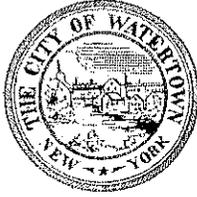


Stewart's

508 Mill St.

Stewart's Shops is proposing to construct a 3,384 square foot convenience store with a 20' x 84' canopy with three gas pumps. The existing structure will be demolished once the new shop is open.

There will be 17 parking spaces, improved landscaping and better interior flow of the lot.



1869

**CITY OF WATERTOWN
SITE PLAN WAIVER
AND
SHORT ENVIRONMENTAL
ASSESSMENT FORM, PART 1**

** Provide responses for all sections. INCOMPLETE APPLICATIONS WILL NOT BE PROCESSED. Failure to submit required information by the submittal deadline will result in **not** making the agenda for the upcoming Planning Board meeting.

PROPERTY LOCATION

Proposed Project Name: Stewart's Shop #436
Tax Parcel Number: 3-03-406
Property Address: 508 Mill St.
Existing Zoning Classification: Commercial

OWNER OF PROPERTY

Name: Stewart's Shops Corp.
Address: P.O. Box 435
Saratoga Springs, NY 12866
Telephone Number: 518-581-1201 x4415
Fax Number: 518-581-1209

APPLICANT

Name: owner
Address: _____

Telephone Number: _____
Fax Number: _____
Email Address: _____

ENGINEER / ARCHITECT / LAND SURVEYOR

Name: Larry Rutland
Address: P.O. Box 171
Middle Grove, NY 12850
Telephone Number: _____
Fax Number: _____
Email Address: _____

PROJECT DESCRIPTION

Describe project and proposed use briefly:

Construct a 3,384 sq ft. conv. store w/ 20'x84' canopy with three gas pumps. demolish existing structure upon construction of new building.

Proposed building area: 1st Floor 3,384 Sq. Ft.
2nd Floor _____ Sq. Ft.
3rd Floor _____ Sq. Ft.
Total _____ Sq. Ft.

Area of building to be used for the boiler room, heat facilities, utility facilities and storage: 495 Sq. Ft.

Number of parking spaces proposed: 17

Construction Schedule: 16 wks to be detailed upon approval

Hours of Operation: 5 am - 12 am

Volume of traffic to be generated: existing shop ADT

REQUIRED DRAWINGS:

** The following drawings with the listed information **ARE REQUIRED, NOT OPTIONAL**. If the required information is not included and/or addressed, the Site Plan Application will **not** be processed.

ELECTRONIC COPY OF ENTIRE SUBMISSION (PDF preferred)

SITE PLAN SKETCH

Pertinent existing above ground features are shown and labeled including, but not limited to, buildings, parking spaces, driveways, sidewalks, streets etc.

All proposed above ground features are shown and clearly labeled "proposed".

Land use, zoning, & tax parcel number are shown.

The Plan is adequately dimensioned including radii.

All vehicular & pedestrian traffic circulation is shown.

Proposed parking & loading spaces including ADA accessible spaces are shown and labeled.

Refuse Enclosure Area (Dumpster), if applicable, is shown. Section 161-19.1 of the Zoning Ordinance states, "No refuse vehicle or refuse container shall be parked or placed within 15 feet of a party line without the written consent of the adjoining owner, if the owner occupies any part of the adjoining property".

The north arrow & graphic scale are shown.

GENERAL INFORMATION

Signage will not be approved as part of this submission. It requires a sign permit from the Codes Department. See Section 310-52.2 of the Zoning Ordinance.

Plans have been collated and properly folded.

Explanation for any item not checked in the Site Plan Waiver Checklist. (Attach separate sheet with explanation and comments)

SIGNATURE

I certify that the information provided above is true to the best of my knowledge.

