CITY OF WATERTOWN, NEW YORK
AGENDA

This shall serve as notice that the next regularly scheduled meeting of the City Council will be held on Monday, March 17, 2014, at 7:00 p.m. in the City Council Chambers, 245 Washington Street, Watertown, New York.

MOMENT OF SILENCE

PLEDGE OF ALLEGIANCE

ROLL CALL

ADOPTION OF MINUTES

COMMUNICATIONS

PRIVILEGE OF THE FLOOR

RESOLUTIONS

Resolution No. 1 -	Appointment to the Roswell P. Flower Memorial Library Board of Trustees, Katherine Freund
Resolution No. 2 -	Authorizing the Sale of Surplus Vehicles and Equipment
Resolution No. 3 -	Adopting the Citizen Participation Plan for the Community Development Block Grant Program
Resolution No. 4 -	Approving Contract for Professional Services With Avalon Associates Inc. and Neighbors of Watertown Inc. for a FY 2014 HOME Application to North Country HOME Consortium
Resolution No. 5 -	Authorizing Application for Federal Emergency Management Agency (FEMA) Grant, Fire Department
Resolution No. 6 -	Approving Supplemental No. 1 to Professional Services Agreement, Stantec Consulting Services, Inc.

ORDINANCES

Ordinance No. 1 - An Ordinance Authorizing the Issuance of $550,000 Bonds of the City of Watertown, Jefferson County, New York, to Pay the Costs of the Design for the Reconstruction and Expansion of the City's Fairgrounds Arena, in and for Said City

LOCAL LAW

PUBLIC HEARING

OLD BUSINESS

STAFF REPORTS

1. Purcell Development and the Garland City Trailer Park
2. Impact of Two Tier Approach for Bulk Sales to Town Water Districts
3. Billing Adjustments to Water and Sewer Charges
4. Community Development Block Grant Program Consolidated Plan and Annual Action Plan Public Hearing
5. Board and Commission Appointments
6. Local Government Efficiency (LGE) North Country Regional Shared GIS Services
7. Palmer Street Extension
8. Letter from Watertown Sunday Softball League
9. Letter from New York State Department of Health
10. Spring Drop Off Flyer

NEW BUSINESS

EXECUTIVE SESSION

WORK SESSION

ADJOURNMENT

NEXT REGULARLY SCHEDULED CITY COUNCIL MEETING IS MONDAY, APRIL 7, 2014.

Res No. 1

March 12, 2014

To: Members of the City Council

From: Jeffrey E. Graham, Mayor

Subject: Appointment to the Roswell P. Flower Memorial Library Board of Trustees

We presently have two vacancies on the Flower Memorial Library Board with the recent death of Clancy Hopkins and the resignation of Rodney Abare.

In seeking replacements, we have had strong interest from younger individuals within our community come forward to express interest in serving on this important Board. I have spoken to Katherine Freund and believe she will be an excellent addition as she has a Masters Degree in Library and Information Science and has served as a volunteer at the Library in the past.

After consultation with Director Barbara Wheeler and the Board of Trustees, I respectfully offer her name in nomination to the City Council for its consideration. We are continuing our efforts to fill the second vacancy.

Resolution No. 1

March 17, 2014

RESOLUTION

Appointment to the Roswell P. Flower Memorial Library Board of Trustees, Katherine Freund

	YEA	NAY
Council Member BURNS, Roxanne M.		
Council Member BUTLER, Joseph M. Jr.		
Council Member JENNINGS, Stephen A.		
Council Member MACALUSO, Teresa R.		
Mayor GRAHAM, Jeffrey E.		
Total		

Introduced by

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BE IT RESOLVED by the City Council of the City of Watertown, New York, that Katherine Freund, 1535 State Street, Watertown, New York, is hereby appointed to the Roswell P. Flower Memorial Library Board of Trustees, to f ill the unexpired term of J. Clancy Hopkins, which term expires December 31, 2018.

Seconded by

KATHERINE FREUND
1535 State St.
Watertown, NY 13601
[redacted]

Friday, February 21, 2014

Mayor Jeffrey E. Graham
City Hall
245 Washington St, Rm 302A
Watertown, NY 13601

Dear Mr. Graham:

As a volunteer at the Roswell P. Flower Memorial Library, I recently became aware of the open position on the board of trustees. This would be a wonderful opportunity that aligns with both my educational background and my personal interests.

My experience in the public library, combined with my Masters degree in Library and Information Science offer a deep knowledge of services provided by the public library in addition to knowledge of the importance of the library's involvement in the community and the value the public library provides to community members. From my internship at Flower Memorial Library I saw first hand that the library provides services to a wide range of community members from all backgrounds and has a rich history.

I would love to take part in helping this library meet the needs of the community and to facilitate the evolution of public libraries in the 21st century.

Although I met with you at the Emma Flower Tea Party hosted by the library last year, I still greatly appreciate the time to meet with you again and discuss volunteering at the library on the board of trustees.

Please contact me at [redacted]. I look forward to hearing from you.

Sincerely,

KATHERINE FREUND

Res No. 2

March 6, 2014

To: The Honorable Mayor and City Council

From: Sharon Addison, City Manager

Subject: Authorizing the Sale of Surplus Vehicles and Equipment

City of Watertown has surplus vehicles and equipment that are either no longer useful or beyond repair and therefore no longer of value.

As stated in the attached report of Purchasing Manager Pastuf, the items on the list are located at the Department of Public Works on Newell Street and could be sold through Auctions International's online website.

A resolution is attached for City Council consideration.

Resolution No. 2

March 17, 2014

RESOLUTION

Authorizing the Sale of Surplus Vehicles and Equipment

	YEA	NAY
Council Member BURNS, Roxanne M.		
Council Member BUTLER, Joseph M. Jr.		
Council Member JENNINGS, Stephen A.		
Council Member MACALUSO, Teresa R.		
Mayor GRAHAM, Jeffrey E.		
Total		

Introduced by

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WHEREAS the City of Watertown has accumulated surplus vehicles and equipment at the Department of Public Works, the listing of which is attached and made a part of this resolution, and

WHEREAS these items may have some value best determined by on-line auction, and

NOW THEREFORE BE IT RESOLVED by the City Council of the City of Watertown, New York, that it hereby authorizes the sale, by on-line auction, of surplus vehicles and equipment from the Department of Public Works, and

BE IT FURTHER RESOLVED that final acceptance of such bids shall constitute acceptance of the same by the City Council.

Seconded by

SURPLUS VEHICLES/EQUIPMENT

The following vehicles/items are surplus to the City's needs. These pieces are located at the Department of Public Works on Newell Street.

- **1999 Dodge 2500 series pickup w/Reading service body: City ID 6-003**---The truck was assigned to the Electric Department and has been replaced. It has no value to the City. It is in extremely poor condition.

- **1994 International 6 person dump truck; City ID 1-040**---This truck was used in road maintenance and is scheduled to be replaced as soon as an available contract is available. It is very poor condition due to age and hours of use.

- **Sand Star II field groomer**---This piece of equipment does not run and has been replaced at Parks and Recreation. It has no value to the City of Watertown.

- **Fluorescent shop lights**---Fluorescent shop lights all have certain problems (broken retractors, cracked handles) that make them not feasible to repair.

- **12 volt pump for portable fuel transfer tank**---Pump for portable fuel tank. Surplus to the City's needs.

CITY OF WATERTOWN, NEW YORK

ROOM 205, CITY HALL
245 WASHINGTON STREET
WATERTOWN, NEW YORK 13601-3380
E-MAIL APastuf@watertown-ny.gov
☎(315) 785-7749 🖷(315) 785-7752

1869

Amy M. Pastuf
Purchasing Manager

MEMORANDUM

TO: Sharon Addison, City Manager

FROM: Amy M. Pastuf, Purchasing Manager

SUBJECT: Surplus Sale of Vehicles and Equipment

DATE: 3/6/2014

The Purchasing Department is requesting City Council's permission to auction surplus vehicles and equipment from Public Works through the Auctions International on-line website. The Public Works Department has determined that the vehicles and equipment on the attached list are either no longer useful or beyond repair and therefore no longer of value to the City. This request is for the City Council to authorize the Purchasing Department to accept the highest offer at time of sale provided the offer meets or exceeds the estimated scrap value.

Thank you for your consideration in this matter.

Copy: Jim Mills, City Comptroller
Eugene Hayes, Superintendent of Public Works

Enclosures

Res No. 3

March 11, 2014

To: The Honorable Mayor and City Council

From: Kenneth A. Mix, Planning and Community Development Coordinator

Subject: Community Development Block Grant Program Citizen Participation Plan

One of the requirements of the Community Development Block Grant (CDBG) Program is the adoption of a Citizen Participation Plan. The Citizen Participation Plan details how the City plans to involve residents, community organizations and agencies as the City develops its Consolidated Plan and Annual Action Plans for the CDBG Program.

The City's draft Citizen Participation Plan was published on January 30, 2014. A notice of a required 30-day public comment period for the plan was published in the *Watertown Daily Times* on February 3, 2014. The 30-day public comment period lasted from February 3, 2014 through March 5, 2014.

Copies of the plan were made available for public viewing at City Hall, the Flower Memorial Library, in several Watertown Housing Authority buildings and on the City's web site. The draft plan and notification of the public hearing date was also distributed to local constituency groups and organizations identified on page three of the plan.

On February 14, 2014, a public hearing notice was also published in the *Watertown Daily Times*. The City Council held the public hearing on the proposed plan on March 3, 2014.

During the 30-day public comment period and during the public hearing, the City did not receive any comments on the draft Citizen Participation Plan. Now that the comment period is over and the public hearing has been held, the City Council can adopt the plan.

A resolution has therefore been prepared for Council consideration that adopts the Citizen Participation Plan for the City's Community Development Block Program.

Resolution No. 3

March 17, 2014

RESOLUTION

Adopting the Citizen Participation Plan for the Community Development Block Grant Program

	YEA	NAY
Council Member BURNS, Roxanne M.		
Council Member BUTLER, Joseph M. Jr.		
Council Member JENNINGS, Stephen A.		
Council Member MACALUSO, Teresa R.		
Mayor GRAHAM, Jeffrey E.		
Total		

Introduced by

_____

WHEREAS Section 104 (a) (3) of the Housing and Community Development Act of 1974 and Federal Regulations (24 CFR 91.105) require that the City of Watertown adopt a Citizen Participation Plan for its Community Development Block Grant (CDBG) Program, and

WHEREAS, the Citizen Participation Plan details how the City plans to involve residents, community organizations and agencies as the City develops its Consolidated Plan, Annual Action Plans and the Consolidated Annual Performance and Evaluation Report (CAPER) for the CDBG Program, and

WHEREAS the City's draft Citizen Participation Plan was published on January 30, 2014 and a 30-day public comment period was held from February 3, 2014 to March 5, 2014, and

WHEREAS copies of the draft plan were made available for public viewing at City Hall, the Flower Memorial Library, in several Watertown Housing Authority buildings, on the City's web site and was distributed to local constituency groups and organizations identified in the plan, and

WHEREAS a notice of the public hearing was published in the *Watertown Daily Times* and the City Council held a public hearing on the proposed plan on March 3, 2014 at 7:30 p.m., and

WHEREAS during the 30-day public comment period and during the public hearing, no public comments were received on the draft Citizen Participation Plan,

NOW THEREFORE BE IT RESOLVED that the City Council of the City of Watertown hereby adopts the attached Citizen Participation Plan for its CDBG Program.

Seconded by

CITIZEN PARTICIPATION PLAN

City of Watertown, New York
Community Development Block Grant Program

City of Watertown
Planning Office
245 Washington Street
Watertown, NY 13601
Phone: (315) 785-7730

Prepared by the City of Watertown Planning Office
Published: January 30, 2014
Public Comment Period: February 3, 2014 – March 5, 2014
Public Hearing Date: March 3, 2014
Date of Adoption: March 17, 2014

City of Watertown, New York
Community Development Block Grant Program
Citizen Participation Plan

Introduction

This Citizen Participation Plan is adopted in accordance with Section 104 (a) (3) of the Housing and Community Development Act of 1974 and Federal regulations (24 CFR 91.105) and is intended to serve as a guide for how the City of Watertown (the City) will involve citizens in the process of developing its Community Development Block Grant (CDBG) Program. The following Citizen Participation process will ensure that residents and community organizations have ample opportunity to review and comment on the City's CDBG Program, the Consolidated Plan and the Annual Action Plans and the Consolidated Annual Performance and Evaluation Report.

The law requires that this Citizen Participation Plan outline ways in which the City will provide for and encourage citizen participation, with an emphasis on low and moderate income people, particularly those who reside in low and moderate income neighborhoods. The City will strive to exceed the U.S. Department of Housing and Urban Development's (HUD) requirements by involving its citizens and those community groups most familiar with the needs of low and moderate income people. This strategy will provide meaningful citizen participation that will improve the quality of the services and programs that the CDBG Program provides and will make the City's Consolidated Plan truly representative of the community's needs.

Targeted Groups and Populations for Citizen Participation

The City of Watertown will encourage the participation of all citizens in all aspects of its Community Development Block Grant Program. In preparing the Citizen Participation Plan, Consolidated Plan, the Annual Action Plan, and the Consolidated Annual Performance and Evaluation Report (CAPER), the City shall contact, inform, and encourage participation by public and private agencies that provide assisted housing, health and social service agencies, homeless service providers, child welfare agencies regarding lead-based paint, and other agencies that serve the low to moderate income population in the City. The City will also contact adjacent units of local government for community development needs, economic development agencies, local and regional institutions and other organizations.

The City has identified the following constituency groups and organizations to be particularly targeted for outreach efforts when developing the Citizen Participation Plan, the Consolidated Plan, the Annual Action Plans, the CAPER, and to provide notice of pending meetings and public hearings:

Advantage Watertown
AIDS Community Resources, Inc.
Catholic Charities
Community Action Planning Council of Jefferson County
Development Authority of the North Country
Jefferson County Department of Social Services
Jefferson County Industrial Development Agency
Jefferson County Office for the Aging
Jefferson County Planning Department
Jefferson County Public Health
Lewis County Opportunities, Inc.
Neighbors of Watertown, Inc.
North Country Affordable Housing, Inc.
Northern New York Community Foundation, Inc.
Northern Regional Center for Independent Living, Inc.
Points North Housing Coalition
Town of Pamelia
Town of Watertown
Transitional Living Services of NNY
Victims Assistance Center of Jefferson County, Inc.
Watertown Housing Authority
Watertown Local Development Corporation
Watertown Urban Mission

Citizen Comment on the Citizen Participation Plan and Amendments

The City's original Citizen Participation Plan and subsequent amendments to it are subject to full disclosure, review and public comment prior to the approval of the plan by the City Council of the City of Watertown. Prior to taking action on the Citizen Participation Plan and approving any substantial amendments to it in the future, the City shall take the following steps:

1. Full copies of the Citizen Participation Plan and amendments to it will be made available for public viewing at the following locations:

    - City of Watertown Clerk's Office, City Hall, 245 Washington St., Watertown, NY 13601
    - City of Watertown Planning Office, City Hall, 245 Washington St., Watertown, NY 13601
    - City of Watertown's website at www.watertown-ny.gov
    - Roswell P. Flower Memorial Library, 229 Washington Street, Watertown, NY 13601
    - Watertown Housing Authority Offices, 142 Mechanic Street, Watertown, NY 13601

The copies will be made available to the public a minimum of 15 calendar days before the City of Watertown's public hearing on the Citizen Participation Plan or subsequent amendments. Any citizen, agency or business may also request that a free copy of the plan be mailed to them. The plan will be placed in a format accessible to persons with disabilities or non-English speaking individuals, upon request. There will be a 30 day comment period for citizens to comment on the Citizen Participation Plan or subsequent amendments.

2. The City Council will schedule a public hearing on the plan or any substantial amendments. The City will place an advertisement in the City's official newspaper, the *Watertown Daily Times,* notifying the public of the date, time and location of the public hearing and the availability of the plan or future amendments. The notice will be published a minimum of 15 days prior to the hearing and will include information on where to view the plan, how to request a copy and will include information on how citizens can comment on the plan.

3. The City Planning Office will issue a separate notice via email to all constituency groups and organizations identified above, notifying them of the public hearing and that the Citizen Participation Plan or amendment is available for review and comment.

4. Planning Office Staff and the City of Watertown City Council will consider any comments or views of citizens received in writing, or orally at the public hearing. A summary of public comments will be developed and included as an appendix to the plan.

5. At a City Council meeting after the public hearing and at the conclusion of the 30 day comment period, the City Council will take action on the Citizen Participation Plan or any substantial amendments to it.

Citizen Comment on the Consolidated Plan and Annual Action Plans

The Consolidated Plan serves as a planning document as well as a vehicle for the establishment of project funding priorities. This section of the Citizen Participation Plan describes how the City plans to garner citizen input to develop funding priorities and projects for each fiscal year and the development of the Annual Action Plan.

The City's Consolidated Plan and Annual Action Plans are subject to full disclosure, review and public comment prior to the approval of the plan by the City Council of the City of Watertown. Prior to taking action on the Consolidated Plan and Annual Action Plans, the City shall take the following steps:

1. The City Council will schedule a public hearing to obtain input from citizens, involved agencies and interested persons on activities to be included in the Consolidated Plan and/or Annual Action Plan. The public hearing will be advertised in the City's official newspaper, *Watertown Daily Times* notifying the public of the

date, time and location of the public hearing. The notice will be published a minimum of 15 days prior to the hearing date and will be held at the start of the development of the Consolidated Plan and/or Annual Action Plan. Provisions will be made at the hearing for non-English speaking residents, upon request, in the case where a significant number of non-English speaking residents can reasonably be expected to participate.

2. The City Planning Office will issue a separate notice via email to all constituency groups and organizations identified above, notifying them that the planning process for drafting the Consolidated Plan and/or the Annual Action Plan is beginning.

3. The City Planning Office will then schedule meetings with any interested constituency groups and organizations to identify community needs, obtain input, determine funding priorities and develop potential projects ideas.

4. Following the public hearing and outreach to constituency groups and organizations, the City will then prepare a draft of the Consolidated Plan and/or Annual Action Plan. Following the preparation of the draft plan(s), the City will notify the public by placing an advertisement in the Watertown Daily Times that the draft plan(s) is available. The notice will include a summary of the proposed Consolidated Plan and/or Annual Action Plan. The notice will also include information on where to view the plan, how to request a copy and will include information on how citizens can comment on the plan. There will be a 30 day comment period for citizens to comment on the Consolidated Plan and/or Annual Action Plan. The draft plan(s) will include the following:

    - The amount of CDBG funds expected to be made available for the coming year, including the grant and anticipated program income.

    - The range of activities that may be undertaken with CDBG funds.

    - The estimated amount of funds proposed to be used for activities that will benefit low and moderate-income person.

    - Any displacement that may occur as a result of CDBG activities and the City's plans, consistent with policies developed under Section 570.606(b), for minimizing displacement of persons as a result of proposed activities.

    - The types and levels of assistance the City plans to make available (or require subrecipients to make available) to persons displaced by CDBG funded activities, even if the City expects no displacement to occur.

