May 14, 2012

Kurt W. Hauk, P.E.
City Engineer
Room 305, City Hall
245 Washington Street
Watertown, NY 13601

KEPLINGER FREEMAN ASSOCIATES
LANDSCAPE ARCHITECTURE & LAND PLANNING
6320 FLY ROAD, SUITE 201, EAST SYRACUSE, NEW YORK 13057
PHONE: (315) 445-7980 FAX: (315) 445-7981

Dear Mr. Hauk,

We are writing you in regards to the site plan submittal for the proposed AmeriCU Credit Union project at 871 Arsenal Street where we are representing the developer, Canal Properties II. Enclosed in this application you will find the required full size and reduced copies of the Boundary and Topographic Survey, Site Plans and Preliminary Architectural Plans. The application package also includes the completed Site Plan Application Form and Engineering Report.

The proposed AmeriCU project consists of the redevelopment of the existing Salvation Army site. The project scope of work includes the demolition of the existing building and construction of a 3,500 square foot AmeriCU building with drive through facilities. The building will be constructed in the same location as the existing building. Parking for 36 cars will be provided. Three entry/exit drives will provide access to the parking lots and drive through facilities. There will be one exit drive at Arsenal Street and two entry/exit drives at Bellew Avenue Extension. Stormwater will be collected and detained on site by an infiltration-based storm sewer system that includes storm inlets and perforated pipe. A landscape plan will be implemented that will screen parking from adjacent roadways and screen the site from adjacent residences. The proposed plan will also add approximately 10 percent more green space to the existing site.

If you have any questions on this matter, please do not hesitate to contact me.

Very truly yours,

Edward G. Keplinger
Keplinger Freeman Associates

CITY OF WATERTOWN
SITE PLAN APPLICATION PROCESS

The applicant is responsible for completeness of application and inclusion of all required information.

****INCOMPLETE APPLICATIONS WILL NOT BE PROCESSED****

In order to expedite the Site Plan review process, all applicants are encouraged to have a pre-application meeting with Planning & Engineering staff. Staff can be reached at (315) 785-7740.

In the interest of expediting site plan approvals, the City of Watertown wishes to advise you of the procedures in applying for these referrals:

A. Fill out the Site Plan / Site Plan Waiver - Determination Flow Chart below:

1. Is the use a one, two, or three family dwelling?
   - [X] YES (Site Plan Review is **not** required. You may apply directly for Building Permit.)
   - [ ] NO (Go to question 2)

2. Is your building or parking lot construction or expansion less than or equal to 400 sq. ft.?
   - [ ] YES (Site Plan Review is not required. You may apply directly for Building Permit.)
   - [X] NO (Go to question 3)

3. Does your building or parking lot construction or expansion exceed 2500 sq. ft.?
   - [X] YES (Site Plan Review required. Submit the Site Plan Application Form.)
   - [ ] NO (Go to question 4)

4. Is your proposed building the first on the lot?
   - [X] YES (Site Plan Review required. Submit the Site Plan Application Form.)
   - [ ] NO (Go to question 5)

5. Does your project involve a change in the property boundaries?
   - [ ] YES (Site Plan Review required. Submit the Site Plan Application Form.)
   - [X] NO (Go to question 6)

6. Does your building or parking lot construction or expansion change or impair the overall grading, circulation, drainage, utility services, and appearance and visual effect of the property?
   - [X] YES (Site Plan Review required. Submit the Site Plan Application Form.)
   - [ ] NO (*Site Plan Waiver allowed. Submit the Site Plan Waiver Form.)

   * The City of Watertown Planning Board reserves the right to require Site Plan Review.

B. SITE PLAN APPROVAL SUBMITTAL REQUIREMENTS*

1. **3 complete, collated sets of the site plan application package** that includes the following documents:
   a. Cover letter explaining the proposal.
   b. Completed Site Plan Application Form.
   c. Full size copies of all required plans (24”x36”), including 1 stamped & signed original.
   d. Engineering Report.

2. **13 complete, collated sets of the site plan application package** that includes the following documents:
   a. Cover letter explaining the proposal.
   b. Completed Site Plan Application Form.
   c. Reduced size copies of all required plans (11”x17”) if they are legible. (otherwise submit full size sets)

3. **An electronic (pdf) copy** of the entire site plan application package to include the following:
   a. A single, combined pdf containing the cover letter, the site plan application form and the Engineering Report.
   b. A single, combined pdf containing all of the plan sheets and drawings.
   c. The pdf may be submitted via email or on a CD.

Note: When Jefferson County Planning Board (239-M) Review is necessary, one additional full size set as described in # 1 above is required.

*Planning Board Recommendation and City Council Approval is required for Site Plans.

C. WAIVER OF SITE PLAN APPROVAL SUBMITTAL REQUIREMENTS**

1. **2 complete, collated sets of the site plan application package** that includes the following documents:
   a. Cover letter explaining the proposal.
   b. Completed Site Plan Waiver Application Form.
   c. Full size copies of all required plans (24”x36”), including 1 signed original.

2. **8 complete, collated sets of the site plan application package** that includes the following documents:
   a. Cover letter explaining the proposal.
   b. Completed Site Plan Waiver Application Form.
   c. Reduced size copies of all required plans (11”x17”) if they are legible. (otherwise submit full size sets)

3. **An electronic (pdf) copy** of the entire site plan waiver application package to include the following:
   a. A single, combined pdf containing the cover letter and the site plan waiver application form.
   b. A single, combined pdf containing all of the plan sheets and drawings.
   c. The pdf may be submitted via email or on a CD.

** Site Plan Approval of City Council may be waived by the City Planning Board.

D. Address submittals to:

Kurt W. Hauk, P.E.
City Engineer
Room 305, City Hall
245 Washington Street
Watertown, NY 13601

E. A **$50.00** application fee must accompany the submittal.
A **$50.00** application fee must accompany each resubmittal. You will be notified by the Engineering Department if an application requires a resubmittal.
Make checks payable to the City of Watertown.

F. All Site Plan submittals must be received by the City Engineer at least 14 calendar days prior to the next Planning Board Meeting; 21 calendar days if Jefferson County Planning Board action is necessary. Failure to meet the submittal deadline will result in **not** making the agenda for the upcoming Planning Board Meeting. **THERE ARE NO EXCEPTIONS.** The City Planning Board meets on the first Tuesday of each month at 4:00 P.M. in the City Council Chambers on the 3rd Floor of City Hall.

G. 2012 Meeting Schedules.

CITY OF WATERTOWN PLANNING BOARD 2012 (1ST TUES. MONTH @ 4 PM)		**CITY OF WATERTOWN CITY COUNCIL 2012 (1ST & 3RD MONDAY @ 7 PM)**	**JEFFERSON COUNTY PLANNING BOARD 2012 (LAST TUES. MONTH)**	
MEETING DATE	DEADLINE	MEETING DATE	MEETING DATE	DEADLINE
Jan. 3	Dec. 20	Jan. 3, 17	Jan. 31	Jan. 17
Feb. 7	Jan. 24	Feb. 6, 21	Feb. 28	Feb. 14
March 6	Feb. 21	March 5, 19	March 27	March 13
April 3	March 20	Apr. 2, 16	April 24	April 10
May 1	April 17	May 7, 21	May 29	May 15
June 5	May 22	Jun. 4, 18	June 26	June 12
July 3	June 19	July 2, 16	July 31	July 17
Aug. 7	July 24	Aug. 6, 20	Aug. 28	Aug. 14
Sept. 4	Aug. 21	Sept. 4, 17	Sept. 25	Sept. 11
Oct. 2	Sept. 18	Oct. 1, 15	Oct. 30	Oct. 16
Nov. 6	Oct. 23	Nov. 5, 19	Nov. 27	Nov. 13
Dec. 4	Nov. 20	Dec.3, 17	Dec. 26	Dec. 11

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: Americu Watertown

Tax Parcel Number: 91136

Property Address: 871 Arsenal Street

Existing Zoning Classification: Commercial

OWNER OF PROPERTY

Name: Salvation Army

Address: 440 West Nyack Road
West Nyack, NY 10994

Telephone Number: 845-620-7200

Fax Number: 845-620-7755

APPLICANT

Name: Canal Properties II Inc., LLC.

