

# **WATER ENGINEER'S REPORT**

## **90 State Street Apartment Conversion**

### **90 State Street**

CITY OF ALBANY  
COUNTY OF ALBANY  
STATE OF NEW YORK

**Applicant: Harmony Mill South, LLC**

Prepared by:

Hershberg & Hershberg  
Consulting Engineers and Land Surveyors  
18 Locust Street  
Albany, NY 12203-2908  
(518) 459-3096  
Fax (518) 459-5683  
[hhershberg@aol.com](mailto:hhershberg@aol.com)

October 31, 2017

## **INTRODUCTION:**

Hershberg & Hershberg, Consulting Engineers and Land Surveyors, were retained by Harmony Mill South, LLC (hereinafter the "Applicant") to review water usage of the proposed 90 State Street Apartment Conversion. This report is for the consideration of the Department of Water & Water Supply and the City of Albany Planning Board.

## **DESCRIPTION OF EXISTING SITE:**

### **PARCEL AREA**

The existing parcel is Tax Map Parcel #76.42-1-5 listed as No. 90 State Street with a site area of 16,976 SF or 0.39 Acres.

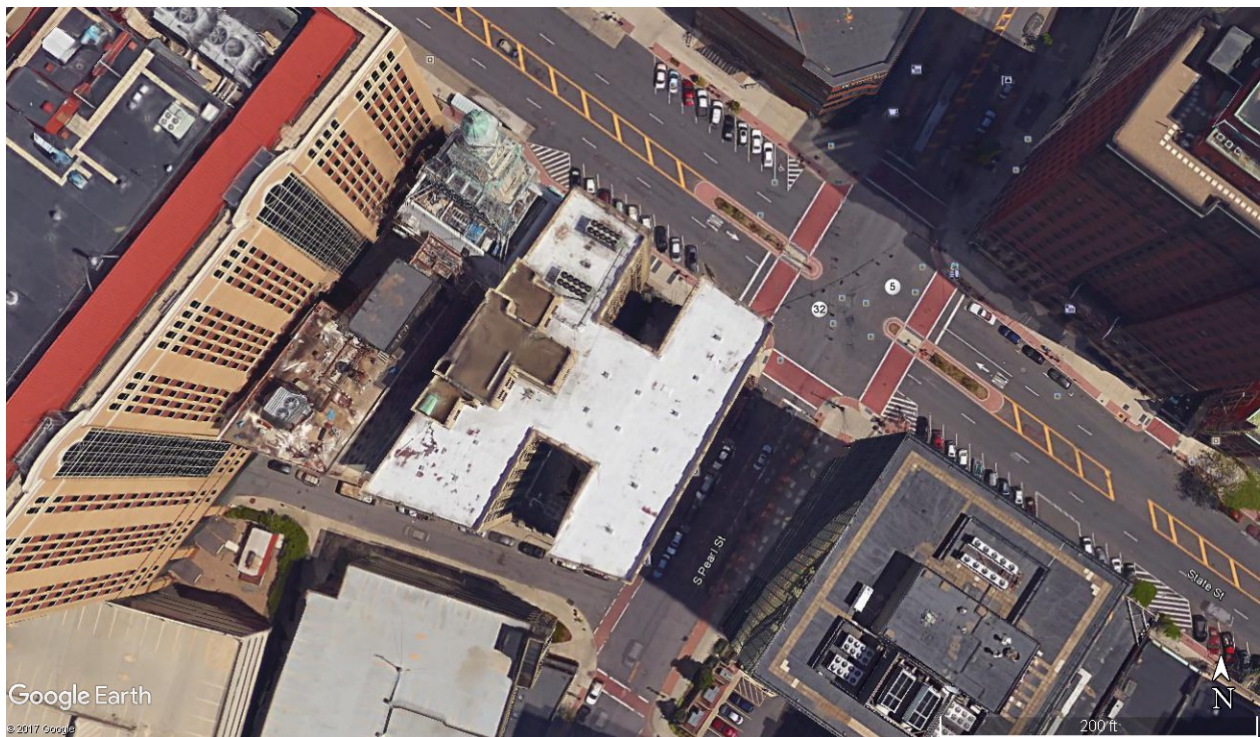


Fig. No. 1 - Aerial Photo of Site

## **DESCRIPTION OF INTENDED SITE DEVELOPMENT AND USE**

Under the current application the Applicant is proposing to convert floors 4 through 12, 14 & 15 from office space to 154 apartments which would have 176 bedrooms. The existing uses on the Ground floor through the 3<sup>rd</sup> floor will remain. They include a banquet hall, fast food, retail, personal services and offices as outlined in Figure No. 2 below.

## **POTABLE WATER USE**

To establish the water use for the site as previously occupied, water records would not be appropriate since 90 State Street has not been at full occupancy for a number of years. Instead usage from *New York State Design Standards for Intermediate Sized Wastewater Treatment Works* are computed. These figures are included in in Figure No. 2 below and tend to be conservative. The estimated potable water requirement from the building at full occupancy as currently configured is 20,241 GPD. This project is estimated potable water requirement after conversion is 24,646 GPD. See Fig. No. 2 below. The residential water use is based (based upon 110 