5. Full copies of the draft Consolidated Plan and/or Annual Action Plan will be made available for public viewing at the following locations:

- City of Watertown Clerk's Office, City Hall, 245 Washington St., Watertown, NY 13601
- City of Watertown Planning Office, City Hall, 245 Washington St., Watertown, NY 13601
- City of Watertown's website at www.watertown-ny.gov
- Roswell P. Flower Memorial Library, 229 Washington Street, Watertown, NY 13601
- Watertown Housing Authority Offices, 142 Mechanic Street, Watertown, NY 13601

   Any citizen, agency or business may also request that a free copy of the plan(s) be mailed to them. The plan(s) will be placed in a format accessible to persons with disabilities or non-English speaking individuals, upon request.

6. All comments received in writing or orally at the public hearing will be recorded and considered in the formulation of the final plan. A summary of these comments or views, and a summary of any comments or views not accepted and the reasons therefor, will be included in the Plan.

7. At the conclusion of the of the 30 day comment period, the Consolidated Plan and/or Annual Action Plan will be finalized. The City Council will then take action to adopt the plan(s). The adopted plan will then be submitted to HUD 45 days prior to the start of the next program year. The adopted plan will also be made available to the public for viewing at the City's Planning Office as well as on its website. The adopted plan will be made available for public viewing and shall be kept on file at the locations noted above. Free copies of the final plan will be available to the public upon request.

Citizen Comment on the Consolidated Annual Performance and Evaluation Report

The City of Watertown will monitor all projects to determine the effectiveness of its CDBG Program in meeting the described goals in the Consolidated Plan. At the conclusion of each program year, the City will submit a Consolidated Annual Performance and Evaluation Report (CAPER) to HUD. The CAPER is subject to full disclosure, review and public comment prior to the submission of it to HUD. Prior to taking action on the CAPER, the City shall take the following steps:

1. The City Planning Office will complete the CAPER and make copies of it available for public viewing at the following locations:

   - City of Watertown Clerk's Office, City Hall, 245 Washington St., Watertown, NY 13601
   - City of Watertown Planning Office, City Hall, 245 Washington St., Watertown, NY 13601
   - City of Watertown's website at www.watertown-ny.gov
   - Roswell P. Flower Memorial Library, 229 Washington Street, Watertown, NY 13601
   - Watertown Housing Authority Offices, 142 Mechanic Street, Watertown, NY 13601

   The copies will be made available to the public a minimum of 15 calendar days before a scheduled public hearing for public review and comment. Free copies of the CAPER will be available to the public upon request.

2. The City Council will schedule a public hearing on the CAPER and will place an advertisement in the City's official newspaper, the *Watertown Daily Times,* notifying the public of the availability of the CAPER for public viewing and comment. The notice will be published a minimum of 15 days prior to the public hearing date and will include information about the date, time and location of a public hearing that will be held. The advertisement will also include information on where to view the CAPER, how to request a copy and will include information on how citizens can comment on the CAPER.

3. The City Planning Office will issue a separate notice via email to all constituency groups and organizations identified above, notifying them that the CAPER is available for review and comment.

4. Planning Office Staff and the City of Watertown City Council will consider all comments or views of citizens received in writing, or orally at the public hearing. A summary of these comments or views will be developed and included in the CAPER submission to HUD.

Substantial Amendments to the Consolidated Plan and Annual Action Plan

Occasionally, it may be necessary for the City to process a "Substantial Amendment" to the Consolidated Plan or the Annual Action Plan to allow for new CDBG funded activities or the modification of existing activities. The City will solicit and provide for citizen participation in all instances where a substantial amendment is necessary. The City is required in accordance with 24 CFR 91.505 (b) to define the criteria it will use for determining what constitutes a substantial amendment. The following criteria will be used by the City:

1. A substantial change in allocation priorities (any change greater than 25 percent in an individual project budget) or a substantial change in the method of distribution of funds.

2. To carry out an activity, using funds from any program covered by the Consolidated Plan (including program income), not previously described in the Annual Action Plan.

3. To change the purpose, scope, location, or beneficiaries of an activity by more than 25% of the total funds previously authorized.

Changes that are not considered substantial amendments:

1. Changes to the CDBG budget for a project by an amount that is less than 25%.

2. Consolidated Plan data updates such as census data, income limits and fair market rents, home subsidy limits and similar types of data shall not be considered a substantial amendment.

3. Minor change in project location. A minor change in location is not considered a substantial change as long as the purpose, scope, and intended beneficiaries remain essentially the same.

4. Project budget line item change: The transfer of some (but not all) funds within a project from one approved budget line item to another approved budget line.

Where it is determined that a substantial amendment to the Consolidated Plan or Annual Action Plan is necessary, the City will provide an opportunity for public comment. Amendments are subject to full disclosure, review and public comment prior to the approval of the amendment by the City Council. Prior to taking action on any substantial amendments, the City shall take the following steps:

1. The City Council will schedule a public hearing to obtain input from citizens, involved agencies and interested persons on the proposed amendment. The public hearing will be advertised in the City's official newspaper, the *Watertown Daily Times,* notifying the public of the date, time and location of the public hearing. The notice will be published a minimum of 15 days prior to the hearing date and will include information about the proposed amendment.

2. There will be a 30 day public comment period for citizens to comment on the proposed amendment to the consolidated plan. The only exception to the 30 day public comment period is such a case in which this requirement is waived by HUD.

3. The City Planning Office will issue a separate notice via email to all constituency groups and organizations identified above, notifying them of the proposed amendment.

4. The City will collect citizen comments and summarize them in the amendment submitted to HUD.

5. Full copies of the proposed amendment will be made available for public viewing at the following locations:

- City of Watertown Clerk's Office, City Hall, 245 Washington St., Watertown, NY 13601
- City of Watertown Planning Office, City Hall, 245 Washington St., Watertown, NY 13601
- City of Watertown's website at www.watertown-ny.gov
- Roswell P. Flower Memorial Library, 229 Washington Street, Watertown, NY 13601
- Watertown Housing Authority Offices, 142 Mechanic Street, Watertown, NY 13601

   Any citizen, agency or business may also request that a free copy of the amendment be mailed to them. The amendment will be placed in a format accessible to persons with disabilities or non-English speaking individuals, upon request.

6. All comments received in writing or orally at the public hearing will be recorded and considered in preparing the amendment. A summary of these comments or views,

and a summary of any comments or views not accepted and the reasons therefor, will be included in the Plan.

7. At the conclusion of the of the 30 day comment period, the amendment will be finalized. The City Council will then take action to adopt the amendment. The adopted amendment will be made available to the public for viewing at the City's Planning Office as well as on its website. The adopted amendment will also be made available for public viewing and shall be kept on file at the locations noted above. Free copies of the final plan will be available to the public upon request.

8. The City will then submit a copy of the amendment to HUD.

Standard Policies and Procedures for Citizen Participation

All residents of the City of Watertown are encouraged to participate and comment on proposed and actual uses of CDBG funds. The following policies and procedures are designed to reasonably encourage and accommodate such participation:

1. Availability to the Public – All drafts and final documents related to the City's CDBG Program including the Citizen Participation Plan, the Consolidated Plan, Substantial Consolidated Plan Amendments, the Annual Action Plan and the CAPER shall be available and kept on file at the following locations:

   - City of Watertown Clerk's Office, City Hall, 245 Washington St., Watertown, NY 13601
   - City of Watertown Planning Office, City Hall, 245 Washington St., Watertown, NY 13601
   - City of Watertown's website at www.watertown-ny.gov
   - Roswell P. Flower Memorial Library, 229 Washington Street, Watertown, NY 13601
   - Watertown Housing Authority Offices, 142 Mechanic Street, Watertown, NY 13601

   Any citizen, agency or business may also request that a free copy of these documents be mailed to them. The documents will be placed in a format accessible to persons with disabilities or non-English speaking individuals, upon request.

2. Meetings, Information, and Access to Records - The City will give timely and reasonable notice of, and access to, local meetings and hearings where CDBG matters are planned for discussion. This will be accomplished through local media notification and posting of meeting and hearing notices. Furthermore, records and information relating to CDBG plans and activities will also be available to the public (as may be limited by confidential individual statistics and New York State Freedom of Information Laws).

3. Technical Assistance - The City planning office will provide technical assistance to groups representing low to moderate-income individuals in developing supporting or alternative proposals for CDBG programming. This assistance will be considered if requested and if staff resources are available. The level and type of assistance available will be at the City's discretion. Availability of such technical assistance shall be regularly evaluated and documented.

4. Public Hearings - The City will hold two annual public hearings at different stages of annual CDBG process. Exact scheduling will be dependent on CDBG funding cycles. These hearings will address the City's housing needs, development of proposed activities, and review of program performance. One hearing will also address the City's annual Performance Assessment Report. All public hearings will be held during evening hours at Watertown City Hall, 245 Washington Street, Watertown, NY 13601. The hearings will be held in the City Council Chamber, Room 303. Both City Hall and the meeting room are accessible to persons with disabilities. Notice of the hearings will conform to City Law. Materials will be provided, if requested, in formats suitable for the visually and hearing impaired.

5. Special Language Accommodations - Accommodations will be made available at public hearings to meet the needs of non-English speaking residents where a significant number of non-English speaking residents can be reasonably expected to participate, though participation of such residents is not expected given the low percentage of non-English speaking residents within the City.

6. Citizen Complaints - All written citizen complaints regarding the City's CDBG programs will be responded to within 15 working days of receiving such complaints.

7. Citizen Participation by Low and Moderate Income Residents - To encourage participation by low and moderate-income residents, notices of hearings and CDBG planning sessions will be provided to the non-profit housing agencies and human service organizations listed above. These agencies are representative of groups that directly provide assistance to the City's low and moderate-income population. Through this notification process, these agencies will be encouraged to notify beneficiaries of the CDBG planning process and the opportunities for input through this Citizen Participation Plan.

8. Publication of Consolidated Plan/Annual Action Plan - The City will publish a summary of any proposed CDBG Consolidated Plan and/or Annual Action Plan in the City's official newspaper. Such summary will briefly describe the contents of the Consolidated Plan, the proposed activities to be undertaken and their relationship to local community objectives. The summary will inform the public when full versions of the Consolidated Plan will be available for review.

   The public will have the opportunity to examine the Plan's contents and submit comments on the Plan and the performance of the applicant. The availability of the annual Consolidated Annual Performance and Evaluation Report (CAPER) is also published to give citizens the opportunity to comment on the City's performance with regard to its CDBG programs.

9. Preparation of Final Consolidated Plan - The final Consolidated Plan will include consideration, if appropriate, of comments and views received during the comment period for the proposed Consolidated Plan. As with all requests for Federal assistance, the final Plan will be available for public review.

Anti-Displacement Policies

The City of Watertown will administer its CDBG Program in full compliance with federal anti-displacement strategies. Before obligating or expending funds that will directly result in such demolition or conversion, the City will make public and submit to the Buffalo Field Office of HUD all required information including a description of the assisted activity, the general location on a map, number of dwelling units affected, a time schedule, the general location and number of proposed replacement units, the source of funding for replacement units, and the basis for concluding that each replacement unit will remain a low and moderate income unit for at least ten years from the date of initial occupancy.

Program Year and Citizen Participation Schedule

Start of Program Year – July 1st

Consolidated Plan and/or Annual Action Plan public hearing	Mid March
Consolidated Plan and/or Annual Action Plan 30-day public comment period	April 1st – May 1st
City Council vote authorizing submission of the Consolidated Plan and/or Annual Action Plan	1st week in May
Consolidated Plan and/or Annual Action Plan submission deadline	May 15th
End of program year	June 30th
CAPER Available in draft form for citizen review and comment	September 1st
Public Hearing on program performance	3rd week in September
CAPER submission to HUD	September 30th

Summary of Public Comments Received on the Citizen Participation Plan

A 30-day public comment period on the City's draft Citizen Participation Plan was held from February 3, 2014 through March 5, 2014. A public hearing was also held on the plan on March 3, 20114. Copies of the plan were made available for public viewing at City Hall, the Flower Memorial Library, in several Watertown Housing Authority buildings and on the City's web site. The draft plan and notification of the public hearing date was also distributed to local constituency groups and organizations identified on page three of the plan.

During the 30-day public comment period and during the public hearing, the City did not receive any comments on the draft Citizen Participation Plan. Therefore no changes were made to the draft plan and the City Council adopted it on March 17, 2014.

Res No. 4

March 10, 2014

To: The Honorable Mayor and City Council

From: Kenneth A. Mix, Planning and Community Development Coordinator

Subject: Approving Contract for Professional Services with Avalon Associates, Inc. and Neighbors of Watertown, Inc. for a FY 2014 HOME Application to North Country HOME Consortium

On January 7, 2013 the City Council selected Avalon Associates, Inc. as its Community Development Consultant for the Small Cities Community Development Block Grant program and the HOME Investment Partnership program for a period of up to three years (2013, 2014 and 2015).

A proposed contract with Avalon Associates, Inc. and Neighbors of Watertown, Inc. for the FY 2014 North Country HOME Consortium application is attached. The services to be provided by Avalon Associates, Inc. include writing the application, and assisting with the administration and program delivery of the housing program if the application is funded. Neighbors of Watertown, Inc. will provide the local program delivery staff. The cost of the grant application will be based upon Avalon's hourly rates, not to exceed $3,500 plus reimbursement of expenses. The program delivery services will be provided for a fixed fee of $2,250 per unit, which will be paid for by the grant.

A resolution approving the proposed contract has been prepared for City Council consideration.

Resolution No. 4

March 17, 2014

RESOLUTION

Approving Contract for Professional Services With Avalon Associates Inc. and Neighbors of Watertown Inc. for a FY 2014 HOME Application to North Country HOME Consortium

	YEA	NAY
Council Member BURNS, Roxanne M.		
Council Member BUTLER, Joseph M. Jr.		
Council Member JENNINGS, Stephen A.		
Council Member MACALUSO, Teresa R.		
Mayor GRAHAM, Jeffrey E.		
Total		

Introduced by

_____

WHEREAS grant funding is available through the North Country HOME Consortium to support local housing programs, and

WHEREAS Avalon Associates Inc. has been selected as the City of Watertown's community development consultant for the HOME Investment Partnership Program, and

WHEREAS a Contract for Professional Services between the City of Watertown, Avalon Associates Inc. and Neighbors of Watertown Inc. has been drafted, a copy of which is attached and made part of this resolution,

NOW THEREFORE BE IT RESOLVED by the City Council of the City of Watertown, New York, that it hereby approves the Contract for Professional Services with Avalon Associates Inc. and Neighbors of Watertown Inc. for a FY 2014 HOME Investment Partnership Program application to the North Country HOME Consortium, and

BE IT FURTHER RESOLVED that the City Manager, Sharon Addison, is hereby authorized and directed to execute the contract on behalf of the City Council.

Seconded by

CONTRACT FOR PROFESSIONAL SERVICES

BY AND BETWEEN

CITY OF WATERTOWN

AND

NEIGHBORS OF WATERTOWN

AND

AVALON ASSOCIATES, INC.
Community Development Consultant

THIS AGREEMENT, made as of the 1st day of March 2014, by and between the City of Watertown, (the "City") and Neighbors of Watertown (the "Program Coordinator") and Avalon Associates, Inc., Community Development Consultant of Glens Falls, New York, (the "Consultant"), details the terms and conditions applicable to the following "Project":

Application preparation, program development activities and general advisory services required for administration of local community development activities funded under the HOME Investment Partnerships Program administered by the North Country HOME Consortium for Program Year 2014

It is understood that the services detailed in Section II.B, II.C, and II.D of this Agreement will be required only if a grant is awarded to the City by the North Country HOME Consortium. Otherwise, no services will be required beyond the application preparation detailed in Section II.A.

I. EMPLOYMENT OF THE CONSULTANT

The City hereby engages the Consultant and the Consultant agrees to perform the services detailed in this Agreement. The services of the Consultant are to commence upon execution of this Agreement and be undertaken in an expeditious manner in order to accomplish the purposes of the Agreement and meet schedules and deadlines established by the parties to this Agreement or by other Agencies involved in the Project. Unless terminated earlier according to Section IV of this Agreement, the services of the Consultant shall continue until completion of all HOME activities and close-out of the grant.

II. SCOPE OF SERVICES

The Consultant shall work with local officials and representatives of Neighbors of Watertown to identify activities that will be appropriate for HOME funding and help gather information, conduct surveys, analysis, etc. as required to complete an application for funding before the deadline established by the North Country HOME Consortium.

A. Application:

The Consultant shall prepare and file a complete application which complies with the regulations and funding criteria established by the North Country HOME Consortium for the HOME Investment Partnership Program, including but not limited to:

1. Program Design

Design of a program of activities that fits the HOME application requirements and addresses the rating criteria for this application.

2. Application Preparation

Information gathering, analysis, documentation, etc. as required to complete the application and address all rating criteria. One copy of the application will be submitted to the North Country HOME Consortium (plus a complete copy on CD) and one copy will be provided for the City and one copy will be provided for Neighbors of Watertown.

3. Meetings

Attendance at meetings in Watertown or any other location as needed to develop the program proposed for this application.

4. Services by Others

The following services required for work to be performed by the Consultant will be provided by the City or Neighbors of Watertown or other agencies that will be involved in the Project. These activities will be coordinated with the work of the Consultant and done in a timely manner to assure completion of the application within the schedule established by the North Country HOME Consortium.

a. Assistance with surveys and documentation required to detail the existing conditions that will be addressed by the proposed program.

b. Inspections in selected properties and preparation of work writeups and cost estimates to be used as samples for the application.

c. Photographs of the individual properties proposed for assistance under the program.

d. Preparation of maps and other graphics required for the application.

e. Collection of support letters and other documentation of local commitments for the proposed program.

f. Scheduling of and attendance at all public hearings required for the project.

g. Resolutions that are required for submission of the application.

B. Program Development and Administration:

If the application is successful, the Consultant shall assist local officials in the completion of all activities necessary to execute a Grant Agreement and begin the program, including:

1. Files, Records, and Accounts

Assistance in establishing local files and records for the HOME Program.

2. Environmental Clearance

Assistance with Environmental Reviews necessary to assure compliance with the State Environmental Quality Review Act, including:

a. Analysis of adverse impacts and review of alternatives to mitigate those problems for the proposed activities.

b. Documentation of the Environmental Assessment including all required findings, resolutions, notices and reports.

3. Program Guidelines

Assistance with development of guidelines and procedures for implementation of the HOME Improvement Program, including:

a. **Program Manual** with final, approved guidelines and procedures for use by local program administrators.

b. **Forms** - a complete set of forms required for processing applications for assistance under the local program.

4. General Advisory Services:

The Consultant shall provide advice and assistance at the direction of local officials during administration of the HOME Program. These services may include:

a. **Technical Assistance** - assistance with general procedures and analysis of projects being considered for financing assistance under the program.

b. **Monitoring & Documentation** - monitoring and documentation as needed to assure proper performance under the local Guidelines and Procedures.

c. **Reports** - preparation of various reports required to document compliance with applicable federal and state regulations and local program guidelines for each project.

C. Program Delivery:

The Consultant shall provide advice and assistance during implementation of the program. With approval by the City, a portion of this work may be subcontracted to a local Program Coordinator; and in that event, the Consultant is not responsible for the activities of the Program Coordinator or others who might be involved with day-to-day activities in the Community. However, all activities will be coordinated by the Consultant who will advise the Community regarding actions required to assure completion of the program on schedule and within the budget established for those activities.