Applicant (please print)

Jennifer L Howard

Applicant Signature

Jennifer B Howard Date: 4/22/13



1869

**CITY OF WATERTOWN
SITE PLAN APPLICATION
AND
SHORT ENVIRONMENTAL
ASSESSMENT FORM, PART 1**

** Provide responses for all sections. INCOMPLETE APPLICATIONS WILL NOT BE PROCESSED. Failure to submit required information by the submittal deadline will result in **not** making the agenda for the upcoming Planning Board meeting.

PROPERTY LOCATION

Proposed Project Name: Stewart's Shop #436
Tax Parcel Number: 3-03-406
Property Address: 308 Mill St.
Existing Zoning Classification: Commercial

OWNER OF PROPERTY

Name: Stewart's Shops Corp.
Address: PO Box 435
Saratoga Springs, NY 12866
Telephone Number: 518-581-1201 x4415
Fax Number: 518-581-1209

APPLICANT

Name: owner
Address: _____

Telephone Number: _____
Fax Number: _____
Email Address: _____

ENGINEER/ARCHITECT/SURVEYOR

Name: Larry Rutland
Address: PO Box 171
Middle Grove, NY 12850
Telephone Number: _____
Fax Number: _____
Email Address: _____

PROJECT DESCRIPTION

Describe project and proposed use briefly:

construct a 3384 sq ft conv store
w/ 20' x 84' canopy with three gas pumps.
demolish existing structure upon
construction of new building.

Is proposed Action:

- New Expansion Modification/Alteration

Amount of Land Affected:

Initially: .6227 Acres Ultimately: .6227 Acres

Will proposed action comply with existing zoning or other existing land use restrictions?

- Yes No If no, describe briefly

What is present land use in vicinity of project?

- Residential Industrial Commercial Agriculture
 Park/Forest/Open Space Other

Describe: _____

Does project involve a permit approval, or funding, now or ultimately from any other Governmental Agency (Federal, State or Local)?

- Yes No If yes, list agency(s) and permit/approval(s)

Planning Board - site plan, City PDW - curb cuts

Does any aspect of the project have a currently valid permit or approval?

- Yes No If yes, list agency(s) and permit/approval(s)

Planning Board - site plan, _____

As a result of proposed project, will existing permit/approval require modification?

Yes No

Proposed number of housing units (if applicable): na

Proposed building area: 1st Floor 3,384 Sq. Ft.
2nd Floor _____ Sq. Ft.
3rd Floor _____ Sq. Ft.
Total _____ Sq. Ft.

Area of building to be used for the boiler room, heat facilities, utility facilities and storage: 495 Sq. Ft.

Number of parking spaces proposed: 17

Construction Schedule: 16 wks to be detailed upon approval

Hours of Operation: 5 am - 12 am

Volume of traffic to be generated: existing shop ADT

SIGNATURE

I certify that the information provided above is true to the best of my knowledge.

Applicant (please print) Jennifer L Howard

Applicant Signature Jennifer L Howard Date: 4/22/13

OPTIONAL DRAWINGS:

- PROVIDE AN ELECTRONIC (.DWG) COPY OF THE SITE PLAN WITH AS-BUILT REVISIONS. This will assist the City in keeping our GIS mapping up-to-date.**

REQUIRED DRAWINGS:

** The following drawings with the listed information **ARE REQUIRED, NOT OPTIONAL**. If the required information is not included and/or addressed, the Site Plan Application will **not** be processed.

- ELECTRONIC COPY OF ENTIRE SUBMISSION** (PDF preferred)
- BOUNDARY & TOPOGRAPHIC SURVEY**
(Depict existing features as of the date of the Site Plan Application. This Survey and Map must be performed and created by a Professional Land Surveyor licensed and currently registered to practice in the State of New York. This Survey and Map must be stamped and signed with an original seal and signature on at least one copy, the rest may be copies thereof.)
 - All elevations are National Geodetic Vertical Datum of 1929 (NGVD29).
 - 1' contours are shown & labeled with appropriate spot elevations.
 - All existing features on and within 50 feet of the subject property are shown and labeled.
 - All existing utilities on and within 50 feet of the subject property are shown and labeled.
 - All existing easements and/or right-of-ways are shown and labeled.
 - Existing property lines (bearings & distances), margins, acreage, zoning, existing land use, reputed owner, adjacent reputed owners & tax parcel numbers are shown and labeled.
 - The north arrow & graphic scale are shown.
- DEMOLITION PLAN** (If Applicable)
 - All existing features on and within 50 feet of the subject property are shown and labeled.
 - All items to be removed are labeled in darker text.

