

SEWER ENGINEER'S REPORT

Popeyes

22 Holland Avenue

CITY OF ALBANY
COUNTY OF ALBANY
STATE OF NEW YORK

Applicant: The Parikh Network

Prepared by:

Hershberg & Hershberg
Consulting Engineers and Land Surveyors

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INTRODUCTION:

Hershberg & Hershberg, Consulting Engineers and Land Surveyors, were retained by The Parikh Network (hereinafter the “Applicant”) as site engineer for the construction of a development plan to be known as Popeyes This report is to review sewage generation and transmission for the consideration of the Department of Water & Water Supply and the City of Albany Planning Board.

DESCRIPTION OF EXISTING SITE: **PARCEL AREA**

The Applicant proposes to lease a parcel from Sayville Browning Properties, Inc. The proposed lease parcel is a 0.51 acre portion of Tax Map Parcel #76.46-5-22.



Fig. No. 1 - Aerial Photo of Existing Site

PARCEL ZONING

The site lies entirely within the MU-CU: Mixed-Use, Community Urban zoning district and a CS-O, Combined Sewer Overlay District.

EXISTING USAGE

The project area is currently occupied a hotel and parking areas.

DESCRIPTION OF INTENDED SITE DEVELOPMENT AND USE

The Applicant proposes to build a 2,472+/- SF Popeyes restaurant with drive in service, which is a permitted use with a Conditional Use Permit required to accommodate the drive-In. The restaurant will accommodate 46 +/- seats. It is proposed to be open from 10:30 AM until 11:30 PM. There will be two shifts of employees, each with approximately 11 employees. Required parking at 1 space per 150 SF of NLA would be 17. Popeye will have 20 parking spaces available and bicycle parking for 3 bikes. Sewer and water connection will be made to utilities on Holland Avenue. This site can be considered a redevelopment site for stormwater purposes. USDO requirements for stormwater will be met.

EXISTING LEASE PARCEL COVERAGE STATISTICS

The existing lease parcel coverage statistics are as shown below.

Description	Area (SF)	Area (Acres)	% of site
Building	0	0.00	0
Pavement/Sidewalk	9,315	0.21	41.7
Pervious	13,023	0.30	58.3
Total Site	22,338	0.51	100.0

Fig. No. 2 - Proposed Lease Parcel Coverage Statistics

PROPOSED LEASE PARCEL COVERAGE STATISTICS

The proposed lease parcel coverage statistics are as shown below.

Description	Area (SF)	Area (Acres)	% of site
Building	2,472	0.06	11.1
Pavement/Sidewalk	13,108	0.30	58.6
Pervious	6,632	0.15	30.3
Total Site	22,338	0.51	100.0

Fig. No. 3 - Proposed Lease Parcel Coverage Statistics

SEWAGE GENERATION

Sewers are provided to the property by the Albany Water Board. The existing lease parcel currently has no building on it. To establish sewage generation, the *New York State Design Standards for Intermediate Sized Wastewater Treatment Systems (March 5, 2014)*¹ is used to compute the Average Daily Flow. Based upon 25 GPD per seat and 500 GPD per drive through lane. This results in an estimated 1,650 GPD of sewage generation, an average flow of 1.15 GPM (0.003 CFS). Peak water rate is estimated at 400% of average flow or 4.58 GPM (0.010 CFS).

SEWAGE GENERATION
22 Holland Avenue

<u>Use</u>	<u>Unit</u>	<u>Value</u>	<u>Sewage Generation Per Unit per day(GPD)</u>	<u>Daily Sewage Generation (GPD)</u>
Fast Food Restaurant	Seat	46	25	1150
	Drive Through Lane	1	500	500
TOTAL ESTIMATED WATER USE				1650
NET ESTIMATED WATER USE				1650
Average Daily Sewer Generation Increase in GPM		1.15		
Peak Sewer Generation Increase in GPM		4.58		
Average Daily Sewer Generation Increase in CFS		0.003		
Peak Sewer Generation Increase in CFS		0.010		

1) Source: NEW YORK STATE DESIGN STANDARDS FOR INTERMEDIATE SIZED WASTEWATER TREATMENT SYSTEMS. MARCH 5, 2014 Pg. B-20

Fig. No. 4 – Sewage Generation from Popeyes Project`

DOWNSTREAM SEWER CAPACITY

The average sewer generation from the site is 0.003 CFS. The peak flow at 400% would be 0.010 CFS. The proposed peak flow is tributary to the 12” VCP sewer adjoining the parcel on the south side of Holland Avenue. A portion of Sewer Atlas Sheet 057 is reproduced below.



