unit Daily Flow ⁽¹⁾ (gpd)	Average Daily Flow/Block (gpd)	Peak
BLOCK A RESTAURANT				
Restaurant Seats	350	35	12,250	
			12,250 gpd	41,650
PARK/BEACH				
Public Restroom (visitors)	100 (estimated)	5 ⁽⁴⁾	500	
			500 gpd	1,700
BLOCK A1: Condominium Units				
1 Bedroom	25	150	3,750	
2 Bedroom	87	300	26,100	
3 Bedroom	24	400	9,600	
	136		39,450 gpd	134,130
BLOCK A2: Condominium Units				
1 Bedroom	14	150	2,100	
2 Bedroom	48	300	14,400	
3 Bedroom	13	400	5,200	
	75		21,700 gpd	73,780
BLOCK A3: Condominium Units				
1 Bedroom	25	150	3,750	
2 Bedroom	87	300	26,100	
3 Bedroom	23	400	9,200	
	135		39,050 gpd	132,770
BLOCK B: Condominium Units				
1 Bedroom	36	150	5,400	
2 Bedroom	102	300	30,600	
3 Bedroom	29	400	11,600	
Marina Support Building at Ferry Terminal (sf)	804	0.1 ⁽²⁾	80	
	167		47,680 gpd	162,113
Average Daily Flow:				
WEST PARCEL SUB-TOTAL =			160,630 gpd (average)	
			Residential	147,880 gpd (average)
			Commercial	12,750 gpd (average)
Peak Daily Flow (Peak Factor = 3.4) ⁽³⁾ :				
WEST PARCEL SUB-TOTAL =			546,143 gpd (peak)	
			Residential	502,793 gpd (peak)
			Commercial	43,350 gpd (peak)

EAST PARCEL - PHASE 2 & FUTURE PHASE				
	# of Units/Size	Unit Daily Flow ⁽¹⁾ (gpd)	Average Daily Flow/Block (gpd)	
BLOCK E-F: Rental Units				
1 Bedroom	41	150	6,150	
2 Bedroom	111	300	33,300	
3 Bedroom	20	400	8,000	
	172		47,450 gpd	161,330
BLOCK E RESTAURANT				
Restaurant Seats	195	35	6,825	
	195		6,825 gpd	23,205
BLOCK G: Workforce Units				
1 Bedroom	14	150	2,100	
2 Bedroom	31	300	9,300	
3 Bedroom	10	400	4,000	
	55		15,400 gpd	52,360
MW-3: Konica Parcel A-B-C (future)				
1 Bedroom	141	150	21,150	
2 Bedroom	145	300	43,500	
3 Bedroom	50	400	20,000	
Retail (sf)	19,982	0.1 ⁽⁵⁾	1,998	
Office (sf)	15,000	0.1 ⁽⁶⁾	1,500	
			88,148 gpd	299,704
MW-3: 1 Garvies Pt Rd (future)				
1 Bedroom	83	150	12,450	
2 Bedroom	22	300	6,600	
Retail (sf)	7,700	0.1 ⁽⁵⁾	770	
			19,820 gpd	67,388
Average Daily Flow: EAST PARCEL PH 2 SUB-TOTAL = 177,643 gpd (average)				
			Residential	166,550 gpd (average)
			Commercial	11,093 gpd (average)
Peak Daily Flow (Peak Factor = 3.4) ⁽³⁾ : EAST PARCEL PH 2 SUB-TOTAL = 603,987 gpd (peak)				
			Residential	566,270 gpd (peak)
			Commercial	37,717 gpd (peak)
PHASE 2 - PROJECT AVERAGE FLOW TOTAL = 338,274 gpd				
PHASE 2 - PROJECT PEAK FLOW TOTAL = 1,150,130 gpd				

NOTES:

- (1) Unit Daily Flows taken from "Design Standards for Wastewater Treatment Works" from NYSDEC, dated 1988.
- (2) Use shopping center criteria = 0.1 gpd/sf of space.
- (3) Peak factor taken from "Recommended Standards for Wastewater Facilities", (10 States Standards), 2004 Edition, Figure 1.
- (4) Use parks criteria (per picnicker, restroom only) = 5 gpd/picnicker.