SITE PLAN

- All proposed above ground features are depicted and clearly labeled.
- All proposed features are clearly labeled "proposed".
- All proposed easements & right-of-ways are shown and labeled.
- Land use, zoning, & tax parcel number are shown.
- The Plan is adequately dimensioned including radii.
- The line work & text for all proposed features is shown darker than existing features.
- All vehicular & pedestrian traffic circulation is shown including a delivery or refuse vehicle entering and exiting the property.
- Proposed parking & loading spaces including ADA accessible spaces are shown and labeled.
- Refuse Enclosure Area (Dumpster), if applicable, is shown. Section 161-19.1 of the Zoning Ordinance states, "No refuse vehicle or refuse container shall be parked or placed within 15 feet of a party line without the written consent of the adjoining owner, if the owner occupies any part of the adjoining property".
- The north arrow & graphic scale are shown.

GRADING PLAN

- All proposed below ground features including elevations & inverts are shown and labeled.
- All proposed above ground features are shown and labeled.
- The line work & text for all proposed features is shown darker than existing features.
- All proposed easements & right-of-ways are shown and labeled.
- 1' existing contours are shown dashed & labeled with appropriate spot elevations.
- 1' proposed contours are shown & labeled with appropriate spot elevations.
- All elevations are National Geodetic Vertical Datum of 1929 (NGVD29).

- Sediment & Erosion control are shown & labeled on the grading plan unless separate drawings have been provided as part of a Stormwater Pollution Prevention Plan (SWPPP).

UTILITY PLAN

- All proposed above & below ground features are shown and labeled.
- All existing above & below ground utilities including sanitary, storm water, water, electric, gas, telephone, cable, fiber optic, etc. are shown and labeled.
- All proposed easements & right-of-ways are shown and labeled.
- The Plan is adequately dimensioned including radii.
- The line work & text for all proposed features is shown darker than existing features.
- The following note has been added to the drawings stating, "All water main and service work must be coordinated with the City of Watertown Water Department. The Water Department requirements supersede all other plans and specifications provided."

LANDSCAPING PLAN

- All proposed above ground features are shown and labeled.
- All proposed trees, shrubs, and other plantings are shown and labeled.
- All proposed landscaping & text are shown darker than existing features.
- All proposed landscaping is clearly depicted, labeled and keyed to a plant schedule that includes the scientific name, common name, size, quantity, etc.
- For additional landscaping requirements where nonresidential districts and land uses abut land in any residential district, please refer to Section 310-59, Landscaping of the City's Zoning Ordinance.
- Site Plan complies with and meets acceptable guidelines set forth in Appendix A - Landscaping and Buffer Zone Guidelines (August 7, 2007).**

PHOTOMETRIC PLAN (If Applicable)

- All proposed above ground features are shown.
- Photometric spot elevations or labeled photometric contours of the property are clearly depicted. Light spillage across all property lines shall not exceed 0.5 foot-candles.

CONSTRUCTION DETAILS & NOTES

- All details and notes necessary to adequately complete the project including, but not limited to, landscaping, curbing, catch basins, manholes, water line, pavement, sidewalks, trench, lighting, trash enclosure, etc. are provided.
- Maintenance & protection and traffic plans & notes for all required work within City streets including driveways, water laterals, sanitary laterals, storm connections, etc. are provided.
- The following note must be added to the drawings stating:
"All work to be performed within the City of Watertown margin will require sign-off from a Professional Engineer, licensed and currently registered to practice in the State of New York, that the work was built according to the approved site plan and applicable City of Watertown standards. Compaction testing will be required for all work to be performed within the City of Watertown margin and must be submitted to the City of Watertown Codes Department."