Address: 125 High Rock Avenue
Saratoga Springs, NY 12866

Telephone Number: (518) 306-3747

Fax Number: (212) 401-4759

Email Address: devindalpos@msn.com

ENGINEER/ARCHITECT/SURVEYOR

Name: Keplinger Freeman Associates

Address: 6320 Fly Road Suite 201
East Syracuse, NY 13078

Telephone Number: (315) 445-7980

Fax Number: (315) 445-7981

Email Address: ek@keplingerfreeman.com

PROJECT DESCRIPTION

Describe project and proposed use briefly:

The existing building will be demolished and removed. A 3,500 square foot AmeriCU Credit Union will be constructed. Entry/exit drives will be provided to the north and south of the building from Bellew Avenue and a right turn only exit will be provided to access Arsenal Street. Parking for 36 cars will be provided and there will be drive through facilities on the east side of the building. There will be approximately a 10 percent increase in green area, which will be landscaped.

Is proposed Action:

☐ New ☐ Expansion ☒ Modification/Alteration

Amount of Land Affected:

Initially: 1.0 Acres Ultimately: 1.0 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)

_____

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

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

_____

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

☐ Yes ☒ No

Proposed number of housing units (if applicable): N/A

Proposed building area: 1st Floor 3,500 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: 100 Sq. Ft. Sq. Ft.

Number of parking spaces proposed: 36

Construction Schedule: July 1st construction start
November 1st construction completion

Hours of Operation:	Mon-Tues	Wed-Thurs	Fri	Sat
Lobby:	9AM - 4PM	9AM - 5PM	9AM - 5PM	?
Drive-Thru:	9AM - 4PM	9AM - 5PM	9AM - 6PM	?

Volume of traffic to be generated: AM Peak - 43 trips per hour ADT
PM Peak - 90 trips per hour

SIGNATURE

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

Applicant (please print) EDWARD G. KEPLINGER

Applicant Signature _____ Date: 5/14/12

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 supercede 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 ARCHITECTUAL 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.

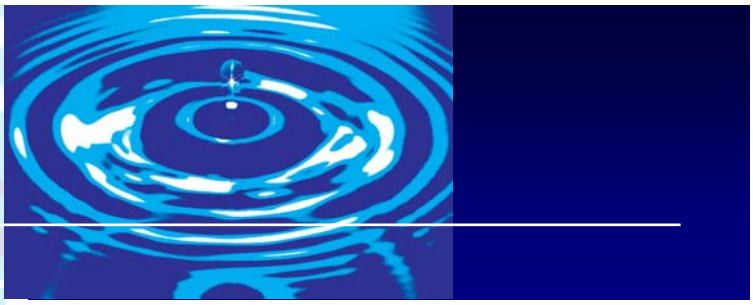
☒ Plans have been collated and properly folded.

☐ 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.

Not all features within 50 feet of the subject property are shown. A maintenance and protection plan is not included, because we are not doing any work in the right of way.



Engineers Report

AmeriCU Credit Union

871 Arsenal Street

WATERTOWN NEW YORK

May 11, 2012

Project Landscape Architect,
James R. Stephenson, RLA, CPESC
ph 445-7980 fx 445-7981

KFA Project #31095

KEPLINGER FREEMAN ASSOCIATES
LANDSCAPE ARCHITECTURE & LAND PLANNING
5844 HERITAGE LANDING DRIVE EAST SYRACUSE, NEW YORK 13057

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SECTION A

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Project Description

The existing site will be redeveloped by demolishing the existing Salvation Army Building including the existing asphalt pavement. A new 3,500 square foot AmeriCU Credit Union facility will be constructed which will include drive up facilities. The Credit Union will be constructed in the same location where the existing building was located. Parking for 36 cars will be situated to provide access to the building from the north and south building entrances. Three site access driveways will be provided to the site, one at Arsenal Street and two at Bellew Avenue Extension and will will provide access to the parking lots and drive through facilities. A landscape plan will be implemented which will increase the green space area on the project site by 10 percent.

SECTION C
Storm Drainage Improvements

1. Introduction

The storm water management approach for the site improvements at the new AmeriCU Credit Union site, formally the Salvation Army property, involves analyzing the current drainage conditions on the site and designing drainage improvements which will protect the planned development plus adjoining properties and roadways from the potential of flooding. A topographic survey and percolation tests were conducted on the existing site to provide information on the feasibility of storing and infiltrating storm water collected from the site into the subsoil. Given the existing soils information and percolation test results, the storm water management system was designed to retain stormwater runoff up to a 100 year design storm. This storm event represents the generally accepted maximum storm rainfall quantity based on the probability of reoccurrence. This design storm was selected from intensity of the precipitation expected in a 24 hour period.

2. Methodology

The purpose of this Report is to summarize the stormwater management and erosion control measures planned for the renovation of this site. The rational method was used to analyze the pre-development and post development runoff from the AmeriCU site. Since the site receives minimal offsite stormwater and there will a decrease in the amount of impervious surfaces planned, there is no need to analyze peak flow and time of concentration. Additionally, the site will fully mitigate stormwater runoff onsite without the connection to the stormwater system located in Arsenal Street and Bellew Avenue

Extension. The design storm, specified, represents the reoccurrence interval (e.g. 100 year storm), its annual probability of reoccurrence or 1% storm. This is a storm with an 5.5" rainfall total over a 24 hour period that would be exceeded in severity only once every 100 years on the average.

	Storm Frequency (year)	***Rainfall Intensity over a 24 Hour Period Jefferson County***
	1	2.1"
	2	2.2"
	5	3.2"
	10	3.7"
	25	4.4"
	50	4.7"
	100	5.5"

3. Project Location and Existing Conditions

The site is 49,449.45 square feet and is located on the corner of Bellew Avenue Extension and Arsenal Street in the city of Watertown. The site is the former home of the Salvation Army and lies in a commercial area with single family residences bordering the east side of the property. The surrounding properties including Arsenal Street and Belle Avenue Extension convey their surface runoff away from the site.

The existing building is a metal framed, single story structure of approximately 15,264 square feet. The building is surrounded by 18,882 square feet of asphalt pavement utilized for parking and circulation. The remaining site is covered by 15,303 square feet of primarily lawn. Storm water runoff from site areas is conveyed into drywells and pipe with no visible offsite discharge. It is presumed that all existing storm water runoff is contained and infiltrated onsite. Based on observed conditions, this system appears to be adequate. A portion of the property to the east conveys roof runoff directly onto the site. The general topography allows for an overflow point onto Bellew Avenue Extension at the southerly portion of the property. **Reference Moncrief Land Survey dated 04.13.12, Appendix B**)

4. Proposed Conditions

The existing site will be redeveloped by demolishing the existing building and removing the existing asphalt pavement. A 3,500 square foot AmeriCU Credit Union, with drive up facilities, will be constructed where the existing building was located. Parking for 36 cars will be situated to provide access to the building from the north and south building entrances. Three site access entrances will be provided to the site, one onto Arsenal Street and two onto Bellew Avenue Extension and provide access to the

parking lots and drive through facilities. There will be approximately a 10 percent increase in green area from the existing conditions which will be landscaped. **Reference Site Plans- Appendix A**)

Site Coverage	***Existing Site***	***Proposed Site***
Site Area	49,449 SF	49,449 SF
Building Area	15,264 SF	3,500 SF
Pavement Area	18,882 SF	25,447 SF
Green Area	15,303 SF	20,502 SF
Percent Green area	31 %	41 %

5. Site Storm Water Management Analysis

Planned site improvements involve repaving the parking and driveway areas. Pavement will be installed with slopes designed to better convey runoff and direct water away from the building. Installation of storm structures including new storm sewer piping shall provide the proper conveyance for surface water to enter underground infiltration areas. The storm water modeling analyzed the 100 year storm events in order to size the necessary storage volume. The 100 year storm event represents the maximum storage volume required and will also satisfy the site water quality and channel protection volume requirements. The storm water retention calculations analyzed the infiltration of the entire storm water volume from the developed site into the subsoil (**Reference Appendix C)**. The infiltration rate was recently determined by percolation tests and is shown in **Appendix D**.