Fig. No. 5 – Portion of Sewer Atlas Sheet 057

The 24" RCP sewer at a grade of 3.15% which will accept the discharge for sanitary sewage has a flowing full capacity of 5.53 CFS (see Computation below). The peak flow from the site at 0.010 CFS constitutes 0.18% of the capacity of the 12" sewer. This site is within the Beaver Creek Sewer District. The inclusion of a subsurface storage gallery on the site reduces peak flow to the Hackett Boulevard Sub Trunk Sewer for all storms from WQv to 100 year frequency by an amount exceeding four times the estimated peak flow.

PROJECT:	Popeyes 22 Holland Avenue							
FILE NAME:	20200233 Pipe Calc							
THE FOLLOWING, IS THE CALCULATION FOR PIPES FLOWING FULL AS STATED IN THE CHEZY-MANNING FORMULA, WHERE:								
Q MAX = DISCHARGE FOR PIPE FLOWING FULL IN C.F.S.								
n = COEFFICIENT OF ROUGHNESS								
A = CROSS SECTIONAL AREA OF FLOW IN SQUARE FEET								
R = HYDRAULIC RADIUS IN FT.								
S = SLOPE IN FT./FT.								
Vm = VELOCITY OF PIPE FLOWING FULL IN FT./SEC.								
D = PIPE DIAMETER IN INCHES								
Vp = PROJECTED VELOCITY IN FT./SEC.								
LOCATION	Q MAX	n	A	R	S	Vm	D	Vp
MH#2-MH#1	5.5278	0.015	0.785	0.250	0.0315	7.0	12	11.8
Q (in GPM)	2,484							
Q (in GPD)	3,577,258							

Fig. No. 6 – Pipe Flow Calculation for 12” VCP Sewer

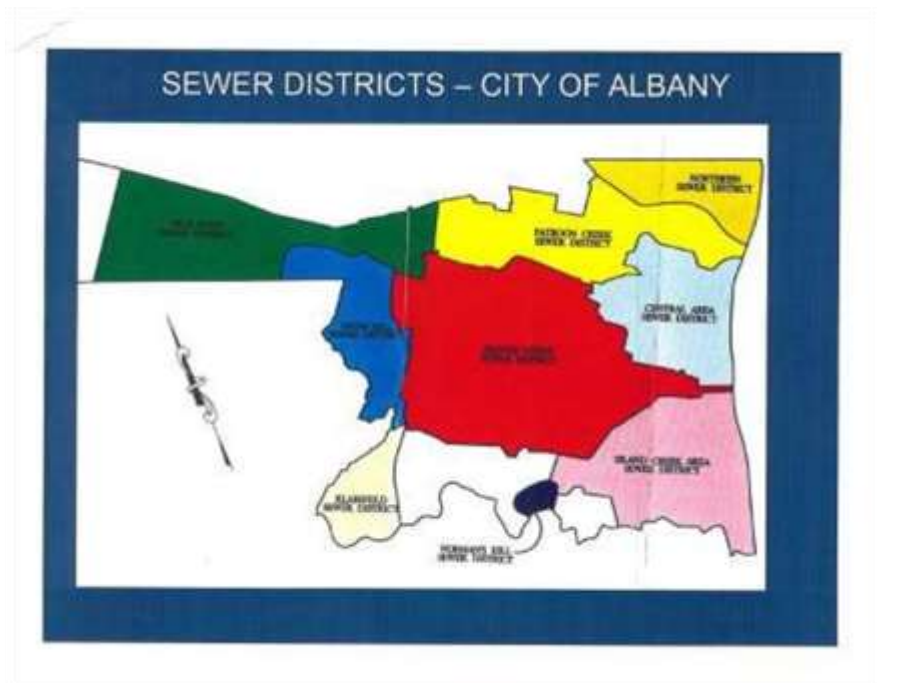
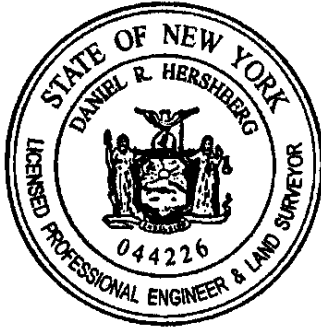


Fig. No. 7- Albany Sewer District Map

CONCLUSION:

It is the Engineer's opinion that the design proposed will adequately serve the site. The inclusion of a subsurface storage gallery on the site reduces peak flow to the Hackett Boulevard Sub Trunk Sewer for all storms from WQv to 100 year frequency by an amount exceeding four times the estimated peak flow. The sanitary sewage discharge meets the COMBINED SEWER OVERFLOW BEST MANAGEMENT PRACTICES.



Prepared by:

A handwritten signature in black ink, appearing to read "D. Hershberg", written over a horizontal line.

HERSHBERG & HERSHBERG
Daniel R. Hershberg, P.E. & L.S.

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