PRELIMINARY ARCHITECTURAL PLANS (If Applicable)

- Floor plan drawings, including finished floor elevations, for all buildings to be constructed are provided.
- Exterior elevations including exterior materials and colors for all buildings to be constructed are provided.
- Roof outline depicting shape, slope and direction is provided.

ENGINEERING REPORT

**** The engineering report at a minimum includes the following:**

- Project location
- Project description
- Existing & proposed sanitary sewer flows & summary
- Water flows & pressure
- Storm Water Pre & Post Construction calculations & summary
- Traffic impacts
- Lighting summary
- Landscaping summary

GENERAL INFORMATION

ALL ITEMS ARE STAMPED & SIGNED WITH AN ORIGINAL SIGNATURE BY A PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR SURVEYOR LICENSED AND CURRENTLY REGISTERED TO PRACTICE IN THE STATE OF NEW YORK.

If required, a copy of the Stormwater Pollution Prevention Plan (SWPPP) submitted to the NYSDEC will also be sent to the City of Watertown Engineering Department.

** If required, a copy of all submittals sent to the New York State Department of Environmental Conservation (NYSDEC) for the sanitary sewer extension permit will also be sent to the City of Watertown Engineering Department.

** If required, a copy of all submittals sent to the New York State Department of Health (NYSDOH) will also be sent to the City of Watertown Engineering Department.

** When NYSDEC or NYSDOH permitting is required, the property owner/applicant shall retain a licensed Professional Engineer to perform inspections of the proposed utility work and to certify the completed works were constructed in substantial conformance with the approved plans and specifications.

Signage will not be approved as part of this submission. It requires a sign permit from the Codes Department. See Section 310-52.2 of the Zoning Ordinance.

Plans have been collated and properly folded.

If an applicant proposes a site plan with multiple buildings and any of those buildings front on a private drive, the City Council will name the private drive by resolution and the building(s) will be given an address number on that private drive by City staff. The applicant may propose a name for the private drive for the City Council's consideration.

Proposed Street Name: _____

Explanation for any item not checked in the Site Plan Checklist.

All missing information will be submitted once updated survey is completed.

**Engineering Report
Stewart's Shops Corp.
508 Mill Street
Watertown, N.Y.
Shop # 436**

April 19, 2013



Reviewed by L.H. Rutland Jr. P.E.

Stewart's Shops Corp. is proposing a redevelopment of the site located at 508 Mill Street. Stewart's Shops Corp. is proposing to construct a 3,384 convenience store with gas behind the current convenience store. After the new store is opened the existing shop will be razed to allow for the construction of a 20'x84' gas canopy and underground fuel storage tanks. The project will include the replacement of concrete curbing and sidewalks along the entire frontages of the site. Lighting on the site will be replaced with LED light fixtures.

The sanitary flows are projected to increase from approximately 300 gallons a day to 450 gallons a day due to the addition of a customer access bathroom.

The water usage is estimated to be 475 gallons per day with a peak day usage of 600 gpd and 27,500 gallons per year. The current 3/4 inch service is adequate for the usage.

Stormwater Pre & Post Construction calculations and summary:

10 year storm	Pre Construction 0.673 cfs	Post Construction 0.790 cfs
25 year storm	Pre Construction 0.808 cfs	Post Construction 0.948 cfs
50 year storm	Pre Construction 0.941 cfs	Post Construction 1.106 cfs
100 year storm	Pre Construction 1.032 cfs	Post Construction 1.213 cfs

A comparison was made of the runoff volume before and after construction of the site located at 508 Mill Street, Watertown, NY. This comparison shows that the redevelopment of the site will increase the volume of stormwater generated by this site. The 4 proposed drywells will be able to receive all the existing stormwater along with the additional that will be created by this project. Therefore this redevelopment will not have any negative impact on the combined sanitary sewer system.

