The Reynolds Group Inc.

State Certificate of Authorization
Engineering & Land Surveying No. 24GA27969200
Landscape Architecture No. MH000043

Engineers
Landscape Architects
Land Surveyors
Planners
Environmental Specialists

STORMWATER IMPACT REPORT

FOR

BLOCK 468.01 – LOT 24.01
50 ATRIUM DRIVE
TOWNSHIP OF FRANKLIN
SOMERSET COUNTY, NEW JERSEY

January 2022

Prepared For:

Applicant:
50 Atrium Drive, LLC
50 Atrium Dive
Somerset, NJ 08873

Prepared By:

THE REYNOLDS GROUP, INC.
575 ROUTE 28, SUITE 110
RARITAN, NEW JERSEY 08869

F. Mitchel Ardman, P.E.
NJ License No. 34317

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I. PROJECT SUMMARY

The applicant proposes to construct a one story, approximately 70,300 sf warehouse addition to the existing building along with associated site improvements on Lot 24.01, Block 468.01 located along Atrium Drive / Davidson Avenue. The 11.86-acre tract currently includes a one-story main warehouse building with an office area along with a large parking lot and loading docks. The total impervious coverage from these existing site features is 6.76 acres.

The proposed warehouse addition will be placed over the existing paved parking lot, with the final site impervious area of 6.74 acres. The result is a net reduction of impervious area of 0.017 acres (736 sf).

The existing site drains to a retention pond in the northern section of the property, along Route 287. Since there is no increase in impervious area, there will be no impact to this existing pond.

II. DISCUSSION OF STORMWATER IMPACT

A. STORMWATER QUANTITY

CUMULATIVE SITE ANALYSIS:
. The breakdown of site surface coverage is as follows:

Existing Conditions:

Impervious Surfaces:	
Pavement	199,762 sq. ft.
Roof	82,421 sq. ft.
Sidewalk	12,230 sq. ft.
Total:	294,413 sq. ft.
56.99% Impervious Coverage	

Proposed Conditions:

Impervious Surfaces:	
Pavement	130,808 sq. ft.
Roof	152,721 sq. ft.
Sidewalk	10,148 sq. ft.
Total:	293,677 sq. ft.
56.85% Impervious Coverage	

Since the proposed improvements will not increase the amount of on-site impervious area (reduction proposed), nor reduce the runoff time of concentration, the overall stormwater runoff from the site will not increase as a result of this project. Stormwater quantity control measures are therefore not required.

B. STORMWATER QUALITY

The existing building footprint is 82,421 sf. The proposed cumulative roof area is 152,721 sf., therefore, the building impervious area will increase by approximately 70,300 sf. The amount of pavement on-site will decrease by 68,954 sf (1.58 acres) square feet. Since the project will result in a significant decrease in impervious motor vehicle surface, no water quality measures are required.

C. GROUNDWATER RECHARGE

Since the proposed site development will result in a decrease in impervious area for the 11.86-acre property, the amount of groundwater recharge provided on-site will, therefore, increase as part of this proposal. As such, no structural groundwater recharge measures are required.