The quantity of stormwater falling onto the site was determined to be most important to manage as opposed to the rate of the runoff ("Q" (cfs) since all of the stormwater falling onto the site is captured and infiltrated without offsite discharge. The storage quantity is shown below for each watershed.

Perforated Pipe Storage

The following are the overall storm frequencies and related storage requirements.
Storage Volumes:

Storm Frequency 100 year	***Required Storage Volume - Prior to Infiltration***
WS-1	7,755 cf
WS-2	8,368 cf

The Chart above is included to illustrate the order of magnitude for the amount of area required to store the storm water with out percolation of the water into the ground.

Storm Frequency 100 year	***Actual Storage Volume – With Infiltration Included***
WS-1	870 cf (7,864 cf (Infiltrated))
WS-2	240 cf (8,645 cf (Infiltrated))

WS-1 involves the installation of approximately 60 LF of 24" HDPE perforated pipe encased in a stone trench 5'-0" deep and 7'-3" wide. This will provide 870 cubic feet of underground storage under the parking lots and drive areas. (**Reference Appendix C-Stormwater Calculations)**

WS-2 involves the installation of approximately 150 LF of 12" HDPE perforated pipe encased in a stone trench 2'-0" deep and 2'-0" wide. This will provide 240 cubic feet of underground storage under the parking lots and drive areas. (**Reference Appendix C-Stormwater Calculations)**

The excess capacity in the infiltration system is the result of calculating the actual construction excavation required to install the systems. This can also act as a safety factor for the infiltration system as a whole.

6. Water Quality Volume

The water quality volume (denoted as WQV) is designed to improve water quality, sized to capture and treat 90% of the average annual stormwater runoff volume. It is assumed that by meeting the WQV requirements thru the employment practices outlined in table 5.1 of the "New York State Stormwater Management Design Manual", a project will, by default, meet water quality objectives. The calculated WQV is 0.020 acre feet and is summarized in **Appendix C.**

7. Channel protection Volume

The Channel Protection Volume is estimated at 0.003 acre feet. Since the stormwater management sysem is designed as an infiltration system for the 100 year storm, the channel protection volume is by default mitigated. Refer to **Appendix C.**

8. Phosphorous Removal

During construction contaminants from materials and equipment could enter the stormwater drainage system unintentionally. The contractor should store construction materials and equipment in the designated staging area and all possible contaminants should be stored to prevent damage.

This particular project will require construction equipment such as a backhoe, drum roller, dump trucks, a grader and bull dozer. These vehicles use oil and petroleum products which if not treated carefully could enter the storm drainage system. Accidental spills should be reported to the Department of Environmental Conservation 24 hour spill response hotline at 1-800-457-7362. On site fueling of construction equipment shall be limited to a bermed/ diked area located within the project staging area.

9. Erosion Control

Structural erosion and sediment control measures are classified as either temporary or permanent, according to how they are used. Temporary structural measures shall be used during construction of the AmeriCU Credit Union to prevent off-site sedimentation. Permanent structural measures shall be utilized following construction and shall be implemented to convey surface water safely to the existing drainage ways present in the pre-development condition. The permanent structural measures shall remain in-place and continue to function after the completion of construction.

10. Summary

The existing site currently manages stormwater by infiltrating it into the subsoil without observed overflow onto adjoining properties and roadways. The stormwater management proposed for the new site development is designed to infiltrate a 100 year storm event and mitigate both the water quality and channel protection volume requirements. This stormwater mitigation plan complies with the United States Department of Agriculture (USDA) - Soil Conservation Service (SCS) “NYS Standards and Specifications for Erosion and Sediment Control, and the” the New York State Department of Environmental Conservation (NYSDEC) “NYS Stormwater Management Design Manual,”

Since the amount of site disturbance is approximately 42,000 SF so, no SPDES Permit is required and by containing the stormwater runoff on the site, there will be no impact to adjoining properties and roadways.