The reconstruction of the site will only generate temporary traffic impacts during the replacement of the concrete curb and sidewalks located at the city margin line. Since the site currently occupies a convenience store no traffic impacts are expected after construction. The access of the site will be improved due to the elimination of curb cuts. The site currently has 2 curb cuts on Mill Street and 2 curb cuts on East Main Street. The redevelopment of the site proposes the elimination of 1 curb cut on each street.

The lighting on the site will be upgraded to LED wall lights, pole lights, recessed soffit and canopy lights. There will be 2 wall lights, 2 pole lights, 6 canopy lights, and 7 soffit lights.

The proposed redevelopment will require the removal of 3 mature trees, 2 of which have decay. We are proposing to preserve the 40" diameter Chinkapin Oak that is located on the south side of the site. The proposed landscaping incorporates street trees, evergreen trees, and a variety of perennial flowers. The proposed project and landscaping will significantly enhance the appearance of the site.

**Stormwater Calculations
Stewart's Shops Corp.
508 Mill Street
Watertown, N.Y.
Shop # 436**

April 19, 2013



Reviewed by L.H. Rutland Jr. P.E.

INTRODUCTION

Stewart's Shops Corp. is proposing a redevelopment of the site located at 508 Mill Street. Stewart's Shops Corp. is proposing to construct a 3,384 convenience store with gas behind the current convenience store. After the new store is opened the existing shop will be demolished to allow for the construction of a 20'x84' gas canopy.

Site Characteristics:

Total Area: 0.708 acres

Topography: Slopes South to North

Pre-Development Area Descriptions and Discharge Points:

This section describes the pre-development (existing) storm water system. There are 3 pre-development watershed areas. Watershed 1 drains approximately 7,425 sq. ft. of roof and asphalt to a catch basin on the northwest side of the lot. Watershed 2 drains approximately 10,202 of roof and asphalt to a catch basin on the southwest side on the lot. Watershed 3 drains approximately 9,437 sq. ft. of greenspace to which remains onsite. The catch basins located in watersheds 1 and 2 have an unrestricted discharge into the City of Watertown's combined sanitary sewer system.

Post Development Area Descriptions and Discharge Points:

This section describes the proposed post-development storm water system. There are 5 post-development drainage areas. Watershed 1 drains approximately 3,838 sq. ft. of roof and greenspace into a proposed drywell located on the northeast side of the lot. Watershed 2 drains approximately 2,106 sq. ft. of roof into a proposed drywell on the southeast side of the lot. Watershed 3 drains approximately 5,828 sq. ft. of asphalt into 2 proposed catch basins on the northwest side of the lot that is piped to a proposed drywell. Watershed 4 drains approximately 4,491 sq. ft. of canopy and asphalt into a proposed catch basin on the west side of the lot that is piped to a proposed drywell. Watershed 5 drains approximately 8,324 sq. ft. of asphalt into proposed catch basins on the south side of the lot which are pipe into a proposed drywell.

Stewart's Shops Corp. is proposing 5 new catch basins that are tied into 4 new 6' diameter drywells as shown on the grading plan. This will intercept a majority of the water before it gets into Mill and East Main Street's. All the catch basins are piped to drywells that have an overflow into the existing catch basin located along the curb edge of Mill Street. Below you will find the Stormwater Calculations showing a comparison between the existing runoff and the proposed runoff. The Rational Formula was used for the comparison.