1. Assistance to Property Owners

If the program includes activities to promote housing rehabilitation, the Consultant and the local Program Coordinator will work with eligible property owners to help them decide what improvements are needed and arrange for qualified contractors to complete that work in compliance with all local, state and federal rules and regulations, as follows:

a. Explanation of the program, it's objectives and eligibility requirements both at public meetings and in response to inquiries from property owners.

b. Inspection of eligible properties to identify deficiencies that may be addressed with assistance under the program.

c. Lead-based paint inspections (using qualified staff or contractors) to identify problems that should be addressed during rehabilitation activities.

d. Preparation of work write-ups detailing the improvements needed in each property and including estimates of the cost of this work if performed by qualified contractors.

e. Qualification of contractors who will be permitted to work under the program.

f. Computation of the assistance that may be available for work on each property.

g. Assistance in securing competitive bids from qualified contractors for the work to be done on each property.

h. Review of bids for contract awards to be made by property owners.

i. Computation of final grant awards and recommendation for approval by the Community for each eligible property.

j. Periodic inspections of work in progress, including at a minimum, on-site inspections before approval of any progress payments.

k. Final inspection before approval of final payment on each property.

l. Clearance testing (using qualified staff or contractors) to certify that lead-based paint hazards have not been created by the work completed under this program.

2. Assistance to First-time Home Buyers

If the program includes activities to promote home ownership, the Consultant and the local Program Coordinator will work with eligible applicants to help them qualify as first-time buyers and locate a suitable home that is for sale in the City. Where needed, rehabilitation improvements will be made in those properties to correct code violations and eliminate any other problems that could become a financial hardship to the home owner, as follows:

a. Explanation of the program, it's objectives and eligibility requirements both at public meetings and in response to inquiries from applicants.

b. Special Home Ownership Counseling to help applicants prepare for home ownership and decide what they can afford with assistance under the program.

c. Assistance with purchase negotiations and mortgage applications to local banks who will provide primary financing for each project.

d. Inspection of selected properties to identify deficiencies that may be addressed with assistance under the program.

e. Lead-based paint inspections (using qualified staff or contractors) to identify problems that should be addressed during rehabilitation activities.

f. Preparation of work write-ups detailing the improvements needed in each property and estimates of the cost of this work if performed by qualified contractors.

g. Assistance in securing competitive bids from qualified contractors for the work to be done on each property.

h. Computation of the financial assistance that may be available for eligible work on each project and recommendation for approval by the Project Review Committee.

i. Periodic inspections of work in progress on each property, including as a minimum, inspections of work completed before approval of any progress payments.

j. Final inspection before approval of final payment on each property.

k. Clearance testing (using qualified staff or contractors) to certify that lead-based paint hazards have not been created by the work completed under this program.

3. Periodic Reports

Monthly reports shall be submitted to the Community detailing the status of all activities in the program. Those reports will include the following:

a. Project Status including the number and status of active projects handled to date.
b. Budget Status detailing commitments and expenditures for each activity to date.

D. Completion and Closeout:

The Consultant shall work with the City to close out the program after all project activities are completed and all grant funds have been received and expended. These services may include collection of information required to document compliance with applicable regulations and preparation of reports required to document project activities and close out the grants, as follows:

1. Collection of information to document compliance with income and rent limits that apply to properties that were rehabilitated with assistance under the program.

2. Attendance at monitoring visits and audits that are conducted by the HOME Consortium or private auditors to review the local program activities and assistance with preparation of responses to any concerns or findings that are identified in those visits or audits.

3. Preparation of annual performance reports that are required until the grant is closed out.

4. Preparation of closeout reports for each grant.

III. COMPENSATION AND METHOD OF PAYMENT

The Consultant will be paid for the services detailed in this Agreement as follows:

1. For Application preparation (Section II.A), at hourly rates plus reimbursement of expenses, as outlined in Paragraph 6 below (up to a maximum of $3,500).

2. For Program Development and Administration activities (Section II.B), at hourly rates plus reimbursement of expenses, as outlined in Paragraph 6 below.

3. For Program Delivery services detailed in Section II.C of this Agreement, a fixed fee of $2,250/unit for each project approved by the Project Review Committee.

4. For Completion and Closeout services detailed in Section II.D of this Agreement, fees shall be billed for actual time plus reimbursement of expenses as detailed in Paragraph 6 below.

5. The Consultant will submit claims for payment on forms prescribed by the City detailing the work performed and the fees payable under the terms of this Agreement. Claims for payment for Program Development and Administration services (Section II.C) and Completion and Closeout services (Section II.D) shall include a description of the services provided detailing the time and expenses of the Consultant. A Service Charge may be added for any amounts unpaid after 30 days at the rate of 1-1/2% per month (18% per annum); and the City agrees to pay all costs of collection including reasonable legal fees in the event the Consultant is forced to pursue legal action in order to collect these fees.

6. The following billing rates shall apply during the calendar year in which this Agreement is executed and may be adjusted annually after giving 30 days written notice:

Principal	$125.00/hr.
Associate	$100.00/hr.
Community Planner	$ 80.00/hr.
Technician	$ 60.00/hr.
Clerical	N/C (included in above Rates)

Reimbursable expenses shall be billed at direct cost for out-of-pocket expenses, outside professional services, materials, reproduction costs, long-distance telephone calls, etc. Travel expenses will be billed at 50 cents per mile for required automobile travel and at direct cost for travel by commercial carrier, lodging and subsistence if required during travel outside the Glens Falls area.

IV. TERMINATION OF AGREEMENT

This Agreement may be terminated by either party upon thirty days written notice should the other party fail to perform in accordance with its terms through no fault of the party initiating the termination, or by mutual consent when terminated for convenience. In the event of termination, all materials prepared under the Project shall be forwarded to the City and the Consultant shall be paid all amounts due for work completed on the Project according to the terms of this Agreement. In the event of termination before the application is submitted, the Consultant shall be paid for time and expenses incurred at the hourly billing rates then in effect.

V. OTHER CONDITIONS

The following conditions required by the Uniform Administrative Requirements (24 CFR Part 85) shall also apply to this Agreement.

A. Equal Employment Opportunity:

The Consultant shall comply with the applicable provisions of Executive Order 11246, entitled "Equal Opportunity", as amended by Executive Order 11375, and as supplemented in Department of Labor regulations (41 CFR Part 60).

B. Books and Records:

The Consultant shall maintain accurate records for all work performed under this Agreement. The City, the City, New York State, or any of their authorized representatives, shall have access to those records for the purpose of making audit, examination, excerpts, and transcriptions. Said examination of records shall take place in the Glens Falls office of the Consultant. The Consultant shall maintain all required records for three years after final payment is received and all other pending matters are closed.

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first written above.

CITY OF WATERTOWN

BY: _____

Sharon Addison, City Manager

AVALON ASSOCIATES, INC.

BY: _____

Philip A. Smith, President

NEIGHBORS OF WATERTOWN

BY: _____

Gary Beasley, Executive Director

Res No. 5

March 12, 2014

To: The Honorable Mayor and City Council

From: Sharon Addison, City Manager

Subject: Authorizing Application for Federal Emergency Management Agency (FEMA) Grant, Fire Department

The City Fire Department is seeking Council approval to apply for a grant from the Federal Emergency Management Agency (FEMA). This funding opportunity is in the amount of $36,611 and requires 10% matching funds from the City. If approved, this grant will allow the Fire Department to improve upon their Public Education program and allow them to purchase smoke detectors and carbon monoxide detectors, as well as educational materials and audio visual equipment as detailed in the attached report from Fire Chief Dale C. Herman.

This 10% match will be allocated from FY14-15 Budget. If this grant application is approved, it will allow the Fire Department to expand their Public Education program and enhance their seniors program.

A resolution is attached for Council consideration authorizing Chief Herman to sign and submit the grant application on behalf of the City of Watertown by March 21, 2014. City staff will be available to answer any questions Council may have related to this grant opportunity.

Resolution No. 5

March 17, 2014

RESOLUTION

Authorizing Application for Federal Emergency Management Agency (FEMA) Grant, Fire Department

	YEA	NAY
Council Member BURNS, Roxanne M.		
Council Member BUTLER, Joseph M. Jr.		
Council Member JENNINGS, Stephen A.		
Council Member MACALUSO, Teresa R.		
Mayor GRAHAM, Jeffrey E.		
Total		

Introduced by

_____

WHEREAS the Federal Emergency Management Agency (FEMA) is accepting applications for funding through (date), and

WHEREAS the City of Watertown Fire Department has prepared an application that meets the intended purpose of this grant, which will allow the Department to purchase smoke detectors and carbon monoxide detectors for distribution to the public, and

WHEREAS the application, in the amount of $36,611, requires a matching fund of 10% from the City,

NOW THEREFORE BE IT RESOLVED that the City Council of the City of Watertown hereby authorizes the Fire Department to submit a grant application in the amount of $36,611 to the Federal Emergency Management Agency (FEMA)., and

BE IT FURTHER RESOLVED that Fire Chief Dale C. Herman is hereby authorized and directed to execute the grant application on behalf of the City of Watertown.

Seconded by

CITY OF WATERTOWN, NEW YORK
FIRE DEPARTMENT
224 South Massey Street
Watertown, New York 13601
(315) 785-7800
Fax: (315) 785-7821
Dale C. Herman, Fire Chief
dherman@watertown-ny.gov

March 12, 2014

Ms. Addison:

The Federal Emergency Management Agency (FEMA) has announced the application period for Fire Prevention and Safety Grants (FPSG). The grant period opened February 18, 2014 and has a final submission date of March 21, 2014. The City of Watertown Fire Department is asking for Council approval to submit a grant application. Our grant proposal would be used to improve upon our Public Education program. The grant would address the following needs:

- **Purchase 1000 smoke detectors and 500 carbon monoxide detectors** - These would be distributed to high risk target groups, specifically concentrating on seniors and under privileged families.
- **Purchase educational materials** – Items would include instructional DVDs (to replace our outdated VHS library), pamphlets, stickers and handouts.
- **Purchase audio visual equipment** – The current equipment has over 5 years of service and is being shared with the training office which causes scheduling conflicts at times. It also includes a large portable video screen that will make viewing of programs for seniors and larger audiences much easier.

The total cost of the grant proposal is $36,611.00. The City's responsibility is a 10% match of $3,661.10. The City's portion can be appropriated through the department's 2014-2015 operating budget.

Captain T.G. Kolb has made great strides in expanding our Public Education program. Last year the department educated over 8200 children, adults and seniors which is a 68 % increase over the previous 5 years. This year's goal is to enhance our seniors program. Statistics show that seniors and youth, under the age of five, are at the greatest risk for injury or even death in fire incidents. We feel that with these continued efforts we can reduce the number of incidents and injury in our community.

In light of current financial concerns, we feel this is a fiscally responsible way to obtain these materials and are looking forward to Council's approval.

Respectfully,

Dale C Herman

Dale C. Herman
Chief

Res No. 6

March 13. 2014

To: The Honorable Mayor and City Council

From: Sharon Addison, City Manager

Subject: Approving Supplemental No. 1 to Professional Services Agreement, Stantec Consulting Services, Inc.

On July 15, 2013, City Council approved the Professional Services Agreement with Stantec Consulting Services, Inc. in the amount of $99,790 for the design of the rehabilitation of the Fairgrounds Municipal Arena.

Stantec Consulting Services, Inc. has now submitted Supplemental Agreement No. 1 for performing the detailed design and construction support services for the Fairgrounds Municipal Building Upgrade Project not to exceed the amount of $510,403. As stated in City Engineer Kurt Hauk's attached report, this brings the total contract amount to $610,193. The entire Final Master Plan report is available on our website.

A Resolution is attached for City Council consideration. Approval of this Resolution is contingent upon the approval of the Bond Ordinance also on tonight's agenda.

Resolution No. 6

March 17, 2014

RESOLUTION

Approving Supplemental No. 1 to Professional Services Agreement, Stantec Consulting Services, Inc.

	YEA	NAY
Council Member BUTLER, Joseph M. Jr.		
Council Member BURNS, Roxanne M.		
Council Member JENNINGS, Stephen A.		
Council Member MACALUSO, Teresa R.		
Mayor GRAHAM, Jeffrey E.		

Introduced by

_____

WHEREAS on July 15, 2013, the City Council of the City of Watertown approved the Professional Services Agreement with Stantec Consulting Services, Inc. in the amount of $99,790 for the design of the rehabilitation of the Fairgrounds Municipal Arena, and

WHEREAS Change Order No. 1 has been submitted for the detailed design and construction support services for the Fairgrounds Municipal Building Upgrade Project not to exceed the amount of $510,403, bringing the total contract amount to $610,193,

NOW THEREFORE BE IT RESOLVED that the City Council of the City of Watertown approves Supplemental No. 1 to the Professional Services Agreement with Stantec Consulting Services, Inc., and

BE IT FURTHER RESOLVED that approval of this Resolution is contingent upon City Council approving a Bond Ordinance to cover the expenses associated with this project, and

BE IT FURTHER RESOLVED that City Manager Sharon Addison is hereby authorized and directed to execute the Change Order documents on behalf of the City of Watertown.

Seconded by

CITY OF WATERTOWN
ENGINEERING DEPARTMENT
MEMORANDUM

DATE: March 12, 2014

TO: Sharon Addison, City Manager

FROM: Kurt W. Hauk, City Engineer

SUBJECT: Fairgrounds Municipal Arena Upgrade, Supplemental #1 to the Agreement

Enclosed is a copy of the Supplemental #1 to the professional services agreement for Stantec Consulting Services Inc. for City Council review and approval.

The supplemental was created for the purposes of performing detailed design and construction support services for the Fairgrounds Municipal Building Upgrade Project for the not to exceed amount of $510,403. The base agreement was for preliminary design in the amount of $99,790. This brings the total contract amount to $610,193.

The Final Master Plan report, which was the basis for the development of Supplemental #1, is available on our website.

cc: Amy Pastuf, Purchasing Agent
Erin Gardner, Superintendent of Parks and Recreation
Jim Mills, City Comptroller
File

Stantec Consulting Services Inc.
61 Commercial Street, Suite 100
Rochester NY 14614-1009
Tel: (585) 475-1440
Fax: (585) 272-1814

March 5, 2014

Mr. Kurt Hauk
City of Watertown
245 Washington Street
Watertown, NY 13601

Dear Kurt,

Reference: Watertown Municipal Arena
Architectural and Engineering Design Services Proposal

Stantec Consulting Services Inc. (Stantec) is pleased to have the opportunity to submit this proposal for the Architectural and Engineering services to design the building additions and renovations for the Watertown Municipal Arena. This proposal is based on the Final Master Plan Report provided by Stantec, dated March 5, 2014. We are confident that you will see that Stantec has provided our understanding of the required scope of work and, based on our team and experience, will successfully execute the requirements of this project.

PROJECT UNDERSTANDING:

The City of Watertown (City) hired Stantec to complete an overall Master Plan for improvements to the Watertown Municipal Arena. The existing arena, which is approximately 40 years old, is in need of a renovation and additional space to support facility programs and administrative functions. Based on Concept #4 of the Final Master Plan provided by Stantec, the project will include additions to the east and west ends of the facility and a complete renovation of the north side of the arena. The project will be designed with significant consideration for the overall budget which is estimated to range from $6.2 - $7M. For the purposes of this Not-to-Exceed proposal we are assuming a total budget of $7M.

SCOPE OF WORK:

Design

The Final Master Plan document will serve as a guide to develop an overall Basis of Design (BOD) document and Schematic Design (SD) Report. The BOD will be created to identify all of the design criteria the team will utilize to meet the project objectives. This will include the reference guidelines, relevant codes, engineering strategies, equipment manufacturers, intended operating setpoints, etc. The SD Report will include a more detailed (33%) plan of Concept #4, based on the BOD, and an updated Opinion of Probable Cost (OPC). The OPC will allow the team to make a value engineering assessment of the proposed design to ensure there aren't any significant improvement opportunities in either cost or quality. The BOD and SD Report will be reviewed with Watertown. Comments will be addressed and/or incorporated and Stantec will await a notice to proceed from Watertown before beginning the Design Development Phase. Services that will be performed during this phase will include:

1. Complete facility assessment (structural, mechanical, electrical, plumbing, site) and as-builts developed for impacted areas.
2. Site survey of the area of anticipated improvements.
3. Geotechnical services (by others; Stantec can recommend contractors)
4. Pool House aesthetic upgrade investigation – City Council agreed to pursue an alternate to update the facilities related to the Pool House. Stantec will investigate the options associated with upgrades to the existing lobby and locker rooms.

Upon approval by the City, Stantec will begin with the Design Development Phase. This phase will allow Stantec to progress the drawings to a 66% level of completion. This will include the following activities:

Reference: Watertown Municipal Arena
Architectural and Engineering Design Services Proposal

1. Architectural floor plans will be firmed up with elevations and sections starting to take form.
2. Renderings of the proposed exterior options (2) will be developed.
3. Structural framing plans and details will take shape.
4. Mechanical, Electrical, and Plumbing systems will be defined, based on calculations, with Riser Diagrams and Equipment Plans established.
5. Site Plans will be developed to compliment the building addition footprints.

All design strategies will be validated during this phase. In addition, phasing plans will be developed to clarify the overall project schedule. Finally, all of this will be provided to the City, along with an updated Opinion of Probable Cost, in a Design Development Report for review and approval.

Upon approval of the Design Development documents, Stantec will complete the construction documents, specifications, and update the Opinion of Probable Cost and schedule. Stantec will provide a 95% review set for the City's review and comment. Upon incorporation of the final review comments Stantec will provide the sealed Issued for Construction documents.

Bidding

Stantec will assist the City with the bidding process by starting with a pre-bid meeting. This is an opportunity to clearly iterate the design intent to the contractors to ensure fair and competitive bidding takes place. Stantec will also field any requests for information during this process and, of course, assist the City in evaluating the bids upon their receipt.

Construction Administration

Stantec recognizes the importance of supporting a project throughout the construction phase. We will provide shop drawing reviews and participate in construction meetings. In addition, we anticipate being on site on a periodic basis to check in on progress and/or address questions as they arise. Additionally, upon the projects' completion, we will provide as-built documentation as provided by the contractors. As-builts will include Autocad files, any BIM files generated, mylar and paper prints. Success of this project is a priority and being an active participant throughout construction is a key component to that success. Stantec assumes on-site attendance will take place weekly over a six month period for a total of 26 visits.