11. Site Photos

North Parking Area

Arsenal Street Drainage

North Parking Area

Adjacent property roof runoff-North

Bellew Avenue Extension –Looking South

South Parking Area looking East

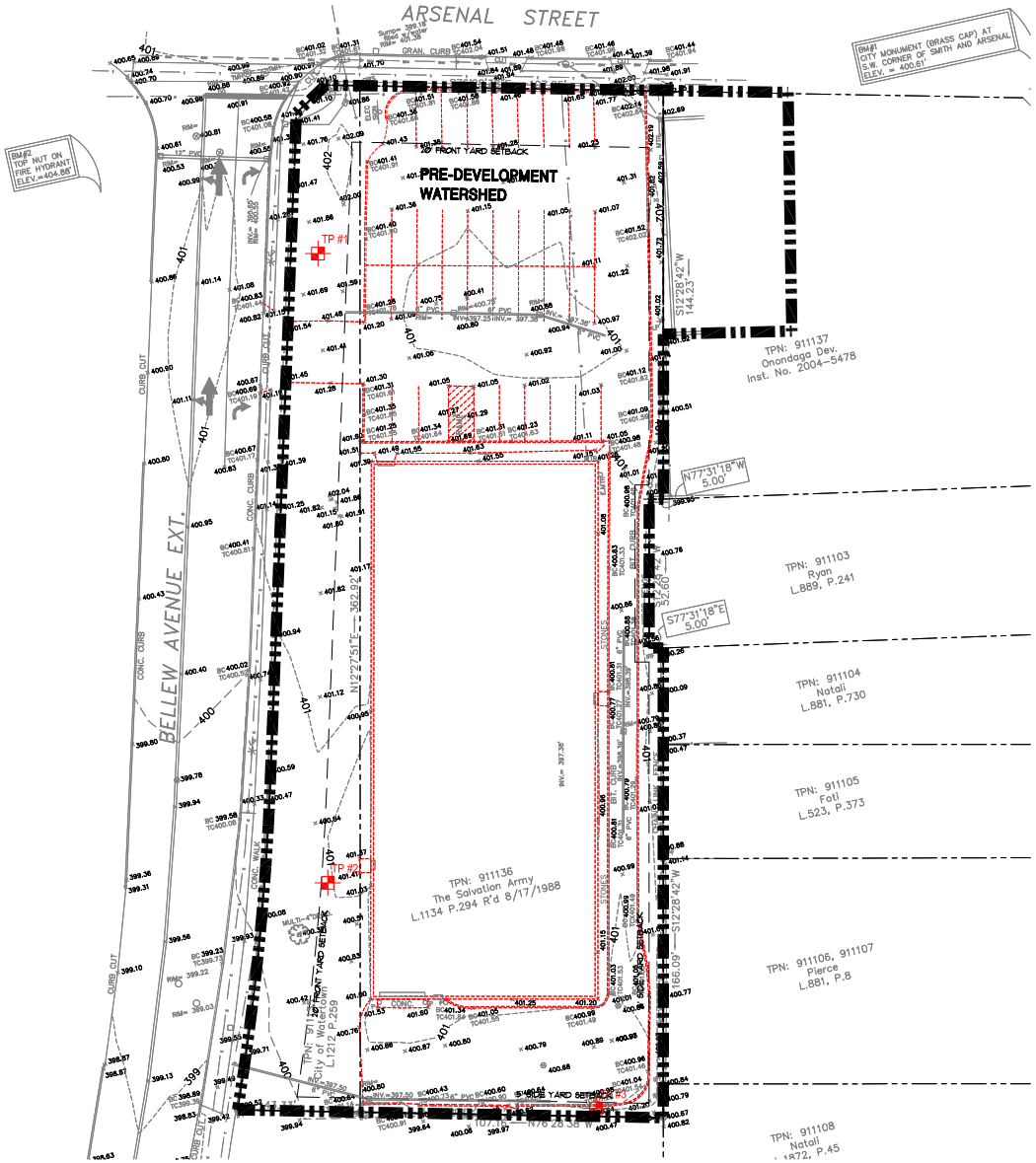
Loading Dock – South Parking Area

East Side Driveway Looking North

South Parking Area Looking West

South Parking Area Looking West

APPENDIX A – Pre/Post Site Plans



EXISTING SITE

SCALE IN FEET 0 10 20 30

AmeriCU - Approved for Construction Date

KEPLINGER FREEMAN ASSOCIATES
LANDSCAPE ARCHITECTURE & LAND PLANNING
6320 FLY ROAD, SUITE 201 EAST SYRACUSE, NEW YORK 13057
PHONE: (315) 445-7980 FAX: (315) 445-7981

RZ Engineering, PLLC
6320 FLY ROAD SUITE 201
EAST SYRACUSE, NY 13057
PH: 315.432.1089 FAX: 315.445.7981

Client:
Canal Properties II Inc., LLC
125 High Rock Avenue
Saratoga Springs, NY 12866

Contact: Devin Dal Pos
(518) 306-3747
(212) 401-4759

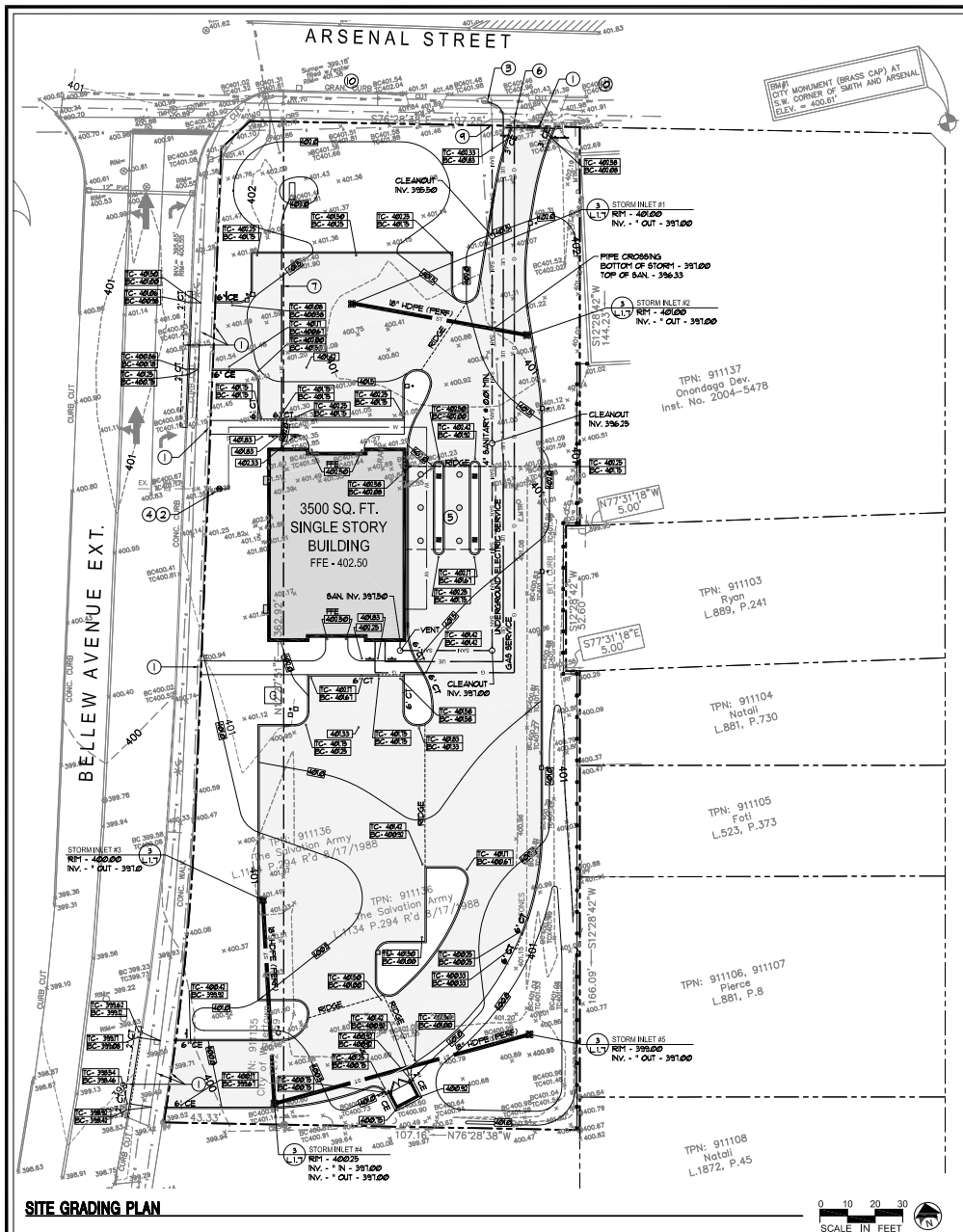
871 Arsenal Street
Watertown, New York

REVISIONS

Drawn By:	S.R.C.
Checked By:	E.G.K.
KFA Proj. No.:	31095
Date:	11 May 2012
Scale:	AS NOTED

Title:
PRE-DEVELOPMENTPLAN

L-0



SITE GRADING PLAN

GRADING and UTILITY GENERAL NOTES

1. ANY/ALL FILL REQUIRED BELOW PAVING SUBGRADE SHALL ONLY BE COARSE AGGREGATE FILL OR SUBBASE COURSE MATERIALS.

2. WHEREVER EXISTING STORM STRUCTURES ARE TO BE ABANDONED AND REMOVED, CUT AND PLUG CONNECTING PIPES AND/OR REMOVE PORTIONS OF PIPES WHICH MAY INTERFERE WITH OTHER WORK.

3. ALL CONCRETE PAVING AT ALL EXISTING AND NEW DOORS SHALL BE FLUSH WITH BUILDING FLOOR ELEVATION. CONCRETE PAVEMENT SHALL BE DOWELED TO FOUNDATION WALL PER DETAILS.

4. ALL EXISTING FEATURES ARE TO REMAIN UNLESS OTHERWISE NOTED. IF THE CONTRACTOR DAMAGES ANY OF THE EXISTING ON-SITE FACILITIES TO REMAIN (TREES, PAVEMENTS, UNDERGROUND UTILITIES, STRUCTURES, ETC.) WHETHER SHOWN ON THE PLANS OR NOT, THE CONTRACTOR SHALL REPAIR AND/OR REPLACE SUCH ITEMS AT HIS OWN EXPENSE AND ASSUME ALL RESPONSIBILITY FOR SUCH DAMAGE WITHOUT ANY ADDITIONAL COST TO THE OWNER. REPLACEMENT MATERIAL SHALL BE SAME QUALITY AND QUANTITY AS ORIGINAL.

5. ALL WATER LINES SHALL BE TYPE K COPPER WITH 48" MIN. COVER.

6. ALL GRAVITY SANITARY SEWER LINES SHALL BE SDR-35 PVC WITH 48" MIN. COVER.

7. CONTRACTOR SHALL COORDINATE ANY DISRUPTIONS TO EXISTING UTILITY SERVICES WITH ADJACENT PROPERTY OWNERS.

8. ALL ELECTRIC AND TELEPHONE EXTENSIONS INCLUDING SERVICE LINES SHALL BE CONSTRUCTED TO THE APPROPRIATE UTILITY COMPANY SPECIFICATIONS. ALL UTILITY DISCONNECTIONS SHALL BE COORDINATED WITH THE DESIGNATED UTILITY COMPANIES.