GPD per Bed in Apartment Units<sup>1</sup>). Water service is currently provided to the property by the Albany Water Board through a 4" water service from Howard Street. Average water use prior to conversion is estimated at 14.1 GPM. Peak water use prior to conversion is estimated at 450% of average demand or 63.5 GPM. Average water use after conversion is estimated at 17.1 GPM. Peak water use after conversion is estimated at 450% of average demand or 77.0 GPM. Based upon Peak Flow, the increase in 13 GPM which is de minimis given the capacity of the system.

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<sup>1</sup> New York State Design Standards for Intermediate Sized Wastewater Treatment Works, NYSDEC.  
March 5, 2014

Potable Water Usage  
90 State Street Apartment Conversion

Floor/Use	Area/SF	Basis (unit per SF)	Unit	Value	Water Use Per Unit per day(GPD) See Note 1	Water Use (GPD)
<b>Existing Condition</b>						
Ground Floor, Fast Food	1946	0.02	Seats	39	25	975
Ground Floor, Personal Service	3583	0.00667	Employee	24	15	360
Ground Floor, Retail	4910	0.00333	Employee	16	15	240
Ground Floor, Office	760	0.00667	Worker	5	25	125
First Floor, Fast Food	720	0.02	Seats	14	25	350
First Floor, Retail	3583	0.00333	Employee	12	15	180
First Floor, Banquet (see Note 3)	17984	0.01333	Seats	240	10	2400
Floor 2 - Office	4242	0.00667	Worker	28	15	424
Floor 3 - Office	2321	0.00667	Worker	15	15	232
Floor 4 - Office	15999	0.00667	Worker	107	15	1,605
Floor 5-12, 14 & 15 Office	133490	0.00667	Worker	890	15	<u>13,350</u>
Total Estimated Existing Water Use at Full Occupancy						<b>20241</b>
<b>Proposed Condition</b>						
Ground Floor, Fast Food	1946	0.02	Seats	39	25	975
Ground Floor, Personal Service	3583	0.00667	Employee	24	15	360
Ground Floor, Retail	4910	0.00333	Employee	16	15	240
Ground Floor, Office	760	0.00667	Worker	5	25	125
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Floor 2 - Office	4242	0.00667	Worker	28	15	424
Floor 3 - Office	2321	0.00667	Worker	15	15	232
Floor 4-12, 14 & 15 Residential			Bedroom	176	110	<u>19,360</u>
Total Estimated Existing Water Use at Full Occupancy						<b>24646</b>