STORM DRAINAGE COMPUTATIONS

Assumptions:

Data taken from the NYSDEC Technical Paper 40

10 year storm = 1.50 inches per hour = Intensity

25 year storm = 1.80 inches per hour = Intensity

50 year storm = 2.10 inches per hour = Intensity

100 year storm = 2.30 inches per hour = Intensity

Rational Formula

$$Q = CIA$$

Q = Quality

C = Coefficient of runoff

I = Intensity

A = Acreage

Runoff Coefficients:

Building = 1.0

Concrete = 1.0

Asphalt = 0.95

Green space = 0.30

10 YEAR STORM EVENT

PRE-DEVELOPMENT

Total Site Area:	0.622 acres	27,064 sq. ft.	
Building			
1,832 sq. ft.	$Q = 1.0 \times 1.50 \times 0.042 =$	0.063	CFS
Concrete			
716 sq. ft.	$Q = 1.0 \times 1.50 \times 0.017 =$	0.026	CFS
Asphalt			
14,766 sq. ft.	$Q = 0.95 \times 1.50 \times 0.339 =$	0.483	CFS
Green Area			
9,750 sq. ft.	$Q = 0.30 \times 1.50 \times 0.224 =$	0.101	CFS
Total:			0.673 CFS

POST-DEVELOPMENT

Total Site Area:	0.622 acres	27,064 sq. ft.	
Building			
3,384 sq. ft.	$Q = 1.0 \times 1.50 \times 0.078 =$	0.117	CFS
Concrete			
3,571 sq. ft.	$Q = 1.0 \times 1.50 \times 0.082 =$	0.123	CFS
Asphalt			
15,296 sq. ft.	$Q = 0.95 \times 1.50 \times 0.351 =$	0.500	CFS
Green Area			
4,813 sq. ft.	$Q = 0.30 \times 1.50 \times 0.111 =$	0.050	CFS
Total:			0.790 CFS

Post development – Predevelopment = $0.790 \text{ CFS} - 0.673 \text{ CFS} = 0.117 \text{ CFS} \times 60 \text{ sec. per min} \times 60 \text{ min per hour} = 421 \text{ cubic feet runoff}$. During a 10 year storm event the proposed site development will produce 421 cubic feet more stormwater than existing.

25 YEAR STORM EVENT

PRE-DEVELOPMENT

Total Site Area: 0.622 acres 27,064 sq. ft.

Building
1,832 sq. ft. $Q = 1.0 \times 1.80 \times 0.042 = 0.076$ CFS

Concrete
716 sq. ft. $Q = 1.0 \times 1.80 \times 0.017 = 0.013$ CFS

Asphalt
14,766 sq. ft. $Q = 0.95 \times 1.80 \times 0.339 = 0.580$ CFS

Green Area
9,750 sq. ft. $Q = 0.30 \times 1.80 \times 0.224 = 0.121$ CFS

Total: 0.808 CFS

POST-DEVELOPMENT

Total Site Area: 0.622 acres 27,064 sq. ft.

Building
3,384 sq. ft. $Q = 1.0 \times 1.80 \times 0.078 = 0.140$ CFS

Concrete
3,571 sq. ft. $Q = 1.0 \times 1.80 \times 0.082 = 0.148$ CFS

Asphalt
15,296 sq. ft. $Q = 0.95 \times 1.80 \times 0.351 = 0.600$ CFS

Green Area
4,813 sq. ft. $Q = 0.30 \times 1.80 \times 0.111 = 0.060$ CFS

Total: 0.948 CFS

Post development – Predevelopment = $0.948 \text{ CFS} - 0.808 \text{ CFS} = 0.14 \text{ CFS} \times 60 \text{ sec. per min} \times 60 \text{ min per hour} = 504 \text{ cubic feet runoff}$. During a 25. year storm event the proposed site development will produce 504 cubic feet more stormwater than existing.

50 YEAR STORM EVENT

PRE-DEVELOPMENT

Total Site Area: 0.622 acres 27,064 sq. ft.