EAST PARCEL - PHASE 1 & PHASE 3			
	# of Units/Size	Unit Daily Flow ⁽¹⁾ (gpd)	Average Daily Flow/Block (gpd)
BLOCK H: Rental Units			
1 Bedroom	94	150	14,100
2 Bedroom	83	300	24,900
Retail (sf)	2,985	0.1 ⁽⁵⁾	299
			39,299 gpd
BLOCK I: Condominium Units			
1 Bedroom	114	150	17,100
2 Bedroom	94	300	28,200
	208		45,300 gpd
ANGLER'S CLUB square feet	2,170	0.1 ⁽⁶⁾	217
	2,170		217 gpd
BREWERY & MARINA SUPPORT Restaurant Seats	363	35	12,705
	363		12,705 gpd
BLOCK J: Commercial/Cultural Retail (sf)	6,250	0.1 ⁽⁶⁾	625
	6,250		625 gpd
Average Daily Flow: EAST PARCEL PH 1 SUB-TOTAL = 98,146 gpd (average)			
		Residential	84,300 gpd (average)
		Commercial	13,846 gpd (average)
Peak Daily Flow (Peak Factor = 3.4) ⁽³⁾ : EAST PARCEL PH 1 SUB-TOTAL = 333,695 gpd (peak)			
		Residential	286,620 gpd (peak)
		Commercial	47,075 gpd (peak)
PHASE 1 - PROJECT AVERAGE FLOW TOTAL = 98,146 gpd			
PHASE 1 - PROJECT PEAK FLOW TOTAL = 333,695 gpd			

133,615

154,020

738

43,197

2,125

NOTES:

(5) Use shopping center criteria = 0.1 gpd/sf of space plus 10%.

(6) Use office space criteria = 0.1 gpd/sf of space plus 10%.

EAST PARCEL - SUBTOTAL			
Average Daily Flow:	EAST PARCEL PH 2 SUB-TOTAL =		177,643 gpd (average)
	EAST PARCEL PH 1 SUB-TOTAL =		98,146 gpd (average)
	EAST PARCEL OVERALL SUB-TOTAL =		275,789 gpd (average)
Peak Daily Flow (Peak Factor = 3.4) ⁽³⁾ :	EAST PARCEL PH 2 SUB-TOTAL =		603,987 gpd (average)
	EAST PARCEL PH 1 SUB-TOTAL =		333,695 gpd (average)
	EAST PARCEL OVERALL SUB-TOTAL =		937,682 gpd (average)

OVERALL PROJECT (PHASE 1, PHASE 2, PHASE 3 & FUTURE)			
Projected Average Flow	Phase 2	Phase 1	Total
Residential	314,430	84,300	398,730
Commercial	23,843	13,846	37,689
Total	338,274	98,146	436,419
Projected Peak Flow	Phase 2	Phase 1	Total
Residential	1,069,063	286,620	1,355,683
Commercial	81,067	47,075	128,142
Total	1,150,130	333,695	1,483,825



Paulus, Sokolowski and Sartor Engineering, PC

3 Mountainview Road
Warren, NJ 07059
Tel: 732-560-9700 Fax: 732-764-6565

Drainage Storage Required/Provided per Nassau County

Date:2/17/2021

Last Rev.:

PROJECT NO.:03610-0002

PROJECT NAME:Garvies Point
Garvies Point Waterfront Redevelopment - PHASE I-II-III