- 1) Source: New York State Design Standards for Intermediate Sized Wastewater Treatment Works, NYSDEC, March 5, 2014  
 2) Sewage Generation is equivalent to potable water use  
 3) Banquet Use includes 3,792 SF on Second Floor and 14,192 SF on First Floor

Fig. No. 2 – Potable Water Usage`

**WATER SYSTEM**

The total water treated in 2016 at the Feura Bush Water Filtration Plant was 6,668,938,544 gallons. The daily water production averaged 18,275,788 gallons, with maximum daily production of 24,202,080 gallons. The capacity of this treatment plant is 32,000,000 GPD. The 24,646 GPD peak flow after conversion represents an insignificant portion of 0.1% of the average daily

water production. The increase use 4,405 GPD represents an insignificant portion of 0.01% of the average daily water production.

The Albany Water Board maintains water service to this site by way of an 8 inch main in Howard Street constructed in 1988 to which the 4 inch service is connected as shown in an excerpt from Sheet 107 of the Water Atlas which reproduced below. Also available adjoining the site is a 12 inch main in South Pearl Street constructed in 1906 and an 12 inch main in State Street constructed in 1988.

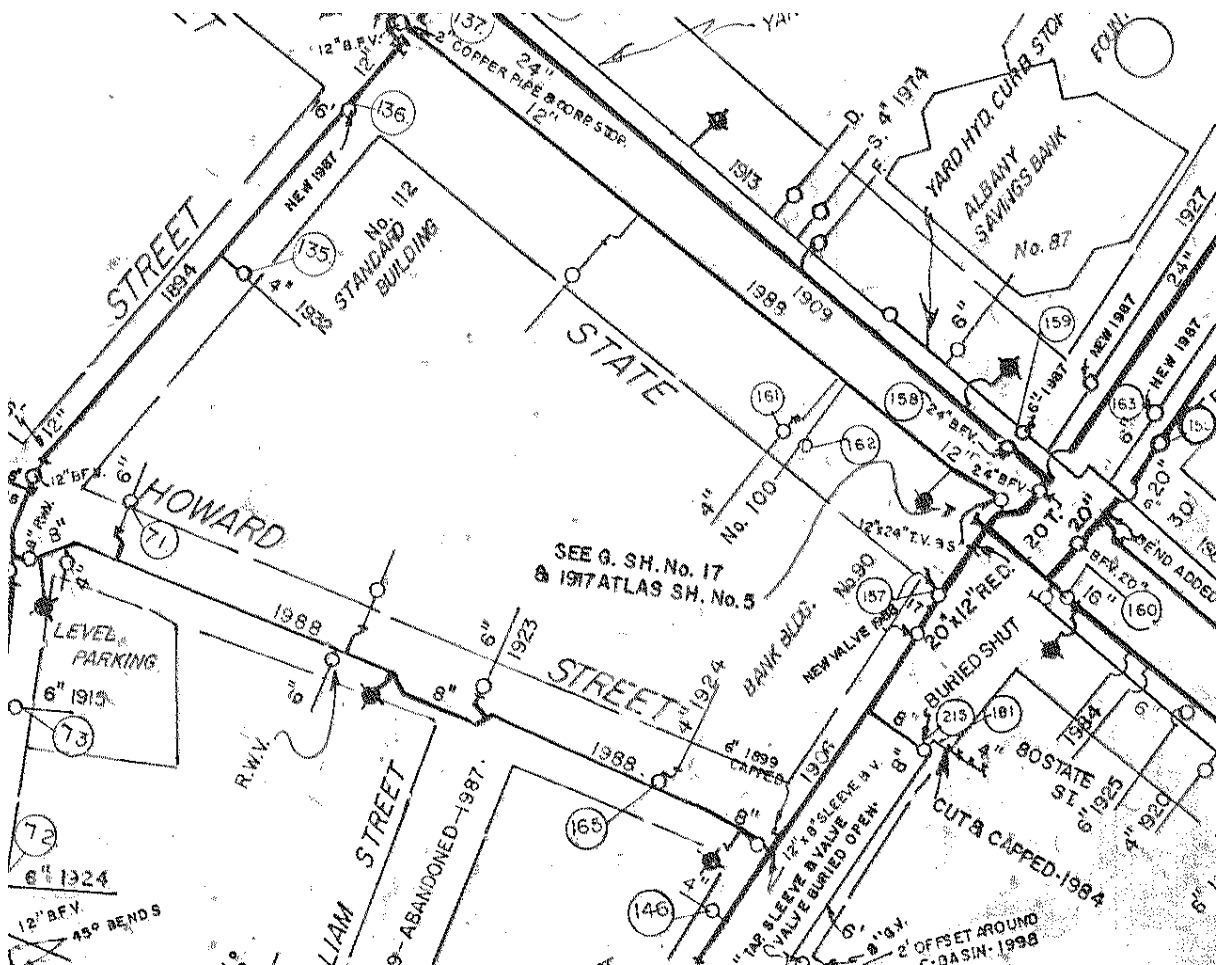


Fig. No. 3 – Portion of Water Atlas Sheet 107

## **FIRE PROTECTION**

There is a hydrant located near the front entrance of the building on State Street. Another hydrant is on the opposite side of Howard Street. The existing fire protection system has a 10,000 gallon storage tank on the roof and three standpipes fed from fire department connections at grade. One is located on on State Street, one on South Pearl Street and one on Howard Street. See Plan in Appendix A. A fire protection system will be designed for the converted floors and will be reviewed with fire officials and the Department of water & Water Supply.

## **CONCLUSION:**

It is the Engineer's opinion that this project can be served by existing public water system with no negative impact on the existing system.



Prepared by:

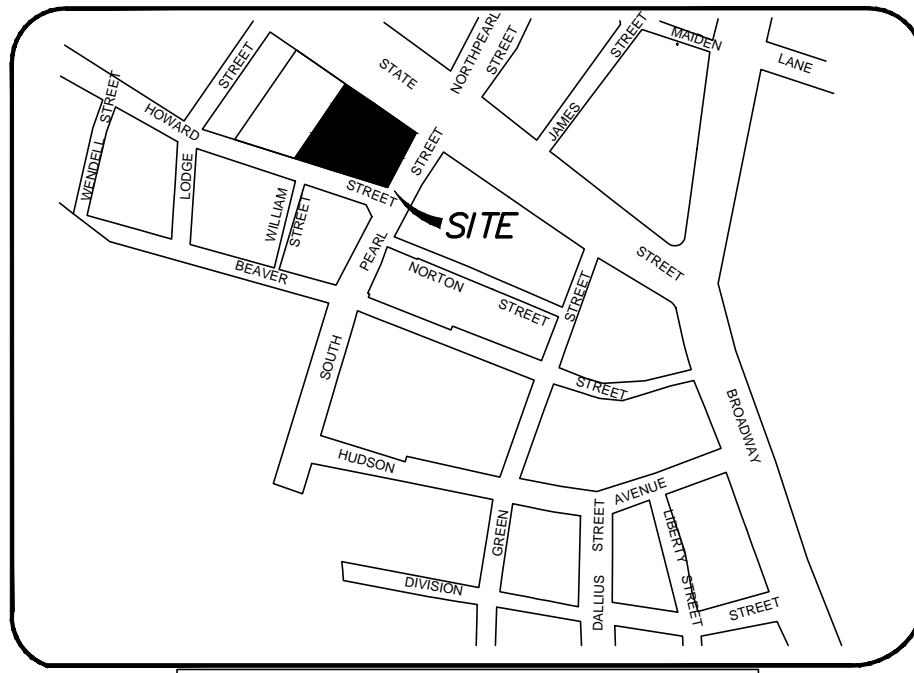
A handwritten signature in black ink, appearing to read "D. Hershberg", written over a horizontal line.