Building
1,832 sq. ft. $Q = 1.0 \times 2.10 \times 0.042 = 0.088$ CFS

Concrete
716 sq. ft. $Q = 1.0 \times 2.10 \times 0.017 = 0.036$ CFS

Asphalt
14,766 sq. ft. $Q = 0.95 \times 2.10 \times 0.339 = 0.676$ CFS

Green Area
9,750 sq. ft. $Q = 0.30 \times 2.10 \times 0.224 = 0.141$ CFS

Total: 0.941 CFS

POST-DEVELOPMENT

Total Site Area: 0.622 acres 27,064 sq. ft.

Building
3,384 sq. ft. $Q = 1.0 \times 2.10 \times 0.078 = 0.164$ CFS

Concrete
3,571 sq. ft. $Q = 1.0 \times 2.10 \times 0.082 = 0.172$ CFS

Asphalt
15,296 sq. ft. $Q = 0.95 \times 2.10 \times 0.351 = 0.700$ CFS

Green Area
4,813 sq. ft. $Q = 0.30 \times 2.10 \times 0.111 = 0.070$ CFS

Total: 1.106 CFS

Post development – Predevelopment = 1.106 CFS – 0.941 CFS = 0.165 CFS x 60 sec. per min x 60 min per hour = 594 cubic feet runoff. During a 50 year storm event the proposed site development will produce 594 cubic feet more stormwater than existing.

100 YEAR STORM EVENT

PRE-DEVELOPMENT

Total Site Area: 0.622 acres 27,064 sq. ft.

Building
1,832 sq. ft. $Q = 1.0 \times 2.30 \times 0.042 = 0.097$ CFS

Concrete
716 sq. ft. $Q = 1.0 \times 2.30 \times 0.017 = 0.039$ CFS

Asphalt
14,766 sq. ft. $Q = 0.95 \times 2.30 \times 0.339 = 0.741$ CFS

Green Area
9,750 sq. ft. $Q = 0.30 \times 2.30 \times 0.224 = 0.155$ CFS

Total: 1.032 CFS

POST-DEVELOPMENT

Total Site Area: 0.622 acres 27,064 sq. ft.

Building
3,384 sq. ft. $Q = 1.0 \times 2.30 \times 0.078 = 0.180$ CFS

Concrete
3,571 sq. ft. $Q = 1.0 \times 2.30 \times 0.082 = 0.189$ CFS

Asphalt
15,296 sq. ft. $Q = 0.95 \times 2.30 \times 0.351 = 0.767$ CFS

Green Area
4,813 sq. ft. $Q = 0.30 \times 2.30 \times 0.111 = 0.077$ CFS

Total: 1.213 CFS

Post development – Predevelopment = 1.213 CFS – 1.032 CFS = 0.181 CFS x 60 sec. per min x 60 min per hour = 652 cubic feet runoff. During a 100 year storm event the proposed site development will produce 652 cubic feet less stormwater than existing.

STORAGE CAPACITY

Drywell Capacity:

6'ID X 4'H Precast Concrete Drywell

$$\Pi 3^2 \times 4' = 113.10 \text{ CF}$$

Stone Capacity:

12'OD x 4'H Outer Stone Limits

$$\Pi 6^2 \times 4' = 452.39 \text{ CF}$$

$$452.39 \text{ CF} - 113.10 \text{ CF (Drywell)} = 339.26 \text{ CF}$$

$$339.26 \times 40\% \text{ (Voids)} = 135.72 \text{ CF}$$

Total Drywell Capacity:

$$113.10 \text{ (DW)} + 135.72 \text{ (Stone)} = 248.82 \times 4 = 995.28 \text{ CF}$$

CONCLUSION

A comparison was made of the runoff volume before and after development of the site located at 508 Mill Street, Watertown, NY. This comparison shows that the redevelopment of the site will increase the volume of stormwater generated by this site. The 4 proposed drywells will be able to receive all the existing stormwater along with the additional that will be created by this project. Therefore this redevelopment will not have any negative impact on the combined sanitary sewer system.