PROJECT TOWN:City of Glen Cove, NY

PREPARED BY:BSL

	P-DA-1a	P-DA-1b	P-DA-1c (Rooftop A)	P-DA-1d	P-DA-1 (1a, 1b, 1c & 1d)	P-DA-2a	P-DA-2b	P-DA-2c (Rooftop B)	P-DA-2 (2a, 2b & 2c)	P-DA-3a	P-DA-3b	Total P-DA-3 (3a & 3b)
Pervious Area (sq. ft.)	106,010	90,171		9,148	205,329	38,770	33,980		72,750	3,485	25,270	28,755
Green Roof (sq. ft.)			63,392		63,392			37,030	37,030			
Impervious Area (incl imper. roof)	26,503	38,645	117,729	5,663	188,539	77,540	21,780	60,550	159,870	25,700	39,630	65,330
Total Area (sq. ft.)	132,513	128,816	181,121	14,810	457,260	116,310	55,760	97,580	269,650	29,185	64,900	94,085
Total Area (ac.)	3.04	2.96	4.16	0.34	10.50	2.67	1.28	2.24	6.19	0.67	1.49	2.16
Weighted Coefficient (C)	0.43	0.50	0.79	0.55	0.60	0.73	0.55	0.78	0.71	0.87	0.70	0.75
2" Storage of Rainfall (ft.)	0.167	0.167	0.167	0.167	0.167	0.167	0.167	0.167	0.167	0.167	0.167	0.167
Storage Required (V = A x C x 2")					45,401				32,036			11,782
Total Water Quality (WQv) Required	9,497	10,627	23,923	1,354	45,401	14,216	5,148	12,673	32,036	4,243	7,538	11,782
Irrigation Required (cf):			15,093					8,132				
Irrigation Provided (cf):			15,100		15,100			12,235	12,235			
WQ Treated with Rain Garden (cf):	1,090	2,390			3,480							
Volume To be Treated by Jellyfish(cf)	8,407	8,237	23,923	1,354		14,216	5,148	12,673				11,782
Qa = WQv/A (inches)	0.76	0.77	1.59	1.10		1.47	1.11	1.56				1.50
CN=1000/[10+5P+10Qa-10(Qa2 + 1.25 Qa P)½]	84	84	96	90		95	90	96				95
Ia/P	0.186	0.184	0.040	0.111		0.055	0.109	0.044				0.050
qu	660	660	660	660		660	660	660				660
Converted to Qwg (cfs)	2.39	2.34	6.80	0.38		4.04	1.46	3.60				3.35
Qwg Provided (cfs)	2.94	4.90	5.88	1.96		4.90	1.96	4.90				3.12
Volume provided with Jellyfish (cf.)	10,349	17,248	20,698	6,899	55,194	17,248	6,899	17,248	41,395			10,982
Total Water Quality (WQv) Provided					73,774				53,630			10,982
Water Quality Units ID (Jellyfish Filter)	WQ113	WQ142	WQ 165	WQ115		WQ221	WQ236	WQ256				WQ518
Jellyfish Unit and Model Number	JF 8'x8'	JF 8'x11'	JF 8'x12'	JF 8'x6'		JF 8'x11'	JF 8'x6'	JF 8'x11'				JF 8'x12'
Bypass Flow												
Routed flow (Q = C x A x 4.8 in/hr)	6.28	7.03	15.82	0.90		9.40	3.40	8.38				7.79
Bypass flow (cfs)	3.89	4.69	9.94	0.51		5.36	1.94	3.48				4.44
Bypass Capacity (cfs)	8.00	8.00	8.00	4.00		8.00	5.00	8.00				8.00
Total Capacity (cfs)	10.94	12.9	13.88	5.96		12.90	6.96	12.9				11.12

Equivalent Rainfall

Total Water Quality (WQv) Required (2")	9,497	10,627	23,923	1,354	45,401	14,216	5,148	12,673	32,036	4,243	7,538	11,782
Total Water Quality (WQv) Provided					73,774				53,630			10,982
Equivalent Rainfall (inches)					3.25				3.35			1.86
Water Quality (WQv) Required (1.5")	7,123	7,970	17,942	1,015	34,051	10,662	3,861	9,505	24,027	3,183	5,654	8,836
WQ Provided by Rain Garden & Jellyfish					58,674				41,395			10,982
Equivalent Rainfall (inches)					2.58				2.58			1.86
Outfall ID					OF 146				OF 238			OF 519