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

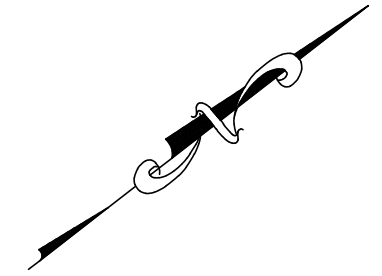
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**APPENDIX A**

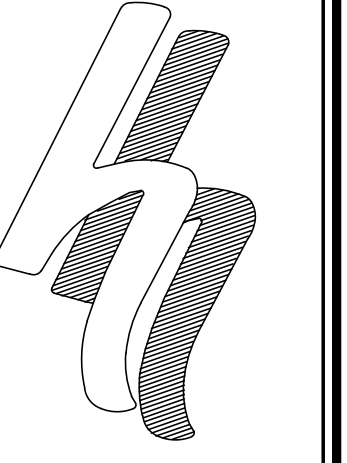
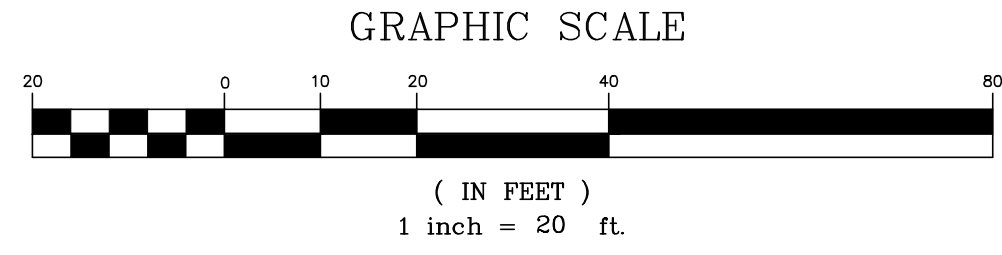
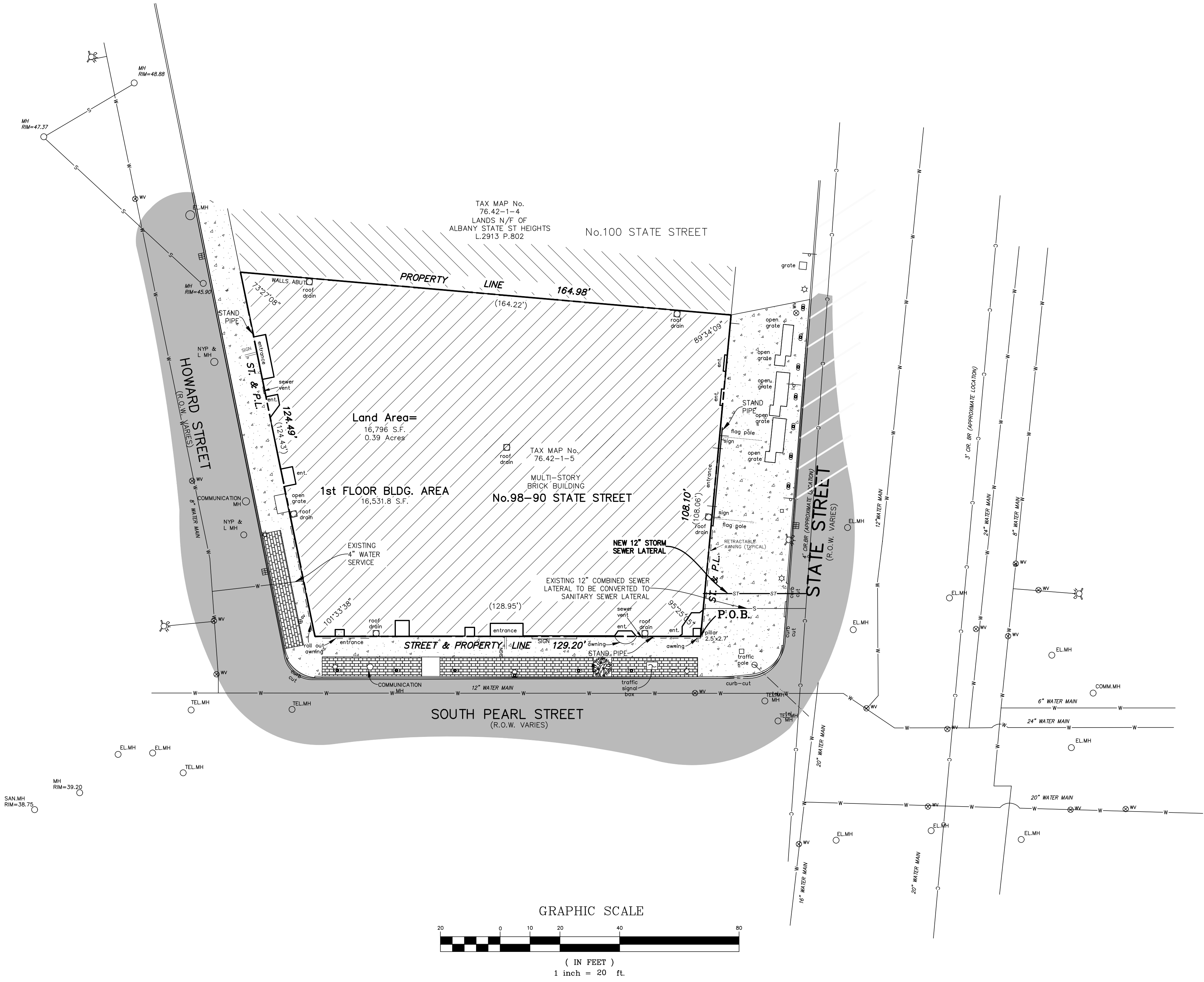
**EXISTING CONDITIONS AND SEWER CONNECTION  
PERMIT PLAN**