9. CONSTRUCTION SHALL NOT START ON ANY PUBLIC UTILITY SYSTEM UNTIL WRITTEN APPROVAL HAS BEEN RECEIVED BY THE ENGINEER FROM THE APPROPRIATE GOVERNING AUTHORITY AND THE CONTRACTOR HAS BEEN NOTIFIED BY THE ENGINEER.

10. PRIOR TO THE CONSTRUCTION OF OR CONNECTION TO ANY STORM DRAIN, SANITARY SEWER, WATER MAIN OR ANY OF THE DRY UTILITIES, THE CONTRACTOR SHALL EXCAVATE, VERIFY AND CALCULATE ALL POINTS OF CONNECTION AND ALL UTILITY CROSSINGS AND INFORM KEPLINGER FREEMAN ASSOCIATES (KFA) AND THE OWNER/DEVELOPER OF ANY CONFLICT OR REQUIRED DEVIATIONS FROM THE PLAN. NOTIFICATION SHALL BE MADE A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION. KFA AND ITS CLIENTS SHALL BE HELD HARMLESS IN THE EVENT THAT THE CONTRACTOR FAILS TO MAKE SUCH NOTIFICATION.

11. ALL WATER MAIN AND SERVICE WORK MUST BE COORDINATED WITH THE CITY OF WATERTOWN WATER DEPARTMENT. THE WATER DEPARTMENT REQUIREMENTS SUPERCEDE ALL OTHER PLANS AND SPECIFICATIONS PROVIDED.

12. 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 REINSPECTED WITHIN THE CITY OF WATERTOWN MARGIN AND MUST BE SUBMITTED TO THE CITY OF WATERTOWN CODES DEPARTMENT.

GRADING and UTILITY KEY NOTES

1. MEET EXISTING LINE AND GRADE.
2. POINT OF DOMESTIC WATER SERVICE TAP PER LOCAL CODES. COORDINATE WITH OWNER AND OCWA.
3. PROPOSED POLE MOUNTED TRANSFORMER. COORDINATE WITH UTILITY COMPANY. UTILIZE EXISTING CONDUIT WHERE POSSIBLE.
4. LOCATION OF THIS UTILITY AS SHOWN IS FOR DRAWING PURPOSES ONLY. CONTRACTOR SHALL VERIFY THE EXACT LOCATION IN FIELD PRIOR TO THE CONSTRUCTION OF THE PROPOSED UTILITY LINE TO BE CONNECTED. CONTRACTOR SHALL NOTIFY KEPLINGER FREEMAN ASSOCIATES IF THE DESIGN AS SHOWN IS NOT ACHIEVABLE.
5. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL SPOT GRADES UNDER DRIVE-THRU CANOPY.
6. POINT OF GAS SERVICE CONNECTION. COORDINATE WITH NATIONAL GRID.
7. PROVIDE 1-1/2" CONDUIT FROM PANEL TO PROPOSED MONUMENT SIGN LOCATION. 2'-0" MIN BURY CAP END.
8. INSTALL GRANITE CURB TO NYSDOT STANDARDS WITH 1" REVEAL.
9. FIELD VERIFY INVERT OF EXITING SANITARY LATERAL AT ARSENAL STREET AND REPORT RESULTS TO THE ARCHITECT.
10. NO WORK TO OCCUR WITHIN ARSENAL STREET RIGHT OF WAY.

AmeriCU - Approved for Construction Date

KEPLINGER FREEMAN ASSOCIATES
LANDSCAPE ARCHITECTURE & LAND PLANNING
6320 FLY ROAD, SUITE 201 EAST SYRACUSE, NEW YORK 13057
PHONE: (315) 445-7980 FAX: (315) 445-7981

RZ Engineering, PLLC
6320 FLY ROAD SUITE 201
EAST SYRACUSE, NY 13057
PH: 315.432.0180 FAX: 315.445.7981

Client:
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AmeriCU CREDIT UNION

871 Arsenal Street
Watertown, New York

REVISIONS

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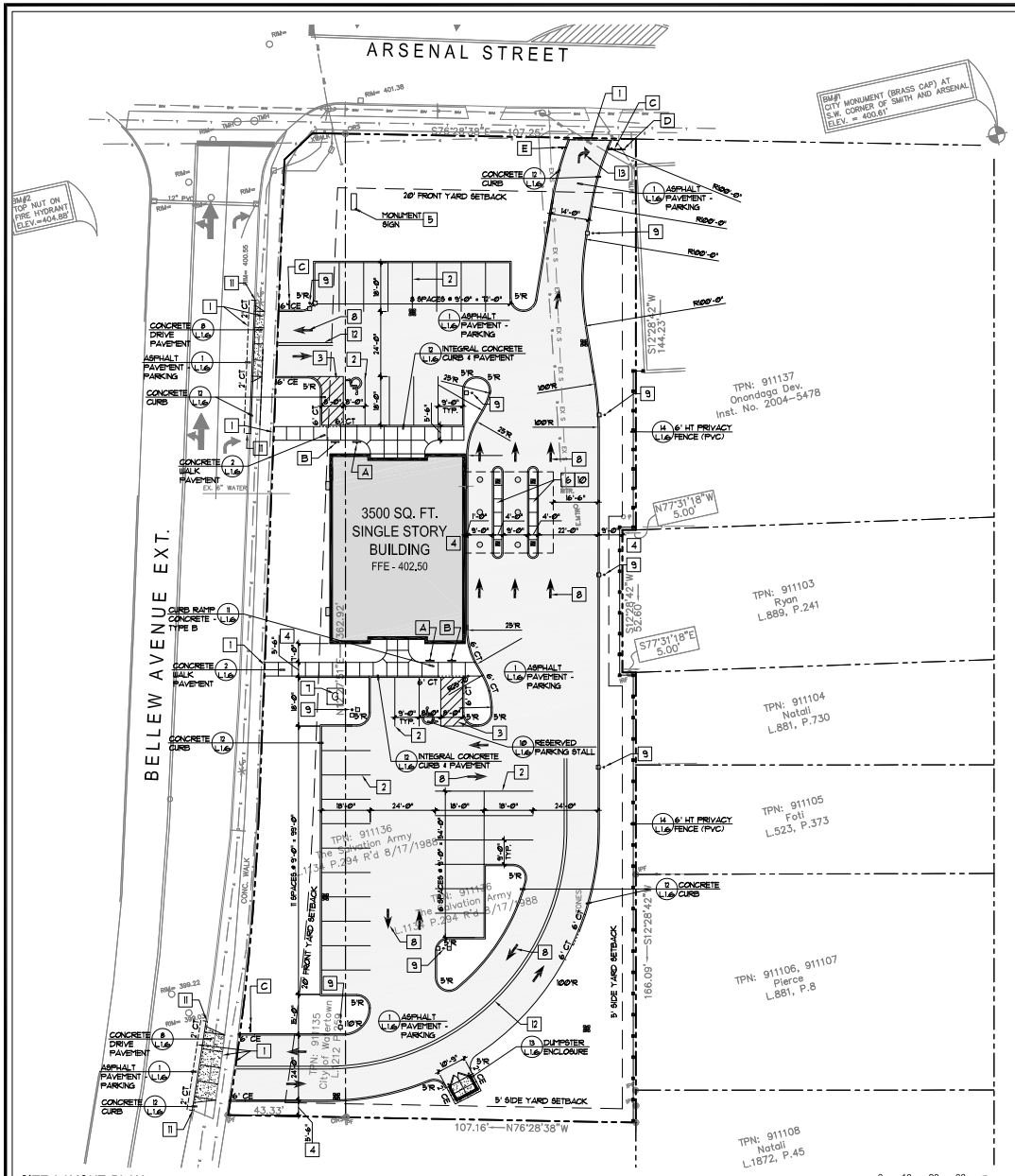
Title:
SITE GRADING DRAINAGE AND UTILITIES PLAN