PROJECT DELIVERABLES:

Stantec will provide the City with progress review sets for review and comment. Review sets will include the project drawings, specifications, relevant reports, and a Project Status Report. The Project Status Report will identify the tasks completed to-date, the current project schedule, the current construction opinion of probable cost, and the up-to-date financial status for the project design. The project specifications will be CSI-based. The project drawings will be completed in Autocad and may, where appropriate, include 3D modeling to provide clarity. Stantec intends to provide the following deliverables:

1. Basis of Design Document
2. SD and DD Reports
3. Site Survey (of affected area)
4. Opinions of Probable Cost (updated at each phase)
5. Project Schedule (updated at each phase)
6. Alternate for Pool House upgrades
7. 33%, 66%, and 95% Review Drawings and Specifications
8. Sealed Issued For Bid Construction Documents
9. Shop Drawing / Submittal Reviews
10. Replies to Requests for Information (RFIs)
11. As-built documents of the completed project

Reference: Watertown Municipal Arena
Architectural and Engineering Design Services Proposal

The tentative drawing list for the project will include the following documents:

1. T-000: Title Sheet
2. CR-100: 1st Floor Code Review
3. CR-101: 2nd Floor Code Review
4. A-000: Arch. Cover Sheet
5. AD-100: 1st Floor Demo Plan
6. AD-101: 2nd Floor Demo Plan
7. AD-120: Demo 1st Floor Refl. Ceiling Plan
8. AD-121: Demo 2nd Floor Refl. Ceiling Plan
9. AD-130: Roof Demo Plan
10. AD-200: Demo exterior Elevations
11. A-100: 1st Floor Installation Plan
12. A-101: 2nd Floor Installation Plan
13. A-120: 1st Floor Refl. Ceiling Installation Plan
14. A-121: 2nd Floor Refl. Ceiling Installation Plan
15. A-130: Roof Plan
16. A-200: Exterior Elevations
17. A-201: Exterior Elevations
18. A-300: Building Sections
19. A-301: Wall Sections
20. A-302: Wall Sections
21. A-303: Wall Sections
22. A-400: Enlarged Plans
23. A-401: Enlarged Plans
24. A-402: Enlarged Plans
25. A-403: Enlarged Plans
26. A-410: Interior Elevations
27. A-411: Interior Elevations
28. A-412: Interior Elevations
29. A-413: Interior Elevations
30. A-500: Details
31. A-501: Details
32. A-502: Details
33. A-503: Details
34. A-504: Details
35. A-505: Details
36. A-600: Door and window schedule
37. A-601: Finish schedule & wall schedule
38. A-602: Schedule
39. C-000: Civil Cover Sheet
40. CS-100: Existing Site Plan
41. CS-101: New Site Plan
42. CS-103: Site Utility Plan
43. CS-104: Grading and Erosion Control Plan
44. C-500: Site Details 1 of 2
45. C-501: Site Details 2 of 2
46. S-000: Structural Cover Sheet
47. S-100: Structural Foundation Plan
48. S-101: Structural Framing Plan – 1st Floor
49. S-102: Structural Framing Plan – 2nd Floor
50. S-103: Structural Roof Plan
51. S-200: Structural Sections
52. S-201: Structural Sections
53. S-500: Structural Details 1 of 3
54. S-501: Structural Details 2 of 3
55. S-502: Structural Details 3 of 3
56. M-000: Mechanical Cover Sheet
57. M-100: HVAC Sheetmetal - 1st Floor Plan
58. M-101: HVAC Sheetmetal - 2nd Floor Plan
59. M-102: HVAC Roof Plan
60. M-200: Mechanical Piping – 1st Floor Plan
61. M-201: Mechanical Piping – 2nd Floor Plan
62. M-300: Enlarged Mechanical Plans
63. M-301: Enlarged Mechanical Plans
64. M-500: Airflow P&ID
65. M-501: Hydronic P&ID
66. M-600: Schedules
67. M-601: Schedules
68. M-700: Sequences of Operation
69. M-701: Sequences of Operation
70. M-800: HVAC Details
71. M-801: HVAC Details
72. M-802: HVAC Details
73. P-000: Plumbing Cover Sheet
74. P-100: Sanitary – 1st Floor Plan
75. P-101: Sanitary – 2nd Floor Plan
76. P-102: Sanitary Roof Plan
77. P200: Domestic Water – 1st Floor Plan
78. P-201: Domestic Water- 2nd Floor Plan
79. P-300: Enlarged Toilet Room Plans
80. P-500: Plumbing Isometrics /Riser Diagrams
81. P-600: Plumbing Schedules
82. P-800: Plumbing Details
83. FP-000: Fire Protection Cover Sheet
84. FP-100: Fire Protection 1st Floor
85. FP-101: Fire Protection – 2nd Floor
86. FP-500: Fire Protection Riser Diagram
87. FP-800: Fire Protection Details
88. E-000: Electrical Cover Sheet
89. EP-100: Electrical Power Plan – 1st Floor
90. EP-101: Electrical Power Plan – 2nd Floor
91. EL-200: Electrical Lighting Plan – 1st Floor
92. EL-201: Electrical Lighting Plan – 2nd Floor

Reference: Watertown Municipal Arena
Architectural and Engineering Design Services Proposal

93. ES-300: Electrical Systems Plan – 1st Floor
94. EP-301: Electrical Systems Plan – 2nd Floor
95. E-400: Enlarged Electrical Plans
96. E-401: Enlarged Electrical Plans
97. E-500: Electrical Details 1 of 3
98. E-501: Electrical Details 2 of 3
99. E-502: Electrical Details 3 of 3
100. E-600: Electrical Single Line Diagram
101. E-601: Electrical Schedules
102. E-602: Electrical Schedules

FEE:

Stantec's estimated hourly Not-to-Exceed fee for the development of the construction documents as defined herein is $481,513. Reimbursables, including expenses related to travel, meals, reproduction, etc., will be applied in addition, at a 1.0 multiplier, and are anticipated to not exceed $28,890. A breakdown of the fee, tasks, and associated hours is attached for reference. Please note that the design fees for the arena renovation equates to ~378,700 of the total fee and for approximately 6.7% of the total anticipated construction cost. The remainder of the fee is associated with the Pool House upgrades ($20,000) and Construction Administration. There are opportunities for reducing Stantec's effort during construction depending on the level of participation by City staff.

SCHEDULE:

Stantec will provide design and construction support services in accordance with the schedule as attached.

CLARIFICATIONS & ASSUMPTIONS

1. The proposed compensation is based on our understanding of the project, the scope of professional services, deliverables, project team, consultants, project schedule, form of agreement, and payment terms described in this proposal. Should changes occur to any of these prior to or during the execution of the professional services, a commensurate adjustment to the proposed compensation will be made.
2. Fees quoted are net of any deductions and/ or applicable taxes.
3. The Terms and Conditions associated with this proposal are based on the previously negotiated contract executed between the City of Watertown and Stantec as attached.
4. The schedule for this project will run as indicated in this proposal. If the project runs past this date Stantec reserves the right to negotiate additional services to account for escalation costs.
5. This fee is based on up to 30 site visits; three for design, one for bidding, and twenty-six for construction. Any visits required beyond this quantity are subject to additional services.
6. Stantec will be granted full access to the construction site at all times. Safety and/or security training, if required, will be provided to Stantec at no cost to Stantec.
7. Factory Acceptance Testing is not included in this proposal.
8. Project scope is limited to those items identified herein.
9. Change in scope, regardless of who initiates it, will not be recognized until a Scope Change Approval Procedure has been followed and approval provided in writing.
10. Stantec assumes the systems and equipment will be started up and commissioned by others. Any time required beyond that allotted in the attached fee breakdown will constitute a basis for additional fees.
11. Stantec assumes that the City will contract separately for geotechnical services and will provide the information to Stantec for completion of the project design.
12. Any environmental assessments and/or testing associated with hazardous materials will be addressed and paid for by the City. Hazardous materials remediation design services are not included but can be as an additional service.
13. Stantec assumes that adequate utility power is available from the utility. The City will pay for any costs associated with utility-required design fees.

Reference: Watertown Municipal Arena
Architectural and Engineering Design Services Proposal

14. A traffic study, environmental impact statement, environmental site assessments, soil borings, test pits, soils report or other analyses are not included.
15. Attendance at agency approval meetings is not included. All permitting for construction, if required, will be provided by others.
16. Design of landscape features (new plant material, site amenities, etc.), other than lawn reconstruction, is not included.
17. Parking Lot and site furnishings (benches, trash receptacles, etc.) are not included but can be provided as an additional service.
18. Stantec will utilize Building Information Management (BIM) modeling to the extent we choose for this project. The BIM model will be developed to the level that meets the needs of the design team, and will be provided to the City for their use.
19. Impacts to existing wetlands, waterways, streams, etc. is not anticipated.
20. Determination of the existing utility locations will not require field testing or methods of physical tracking. Owner will provide all available records of the on-site infrastructure.
21. Field survey will be provided at prevailing wage rates.
22. An Environmental Impact Statement or analysis is not required. The City of Watertown is assumed to be responsible for meeting any SEQR requirements.
23. Redesign and/or additional alternates due to budgetary constraints are not included in this proposal but may be provided as an additional service.

SUMMARY:

We are pleased with the opportunity to present this proposal. We welcome questions that will help to refine our scope and provide the necessary services you are requesting. We are ready to begin the work upon your notice to proceed. If you have questions or concerns, please do not hesitate to call.

Regards,

STANTEC CONSULTING SERVICES INC.

Jeri Pickett, P.E., LEED® AP
Associate - Buildings Engineering & Architecture
Phone: (585) 413-5341
Fax: (585) 272-1814
jeri.pickett@stantec.com

c. Eric St John; Roger Kelemecz, Jim Maland

City of Watertown
Municipal Arena Renovation

Stantec

TASK / LABOR-HOURS and FEE ESTIMATE

Discipline	Employee	Project Phase								Totals		
		BOD / Schematic Design		Design Development		Construction Documents		Construction Administration				
		Hrs.	Fee	Hrs.	Fee	Hrs.	Fee	Hrs.	Fee	Hrs.	Rate	Total Fee
Project Management	Jeri Pickett	64	$10,560.00	40	$6,600.00	19	$3,135.00	80	$13,200.00	203	$165	$33,495
	SUB-TOTAL	**64**	**$10,560**	**40**	**$6,600**	**19**	**$3,135**	**80**	**$13,200**	**203**		**$33,495**
Architecture	Roger Kelemecz	92	$12,420.00	146	$19,710.00	184	$24,840.00	112	$15,120.00	534	$135	$72,090
	Jim Maland	27	$5,022.00	48	$8,928.00	28	$5,208.00	24	$4,464.00	127	$186	$23,622
	Ray Kesel	83	$9,462.00	100	$11,400.00	200	$22,800.00	208	$23,712.00	591	$114	$67,374
	Alex Wing	12	$2,232.00	16	$2,976.00	8	$1,488.00	0	$0.00	36	$186	$6,696
	Nicole Duncan	12	$1,368.00	24	$2,736.00	16	$1,824.00	0	$0.00	52	$114	$5,928
	SUB-TOTAL	**226**	**$30,504**	**334**	**$45,750**	**436**	**$56,160**	**344**	**$43,296**	**1,340**		**$175,710**
Site Design	Mel Farmer	28	$3,584.00	16	$2,048.00	18	$2,304.00	44	$5,632.00	106	$128	$13,568
	Robert Vento	32	$3,520.00	0	$0.00	0	$0.00	0	$0.00	32	$110	$3,520
	Sarah Hogan	5	$400.00	8	$640.00	16	$1,280.00	0	$0.00	29	$80	$2,320
	SUB-TOTAL	**65**	**$7,504**	**24**	**$2,688**	**34**	**$3,584**	**44**	**$5,632**	**167**		**$19,408**
Structrural Design	Gary Garwig	66	$8,910.00	84	$11,340.00	62	$8,370.00	58	$7,830.00	270	$135	$36,450
	Jayce Grefrath	20	$2,140.00	72	$7,704.00	56	$5,992.00	36	$3,852.00	184	$107	$19,688
	SUB-TOTAL	**86**	**$11,050**	**156**	**$19,044**	**118**	**$14,362**	**94**	**$11,682**	**454**		**$56,138**
Mechanical Design	Stuart Shrauger	80	$11,280.00	158	$22,278.00	160	$22,560.00	84	$11,844.00	482	$141	$67,962
	Jocelyn Tokos	28	$3,192.00	120	$13,680.00	172	$19,608.00	36	$4,104.00	356	$114	$40,584
	Tim Howe	4	$484.00	8	$968.00	16	$1,936.00	4	$484.00	32	$121	$3,872
	Mary Vanderpool	42	$5,082.00	32	$3,872.00	16	$1,936.00	0	$0.00	90	$121	$10,890
	SUB-TOTAL	**154**	**$20,038**	**318**	**$40,798**	**364**	**$46,040**	**124**	**$16,432**	**960**		**$123,308**
Electrical Design	Carl Assini	78	$9,984.00	122	$15,616.00	124	$15,872.00	106	$13,568.00	430	$128	$55,040
	Zixing Wang	34	$3,162.00	64	$5,952.00	96	$8,928.00	4	$372.00	198	$93	$18,414
	SUB-TOTAL	**112**	**$13,146**	**186**	**$21,568**	**220**	**$24,800**	**110**	**$13,940**	**628**		**$73,454**
Totals	**Labor**		**$92,802.00**		**$136,448.00**		**$148,081.00**		**$104,182.00**			**$481,513.00**
	Expenses 6%		**$5,568.12**		**$8,186.88**		**$8,884.86**		**$6,250.92**			**$28,890.78**
	TOTAL	**707**	**$98,370.12**	**724**	**$144,634.88**	**755**	**$156,965.86**	**452**	**$110,432.92**	**3,752**		**$510,403.78**

TASK / MANHOURS ESTIMATE

Employee	BOD / SD:	Project Initiation - In House	Cartoon Set	Drawing Setup	Field Work	Client Kickoff Meeting	Asbuilt Reviews	Asbuilt Updates	- Minutes	BOD	BOD Review Comments	Draft of SD	- Code Review	- Concepts & Alternatives	- Pro / Con	- Estimated Cost	SD review meeting on site	- Minutes	- SD Update	- Revit Model	- Site Survey		Total Hours	Rate	Fee		
TASK DESCRIPTION																											
Project Management																											
Jeri Pickett		4	2	2	12	2	0	0	2	8	4	4	0	4	4	2	8	2	4	0	0		**64**	**$165**	**$10,560**	**$10,560**	**11%**
Architecture																											
Roger Kelemecz		1	1	0	12	2	2	0	0	8	4	0	8	32	8	4	8	0	2	0	0		**92**	**$135**	**$12,420**	**$30,504**	**33%**
Jim Maland		1	0	0	0	2	0	0	0	8	0	0	4	8	0	2	2	0	0	0	0		**27**	**$186**	**$5,022**		
Ray Kesel		1	0	8	12	2	2	8	0	4	0	0	8	20	0	2	0	0	0	16	0		**83**	**$114**	**$9,462**		
Alex Wing		0	0	0	0	0	0	0	0	0	0	0	0	8	4	0	0	0	0	0	0		**12**	**$186**	**$2,232**		
Nicole Duncan		0	0	0	0	0	0	0	0	0	0	0	0	8	4	0	0	0	0	0	0		**12**	**$114**	**$1,368**		
Site Design																											
Mel Farmer		1	1	0	12	2	2	0	0	1	1	0	1	2	2	1	0	0	2	0	0		**28**	**$128**	**$3,584**	**$7,504**	**8%**
Robert Vento		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32		**32**	**$110**	**$3,520**		
Sarah Hogan		0	0	1	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0		**5**	**$80**	**$400**		
Structural Design																											
Gary Garwig		1	1	0	12	2	2	2	0	8	4	0	4	8	8	4	8	0	2	0	0		**66**	**$135**	**$8,910**	**$11,050**	**12%**
Jayce Grefrath		0	0	2	0	0	2	2	0	0	0	0	2	8	0	0	0	0	0	4	0		**20**	**$107**	**$2,140**		
Mechanical Design																											
Stuart Shrauger		1	1	0	12	2	2	4	0	8	4	0	4	20	8	4	8	0	2	0	0		**80**	**$141**	**$11,280**	**$20,038**	**22%**
Jocelyn Tokos		0	0	0	0	0	2	4	0	0	0	0	2	16	0	0	0	0	0	4	0		**28**	**$114**	**$3,192**		
Tim Howe		0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0		**4**	**$121**	**$484**		
Mary Vanderpool (MJV)		0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40	0		**42**	**$121**	**$5,082**		
Electrical Design																											
Carl Assini		1	1	0	12	2	2	2	0	8	4	0	4	20	8	4	8	0	2	0	0		**78**	**$128**	**$9,984**	**$13,146**	**14%**
Zixing Wang		0	0	2	0	0	0	4	0	0	0	0	0	16	0	0	0	0	0	12	0		**34**	**$93**	**$3,162**		

Labor Total	**707**	**$92,802**
Expenses 6%		**$5,568**
	Total	**$98,370**

TASK / MANHOURS ESTIMATE

Employee	DD:	Architectural Design	General Arrangement	Sections & Elevations	Interior Finishes	Material Specs	Coordination	- Outline Specifications	Structural Design	Framing Plans	Foundations	Calculations	Coordination	Outline Specification	Site Design	Site Plans	Coordination	Outline Specifications	Plumbing & FP Design	Final Code and sizing	Basic plans, coordination	Outline Specifications	Mech Design	Final Code	Final Calculations	System Schematics	Basic plans, coordination	Outline Specifications	Elec Design	- Final Code	- Final Calculations	- System Schematics	- Basic plans, coordination	- Outline Specifications	DD Report	Rev Meeting:	Final Estimates	Total Hours	Rate	Fee		
TASK DESCRIPTION																																										
Project Management																																										
Jeri Pickett			4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	12	12	4	40	$165	$6,600	**$6,600**	**5%**
Architecture																																										
Roger Kelemecz			64	20	20	8	12	4																										8	8	2	146	$135	$19,710	**$45,750**	**34%**
Jim Maland			32	0	8	8	0	0																													48	$186	$8,928		
Ray Kesel			64	24	0	0	12	0																													100	$114	$11,400		
Alex Wing			16	0	0	0	0	0																													16	$186	$2,976		
Nicole Duncan			0	0	24	0	0	0																													24	$114	$2,736		
Site Design																																										
Mel Farmer															4	4	4																	2	0	2	16	$128	$2,048	**$2,688**	**2%**
Robert Vento															0	0	0																				0	$110	$0		
Sarah Hogan															8	0	0																				8	$80	$640		
Structural Design																																										
Gary Garwig										36	20	2	8	4																				4	8	2	84	$135	$11,340	**$19,044**	**14%**
Jayce Grefrath										36	20	8	8	0																							72	$107	$7,704		
Mechanical Design																																										
Stuart Shrauger																				32	20	4		8	16	20	40	4						4	8	2	158	$141	$22,278	**$40,798**	**30%**
Jocelyn Tokos																				24	24	0		0	16	32	24	0									120	$114	$13,680		
Tim Howe																				0	0	0		8	0	0	0	0									8	$121	$968		
Mary Vanderpool (MJV)																				8	8	0		0	0	8	8	0									32	$121	$3,872		
Electrical Design																																										
Carl Assini																														8	24	32	40	4	4	8	2	122	$128	$15,616	**$21,568**	**16%**
Zixing Wang																														0	0	32	32	0				64	$93	$5,952		