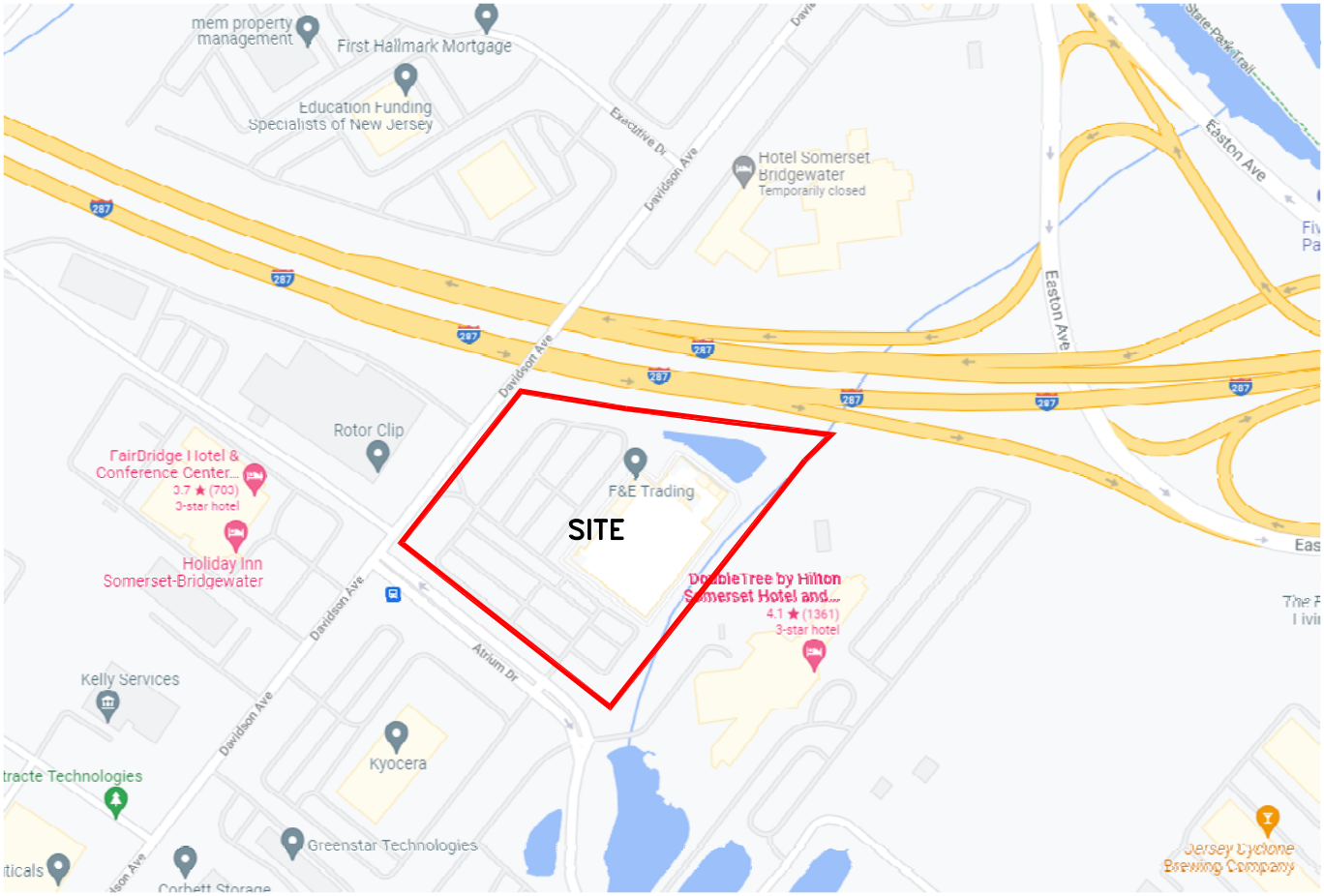
In summary, the proposal will have no adverse impacts on the quantity, quality and groundwater recharge volume of the stormwater runoff from the site.

III. STORMWATER CONVEYANCE SYSTEM DESIGN

Calculations supporting the design of the proposed stormwater conveyance system are in Appendix B of this report. The inlet flows were computed using the Rational Method and cumulative pipe flows are compared to pipe capacity. A 25-year design storm was utilized for the new parking lot inlet system and a 100-year design storm was used from the existing inlet to the existing retention pond (that existing pipe run shall be removed and upgraded to handle the required flow). Inlet drainage areas are shown on map DA-1.