References / Notes:

1. Impervious Coefficient (C_R) = 0.95, Pervious Coefficient (CP) = 0.30, Pervious Roof Coefficient (CP) = 0.50
2. Surface area is including 1' thick walls
3. Nassau County Department of Public Works Drainage Requirements
Storage Volume = Area x Coefficient x Runoff Storage
4. Water and wetland areas are not included in drainage area calculations since they cannot be captured
5. Required irrigation volume based on 1" rainfall for building area (Full impervious area, no green roof reduction)
6. Water quality volume (c.f.) and equivalent rainfall (inches) provided per watershed and outfall.
7. Jellyfish water quality flow provided based on as-built calculations by manufacturer

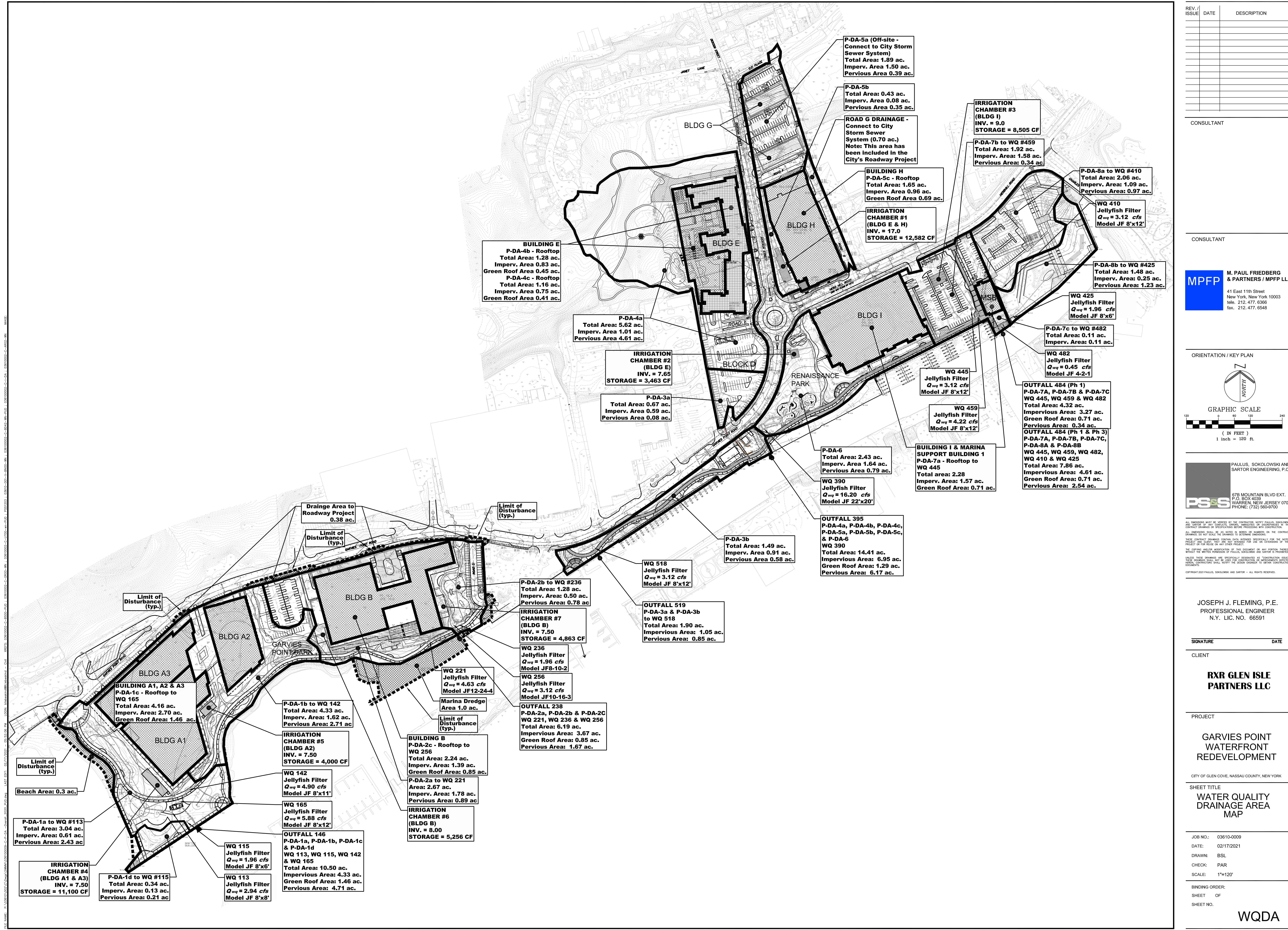


	P-DA-4a	P-DA-4b (Rooftop E)	P-DA-4c (Rooftop D)	Total P-DA-4 (4a, 4b & 3c)	P-DA-5a	P-DA-5b	P-DA-5c (Rooftop H)	Total P-DA-5 (5a, 5b & 5c)	P-DA-6	P-DA-4, 5 & 6	P-DA-7a (Rooftop I & MSB 1)	P-DA-7b	P-DA-7c	Total P-DA-7 (7a, 7b & 7c)	Total Project Site (Ph I & Ph II)	P-DA-8a	P-DA-8b	Total P-DA-8 (8a & 8b)	Total Project Site (Ph I, Ph II & Ph III)
Pervious Area (sq. ft.)	200,812			200,812	0	15,230		15,230	71,500	287,542		14,680		14,680	614,111	42,400	53,580	95,980	710,091
Green Roof (sq. ft.)		19,454	17,723	37,177			30,060	30,060		67,237	30,930			30,930	204,836				204,836
Impervious Area (incl imper. roof)	43,996	36,130	32,913	113,039	0	3,500	41,820	45,320	34,350	192,709	68,500	68,900	4,970	142,370	646,669	47,200	10,900	58,100	704,769
Total Area (sq. ft.)	244,807	55,584	50,636	351,027	0	18,730	71,880	90,610	105,850	547,487	99,430	83,580	4,970	187,980	1,907,490	89,600	64,480	154,080	2,061,570
Total Area (ac.)	5.62	1.28	1.16	8.06	0.00	0.43	1.65	2.08	2.43	12.57	2.28	1.92	0.11	4.32	43.79	2.06	1.48	3.54	47.33
Weighted Coefficient (C)	0.42	0.79	0.79	0.53	0.00	0.42	0.76	0.69	0.51	0.55	0.81	0.84	0.95	0.83	0.47	0.64	0.41	0.55	0.48