**SITE LOCATION MAP**  
MAP NOT TO SCALE



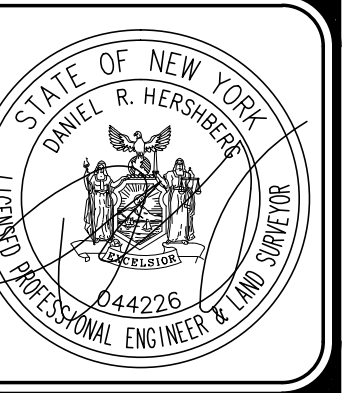
LEGEND			
R.O.W.	RIGHT OF WAY	○	PARKING METER
No.	NUMBER	○	MANHOLE
P.O.B.	POINT OF BEGINNING	⊞	CATCHBASIN
S.F.	SQUARE FEET	—	SIGN
N/F	NOW OR FORMERLY	—	OVERHEAD WIRE, UTILITY POLE & GUY WIRE
N	NORTH	☆	LIGHT POLE
S	SOUTH	⊙	WATER VALVE
E	EAST	⊙	GAS VALVE
W	WEST	⊙	HYDRANT
L	LIBER	□	ROOF DRAIN
P	PAGE	▨	CONCRETE
☆	STREET LIGHT	▨	PAVEMENT
		▨	PAVERS



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ALTERATION OF THIS DOCUMENT EXCEPT BY A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, IS ILLEGAL.



DATE	REMARKS	REVISIONS

**EXISTING CONDITIONS AND SEWER CONNECTION PERMIT PLAN**  
No. 90 STATE STREET  
CITY OF ALBANY, NEW YORK STATE  
COUNTY OF ALBANY, NEW YORK STATE

FILE: 170316    SCALE: 1"=20'    DATE: 9/22/17    CHK: DRH    170316-1.DWG

FOR MUNICIPAL APPROVAL ONLY-NOT INTENDED FOR CONSTRUCTION

**C1**