APPENDIX A

MAP FIGURES

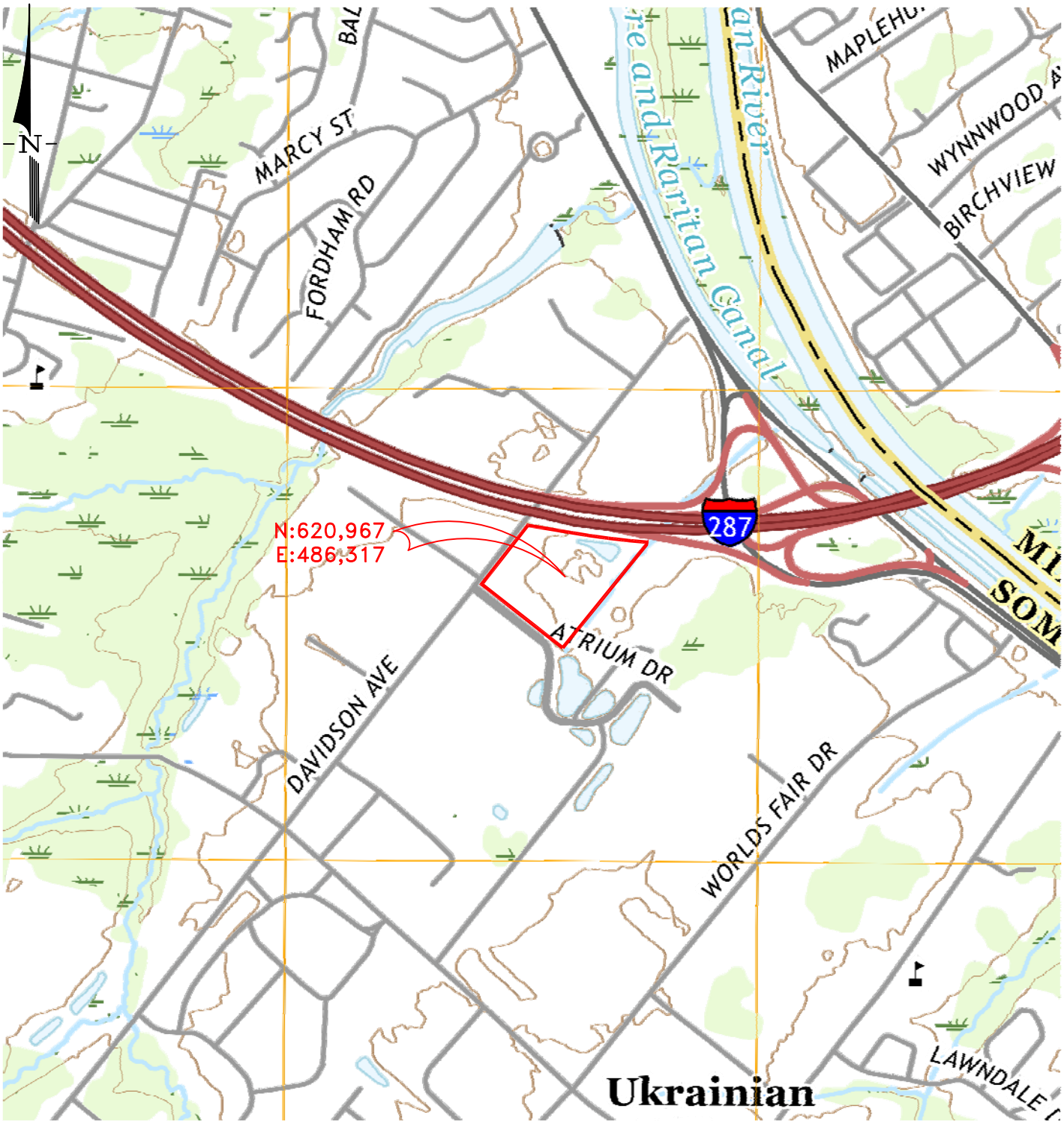


PROPERTY STREET ADDRESS: 50 ATRIUM DRIVE ROAD, FRANKLIN, NJ

The Reynolds Group Inc.

575 Route 28 Suite 110 Raritan, N.J. 08869 Tele 908-722-1500

Title: **LOCATION MAP**		
Scale: NOT TO SCALE	TRG Job #: 21-024	Date: 01/06/22
Project: **50 ATRIUM DRIVE** BLOCK 468.01, LOT 24.01 TOWNSHIP OF FRANKLIN SOMERSET COUNTY, NEW JERSEY		Sheet No.: 1



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Title: **U.S.G.S TOPO MAP – BOUND BROOK QUAD**		
Scale: NOT TO SCALE	TRG Job #: 21-024	Date: 01/06/22
Project: **50 ATRIUM DRIVE** BLOCK 468.01, LOT 24.01 TOWNSHIP OF FRANKLIN SOMERSET COUNTY, NEW JERSEY		Sheet No.: 2

PenB – PENN SILT LOAM
RehA – REAVILLE SILT LOAM
RehB – REAVILLE SILT LOAM
RorAt – ROWLAND SILT LOAM

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Title: **SOILS MAP (USDA WEB SOIL SURVEY)**