Labor Total	**1058**	**$136,448**
Expenses 6%		**$8,187**
	Total	**$144,635**

TASK / MANHOURS ESTIMATE

Employee	CD:	Architectural	Lead Sheets & Demo	100 - 400 Series	500 - 600 Series	Structural	100-200 Series	500 Series%	Site	100 Series	500 Series	Plumbing & FP	P100-300 Series	P500-600 Series	FP Series	Mechanical	100 - 300 Series	500 & 700 Series	600 & 800 Series	Electrical	100 - 400 Series	500 Series	600 Series	OPC	Specifications	Review Meetings	Total Hours	Rate	Fee		
TASK DESCRIPTION																															
Project Management																															
Jeri Pickett				4																	4			2	1	8	19	$165	$3,135	**$3,135**	**2%**
Architecture																															
Roger Kelemecz			56	64	40																			4	12	8	184	$135	$24,840	**$56,160**	**38%**
Jim Maland			8	12	8																						28	$186	$5,208		
Ray Kesel			64	80	56																						200	$114	$22,800		
Alex Wing			0	8	0																						8	$186	$1,488		
Nicole Duncan			0	8	8																						16	$114	$1,824		
Site Design																															
Mel Farmer										8	4													2	4		18	$128	$2,304	**$3,584**	**2%**
Robert Vento										0	0																0	$110	$0		
Sarah Hogan										12	4																16	$80	$1,280		
Structural Design																															
Gary Garwig							40	8																2	4	8	62	$135	$8,370	**$14,362**	**10%**
Jayce Grefrath							40	16																			56	$107	$5,992		
Mechanical Design																															
Stuart Shrauger													36	8	20		40	20	12					4	12	8	160	$141	$22,560	**$46,040**	**31%**
Jocelyn Tokos													40	20	16		56	20	20								172	$114	$19,608		
Tim Howe													0	0	0		16	0	0								16	$121	$1,936		
Mary Vanderpool (MJV)													8	0	0		8	0	0								16	$121	$1,936		
Electrical Design																															
Carl Assini																					64	12	24	4	12	8	124	$128	$15,872	**$24,800**	**17%**
Zixing Wang																					52	24	20				96	$93	$8,928		

Labor Total	**1191**	**$148,081**
Expenses 6%		**$8,885**
	Total	**$156,966**

TASK / MANHOURS ESTIMATE

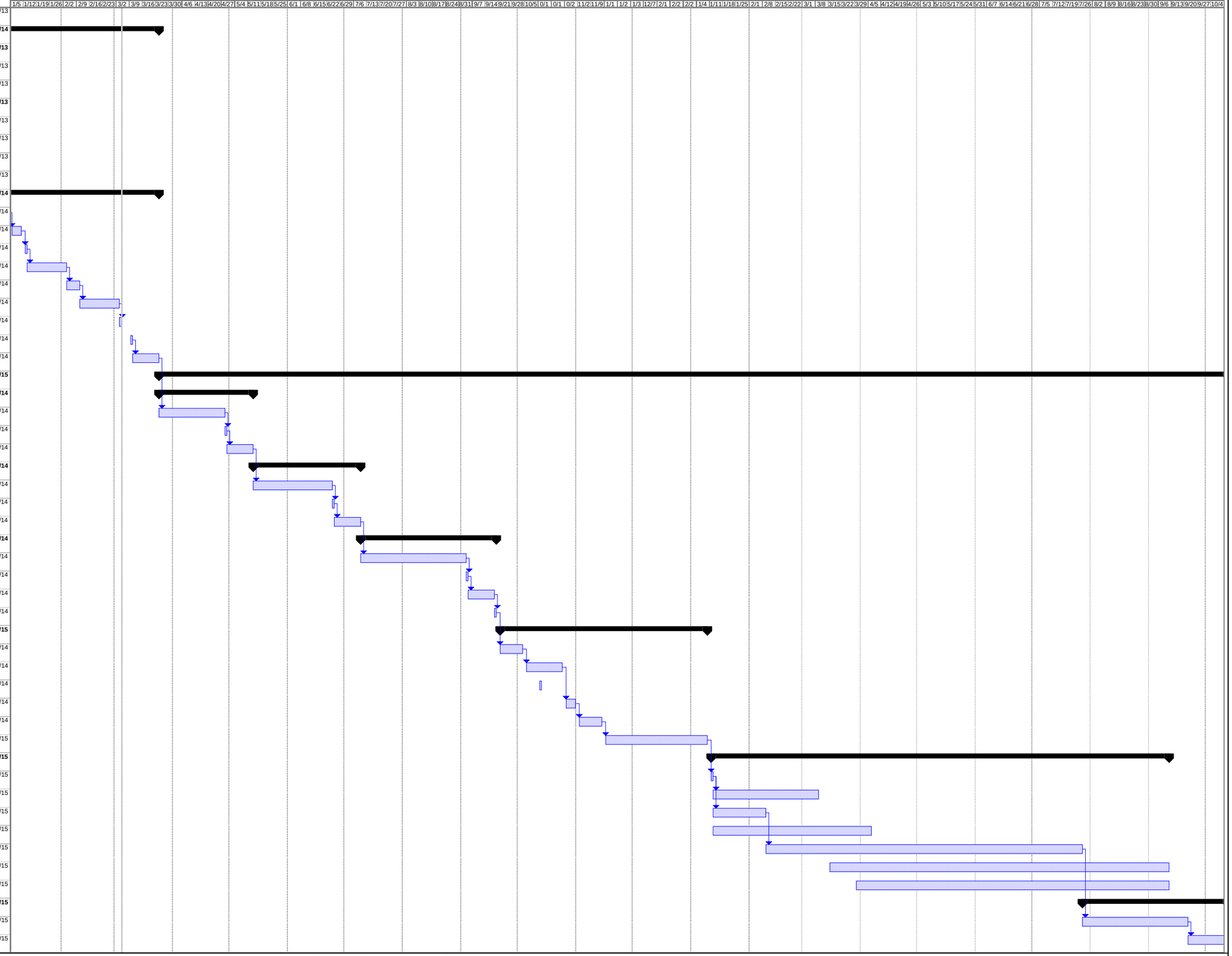
TASK DESCRIPTION

Employee	Construction Admin	Bid period:	- Pre-Bid	- Bid RFI's	- Review and Recommend award	Construction Period:	Site Visits/Job Meetings 26	Construction RFI's	Shops , Submittals	Project Close-out	- Record drawings	- O/M's	- Final Documentation	Total Hours	Rate	Fee		
Project Management																		
Jeri Pickett			8	2	8		32	12	2		2	2	12	80	$165	$13,200	**$13,200**	**13%**
Architecture																		
Roger Kelemecz			8	8	8		32	24	24		8			112	$135	$15,120		
Jim Maland								16	8					24	$186	$4,464		
Ray Kesel				8			100	40	40		16	4		208	$114	$23,712	**$43,296**	**42%**
Alex Wing														0	$186	$0		
Nicole Duncan														0	$114	$0		
Site Design																		
Mel Farmer			8	4	2		12	12	4		2			44	$128	$5,632		
Robert Vento														0	$110	$0	**$5,632**	**5%**
Sarah Hogan														0	$80	$0		
Structural Design																		
Gary Garwig			8	8	4		24	4	8		2			58	$135	$7,830	**$11,682**	**11%**
Jayce Grefrath								20	12		4			36	$107	$3,852		
Mechanical Design																		
Stuart Shrauger			8	8	4		24	16	16		8			84	$141	$11,844		
Jocelyn Tokos								16	16			4		36	$114	$4,104		
Tim Howe												4		4	$121	$484	**$16,432**	**16%**
Mary Vanderpool (MJV)														0	$121	$0		
Electrical Design																		
Carl Assini			8	8	4		24	24	32		2	4		106	$128	$13,568	**$13,940**	**13%**
Zixing Wang											4			4	$93	$372		

Labor Total	**796**	**$104,182**
Expenses 6%		**$6,251**
Total		**$110,433**

City of Watertown
Municipal Arena Renovation

ID		Task Name	Duration	Start	Finish
1		**Contract Negotiations**	29 days?	Wed 6/5/13	Mon 7/15/13
2		**PHASE 1**	**158 days?**	**Thu 8/15/13**	**Mon 3/24/14**
3		**Project Kickoff**	**12 days?**	**Thu 8/15/13**	**Fri 8/30/13**
4		Kickoff Meeting/Charrette	2 days?	Thu 8/15/13	Fri 8/16/13
5		Field Investigation	2 days	Thu 8/29/13	Fri 8/30/13
6		**Master Plan Development**	**60 days**	**Mon 9/2/13**	**Fri 11/22/13**
7		Design Development	30 days	Mon 9/2/13	Fri 10/11/13
8		Report / OPC	10 days	Mon 10/14/13	Fri 10/25/13
9		Watertown Review	15 days	Mon 10/28/13	Fri 11/15/13
10		Review Meeting	5 days	Mon 11/18/13	Fri 11/22/13
11		**Final Master Plan**	**86 days?**	**Mon 11/25/13**	**Mon 3/24/14**
12		Selected Option Development	30 days	Mon 11/25/13	Fri 1/3/14
13		Report / OPC	5 days?	Mon 1/6/14	Fri 1/10/14
14		Presentation to City Council - 1	1 day	Mon 1/13/14	Mon 1/13/14
15		Integrate Review Comments	15 days	Tue 1/14/14	Mon 2/3/14
16		Presentation to City Council - 2	5 days	Tue 2/4/14	Mon 2/10/14
17		Finalize Master Plan / Proposal for Phase 2	15 days	Tue 2/11/14	Mon 3/3/14
18		Submit Documents for City Council Approval	1 day?	Tue 3/4/14	Tue 3/4/14
19		City Council Approval	1 day?	Mon 3/10/14	Mon 3/10/14
20		Contract Addendum	10 days	Tue 3/11/14	Mon 3/24/14
21		**PHASE 2**	**405 days?**	**Tue 3/25/14**	**Mon 10/12/15**
22		**Schematic Design**	**36 days?**	**Tue 3/25/14**	**Tue 5/13/14**
23		Document Development / BOD	25 days	Tue 3/25/14	Mon 4/28/14
24		Review Meeting	1 day?	Tue 4/29/14	Tue 4/29/14
25		Comment Integration	10 days	Wed 4/30/14	Tue 5/13/14
26		**Design Development**	**41 days?**	**Wed 5/14/14**	**Wed 7/9/14**
27		Document Development	30 days	Wed 5/14/14	Tue 6/24/14
28		Review Meeting	1 day?	Wed 6/25/14	Wed 6/25/14
29		Comment Integration	10 days	Thu 6/26/14	Wed 7/9/14
30		**Construction Documents**	**52 days?**	**Thu 7/10/14**	**Fri 9/19/14**
31		Document Development	40 days	Thu 7/10/14	Wed 9/3/14
32		Review Meeting	1 day?	Thu 9/4/14	Thu 9/4/14
33		Comment Integration	10 days	Fri 9/5/14	Thu 9/18/14
34		Issued For Bid Documents	1 day?	Fri 9/19/14	Fri 9/19/14
35		**Bidding**	**80 days?**	**Mon 9/22/14**	**Fri 1/9/15**
36		Advertise	10 days	Mon 9/22/14	Fri 10/3/14
37		Bidding	15 days	Mon 10/6/14	Fri 10/24/14
38		Pre-Bid Meeting	1 day?	Mon 10/13/14	Mon 10/13/14
39		Bid Evaluations	5 days	Mon 10/27/14	Fri 10/31/14
40		Recommendation to City Council	10 days	Mon 11/3/14	Fri 11/14/14
41		Contract Negotiations	40 days	Mon 11/17/14	Fri 1/9/15
42		**Construction**	**175 days?**	**Mon 1/12/15**	**Fri 9/11/15**
43		Notice to Proceed	1 day?	Mon 1/12/15	Mon 1/12/15
44		Shop Drawings / Submittal	40 days	Tue 1/13/15	Mon 3/9/15
45		Mobilization	20 days	Tue 1/13/15	Mon 2/9/15
46		Fabrication / Delivery	60 days	Tue 1/13/15	Mon 4/6/15
47		East Building Addition	120 days	Tue 2/10/15	Mon 7/27/15
48		West Building Addition	130 days	Mon 3/16/15	Fri 9/11/15
49		Interior Renovations	120 days	Mon 3/30/15	Fri 9/11/15
50		**Project Closeout**	**55 days**	**Tue 7/28/15**	**Mon 10/12/15**
51		Punchlists	40 days	Tue 7/28/15	Mon 9/21/15
52		Asbuilts	15 days	Tue 9/22/15	Mon 10/12/15



Project: Schedule1
Date: Wed 3/5/14

Task | Split | Progress | Milestone | Summary | Project Summary | External Tasks | External Milestone | Deadline

Stantec

PROFESSIONAL SERVICES AGREEMENT CHANGE ORDER

		Date	5 March 2014
"STANTEC"	STANTEC CONSULTING SERVICES INC.	Stantec Project #	191060204
	61 Commercial Street, Rochester, NY 14614 Ph: (585) 475-1440 Fx: (585) 272-1814 email: jeri.pickett@stantec.com		
CLIENT	CITY OF WATERTOWN	Client Project #	
	245 Washington Street, Watertown, NY 13601 Ph: (315) 785-7740 Fx: (000) 000-0000 email: khauk@watertown-ny.gov		

Project Name and Location: Fairgrounds Municipal Arena Upgrade, Watertown, NY

Change Order # 1

In accordance with the original Professional Services Agreement dated 15 July 2013 and Change Orders thereto, the Agreement changes as detailed below are hereby authorized.

[Click here and enter detail changes or note attachment of details]

Total fees this Change Order		$	-
Original agreement amount		$	99,790.00
Change Order Number	1	$	510,403.00
Change Order Number		$	-
Change Order Number		$	-
Change Order Number		$	-
Total Agreement		**$**	**610,193.00**

Effect on Schedule: No impact

Payments shall be made in accordance with the original agreement terms. All other items and conditions of the original Agreement shall remain in full force and effect.

STANTEC CONSULTING SERVICES INC.

Eric St. John - Principal
Print Name and Title

Signature: Eric P. St. John

Date Signed: 3/6/14

CITY OF WATERTOWN

Print Name and Title

Signature

Date Signed:

Stantec

PROFESSIONAL SERVICES AGREEMENT

THIS AGREEMENT is made and entered into effective (the "Agreement Date") by and between:

"CLIENT"

Name:	CITY OF WATERTOWN, NEW YORK		
Address:	245 Washington Street, Watertown, NY 13601		
Phone:	(315) 785-7740	Fax:	(315) 785-7829
Representative:	Kurt Hauk, City Engineer		

"Stantec"

Name:	STANTEC CONSULTING SERVICES INC.		
Address:	61 Commercial Street, Rochester, NY 14614		
Phone:	(585) 475-1440	Fax:	(585) 272-1814
Representative:	Jeri Pickett		

PROJECT NAME (the "PROJECT"):

Fairgrounds Municipal Arena Upgrade

DESCRIPTION OF WORK: Stantec shall render the services described in Attachment "A" (hereinafter called the "SERVICES") in accordance with this AGREEMENT. Stantec may, at its discretion and at any stage, engage subconsultants to perform all or any part of the SERVICES. The CLIENT and Stantec by written amendment to this AGREEMENT may from time to time make changes to the SERVICES. All changed work shall be carried out under this AGREEMENT. The time for completion of the SERVICES shall be adjusted accordingly.

COMPENSATION: Charges for the SERVICES rendered will be made in accordance with the CONTRACT PRICE indicated in Attachment "A", or, if no CONTRACT PRICE is indicated, in accordance with Stantec's Schedule of Fees and Disbursements in effect from time to time as the SERVICES are rendered.

Invoices shall be paid by the CLIENT in the currency of the jurisdiction in which the SERVICES are provided without deduction or setoff upon receipt. Failure to make any payment when due is a material breach of this Agreement and will entitle Stantec, at its option, to suspend or terminate this Agreement and the provision of the SERVICES. Interest will accrue on accounts overdue by 30 days at the lesser of 1.5 percent per month (18 percent per annum) or the maximum legal rate of interest.

REPRESENTATIVES: Each party shall designate in the space provided above a representative who is authorized to act on behalf of that party and receive notices under this AGREEMENT. Such representatives have complete authority to act on behalf of their principals in respect to all matters arising under this AGREEMENT.

NOTICES: All notices, consents, and approvals required to be given hereunder shall be in writing and shall be given to the representatives of each party. All notices required by this AGREEMENT to be given by either party shall be deemed to be properly given and received within two (2) business days if made in writing to the other party by certified mail, telegram, email, facsimile or telex, addressed to the regular business address of such party as identified above.

CLIENT'S RESPONSIBILITIES: The CLIENT shall provide to Stantec in writing, the CLIENT's total requirements in connection with the PROJECT, including the PROJECT budget and time constraints. The CLIENT shall make available to Stantec all relevant information or data pertinent to the PROJECT which is required by Stantec to perform the SERVICES. Stantec shall be entitled to rely upon the accuracy and completeness of all information and data furnished by the CLIENT, including information and data originating with other consultants employed by the CLIENT whether such consultants are engaged at the request of Stantec or otherwise. Where such information or data originates either with the CLIENT or its consultants then Stantec shall not be responsible to the CLIENT for the consequences of any error or omission contained therein.

When required by Stantec, the CLIENT shall engage specialist consultants directly to perform items of work necessary to enable Stantec to carry out the SERVICES. Whether arranged by the CLIENT or Stantec, these services shall be deemed to be provided under direct contracts to the CLIENT unless expressly provided otherwise.

The CLIENT shall give prompt consideration to all documentation related to the PROJECT prepared by Stantec and whenever prompt action is necessary shall inform Stantec of CLIENT's decisions in such reasonable time so as not to delay the schedule for providing the SERVICES.

When applicable, the CLIENT shall arrange and make provision for Stantec's entry to the PROJECT site as well as other public and private property as necessary for Stantec to perform the SERVICES. The CLIENT shall obtain any required approvals, licenses and permits from governmental or other authorities having jurisdiction over the PROJECT so as not to delay Stantec in the performance of the SERVICES.

STANTEC's RESPONSIBILITIES: Stantec shall ~~furnish the necessary qualified personnel to provide the SERVICES. Stantec represents that it has access to the experience and capability necessary to and agrees to~~ perform the SERVICES **in accordance with the applicable professional standard of care** ~~with the reasonable skill and diligence required by customarily accepted~~

~~professional practices and procedures normally provided in the performance of the SERVICES at the time when and the location in which the SERVICES were performed~~. This undertaking does not imply or guarantee a perfect PROJECT and in the event of failure or partial failure of the product of the SERVICES, Stantec will be liable only for its failure to exercise diligence, reasonable care and professional skill. This standard of care is the sole and exclusive standard of care that will be applied to measure Stantec 's performance. There are no other representations or warranties expressed or implied made by Stantec. In particular, but not by way of limitation, no implied warranty of merchantability or fitness for a particular purpose shall apply to the SERVICES provided by Stantec nor shall Stantec warrant or guarantee economic, market or financial conditions, proforma projections, schedules for public agency approvals, or other factors beyond Stantec's reasonable control. Stantec does not warrant the SERVICES to any third party~~ and the CLIENT shall indemnify and hold harmless Stantec from any demands, claims, suits or actions of third parties arising out of Stantec's performance of the SERVICES~~.

In performing the SERVICES under this AGREEMENT, Stantec shall operate as and have the status of an independent contractor and shall not act as, or be an employee of the CLIENT.

The SERVICES performed by Stantec shall be subject to the inspection and the review of the CLIENT at all times but such inspection and review shall not relieve Stantec from its responsibility for the proper performance of the SERVICES.