L1.2



SITE LAYOUT PLAN

ZONING CHART

LOCATED WITHIN A COMMERCIAL DISTRICT

A.	MINIMUM LOT AREA	- 1,000 S.F.
	PROPOSED LOT AREA	- 44,444 S.F.
B.	MAXIMUM LOT COVERAGE	- 100%
	PROPOSED LOT COVERAGE	- 7% (3,500 SF)
C.	MINIMUM FRONT YARD	- 20 FT
	PROVIDED FRONT YARD	- 21 FT - ARSENAL ST.
	PROVIDED FRONT YARD	- 16 FT - BELLEW AVE.
D.	SIDE YARDS - TOTAL/ ONE SIDE	- 5FT
	PROVIDED SIDE YARD	- 56 FT - EAST
	PROVIDED SIDE YARD	- 114 FT - SOUTH
E.	MAXIMUM BUILDING HEIGHT	- NO REQUIREMENTS
	PROPOSED BUILDING HEIGHT	- ?
F.	PARKING REQUIREMENTS	
	5 SPACES / 1000 S.F. BLDG. AREA	
	(3,500 / 1000) X 5 = 18	- 18 SPACES
	PROPOSED PARKING	- 36 SPACES

SIGN SCHEDULE

KEY	SIGN PLATE		SIGN SIZE MOUNTING HT.	N.Y.S.D.O.T. MUT.C.D. NO. / COMMENTS
A	RESERVED PARKING	RESERVED PARKING W/ HANDICAP SYMBOL	12" X 18" 7'-0" HT.	SIGN NO. P4-6 COLORS: COMMENTS:
B	NO PARKING ANY TIME	NO PARKING ANY TIME	12" X 18" 7'-0" HT.	SIGN NO. - COLORS: WHITE BACKGROUND, RED TEXT AND BORDER
C	STOP	STOP SIGN	30" X 30" 7'-0" HT.	SIGN NO. R1-1 COLORS: COMMENTS:
D		NO LEFT TURN	30" X 30" 7'-0" HT.	SIGN NO. - COLORS: WHITE BACKGROUND, BLACK ARROW, RED SLASH AND BORDER
E	DO NOT ENTER	DO NOT ENTER	24" X24" 7'-0" HT.	SIGN NO. R5-1EC COLORS: WHITE BACKGROUND, BLACK TEXT/SYMBOL AND BLACK BORDER

NOTES:
1. REFER TO TRAFFIC CONTROL SIGN DETAIL FOR INSTALLATION.
2. ALL REGULATORY SIGNS SHALL CONFORM TO THE MOST CURRENT N.Y.S.D.O.T. MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

SITE CONSTRUCTION NOTES

1. MEET EXISTING LINE and GRADE.
2. PROVIDE 4" WIDE WHITE PARKING STALL PAINT LINES - TYPICAL.
3. PROVIDE 4" WIDE WHITE PAINT LINES AT 45° @ 2' O.C. - TYPICAL.
4. P.O.B #1 - BUILDING LAYOUT BASELINE, DIMENSIONS ARE PARALLEL AND PERPENDICULAR TO THE BUILDING.
5. LOCATION OF AMERICU MONUMENT SIGN. SIGN SHALL BE SUBMITTED FOR PERMIT BY OTHERS.
6. REFER TO ARCHITECTURAL PLANS FOR DETAILS ON THE LAYOUT OF THE DRIVE-THRU ISLANDS AND PAVEMENT, INCLUDING BOLLARD LOCATIONS, EQUIPMENT PADS AND CONCRETE SURFACING.
7. LOCATION OF BACKUP GENERATOR. GENERATOR SHALL BE EARTH TONE COLOR, BROWN OR GREEN RANGE.
8. PROVIDE WHITE PAINTED THROUGH DIRECTIONAL ARROW - TYPICAL.
9. LIGHTPOLE BASE TYPICAL. REFER TO SITE LIGHTING PLAN FOR DETAILS.
10. INSTALL CONCRETE WALK PAVEMENT WITHIN CURBED ISLAND.
11. MATCH TOP AND FACE OF PROPOSED CURB TO TOP AND FACE OF EXISTING CURB.
12. PROVIDE 4" WIDE DOUBLE YELLOW PAINT LINES AT DRIVEWAY CENTERLINE.
13. PROVIDE WHITE PAINTED TURN DIRECTIONAL ARROW.
14. INSTALL GRANITE CURB TO NYSDOT STANDARDS WITH 1" REVEAL.

AmeriCU - Approved for Construction Date

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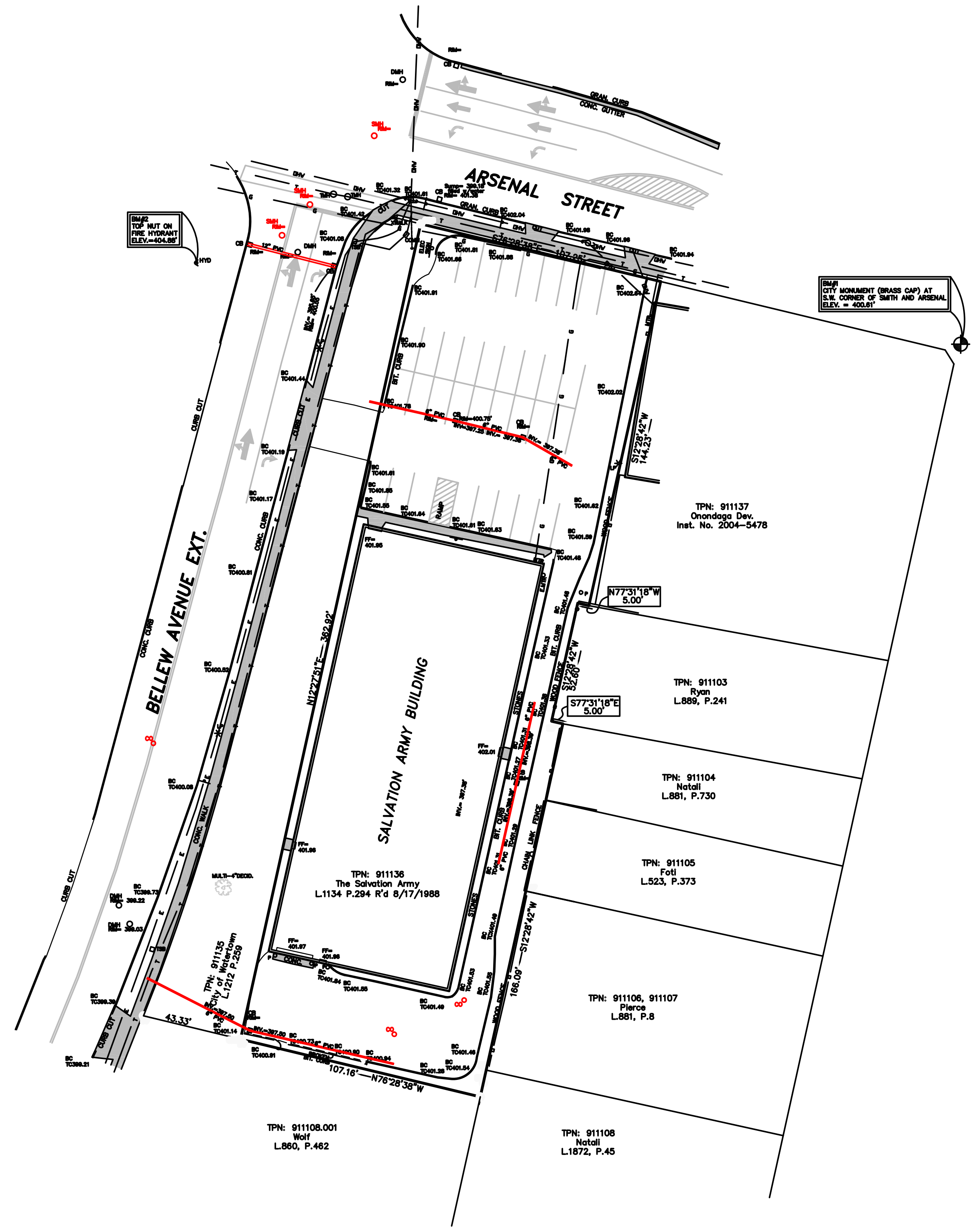
Scale:	AS NOTED