Scale: NOT TO SCALE | TRG Job #: 21-024 | Date: 01/06/22

Project: **50 ATRIUM DRIVE**
BLOCK 468.01, LOT 24.01
TOWNSHIP OF FRANKLIN
SOMERSET COUNTY, NEW JERSEY

Sheet No.: 3

APPENDIX B

CONVEYANCE SYSTEM CALCULATIONS

- Storm Sewer Pipe Computations

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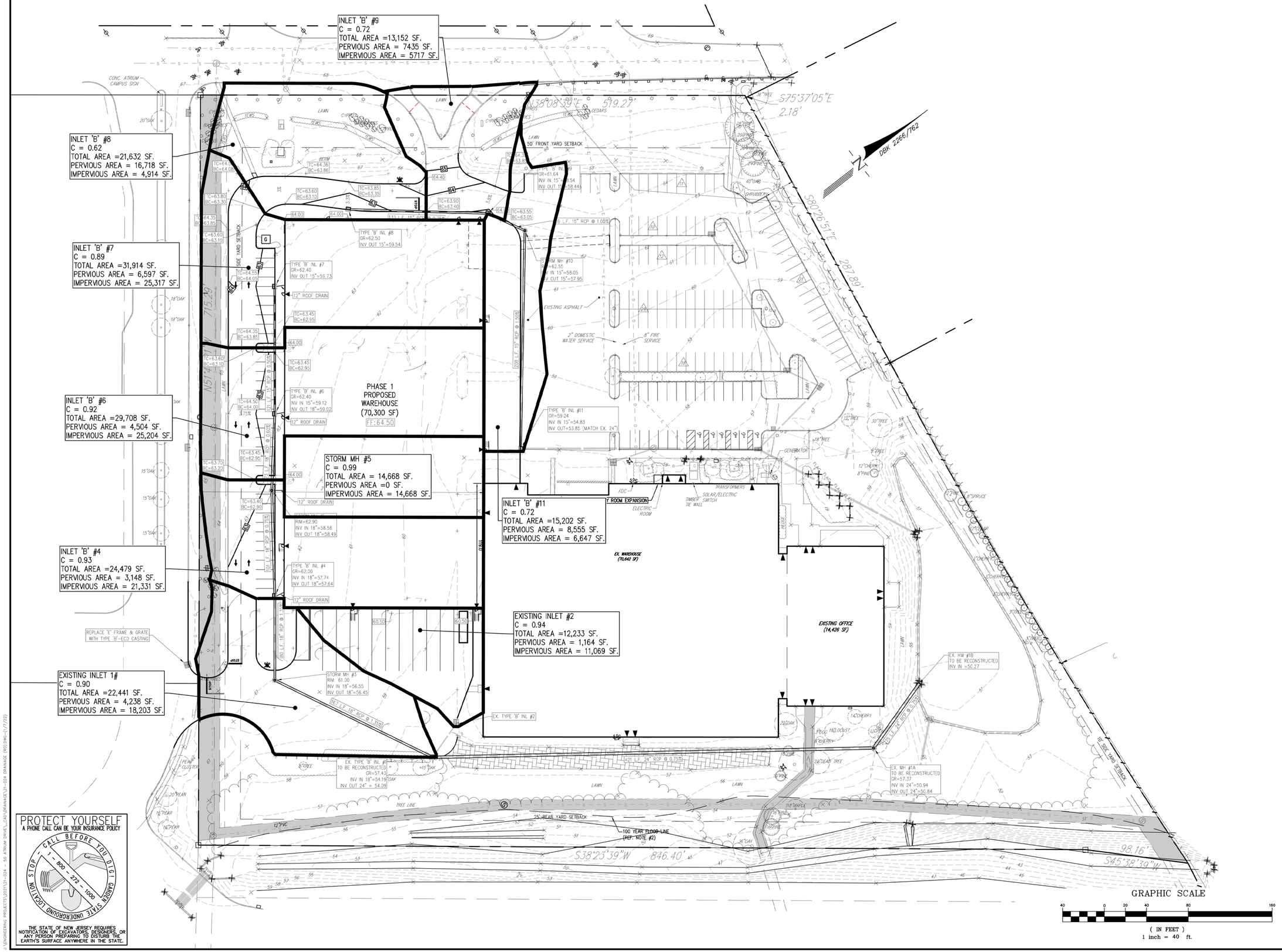
CALCULATIONS FOR STORM SEWER SYSTEM