2" Storage of Rainfall (ft.)	0.167	0.167	0.167	0.167	0.167	0.167	0.167	0.167	0.167	0.167	0.167	0.167	0.167	0.167	0.167	0.167	0.167	0.167	0.167
Storage Required (V = A x C x 2")				31,036				10,442	9,014	50,492				25,853	150,165			13,998	164,163
Total Water Quality (WQv) Required	17,007	7,342	6,688	31,036	0	1,316	9,127	10,442	9,014	50,492	13,423	11,643	787	25,853	119,379	9,593	4,405	13,998	133,377
Irrigation Required (cf):		4,632	4,220				5,990				8,286								
Irrigation Provided (cf):			3,463				12,582			16,045	8,505			8,505	34,608				51,885
WQ Treated with Rain Garden (cf):						1,090			1,600	2,690					2,180				6,170
Volume To be Treated by Jellyfish(cf)										34,447	13,423	11,643	787			9,593	4,405	13,998	
Qa = WQv/A (inches)										0.76	1.62	1.67	1.90			1.28	0.82	1.09	
CN=1000/[10+5P+10Qa-10(Qa2 + 1.25 Qa P)½]										84	96	97	99			93	85	90	
Ia/P										0.187	0.037	0.031	0.009			0.080	0.170	0.112	
q u										640	660	660	660			660	660	660	
Converted to Q wq (cfs)										9.49	3.81	3.31	0.22			2.73	1.25	3.98	
Q wq Provided (cfs)										16.20	3.12	4.22	0.45			3.12	1.96		
Volume provided with Jellyfish (cf.)										58,806	10,982	14,854	1,584	27,421	141,596	10,982	6,899	17,882	159,478
Total Water Quality (WQv) Provided										77,541				35,926	151,315			17,882	169,196
Water Quality Units ID (Jellyfish Filter)		Treated	Treated				Treated			WQ390	WQ 445	WQ459	WQ482			WQ410	WQ425		
Jellyfish Unit and Model Number										22'x20'	JF 8'x12'	JF 8'x12'	4'Ø			JF 8'x12'	JF 8'x6'		
Bypass Flow																			
Routed flow (Q = C x A x 4.8 in/hr)										33.38	8.87	7.70	0.52			6.34	2.91	9.25	
Bypass flow (cfs)										23.89	5.75	4.39	0.30			3.62	1.66	5.28	
Bypass Capacity (cfs)										166.00	8.00	8.00	2.50			8.00	8.00	8.00	
Total Capacity (cfs)										180.42	11.12	12.22	2.95			11.12	9.96	8	