Title:
SITE LAYOUT PLAN

L1.3

APPENDIX B – Site Survey



LEGEND

L.A.	LANDSCAPED AREA
	POST
	SIGN
	IRON PIPE FOUND
	STONE MONUMENT FOUND
	CAPPED IRON ROD FOUND
	IRON ROD FOUND
	CAPPED IRON ROD SET
CB	CATCH BASIN
DMH	DRAIN MANHOLE
SMH	SANITARY MANHOLE
CO	CLEANOUT
GV	GAS VALVE
B-20	SOIL BORING
	MAIL BOX
TMH	TELEPHONE MANHOLE
TP	TELEPHONE PEDESTAL
TRANS	TRANSFORMER
TSP	TRAFFIC SIGNAL POLE
TSB	TRAFFIC SIGNAL BOX
EMH	ELECTRIC MANHOLE
	UTILITY POLE
LP	LIGHT POLE
HYD	HYDRANT
WV	WATER VALVE
WMH	WATER MANHOLE
OHW	OVERHEAD WIRES
FO	UNDERGROUND FIBER OPTIC
T	UNDERGROUND TELEPHONE
G	UNDERGROUND GAS
V	UNDERGROUND WATER
E	UNDERGROUND ELECTRIC
	OVERHEAD ROOF

MAP NOTES:

1) NORTH ORIENTATION IS PER MAGNETIC OBSERVATION TAKEN ON 4/13/2012.

2) VERTICAL DATUM IS NAVD 88 AND WAS DERIVED USING GPS.

3) THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF AN ABSTRACT OR UP TO DATE TITLE REPORT AND IS THEREFORE SUBJECT TO ANY EASEMENTS, RESTRICTIONS, COVENANTS OR ANY STATEMENT OF FACTS THAT SUCH DOCUMENTS MAY DISCLOSE.

4) UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM DATA OBTAINED BY FIELD SURVEY, PREVIOUS MAPS AND RECORDS, AND FROM PAROLE TESTIMONY MADE BY OWNER REPRESENTATIVE AND UTILITY COMPANY PERSONNEL. THERE MAY BE OTHER UNDERGROUND UTILITIES, THE EXISTENCE OF WHICH ARE NOT KNOWN TO THE UNDERSIGNED. SIZE AND LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES MUST BE VERIFIED BY THE APPROPRIATE AUTHORITIES PRIOR TO ANY CONSTRUCTION.

DEED REFERENCE:

Being that parcel of land conveyed by Anthony J. Marra to The Salvation Army by warranty deed recorded in the Jefferson County Clerk's Office in Liber 1134 at page 294 dated August 18, 1988.

ABSTRACT REFERENCE:

Survey performed without the benefit of an Abstract of Title.

BAR SCALE

30 0 15 30 60

1 inch = 30 ft.

UTILITY INFORMATION:

SERVICE	OPERATING AUTHORITY
ELECTRIC	NATIONAL GRID/CENTRAL
WATER	CITY OF WATERTOWN
TELEPHONE	VERIZON/SYRACUSE A1
SANITARY	CITY OF WATERTOWN
GAS	NATIONAL GRID/CENTRAL

MAP showing the BOUNDARY AND TOPOGRAPHIC SURVEY of THE SALVATION ARMY property, 913 Arsenal Street, City of Watertown, County of Jefferson, State of New York

T.P.N. -911135,911136
Project No. - 12013
Scale - 1"=30 feet
Survey Date -4/13/12
Map Date - 4/18/12
Print Date - ________
Checked By - RSM
Revisions -

Survey Prepared By:
MONCRIEF
LAND SURVEYING, P.C.
P.O. Box 249, Lowville, N.Y. 13367
TEL.(315)376-8444 FAX: 376-7556

R. STEPHEN MONCRIEF, JR.
PLS No. 49819

DWG. NAME = 12013-WATERTOWN SALVATION ARMY

APPENDIX C – Drainage Calculations

Watershed 1
Watershed 2
Water Quality
Channel Protection

KEPLINGER FREEMAN ASSOCIATES, PLLC

STORMWATER

Project: **AMERICU CREDIT UNION** Date: **5/11/2012**

Owner: **AMERICU WATERTOWN** Project No.: **31095**

Location: **913 Arsenal Street, Watertown, New York**

Drawings: **Grading and Site Plans** Estimated By: **JRS** **WS-1**

INSERT THE FOLLOWING INFORMATION:		
AREA PAVEMENT:	14060	(f2)
C:	0.9	
AREA GRAVEL:	0	(f2)
C:	0.9	
AREA GRASS:	17060	(ft2)
C:	0.25	
100 YR-24HR COUNTY:	5.5	(in)
PERCOLATION:	0.00626	(in/min)

VOLUMN RUNOFF = 7755 **(ft3 in 24 hr.)**

Pipe Volume = (Pi)(d)^2/4

Pi= 3.14159 3.14

d=pipe diameter in feet 2.0

Pipe Volume = 3.14 cf/lf

Trench Volume = [Trench Width (W)x Trench Height (H)]-Pipe Volume

Trench Width (W) in feet= 7.25

Trench Depth (H) in feet= 5.00

Trench Volume = 11.36 cf/lf

Total Pipe and Trench Volume

Trench Volume = 870 cf

Total Infiltration Capacity of Runoff Volume

Trench Infiltration Volume = 7,846 cf/24 Hours

KEPLINGER FREEMAN ASSOCIATES, PLLC

STORMWATER

Project: **AMERICU CREDIT UNION** Date: **5/11/2012**

Owner: **AMERICU WATERTOWN** Project No.: **31095**

Location: **913 Arsenal Street, Watertown, New York**

Drawings: **Grading and Site Plans** Estimated By: **JRS** **WS-2**

INSERT THE FOLLOWING INFORMATION:		
AREA PAVEMENT:	18563	(f2)
C:	0.9	
AREA GRAVEL:	0	(f2)
C:	0.9	
AREA GRASS:	6201	(ft2)
C:	0.25	
100 YR-24HR COUNTY:	5.5	(in)
PERCOLATION:	0.02500	(in/min)

VOLUMN RUNOFF = **8368** **(ft3 in 24 hr.)**

Pipe Volume = (Pi)(d)^2/4

Pi= 3.14159 3.14

d=pipe diameter in feet 1.00

Pipe Volume = **0.79 cf/lf**

Trench Volume = [Trench Width (W)x Trench Height (H)]-Pipe Volume

Trench Width (W) in feet= 2.00

Trench Depth (H) in feet= 2.00

Trench Volume = **0.81 cf/lf**

Total Pipe and Trench Volume

Trench Volume = **240 cf**

Total Infiltration Capasity of Runoff Volume

Trench Discharge Volume = **8,645 cf/24 Hours**

KEPLINGER FREEMAN ASSOCIATES, PLLC

STORMWATER

Project: **AMERICU WATERTOWN** Date: **5/11/2012**

Owner: **AMERICU WATERTOWN** Project No.: **31095**

Location: **Arsenal Street**

Drawings: **Grading and Site Plans** Estimated By: **JRS**

WQv = (P)(Rv)(A)/12

P= 90% Rainfall Number - Figure 4.1 = **0.90**

Rv= 0.05 + 0.009(I)