PROJECT NAME: 50 ATRIUM DRIVE TRG #: 21-024

STORM FREQ.: 25 years PREPARED BY: AR DATE: 6-Jan-22

100-yr at d/s end

STRUCTURE from	to	AREA (acres)	C	AxC	TOTAL AxC	Tc (min.)	I (in/hr)	Q (cfs)	PIPE SIZE (in)	SLOPE (%)	CAPACITY (cfs)	FF VEL. (fps)	NOTES
	7	0.73	0.89	0.65		10	5.61	3.6					
7	6				0.65	10	5.61	3.6	15	0.50	4.6	3.7	121 lf RCP
	6	0.68	0.92	0.63		10	5.61	3.5					
6	5				1.28	10	5.61	7.2	18	0.60	8.1	4.6	73 lf RCP
	5	0.34	0.99	0.34		10	5.61	1.9					
5	4				1.61	10	5.61	9.0	18	0.75	9.1	5.1	101 lf PVC
	4	0.56	0.93	0.52		10	5.61	2.9					
4	3				2.13	10	5.61	12.0	18	1.35	12.2	6.9	80 lf RCP
3	1				2.13	10	5.61	12.0	18	1.35	12.2	6.9	167 lf RCP
	2	0.28	0.94	0.26		10	5.61	1.5					
2	1				0.26	10	5.61	1.5	15	1.00	6.5	5.3	36 lf RCP
	1	0.52	0.9	0.47		10	5.61	2.6					
1	1A				2.86	10	5.61	16.1	24	0.75	19.6	6.4	421 lf RCP
1	1A	***(100 yr Storm Check) >>>***			2.86	10	6.46	18.5	24	0.75	19.6	6.4	421 lf RCP
1A	1B	***(100 yr Storm Check) >>>***			2.86	10	6.46	18.5	24	0.75	19.6	6.4	75 lf RCP
	8	0.50	0.62	0.31		10	5.61	1.7					
8	9				0.31	10	5.61	1.7	15	0.75	5.6	4.6	133 lf RCP
	9	0.30	0.72	0.22		10	5.61	1.2					
9	10				0.53	10	5.61	3.0	15	1.00	6.5	5.3	39 lf RCP
10	11				0.53	10	5.61	3.0	15	1.50	7.9	6.4	208 lf RCP
	11	0.35	0.72	0.25		10	5.61	1.4					
11	EX. MH				0.78	10	5.61	4.4	24	0.43	14.8	4.7	124 lf RCP



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A PHONE CALL CAN BE YOUR INSURANCE POLICY

STOP - CALL BEFORE YOU DIG! - 1 - 800 - 272 - 1000 - CHARGE STATE UNDERGROUND LOCATION

THE STATE OF NEW JERSEY REQUIRES NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE.

revisions

no.	date	description

LEGEND

- GAS VALVE
- GAS METER
- WATER VALVE
- HYDRANT
- WATER METER
- CURB STOP
- FIRE DEPT. CONNECTION
- DRAINAGE MH
- CURB INLET
- LAWN INLET
- SANITARY MH
- CLEANOUT
- BOLLARD
- SIGN
- LIGHT
- MAIL BOX
- GUY WIRE
- UTILITY POLE
- ELECTRIC MH
- CONIFEROUS TREE
- DECIDUOUS TREE
- FENCE
- RAILING
- WALL
- GATE POST
- W — WATER LINE
- G — GAS LINE
- E — ELECTRIC LINE
- S — SANITARY LINE
- OH — OVERHEAD WIRES

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The Reynolds Group Inc.

State of New Jersey
Certificate of Authorization
Number 24GA27969200
21MH00004300

F. Mitchel Ardman, P.E., P.P.
Jeffrey D. Reynolds, P.L.A.

F. MITCHEL ARDMAN
N.J. PROFESSIONAL ENGINEER LIC. NO. 34317

project

50 ATRIUM DRIVE

BLOCK 468.01, LOT 24.01
FRANKLIN TOWNSHIP
SOMERSET COUNTY, NEW JERSEY

drawing title

PROPOSED STORM SYSTEM DRAINAGE AREA MAP

job number	drawing number
21-024	DA-1
scale: 1"=50'	
checked by: FMA	
drawn by: AR	
date: 01/07/22	sheet 1 of 1

N:\ENGINEERING PROJECTS\2021\21-024 - 50 ATRIUM DRIVE_CAD\DRAINAGE\21-024 DRAINAGE (R0).DWG (1/7/22)