TERMINATION: Either party may terminate this AGREEMENT without cause upon thirty (30) days' notice in writing. If either party breaches this AGREEMENT, the non-defaulting party may terminate this AGREEMENT after giving seven (7) days' notice to remedy the breach. ~~On~~ **If** termination of this AGREEMENT **is without cause**, the CLIENT shall forthwith pay Stantec for the SERVICES performed to the date of termination. Non-payment by the CLIENT of Stantec's invoices within 30 days of Stantec rendering same is agreed to constitute a material breach of this AGREEMENT and, upon written notice as prescribed above, the duties, obligations and responsibilities of Stantec are terminated.

SUSPENSION OF SERVICES: If the project is suspended for more than thirty (30) calendar days in the aggregate, Stantec shall be compensated for services performed and charges incurred prior to receipt of notice to suspend and, upon resumption, an equitable adjustment in fees to accommodate the resulting demobilization and remobilization costs. In addition, there shall be an equitable adjustment in the project schedule based on the delay caused by the suspension. If the PROJECT is suspended for more than ninety (90) days, Stantec may, at its option, terminate this agreement upon giving notice in writing to the CLIENT.

ENVIRONMENTAL: Except as specifically described in this AGREEMENT, Stantec's field investigation, laboratory testing and engineering recommendations will not address or evaluate pollution of soil or pollution of groundwater.

Where the services include storm water pollution prevention (SWPP), sedimentation or erosion control plans, specifications, procedures or related construction observation or administrative field functions, CLIENT acknowledges that such SERVICES proposed or performed by Stantec are not guaranteed to provide complete SWPP, sedimentation or erosion control, capture all run off or siltation, that any physical works are to be constructed and maintained by the CLIENT's contractor or others and that Stantec has no control over the ultimate effectiveness of any such works or procedures. ~~Except to the extent that there were errors or omissions in the SERVICES provided by Stantec, CLIENT agrees to indemnify and hold Stantec harmless from and against all claims, costs, liabilities or damages whatsoever arising from any storm water pollution, erosion, sedimentation, or discharge of silt or other deleterious substances into any waterway, wetland or woodland and any resulting charges, fines, legal action, cleanup or related costs.~~

BUILDING CODES, BYLAWS AND OTHER PUBLIC REGULATIONS: Stantec shall, to the best of its ability, interpret building codes, by-laws and other public regulations as they apply to the PROJECT and as they are published at the time SERVICES commence. Furthermore, Stantec shall observe and comply with all applicable laws, ordinances, codes and regulations of government agencies, including federal, state, provincial, municipal and local governing bodies having jurisdiction over the conduct of the SERVICES ("LAWS"). However, it is expressly acknowledged and agreed by the CLIENT that as the PROJECT progresses such building codes, by-laws, other public regulations and LAWS may change or the interpretation of any public authority may differ from the interpretation of Stantec, through no fault of Stantec, and any extra costs necessary to conform to such changes or interpretations during or after execution of the SERVICES will be paid by the CLIENT.

Stantec shall continue to provide equal employment opportunity to all qualified persons and to recruit, hire, train, promote and compensate persons in all jobs without regard to race, color, religion, sex, age, disability or national origin or any other basis prohibited by applicable laws.

COST AND SCHEDULE OF CONSTRUCTION WORK: In providing opinions of probable cost and project schedule, it is recognized that neither the CLIENT nor Stantec has control over the costs of labor, equipment or materials, or over the Contractor's methods of determining prices or time. The opinions of probable cost or project duration are based on Stantec's reasonable professional judgment and experience and do not constitute a warranty, express or implied, that the Contractors' bids, project schedules, or the negotiated price of the Work or schedule will not vary from the CLIENT's budget or schedule or from any opinion of probable cost or project schedule prepared by Stantec. Exact costs and times will be determined only when bids have been received for the PROJECT and when the construction work has been performed and payments finalized.

JOBSITE SAFETY: Neither the professional activities of Stantec, nor the presence of Stantec or its employees and subconsultants at a construction site, shall relieve the CLIENT and any other entity of their obligations, duties and responsibilities with respect to job site safety. Subject only to applicable legislation, Stantec and its personnel have no authority to exercise any control over any construction contractor or other entity or their employees in connection with their work or any health or safety precautions.

LIMITATION OF LIABILITY: ~~The CLIENT releases Stantec from any liability and agrees to defend, indemnify and hold Stantec harmless from any and all claims, damages, losses, and/or expenses, direct and indirect, or consequential damages, including but~~

~~not limited to attorney's fees and charges and court and arbitration costs, arising out of, or claimed to arise out of, the performance of the SERVICES, excepting liability arising from the negligence or willful misconduct of Stantec.~~

It is further agreed that the total amount of all claims the CLIENT may have against Stantec under this AGREEMENT or arising from the performance or non-performance of the SERVICES under any theory of law, including but not limited to claims for negligence, negligent misrepresentation and breach of contract, shall be strictly limited to ~~the lesser of the fees paid to Stantec for the SERVICES or~~ **$500,000**. No claim may be brought against Stantec in contract or tort more than two (2) years after the cause of action arose. As the CLIENT's sole and exclusive remedy under this AGREEMENT any claim, demand or suit shall be directed and/or asserted only against Stantec and not against any of Stantec's employees, officers or directors.

Stantec's liability with respect to any claims arising out of this AGREEMENT shall be absolutely limited to direct damages arising out of the SERVICES and Stantec shall bear no liability whatsoever for any consequential loss, injury or damage incurred by the CLIENT, including but not limited to claims for loss of use, loss of profits and loss of markets.

INDEMNITY FOR MOLD CLAIMS: It is understood by the parties that existing or constructed buildings may contain mold substances that can present health hazards and result in bodily injury, property damage and/or necessary remedial measures. If, during performance of the SERVICES, Stantec knowingly encounters any such substances, Stantec shall notify the CLIENT and, without liability for consequential or any other damages, suspend performance of services until the CLIENT retains a qualified specialist to abate and/or remove the mold substances. The CLIENT agrees to release and waive all claims, including consequential damages, against Stantec, its subconsultants and their officers, directors and employees arising from or in any way connected with the existence of mold on or about the project site whether during or after completion of the SERVICES. ~~The CLIENT further agrees to indemnify and hold Stantec harmless from and against all claims, costs, liabilities and damages, including reasonable attorneys' fees and costs, arising in any way from the existence of mold on the project site whether during or after completion of the SERVICES, except for those claims, liabilities, costs or damages caused by the sole gross negligence and/or knowing or willful misconduct of Stantec.~~ Stantec and the CLIENT waive all rights against each other for mold damages to the extent that such damages sustained by either party are covered by insurance.

DOCUMENTS: ~~All documents prepared by Stantec or on behalf of Stantec in connection with the PROJECT are instruments of service for the execution of the PROJECT. Stantec retains the property and copyright in these documents, whether the PROJECT is executed or not. Payment to Stantec of the compensation prescribed in this AGREEMENT shall be a condition precedent to the CLIENT's right to use documentation prepared by Stantec. These documents may not be used for any other purpose without the prior written agreement of Stantec. The CLIENT shall have a permanent non-exclusive, royalty-free license to use any concept, product or process which is patentable or capable of trademark, produced by or resulting from the SERVICES rendered by Stantec in connection with the PROJECT, for the life of the PROJECT. The CLIENT shall not use, infringe upon or appropriate such concepts, products or processes without the express written agreement of Stantec.~~ **All documents, reports, studies, recommendations, plans, and/or instruments of service prepared by Engineer and provided to the City, both written and electronic, shall become the property of the City upon provision.** In the event Stantec's documents are subsequently reused or modified in any material respect without the prior consent of Stantec, the CLIENT agrees to indemnify Stantec from any claims advanced on account of said reuse or modification.

Any document produced by Stantec in relation to the Services is intended for the sole use of Client. The documents may not be relied upon by any other party without the express written consent of Stantec, which may be withheld at Stantec's discretion. Any such consent will provide no greater rights to the third party than those held by the Client under the contract, and will only be authorized pursuant to the conditions of Stantec's standard form reliance letter.

Stantec cannot guarantee the authenticity, integrity or completeness of data files supplied in electronic format ("Electronic Files"). CLIENT shall release, indemnify and hold Stantec, its officers, employees, consultants and agents harmless from any claims or damages arising from the use of Electronic Files. Electronic files will not contain stamps or seals, remain the property of Stantec, are not to be used for any purpose other than that for which they were transmitted, and are not to be retransmitted to a third party without Stantec's written consent.

PROJECT PROMOTION: Where the Client has control or influence over construction signage, press releases and/or other promotional information identifying the project ("Project Promotion"), the Client agrees to include Stantec in such Project Promotion.

FORCE MAJEURE: Any default in the performance of this AGREEMENT caused by any of the following events and without fault or negligence on the part of the defaulting party shall not constitute a breach of contract: labor strikes, riots, war, acts of governmental authorities, unusually severe weather conditions or other natural catastrophe, or any other cause beyond the reasonable control or contemplation of either party.

GOVERNING LAW: This AGREEMENT shall be governed, construed and enforced in accordance with the laws of the jurisdiction in which the majority of the SERVICES are performed.

DISPUTE RESOLUTION: If requested in writing by either the CLIENT or Stantec, the CLIENT and Stantec shall attempt to resolve any dispute between them arising out of or in connection with this AGREEMENT by entering into structured non-binding negotiations with the assistance of a mediator on a without prejudice basis. The mediator shall be appointed by agreement of the parties. ~~If a dispute cannot be settled within a period of thirty (30) calendar days with the mediator, if mutually agreed, the dispute shall be referred to arbitration pursuant to laws of the jurisdiction in which the majority of the SERVICES are performed or elsewhere by mutual agreement.~~

~~**ATTORNEYS FEES:** In the event of a dispute hereunder, the prevailing party is entitled to recover from the other party all costs incurred by the prevailing party in enforcing this AGREEMENT and prosecuting the dispute, including reasonable attorney's and expert's fees, whether incurred through formal legal proceedings or otherwise.~~

ASSIGNMENT AND SUCCESSORS: Neither the CLIENT nor Stantec shall, without the prior written consent of the other party, assign the benefit or in any way transfer the obligations of this AGREEMENT or any part hereof. This AGREEMENT shall inure to the benefit of and be binding upon the parties hereto, and except as otherwise provided herein, upon their executors, administrators, successors, and assigns.

PROTECTION OF PRIVACY LAWS: Stantec will comply with its statutory obligations respecting the collection, use, disclosure, access to, correction, protection, accuracy, retention and disposition of personal information that may be collected or created under this AGREEMENT. Stantec will refer any request for access to or correction of personal information that is made under statute to the CLIENT and will comply with any directions from the CLIENT respecting the access request, or respecting correction and annotation of personal information. Stantec will, at reasonable times and on reasonable notice, allow the CLIENT to enter its premises and inspect any personal information of the CLIENT's that is in the custody of Stantec or any of Stantec's policies or practices relevant to the management of personal information subject to this AGREEMENT.

ENTIRE AGREEMENT: This AGREEMENT constitutes the sole and entire agreement between the CLIENT and Stantec relating to the PROJECT and supersedes all prior agreements between them, whether written or oral respecting the subject matter hereof and no other terms, conditions or warranties, whether express or implied, shall form a part hereof. This AGREEMENT may be amended only by written instrument signed by both the CLIENT and Stantec. All attachments referred to in this AGREEMENT are incorporated herein by this reference; however, in the event of any conflict between attachments and the terms and conditions of this AGREEMENT, the terms and conditions of this AGREEMENT shall take precedence.

SEVERABILITY: If any term, condition or covenant of this AGREEMENT is held by a court of competent jurisdiction to be invalid, void, or unenforceable, the remaining provisions of this AGREEMENT shall be binding on the CLIENT and Stantec.

THE PARTIES EXPRESSLY ACKNOWLEDGE THAT THIS AGREEMENT CONTAINS LIMITATION OF LIABILITY PROVISIONS RESTRICTING RIGHTS FOR THE RECOVERY OF DAMAGES.

The Parties, intending to be legally bound, have made, accepted and executed this AGREEMENT as of the Agreement Date noted above:

CITY OF WATERTOWN, NEW YORK	STANTEC CONSULTING SERVICES INC.
	Jeri A. Pickett, Associate
Print Name and Title	Print Name and Title
Signature	Signature
Print Name and Title	Print Name and Title
Signature	Signature

Stantec

PROFESSIONAL SERVICES AGREEMENT
ATTACHMENT "A"

Attached to and forming part of the AGREEMENT

BETWEEN:

CITY OF WATERTOWN, NEW YORK

(hereinafter called the "CLIENT")

- and -

STANTEC CONSULTING SERVICES INC.

(hereinafter called "Stantec")

EFFECTIVE:

This Attachment details the SERVICES, CONTRACT TIME, CONTRACT PRICE, ADDITIONAL CONDITIONS and ADDITIONAL ATTACHMENTS forming part of the above described AGREEMENT.

SERVICES: Stantec shall perform the following SERVICES:

See attached 4/26/2013 Stantec Proposal and 3/22/2013 City of Watertown Request for Proposal Scope of Work

(hereinafter called the "SERVICES")

CONTRACT TIME: Commencement Date: July, 2013

Estimated Completion Date: January, 2014

CONTRACT PRICE: Subject to the terms below, CLIENT will compensate Stantec as follows:

Project specific charges, such as subconsultants; travel, accommodations and meals; project-specific printing of deliverables; consumables; usage charges for specialized field equipment and company-owned, leased or rented project vehicles; external testing lab charges and other external services charges; specialized computer software costs; and other significant project-specific expenses will be invoiced in addition to labor fees.

Where not stated as being included in the fees, project specific subconsultant, contractor, lab and other similar third party charges will be charged as invoiced to **Stantec with a ten percent (10%) markup.**

Unless otherwise noted, the fees in this agreement do not include any value added, sales, or other taxes that may be applied by Government on fees for services. Such taxes will be added to all invoices as required.

Where the SERVICES or services conditions change, Stantec shall submit to the CLIENT in a timely manner, documentation of the revisions to Attachment "A" adjusting the Contract Services Time and Price as required.

Unless otherwise specified, charges for SERVICES are based on Stantec's hourly billing rate table ("Rate Table"), attached hereto. The Rate Table is subject to escalation from time to time.

See Attached 4/26/2013 Stantec Proposal for Not to Exceed Fee, Expenses and hourly rates

ADDITIONAL CONDITIONS: The following additional conditions shall be read in conjunction with and constitute part of this AGREEMENT:

No Additional Conditions

ADDITIONAL ATTACHMENTS: The following additional attachments shall be read in conjunction with and constitute part of this AGREEMENT:

4/26/2013 Stantec Proposal (Scope of Work, Rates, Fee, and Assumptions)

3/22/2013 City of Watertown Request for Proposal Scope of Work

INSURANCE REQUIREMENTS: Before any services are provided under this agreement, Stantec shall procure, and maintain in effect during the term of this agreement, insurance coverage in amounts and on terms not less than set forth below.

General Liability: Commercial general liability insurance for personal and bodily injury, including death, and property damage in the amount of $1,000,000 each occurrence and not less than $2,000,000 in the aggregate. **Client shall be named as additional insured.**

Automobile Liability: Automobile liability insurance for bodily injury, including death, and property damage in the amount of $1,000,000 each occurrence.

Professional Liability: Professional liability insurance for damages incurred by reason of any negligent act, error or omission committed or alleged to have been committed by Stantec in the amount of $1,000,000 per claim and in the aggregate.

Workers' Compensation: As prescribed by applicable law.

Certificates: Upon request, Stantec shall provide certificates of insurance evidencing coverage required above. Each certificate shall provide that the coverage therein afforded shall not be cancelled except with thirty (30) days prior written notice to the CLIENT.

Resolution No. 6

July 15, 2013

RESOLUTION

Approving Professional Services Agreement with Stantec Consulting Services, Inc.

	YEA	NAY
Council Member BURNS, Roxanne M.	X	
Council Member BUTLER, Joseph M. Jr.	X	
Council Member MACALUSO, Teresa R.	X	
Council Member SMITH, Jeffrey M.	X	
Mayor GRAHAM, Jeffrey E.	X	
Total	5	0

Introduced by

Council Member Jeffrey M. Smith

WHEREAS the City of Watertown owns and operates a facility known as the Municipal Arena, located at 600 William T. Field Drive, for the purpose of promoting recreational activities for the citizens of the City of Watertown, and

WHEREAS the City Council of the City of Watertown included in the 2013-14 Adopted Budget a capital expense for the design, rehabilitation, and expansion of the Municipal Arena in order to support increased and expanded year-round use, and

WHEREAS the City of Watertown Purchasing Office advertised for consultant proposals, with five proposals received and reviewed by the Selection Committee, and

WHEREAS it is the recommendation of the Selection Committee that the City Council of the City of Watertown approve the Professional Service Agreement with Stantec Consulting Services, Inc. in the amount of $99,790;

NOW THEREFORE BE IT RESOLVED that the City Council of the City of Watertown hereby approves the Professional Services Agreement with Stantec Consulting Services, Inc. in the amount of $99,790, a copy of which is attached hereto and made part of this resolution, and

BE IT FURTHER RESOLVED that City Manager Sharon Addison is hereby authorized and directed to execute this agreement on behalf of the City of Watertown.

Seconded by Council Member Teresa R. Macaluso

RESOLUTION

By Council Member Jeffrey M. Smith

Date July 15, 2013

SUBJECT:

Approving Professional Services Agreement with Stantec Consulting SErvices Inc.

STATE OF NEW YORK
Jefferson County
CITY OF WATERTOWN } ss:

I, Ann M. Saunders, City Clerk of the City of Watertown, hereby certify that the within Resolution was adopted at a meeting of the City Council of said City, held 07-15-13 and that the same is the whole of said Resolution.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of said City of Watertown, New York

Ann M. Saunders

City Clerk

City of Watertown

Final Master Plan

Municipal Arena Renovation

March 5, 2014

Stantec

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EXECUTIVE SUMMARY

The City of Watertown Municipal Arena, originally built in the mid-1970's, has provided an adequate venue for a multitude of public events, both with ice and without. However, the facility was never designed to support the variety of events that it hosts and the infrastructure is reaching the end of its useful life. As such, the City has hired Stantec Consulting Services to develop a Master Plan to identify the opportunities and costs associated with providing improvements.

Stantec held a Design Charrette with representative staff from the City of Watertown. The Charrette discussed the different drivers for the project and the overall expectations of the City and end-users. Likewise, Stantec presented design trends in the ice arena industry and performed an overall physical assessment of the existing facility. The Charrette ultimately provided the guidelines for how the facility should be improved.

Stantec has since reviewed the materials developed during the Charrette and has developed four (4) concepts for the layout of the facility along with their respective Opinions of Probable Cost (OPC). These concepts were presented to the City Council on two different occasions to solicit feedback. The first session with the City Council was held on January 13, 2014. Concept Options 1 through 3 were presented during this session. The City Council, in general, sought reductions in programming, area, and overall cost. As a result, Stantec developed Concept Option #4 and presented this to the City Council on February 10, 2014. This concept totaled nearly 14Ksqft in new construction and 12Ksqft in renovations. With an OPC ranging from $6.2M to $7M, this concept was well received, in general, and was approved as a basis to pursue overall design.