Equivalent Rainfall																			
Total Water Quality (WQv) Required (2")	17,007	7,342	6,688	31,036	0	1,316	9,127	10,442	9,014	50,492	13,423	11,643	787	25,853	119,379	9,593	4,405	13,998	133,377
Total Water Quality (WQv) Provided										77,541				35,926	151,315			17,882	169,196
Equivalent Rainfall (inches)										3.07				2.78	2.54			2.55	2.54
Water Quality (WQv) Required (1.5")	12,755	5,506	5,016	23,277	0	987	6,845	7,832	6,760	37,869	10,068	8,732	590	19,390	89,534	7,195	3,304	10,499	100,033
WQ Provided by Rain Garden & Jellyfish										61,496				27,421	120,170			17,882	138,051
Equivalent Rainfall (inches)										2.44				2.12	1.60			2.55	1.68
Outfall ID										OF 395				OF 484				OF 484	

Includes Rooftop E & H

- References / Notes:
- Impervious Coefficient (C_R) = 0.95, Per
 - Surface area is including 1' thick walls
 - Nassau County Department of Public W
Storage Volume = Area x Coefficient
 - Water and wetland areas are not includ
 - Required irrigation volume based on 1"
 - Water quality volume (c.f.) and equavale
 - Jellyfish water quality flow provided base



REV./ISSUE	DATE	DESCRIPTION

CONSULTANT

CONSULTANT

M. PAUL FRIEDBERG & PARTNERS / MPFP LLC

41 East 11th Street
New York, New York 10003
tele. 212.477.6366
fax. 212.477.6548

ORIENTATION / KEY PLAN

GRAPHIC SCALE

PAULUS, SOKOLOWSKI AND SARTOR ENGINEERING, P.C.

678 MOUNTAIN BLVD EXT.
P.O. BOX 4039
WARREN, NEW JERSEY 07059
PHONE: (732) 560-0700

ALL DIMENSIONS MUST BE VERIFIED BY THE CONTRACTOR. NOTIFY PAULUS, SOKOLOWSKI AND SARTOR ENGINEERING, P.C. OF ANY DISCREPANCIES IMMEDIATELY TO THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.

JOSEPH J. FLEMING, P.E.
PROFESSIONAL ENGINEER
N.Y. LIC. NO. 66591

SIGNATURE _____ DATE _____

CLIENT _____

RXR GLEN ISLE PARTNERS LLC

PROJECT

GARVIE'S POINT WATERFRONT REDEVELOPMENT

CITY OF GLEN COVE, NASSAU COUNTY, NEW YORK

SHEET TITLE

WATER QUALITY DRAINAGE AREA MAP

JOB NO.: 03610-0009
DATE: 02/17/2021
DRAWN: BSL
CHECK: PAR
SCALE: 1"=120'

BINDING ORDER:
SHEET _____ OF _____
SHEET NO. _____

WQDA