Where I = % Added Impervious

Existing Impervious =	0.780	Acres
New Impervious =	0.680	Acres
Total Site Area =	1.135	Acres

New Impervious-Existing Impervious/Total Site Area= % Added Impervious= -0.088

Therefore Rv =0.05 + 0.009(20.00 %) *** use 20 percent

Rv = **0.230**

A= Total Site Area = **1.14 Acres**

Therefore Water Quality Volume WQv =

WQv = [(P)(Rv)(A)]/12 *100%

= **0.020 acre feet**

or

= **852.85 cubic feet**

KEPLINGER FREEMAN ASSOCIATES, PLLC

STORMWATER

Project: **AMERICU WATERTOWN** Date: **5/11/2012**

Owner: **AMERICU WATERTOWN** Project No.: **31095**

Location: **Arsenal Street**

Drawings: **Grading and Site Plans** Estimated By: **JRS**

Calculate Unit Peak Discharge (qu) using TR-55 & Type II Rainfall Distribution

Curve Number (CN) from Hyrdocadd analysis	74
Initial Abstraction (Ia)	0.70
Rainfall (P) - 1 year storm from Exhibit 10.1 NYS Guidelines for Urban Erosion & Sed Control	2.10
Ia/P	0.13
Tc from Hydrocadd analysis in hrs	0.10
Unit Peak Discharge (qu) from TR-55 Exhibit 4-II	900.00
Ratio of Outflow to Inflow (qo/qi) from qu and Figure 8.5)	1.000

Calculate Channel Protection Volume per Appendix B

$$V_s/V_r = 0.682 - 1.43*(q_o/qi) + 1.64*(qo/qi)^2 - 0.804*(qo/qi)^3$$

V_r = runoff volume 1 year post development(acre-fee 0.04 acre-feet

V_s/V_r= 0.088000 (no units)

Therefore V_s = 0.003256 acre-feet

Cpv = **0.003 acre feet**

or

= **141.83 cubic feet**

Calculate Runoff Rate for 24 hr. detention time

Channel Protection Volume =	0.003 acre feet
Time to release Vs =	24 hours
Projected release rate =	**0.00 cfs**

APPENDIX D – Soils Information-Perc Test Results

AmeriCU Watertown, NY Perc Test Results:

Test Done: 5/1/2012

Tester: Todd Lewis

Method: Machine dug holes 7" circular in pre determined locations-field adjustments done to account for surface irregularities in the front only. Locations were very close to original locations cited.

Weather: Clouds, windy

Hole One:	Front parking lot corner
Average Perc	
Time for Three Tests:	13 Minutes
Hole Depth:	33.0"
Soil Material:	Urban Soils at surface, band of rock at 18" sand 18"-32"

Hole Two:	Rear Parking/Loading area near fence
Average Perc	
Time for Three Tests:	3 Minutes
Hole Depth:	36"
Soil Material:	Topsoil for 6" sand 6"-36"

General Notes: Three false starts in the front due to large stones and impenetrable soils. Hole location is in line with light pole adjacent to the entry off of side road. Hole in rear of site is in line with building and off the edge of pavement 8' approximately.

Drain Inlets: Three drain inlet covers were removed and inspected, the drain inlet at the rear of site is free from standing water and shows signs of large debris-tarvia, stones etc. The two drain inlets in the front parking showed heavy sedimentation of fines, soils and were retaining some water. The drain inlet farthest east had standing water. The drain inlet along the drive isle was not removed but displayed moss growing on the riser and sediment in the basin.

Perc. Test Hole No.1

Excavated Soil From Perc. Test Hole No.2

SECTION D
Sanitary Sewer Flows

Sanitary sewage is discharged into the municipal sanitary sewer system located in Arsenal Street from a 4 inch, 213 LF sanitary sewer lateral exiting the east side of the building. The Americu Credit Union will have two bathroom facilities which comply with the New York State Plumbing Code 2007 for type B occupancy generating approximately 350 gallons of sewage per day based on 0.1gal x 3,500SF per day. The sanitary lateral is capable of draining sewage to the municipal sewer at a rate of 0.20 ft/sec. or 0.017 cfs based on the formulas V= (1.49/n)(D^2/3)(s^1/2) and
Q= (πxD^2/4)(V) respectively.

Given the sewer flow rate, the capacity of the 4 inch sanitary lateral at 1 percent/ft slope is 7.63 gallons/minute or 10,987 gal/day. Since the Credit Union is generating only 350 gallons/day the 4 inch sanitary sewer lateral is capable of handling the projected sewerage flows.

SECTION E
Domestic Water Requirements

The building is serviced by a one inch water line connected to an existing 6" municipal water line in Bellew Avenue Extension. The proposed water service is planned to be a 1 inch type K copper water line that conforms to ASTM B88 Standard Specification for seamless Copper Water Tube with a minimum working pressure of 160 psi at 73.4°. The 1 inch pipe, 60 feet long, can supply approximately 58 gpm at 60 psi. If all of the plumbing fixtures operated simultaneously then they would require approximately15 gpm at 60 psi. Since 58 gpm is supplied then the amount of potable water supplied to the Credit Union appears to be adequate.

SECTION F
Traffic Analysis

AmeriCU Watertown
871 Arsenal Street
Watertown, NY

The proposed development includes a 3,500 SF bank with drive through operations. Trip generated by the bank were estimated using the ITE Trip Generation, Land Use 912 – Drive In Bank.
Not all of the trips generated by the development will be new trips entering and exiting the site. A portion of the traffic generated will be drawn from traffic already passing the site on Arsenal Street and is referred to as pass-by trips. For example, a person may stop at the site on their way to work in the morning or on their way home in the evening. Based upon date from ITE Trip Generation Handbook, 2nd Edition, the average percentage of pass-by trips is 47% for a bank with drive through operations. Therefore, a 45% pass-by percentage was assumed for both the morning and evening peak hours.

ITE Trip Generation

Land Use 912 – Drive In Bank

AM Peak Hour	12.35 Trips/1,000 SF	56% Enter	44% Exit
PM Peak Hour	25.82 Trips/1,000 SF	50% Enter	50% Exit

Evening peak hours pass-by rate – Bank = 47%
Assume 45% pass-by credit for both morning and evening peak hours

Trip Generation Summary

Development	Size	Total Trips	Entering	Exiting	Total Trips	Entering	Exiting
Bank	3,500 SF	43	24	19	90	45	45
Pass-by Trips (45%)		20	11	9	40	20	20
Total New Trips Generated		**23**	**13**	**10**	**50**	**25**	**25**

SECTION G
Photometric Plan

The Photometric Plan contained in the site plan submittal, (Sheet L1.8) complys with the City of Watertown standards of light spillage across all property lines shall not exceed 0.5 foot-candles. Maximum light spillage shown on the Lighting Plan is 0.2 foot-candles. Refer to sheet L1.8 Site Planting Plan.

SECTION H
Landscaping

The approach for the landscape plan was to provide planted buffers between the parking areas and Arsenal Street and Bellew Avenue, including a combination of large deciduous trees, small shrubs and lawn area to screen and soften the view of the parking areas from the street. On the north, west and south faces of the building a foundation planting of medium-sized ornamental trees, shrubs and perenials were used to compliment the architecture of the building and enhance the entry experience for customers. Utilities and refuse areas have been screened with evergreen hedges. Also, a planted landscape buffer was employed to create a visually pleasing separation between the AmeriCU property and the residential area to the east. This residential buffer includes a six-foot high vinyl privacy fence and a combination of evergreen trees, ornamental trees and shrubs to soften the fence and screen the view between the residential area and the AmeriCU property. Refer to sheet L1.4 Site Planting Plan.