The specific information contained herein identifies the original scope of work (as defined in the Request for Proposal), the guiding principles Stantec utilized to create this Master Plan (as gleaned from the Design Charrette), the expectations of those who will work in and/or utilize the facility, and the different concepts that were developed. It should be noted that the concepts represent a range of budgets. As such, Option 1 is a 'low' cost option, Option 2 is the 'medium' cost option, and Option 3 is the 'high' cost option. As noted above, Option 4 is the final and preferred option. A comparison of the spaces associated with each option is included in Appendix G. A comparison of the costs is included in Section 5.

SECTION 1

INTRODUCTION

For the past 35+ years the City of Watertown Municipal Arena has been a successful multi-use facility hosting year-round events. Events include concerts, tradeshows, non-profit events and a semi-professional hockey team. The ice rink is also used for open public skating and by both local high school and youth hockey teams. To continue to provide quality recreational opportunities the City is seeking to rehabilitate the facility and implement enhancements to offer additional amenities.

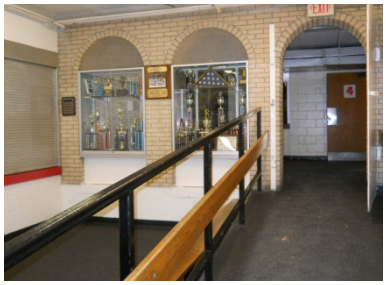
With all of the variables available in making improvements to such a versatile facility Stantec has recommended the development of a Facility Master Plan to identify potential expansion and improvement opportunities. This all-encompassing master plan will not only assess discrete project scope items, previously identified by the City and past engineering studies, but will provide a holistic assessment of the existing facility and an overall plan to modify and grow the facility. This planning process will allow the Arena to keep pace with alternative service providers, a multitude of existing uses and ever-evolving needs. It will be important that the facility continue to contribute to the Greater Watertown community's quality of life.

SCOPE OF WORK

The masterplan study has involved key stake holders – Parks and Recreation Personnel, Maintenance and Engineering Staff. These representatives have obtained input from City Council members and Arena patrons. Together, this team has pursued developing the following key Masterplan elements:

1. Roof System – the existing roof is showing signs of deterioration and there are signs of leakage.
2. Building Trusses – the trusses have not been maintained and there is concern over their ability to meet the current code load requirements.
3. Fire Suppression System – the existing system has undergone several repairs and only serves the main arena.

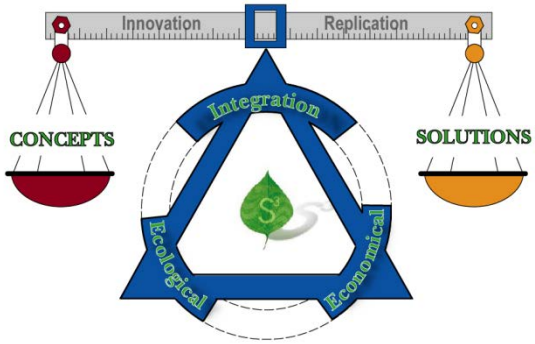
4. Main Arena Concrete Floor – the main arena floor is exhibiting signs of deterioration. There are concerns the in-floor piping and ductwork may be contributing to this condition.
5. Locker Rooms – the existing locker rooms are in need of renovation and expansion to accommodate larger events. An additional locker room is needed for the semi-professional hockey team and concert performers.
6. Entrance Vestibule, Concession and Sign – the existing entrance is not well-marked and provides limited space for gathering. The concession area is small and does not allow for ready access by patrons.
7. Toilet Facilities – the existing toilet rooms are in need of an upgrade. Additional toilet rooms are required and direct access from the exterior is needed to support outdoor events.
8. Zamboni Access – the existing melting pit does not function properly. Allowing the Zamboni to dump ice shavings outside will help to remedy this problem.
9. Rear Parking Lot – the existing parking lot is not adequate for large events. Expanding the parking and associated lighting is required.
10. Administration Offices and Storage – the existing offices were converted arena space and are too small. There needs to be an addition for formal offices and a dedicated toilet room for administration staff. Consideration should also be given for dedicated storage space and a party room.
11. Mechanical Equipment Upgrades – the existing mechanical systems should be evaluated for impacts due to the aforementioned improvements. Improvements should be based on energy savings and return on investment.
12. Evaluation for Year-round Ice – the existing facility should be evaluated for the potential of implementing year-round ice and the physical requirements to make this possible.



SECTION 2

GUIDING PRINCIPLES

The key elements for the success of the project are centered around developing a plan that addresses the following overall principles as extracted from the Design Charrette (refer to meeting minutes in Appendix A):



Integrated Design Approach

1. ***Versatility*** – the facility must be configured in a manner to support a multitude of different events and end-users, both inside the arena and outdoors.

2. ***Modernization*** – many of the spaces within the facility have reached the end of their useful life and/or are not adequate to support the current activities.

3. ***Accessibility*** – the building should be physically and visually accessible to the community.

4. ***Longevity*** – the existing building infrastructure needs to be updated to efficiently operate into the longterm future. This includes the building envelope, structure, equipment, and utility distribution systems.

5. ***Pride*** – the arena is the major entertainment venue for the surrounding community and there is an opportunity to make a visible statement on behalf of the City of Watertown and leave a positive impression on visitors.

6. ***Sustainabilty*** – the City of Watertown supports sustainability and will look to implement sustainable technologies where they are cost effective.

7. ***Cost Control*** – the budget for the project is limited and/or may not be available in one lump sum which may force a phased implementation approach; the plan must address this issue.

8. ***Competitive*** – an improved facility may be able to draw more events and/or participants away from other regional facilities.

SECTION 3

USER REQUIREMENTS

The Municipal Arena is inhabited by the City's Recreation Department Staff and, likewise, is the home to a multitude of end-users and events. This was clearly demonstrated during the Design Charrette. Each of the inhabitants and end-users has expectations and/or requirements to adequately and efficiently improve the facility. In addition, being an ice arena, there are many trends and philosophies that should be considered for implementation in order to maintain a competitive edge with the skating community. The following is a summary of these different requirements:

THE STAFF

The arena houses the staff for the Parks and Recreation Department. This consists of up to 30 people including full and part time employees. The facility should incorporate a Break Room that can support the entire staff. The Administration Staff requires four (4) offices. Two (2) administration offices could be located on the second floor; these offices would be co-located with a Conference Room and a dedicated Toilet Room. The Administration Staff are often visited by the public and, as such, should be located near the front of the facility. Likewise, a reception area should be located near the front door of the facility to greet visitors and receive deliveries. Two (2) of the Administration office could be located on the first floor, near the main entrance to provide off-hour assistance / information to visitors. Having two (2) offices in this location will provide the needed redundancy for sufficient coverage at the reception area. The Maintenance Staff requires five (5) dedicated lockers and should be located in the rear of the facility. The Maintenance Supervisor should have a private office also located in the rear of the facility. A restroom and showers are needed in this area to service 30 maintenance staff personnel; this function can be served by the home team shower / toilet area, located on the first floor of the rear addition.

THE EVENTS

As noted previously, the facility is used by a multitude of different groups throughout the year; both with ice and without. Not including the pool, the uses for the facility primarily include, but are not limited to, the following:

1. Ice-Based Activities which run from Mid-September through the end of March:

    a. Semi-Professional Hockey (the Privateers)
    b. High School Hockey (Boys and Girls)
    c. Hockey Clubs & Tournaments
    d. Recreation Hockey

e. Figure Skating
f. Public / Open Skating

2. Non-Ice Activities which run from April through Mid-September:

a. Music Concerts (up to 10 annually)
b. Boxing / Mixed Martial Arts
c. Circus
d. Senior Fair
e. Roller Derby
f. Italian American Festival
g. Food Shows
h. Demolition Derby
i. Wrestling
j. Fair (support facilities)
k. Summer Recreation Program (on rainy days)

In order to support all of these different types of activities, under one roof, with and without ice, the expectations are wide and varied. To make this facility flexible and functional, and suit the needs of all of the users, the following should be considered for implementation:

1. Improve the size and overall space of the lobby area. Current lobby does not allow for the adequate flow and transition of people in and out of the arena. This is particularly evident during hockey tournaments with multiple teams with large equipment bags and at large concert venues.
2. Improve the size and quantity of the team rooms. The current team rooms are undersized and do not meet the standards for modern hockey facilities and team sizes. The quantity of team rooms can sometimes restrict the changeover from one team to another but probably equally as important does not address the needs of multi-gendered teams.
3. Improve the quality and quantity of the public toilet rooms. The current public toilet rooms are out dated and the limited quantity of toilet fixtures is an issue, particularly during larger events. Direct

outdoor access to public toilet rooms for athletic field users is also a need that the existing facility does not provide.

4. Provide dedicated lounge area with restrooms and dressing rooms for concert performers. Currently the performers utilize a temporary trailer that is brought in for concert season.
5. Improve access and size of the concession stand. The existing layout does not allow for easy access nor provide adequate service to patrons during large attendance events. A vending machine area should be provided to facilitate concessions during low occupancy times where providing concessions service staff is not feasible.
6. Provide space for family activities including a party room and/or mutli-purpose room. The arena is currently not set up to provide these types of services. This room could be designed with temporary divider walls to allow for one large room or multiple small rooms.
7. Provide built-in rigging for concert speaker systems and lighting. Currently it takes city electricians a few days per concert to prepare the rigging to support equipment. Electrical service tie-in should be above Zamboni room and be designed for more efficient set-up.
8. The building mechanical systems need improvement. The ice is kept at 22 degrees and is in good condition. However, the ambient air is typically only 10 degrees warmer than the outdoor temperature. The ventilation air for the arena is untempered outdoor air. Heated viewing would be welcomed. Likewise, there is little to no ventilation for the lobby area, toilet rooms, and locker rooms. Air conditioning is used during the summer but is not capable of handling the heat load during larger events on warm days.

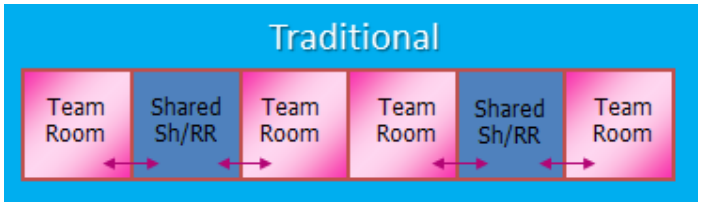
9. Improve the separation of the spectators, players, and officials for hockey games. The intermingling of these factions during an intense game is a concern.
10. Improve the entrance and access to ticket sales. The main entrance is not clearly identified and patrons struggle to find access. Tickets should be available in a pre-lobby area however this arrangement needs to accommodate long indoor stacking lines during bigger events. Need to add an arena sign and potentially digital marquee.
11. Handicap accessibility must be addressed.

12. Improve the bleacher seating. Current seating is limited and has been a source of concern from a safety aspect, is not comfortable, and has viewing limitations in certain areas. Need to maximize seating potential for the arena.
13. Provide a space for eating and/or catering. There is currently no place dedicated to enjoying concessions.
14. Improve the lighting in the arena. The existing metal halide lamps work but do not offer the lighting levels required for television broadcasts. The City has received a grant from NYSERDA for this work.
15. Provide four (4) dedicated coaches rooms: semi-professional team, minor league hockey, high school hockey, and figure skating.
16. Provide a dedicated team room for the semi-professional hockey team.
17. Co-locate first aid station with skate rental and concession stand. These may be run by one individual during low occupancy periods.
18. Consider providing a small pro shop possibly integrating it into or near the concessions or reception area.
19. Provide locker room with toilet and shower for the referees. This will be a maximum of 3 to 5 people.

THE TRENDS

Stantec presented "What's Hot on Ice" during the Design Charrette. This is a compilation of Stantec's experience working with professionals and owners in and around ice arenas. This presentation has been utilized at conferences all over North America and was used to provide an overall perspective of the latest trends around the design and operation of ice arenas. Some of the key points identified during the presentation included the following:

1. Locker Rooms – there are various options available for their location and access to toilet rooms and showers. The layout that lends itself best to Watertown's arena is the Traditional arrangement combined with a dedicated semi-professional locker room and additional locker room space to accommodate multi-gender team issues. The traditional team room configuration co-locates two team rooms



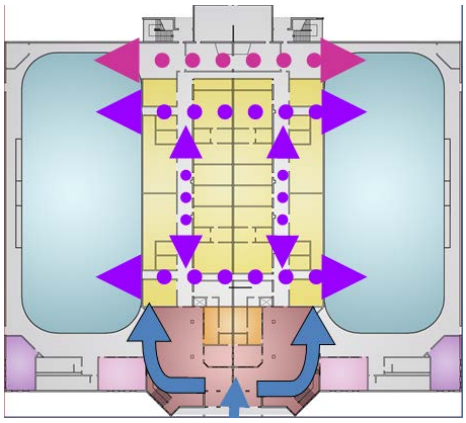
centered on one toilet room with showers. As one team is on the ice, the other can be preparing to go out on the ice and vice versa.

2. The use of a low emissivity ceiling is recommended. This will save energy by minimizing the impacts of radiant heat on the ice and will capture heat that may be used to keep the spectators warm.

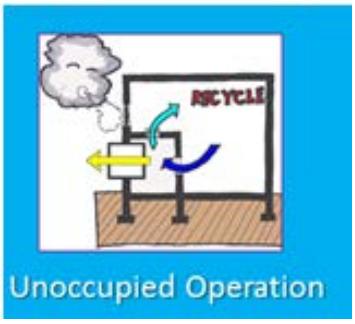
3. The dasher boards should be 42 inches high and include 4.5 foot high spectator shielding comprised of 5/8″ tempered glass. The current glass is only 4 feet high and is comprised of 5/8″ glass on the ends of the rink and ½″ glass on the sides. The ½″ glass has broken three (3) times in the recent past.

4. There should be consideration for the installation of synthetic practice ice. This is a plastic unrefrigerated ice that can be used for shooting and goalie practice year round. The City of Watertown has considered installing this previously but is not interested in pursuing.

5. It is important to keep the different occupant flows of an ice arena separated; there should not be crossover. The current arena configuration has spectators intermingling with players and, moreover, teams intermingling with other teams. The expectation should be to keep the spectators separated from the players, the teams to be separated from other teams, and the ice resurfacer to be separated from people in general. The bleacher configuration can be set up for back loading which allows the bleachers to be closer to the ice without having other spectators walking across the front row. Locker rooms will be set up to allow two (2) different access points to the ice. The ice resurfacer will have its own point of entry.



6. Sustainability is a continuous improvement opportunity for energy intensive ice arenas. Even though the City of Watertown has a low rate agreement with the local utility, which makes economics of energy-based changes more difficult to



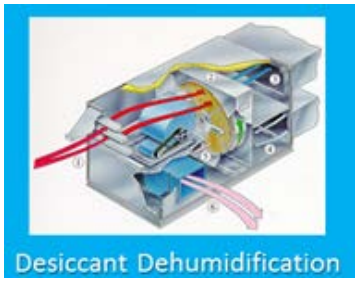
justify, there are still many opportunities that exist, including the following:

a. Develop operating control strategies for building systems that minimize or eliminate the use of electricity. This will improve the energy efficiency of the facility and it will also help the City to maximize their electricity sell-back to National Grid as part of their Power Purchase Agreement.

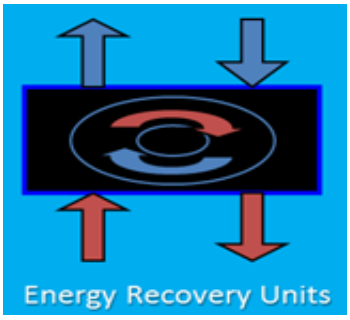
b. Verify that the ice equipment is properly sized and energy-efficient. This can result in a 10 to 20 percent savings in the energy bill without compromising ice quality.

c. For indoor facilities, maintaining air quality is critical, especially in arena spaces and locker rooms. Designing a variable flow rate ventilation system that allows the mechanical system to match the occupancy load can save energy without compromising air quality.

d. A properly sized dehumidification system can save energy in the facility by reducing the refrigeration load on the ice, providing for a more comfortable environment for building users, minimize ice maintenance, and maintain a higher quality of air by keeping mold and mildew under control.



e. Waste heat utilization from an ice rink refrigeration system can provide essentially free energy for a variety of facility heating needs. Waste heat can be used effectively for subsoil heating beneath the ice rink, snowmelt systems for melting the ice resurfacer shavings, domestic hot water preheat, building space heat, spectator bleacher heat, dehumidification reheat, and water feature heating to mention a few applications.



f. Lighting is another consideration. The fact that this arena is used for other purposes, including concerts, makes the use of natural lighting difficult without a means to control the light. However, the opportunities include:

i. LED or Fluorescent lighting are dimmable and instant on at a significant energy savings over the existing metal halide lamps.
ii. Multi-level lighting to match the event
iii. Improved functionality and aesthetics.
iv. Less maintenance with longer lamp life.

SECTION 4

DESIGN OPTIONS

The design options that are available are based on several criteria, which include but are not limited to the following: site boundaries and requirements, infrastructure capacity and condition, and user requirements (as described previously). The following documents the existing conditions of each of these criteria and their respective opportunities for enhancing the Municipal Arena:

THE STRUCTURE

The Watertown Ice Rink and supporting structures include two separate structural systems. The Ice Rink building is an open floor plan, gable roof building and includes the following: a slab-on-grade concrete floor, brick masonry enclosure, steel truss roof structure supported on steel columns, open web joist purlins, and structural steel member bracing. A standing seam metal roof was installed over the purlins and was later coated with a urethane system. The building structure is founded on concrete spread footings and strip footings at the wall perimeter. The support building to the north is a single story flat roof building and includes the following: a slab-on-grade concrete floor, brick masonry enclosure, and a flat roof structure consisting of concrete plank on load bearing masonry walls. The building structure is founded on concrete strip footings for load bearing walls. Stantec performed the following to validate the integrity and capacity of the existing structure:

- Inspect and evaluate the existing roof trusses and support structure for maintenance and repair.
- Evaluate structure for roof loadings based on roof alternatives
- Make recommendations for required structural repairs or upgrades to structural members.

Visual Inspection Activities

The inspection consisted of a drawing review and visual observations. A detailed inspection of the Ice Rink roof deck was conducted at two locations using a lift for close access. The finding of the inspection is as follows:

- Ice Rink:
  - Slab-on-grade: The concrete slab overall in is good condition with only minor cracking and surface deficiencies typically located at the east end.
  - Brick Masonry Enclosure: The masonry enclosure is in good condition with isolated cracking in the brick masonry and impact damaged brick at corners at outside doors. Mortar joints were in good condition.

- Steel Truss Roof Structure, Bracing and Purlins: The steel truss roof structure and bracing is in very good condition with only deficiency being failed coating system.
- Steel Columns: The columns are in very good condition with only deficiency being the failed coating system.
- Metal Roof: The soffit of the metal roof is in good condition with similar paint coating failure. The top side of the metal deck exhibits urethane coating failure with exposed urethane foam.
- Lintels and Miscellaneous Metal: The steel lintels are in very good condition with only deficiency being the failed coating system.

- Single Story Structure:
  - Slab-on-grade: The concrete slab overall in is good condition with only minor cracking. The pit for Zamboni dumping exhibits moderate scaling.
  - Brick Masonry Enclosure: The masonry enclosure is in good-fair condition with isolated cracking in the brick masonry. Mortar joints are in good condition.
  - Roof Structure: The concrete plank soffit was in good condition with some minor staining at roof penetrations in the mechanical room.

Structural Analysis

The formal engineering analysis Stantec performed focused on the Steel Trusses, Purlins and Metal Deck for the Ice Arena. It also focused on the Pre-cast Planking for the One-Story Structure. The entire analysis is included in Appendix H. The findings indicate that all structural items are acceptable for loads imposed by current building code standards. Furthermore, the existing roofing system has the structural capacity to support a PV Solar System. The existing roofing metal deck does require more analysis. Confirmation of this element is pending further investigation during the design phase but in all likelihood will be replaced as part of the roof replacement, regardless.

Mechanical Systems

The existing ice rink has Dehumidification provided by a pad-mounted Munters unit located behind the Arena. The duct distribution within the arena is fairly localized and should be expanded to better cover the space. The air conditioning is currently provided to the arena via a 50 ton packaged air handler located on a pad behind the arena. The air handler is undersized to handle the loads seen during summertime events. The viewing area is currently heated via gas infrared heaters located above the seating areas with very limited distribution. The Lobby and locker areas are currently heated and

ventilated using a combination of hydronic fan-coil units and exhaust fans. The existing arena has a dry pipe fire protection system.

For the new work the intention is to upgrade the HVAC serving the Arena. This will include provisions for heating and cooling of the viewing areas as well as proper ventilation for the lobby, toilet rooms, and locker areas. The cooling system shall be sized to accommodate summer events. We will provide HVAC for the new floor spaces as required. The dehumidification system will be upgraded. Plumbing will be provided to support the new and renovated areas as required. This includes, but is not limited to, the toilet rooms, lockers areas, break rooms, and lounge areas. Fire protection systems for the new and renovated spaces will be provided. Systems may be dry or wet depending on the location.

Electrical Systems

The existing Municipal Arena is fed by two separate utility electrical services. The first service is a 400A, 208/120V, 3 Phase service that was dedicated for the pool area of the facility. The second service is an 800A, 480/277V, 3 Phase service that was dedicated for the ice rink area of the facility. The service transformers for both systems, which are independently metered, are adjacent to each other on the north east exterior corner of the facility. Peak Demand data provided by the City indicates a peak of 282kW. Per the building electrician, the systems are mostly independent of each other but have been intermingled over the years. The existing facility lighting utilizes Metal Halide for the ice rink area and fluorescent for non-ice rink areas. The facility also has a fire alarm control panel and an existing CCTV system.

For the Arena renovations the intent is to utilize the existing 480/277V distribution system to provide the electric service for the new addition(s). Based on projected power consumption the existing electric service will be very close to its maximum capacity. This will require further analysis during design to make a final determination. Also, there will be a concerted effort to separate the electric service for the pool area and isolate it from the ice rink. The lighting for the ice rink will be replaced and updated with either a fluorescent or LED based system. Potential for NYSERDA incentives and an overall Return on Investment analysis will be performed to provide the City with data to make this decision. The lighting for the renovated and new spaces will be fluorescent, by default, with consideration for LED based on the same analysis. The existing Fire Alarm and CCTV systems will be evaluated for expansion to cover the new spaces.

THE SITE

The existing entrance to the building is nondescript with an unloading area adjacent to a relatively flat wall with many doors. Visitors are not provided with a clearly demarcated entry door. With reference to the sketch included in Appendix F, the arena's primary point of entry for patrons will be located at the southwest corner of the building facing traffic from William T. Field Drive. The building's new architecture will naturally draw visitors to the primary entrance and offer a sense of arrival. A new loading/unloading area would be incorporated at the entrance providing families and carpoolers a clear, safe and easily accessed point of destination.

The adjacent parking area to the south can be restriped with ninety degree parking (which may increase available parking) and also expanded/reconfigured along Field Drive. There is also an opportunity for additional parking (roughly seven spaces) at the southeast corner of the building. Anticipated parking totals for the southern lot will be refined as sketches progress and potential patron unloading areas are determined.

Arena users parking on the north side of the building will access a secondary pedestrian entrance located at the northwest corner of the addition. A new parking lot would be constructed within the lawn area between the site's existing access road and pool. A connection to the existing parking lot farther to the north would provide an alternate means of access to each area. In order to install the new parking lot, a secondary unloading area adjacent to the pedestrian entrance would be recommended.

A new parking area (approximately 40 spaces) with a separate building entrance is planned on the east side of the facility for staff, hockey players, Professional Hockey Team and Event/Concert vehicles. This area is immediately to the east of the existing pool and to the west of the planned storage building. Controlled access to the existing park/picnic area to the north could be provided from the new parking lot. Additional parking could be incorporated along the easternmost property line adjacent to the chain link fence. This option will need to be explored as it may limit access to the back of the facility for larger vehicles.

Currently, parking for the facility is generally contained within two existing asphalt parking areas totaling approximately 184 striped spaces. Schematically, improvements to the site would yield approximately 308 parking spaces representing an increase of 184± spaces. As noted above, the total available number of future parking spaces will need to be refined as the building expansion options progress through final design.

ARENA CONCEPT – OPTION 1

Option 1 presents a solution that solves most of the operational challenges with the smallest footprint and cost. A detailed drawing of Option 1 can be found in Appendix B. The program spaces are kept compact yet meet the minimum requirements of the model program worksheet that was presented at the Design Charrette. A summary of this worksheet is included in Appendix A. A two level addition on the front and back of the existing building keeps the footprint compact yet provides the critical space associations needed for an efficient operation. This plan will work well and has appropriate space for 95% of the building functions but may pose some challenges during high occupancy events such as concert venues. It will be necessary to bring in temporary toilets to meet the requirements for occupancies larger than approximately 2,500 people and this will need to receive the approval of local code officials. The primary features of Option 1 include the following:

Renovated Space

- Team Rooms: Four large non-dedicated team rooms that share common shower restrooms to function for normal team use for practice and games located immediately adjacent the rink with two independent access points to the ice to avoid team conflicts between periods and games. Multi-gender teams would have access to an additional smaller team room with showers located next to the existing refrigeration room. A large dedicated team room is part of a new back of the house addition which will be the home for the Professional Hockey Team.
- Ice Resurfacer Room: A new relocated ice resurfacer room provides adequate space for storing a backup ice resurfacer, a large snowmelt pit, access directly to outdoors and a location that keeps the ice resurfacer movements from endangering patrons and players at the back of the building.
- Coaches Offices: Four coaches offices located adjacent the team rooms near the new front lobby area provide desk, file and conference space for coaches of the semi-professional team, minor league hockey, high school hockey, and figure skating.
- Referees Room: A referee's room with restroom and shower is located near the back of the house by the existing refrigeration room with direct access to the rear parking lot.
- Bleachers: Permanent back loaded bleachers provided on the north side of the rink allow for better site lines on the ice, a walkway and viewing area along the back of the bleachers, and storage capacity below the bleachers if constructed with fire rated masonry. Along the south side of the rink a permanent bleacher arrangement is constructed in the center of the building which includes two smaller front loaded bleacher sections, relocated team, penalty and scorers

boxes and the press box above and behind the column lines. Portable bleachers would be provided on each side of this bleacher arrangement that could be moved around for special events during the dry floor season.

- Team Boxes: Team, penalty and scorer's boxes would all be located to the south side of the ice sheet where they minimize the potential conflicts between the players and spectators. In addition this new location allows for much better site lines from the primary bleacher area on the north side of the rink.
- Press Box: The press box is relocated to the south side of the rink where it doesn't impact the spectator's site lines in the prime north side bleacher viewing area. The press box is also moved back from the rink to better accommodate viewing from the adjacent bleachers.
- Skate Changing Area: A skate changing area is provided near the new front lobby in the arena space to accommodate public skating sessions. We would anticipate benches with under-storage space for shoes and other belongings during the skating session.
- Storage: An extensive storage space is generated beneath the permanent bleachers to accommodate a wide variety of users. This space can easily be compartmentalized to allow secure space for all storage needs.
- Workshop: A dedicated workshop is provided under the permanent bleachers as well for area staff to keep tools and machines necessary for maintenance activities.
- Mezzanine: A mechanical mezzanine is created over the ice resurfacer room to allow for indoor mechanical systems for easier maintenance.
- Heated Observation Corridor: A heated observation corridor is created at the northwest corner of the rink which allows for unobstructed heated viewing of the activities in the arena. This area would be located adjacent to a video arcade and lounge area which are part of a new addition to the front of the arena.

New Back of House Two-Level Expansion:

- Dedicated Locker-room: A large dedicated locker-room for the Professional Hockey Team complete with locker changing area, restroom and shower area and laundry room is provided on the lower level at the back of the house with direct access to the rear parking lot. The restroom/shower area would be designed to share with the Hospitality Suite during the summer dry floor season.
- Hospitality Suite: A permanent hospitality suite located on the lower level, which shares the Professional Hockey Team restroom and shower space, will provide concert venues the needed space for performers. This space could also be used for other program activities when not in use for concerts.

- Park and Recreation Maintenance Staff Area: A second level park and recreation staff area includes a break room, training area, toilets and showers and an office for approximately 30 employees serving this function. The upper level would have direct access to the rear parking lot, the lower level via stairwell, and the upper level bleacher area.

New Front of House Two-Level Expansion:

- Entry Vestibules: Two entry vestibules are provided on the north and south side of the expansion with the primary entry on the south side which will be designed to clearly, visually define the front entry of the arena.
- Office/Control: A reception office will be located near the main entry which will be positioned to monitor patrons entering and leaving the facility. The reception office will be adjacent the service areas for concessions, first aid, skate rental and skate sharpening to allow for convenient multifunctioning during periods of low occupancy. The reception office will also serve as a ticketing station during events.
- Concessions: An expanded concessions area and concessions storage area is centrally located to serve concessions at a wide variety of events. We would anticipate that some vending equipment may be located adjacent the concession area to provide minimal concessions during low occupancy times when a concessions service attendant is not warranted.
- Concessions Eating Area: A concession eating area consisting of tables and chairs is located in the center of the lobby with adjacent viewing windows into the arena. This space could easily be converted to general lobby space when required by removal of the tables and chairs.
- First Aid: A small first aid station is located adjacent the arena with direct access into the arena space. Patrons requiring assistance can easily be moved into this space from the arena and rest there until further assistance arrives.
- Skate Rental/Skate Sharpening: Skate rental and sharpening is located adjacent to the concession area for ease of multifunctioning during slow times and this space could service rental customers directly in to the arena space through a direct access service window.
- Party/Multipurpose: A larger room designed to serve as a party room or multipurpose room is located in the lobby area. This room will be capable of subdividing into two smaller rooms with a movable wall that will add flexibility to its program use. The party rooms have become popular for catering birthday party events at ice arenas and only require tables, chairs and a small sink and countertop for servicing the party.

- Lobby: A large lobby allows for circulation, mingling and viewing the ice activities through large viewing windows located in the arena wall. Clear site lines allow for ease of way finding to the appropriate destination. A large staircase will clearly identify access to the second level where bleacher access, programming and operations staff, multipurpose room, heated viewing, lounge and video arcade are located. Access will be provided from exterior parking lots to north and south entrance vestibules and an elevator will provide ADA access to the second level.
- Toilet Rooms: Large public restrooms are located on the north side of the lobby to service public needs. The restroom is sized for the normal occupancy loads for hockey and figure skating practice, games and events during the skating season and normal occupancy events during the dry floor season. Large occupancy events will require additional outdoor portable toilets to be provided to meet the needs and code requirements. It is anticipated that these facilities may be located to the north of the permanent restrooms and have access directly from the restrooms. A temporary fence would need to be installed to provide security to the building.
- Administrative Offices: A second floor administrative office area is provided complete with one primary arena manager's office and three smaller support offices along with a small restroom and conference room. This area would be accessible to facility and parks and recreation customers from the second level.
- Multipurpose Room: A room available for multiple uses, including aerobic exercise programs, is located along the north end of the second floor of the building.
- Video Arcade: A small video arcade is provided just off the second floor corridor for video machine play.
- Lounge: A heated second floor lounge area overlooking the lobby below and indirectly into the arena through the heated observation area will provide some rest and refuge for those in need. This area will include comfortable lounge chairs and lighting.
- Corridor: A second floor corridor for access to the back loaded bleachers will provide the primary access to spectator seating on the north side of the arena.

ARENA CONCEPT – OPTION 2

Option 2 presents a solution that solves most of the operational challenges with a mid-level footprint and cost. A detailed drawing of Option 2 can be found in Appendix C. The program spaces vary in size, in comparison to the other two options, but fall in the medium-to-large requirements of the model program worksheet that was presented at the Design Charrette. A two level addition on the front and back of the existing building

provides the critical space associations needed for an efficient operation. This plan will work well and has appropriate space for nearly all of the building functions and should easily accommodate high occupancy events such as concert venues.

Renovated Space

- Team Rooms: Four large non-dedicated team rooms that share common shower restrooms to function for normal team use for practice and games located immediately adjacent the rink with two independent access points to the ice to avoid team conflicts between periods and games. Multi-gender teams would have access to an additional smaller team room with showers located next to the existing refrigeration room. A large dedicated team room is part of a new back of the house addition which will be the home for the Professional Hockey Team.
- Ice Resurfacer Room: A new relocated ice resurfacer room provides adequate space for storing a backup ice resurfacer, a large snowmelt pit, access directly to outdoors and a location that keeps the ice resurfacer movements from endangering patrons and players at the back of the building.
- Coaches Offices: Four coaches offices located adjacent the team rooms near the new front lobby area provide desk, file and conference space for coaches of the semi-professional team, minor league hockey, high school hockey, and figure skating.
- Referees Room: A referee's room with restroom and shower is located near the back of the house by the existing refrigeration room with direct access to the rear parking lot.
- Bleachers: Permanent back loaded bleachers provided on the north side of the rink allow for better site lines on the ice, a walkway and viewing area along the back of the bleachers, and storage capacity below the bleachers if constructed with fire rated masonry. Along the south side of the rink a permanent bleacher arrangement is constructed in the center of the building which includes two smaller front loaded bleacher sections, relocated team, penalty and scorers boxes and the press box above and behind the column lines. Portable bleachers would be provided on each side of this bleacher arrangement that could be moved around for special events during the dry floor season.
- Team Boxes: Team, penalty and scorer's boxes would all be located to the south side of the ice sheet where they minimize the potential conflicts between the players and spectators. In addition this new location allows for much better site lines from the primary bleacher area on the north side of the rink.
- Press Box: The press box is relocated to the south side of the rink where it doesn't impact the spectator's site lines in the prime north side bleacher viewing

area. The press box is also moved back from the rink to better accommodate viewing from the adjacent bleachers.

- Skate Changing Area: A skate changing area is provided near the new front lobby in the arena space to accommodate public skating sessions. We would anticipate benches with under-storage space for shoes and other belongings during the skating session.
- Storage: An extensive storage space is generated beneath the permanent bleachers to accommodate a wide variety of users. This space can easily be compartmentalized to allow secure space for all storage needs.
- Workshop: A dedicated workshop is provided under the permanent bleachers as well for area staff to keep tools and machines necessary for maintenance activities.
- Mezzanine: A mechanical mezzanine is created over the ice resurfacer room to allow for indoor mechanical systems for easier maintenance.

New Back of House Two-Level Expansion:

- Dedicated Locker-room: A large dedicated locker-room for the Professional Hockey Team complete with locker changing area, restroom and shower area and laundry room is provided on the lower level at the back of the house with direct access to the rear parking lot. The restroom/shower area would be designed to share with the Hospitality Suite during the summer dry floor season.
- Hospitality Suite: A permanent hospitality suite located on the lower level, which shares the Professional Hockey Team restroom and shower space, will provide concert venues the needed space for performers. This space could also be used for other program activities when not in use for concerts.
- Park and Recreation Maintenance Staff Area: A second level park and recreation staff area includes a break room, training area, toilets and showers and an office for approximately 30 employees serving this function. The upper level would have direct access to the rear parking lot, the lower level via stairwell, and the upper level bleacher area.

New Front of House Two-Level Expansion:

- Entry Vestibules: Two entry vestibules are provided on the west (street) side of the expansion. These entranceways will be clearly, visually defined as the main entry points for the arena.
- Office/Control: A reception office will be located near the main entry which will be positioned to monitor patrons entering and leaving the facility. The reception office will stand alone from skate rental and concessions. The reception office will also serve as a ticketing station during events.

- Concessions: An expanded concessions area and concessions storage area is centrally located to serve concessions at a wide variety of events. We would anticipate that some vending equipment may be located adjacent to the concessions area to provide minimal concessions during low occupancy times when a concessions service attendant is not warranted.
- Concessions Eating Area: A concessions eating area consisting of tables and chairs is located in the center of the lobby with adjacent viewing windows into the arena. This space could easily be converted to general lobby space when required by removal of the tables and chairs.
- Pro Shop: A small pro shop is located adjacent to one of the open stairways with direct access into the arena lobby space. Patrons needing supplies or new equipment can easily obtain these items during an event.
- First Aid: A small first aid station is located adjacent the arena with direct access into the arena space. Patrons requiring assistance can easily be moved into this space from the arena and rest there until further assistance arrives.
- Skate Rental/Skate Sharpening: Skate rental and sharpening is located adjacent to the concessions area for ease of multifunctioning during slow times.
- Party/Multipurpose: A larger room designed to serve as a party room or multipurpose room is located adjacent to the lobby area. This room will be capable of subdividing into two smaller rooms with a movable wall that will add flexibility to its program use. The party rooms have become popular for catering birthday party events at ice arenas and only require tables, chairs and a small sink and countertop for servicing the party.
- Lobby: A large lobby allows for circulation, mingling and viewing the ice activities through large viewing windows located in the arena wall. Clear site lines allow for ease of way finding to the appropriate destination. Two staircases will clearly identify access to the second level where bleacher access, programming and operations staff, Multipurpose room, heated viewing, lounge and video arcade are located. Access will be convenient from exterior parking lots to north and south entrance vestibules and an elevator will provide ADA access to the second level.
- Toilet Rooms: Large public restrooms are located on the north and south side of the lobby to service public needs. The restroom is sized for normal occupancy loads for hockey and figure skating practice, games and events during the skating season and normal occupancy events during the dry floor season as well as large occupancy events. The toilet rooms on the first level and second level will be stacked. Separate toilet rooms will be located on the north side of the building will be accessed only from the outside of the facility. These rooms will be used during the warmer weather months and support the outside functions that occur at the arena and surrounding properties.

- Administrative Offices: An administrative office area is provided on the second level complete with one primary arena manager's office, three smaller support offices, a conference room, a small restroom and some administrative support / file space. This area would be accessible to facility and parks and recreation customers from the second level.
- Multipurpose Room: A second level room available for multiple uses, including aerobic exercise programs, is located along the south end of the building.
- Video Arcade: A small video arcade is provided just off the second level corridor for video machine play.
- Lounge: A heated lounge area on the second level overlooking the lobby below and with views directly into the arena through the heated observation area will provide some rest and refuge for those in need. This area will include comfortable lounge chairs and lighting.
- Corridor: A second level corridor for access to the back loaded bleachers will provide the primary access to spectator seating on the north side of the arena.

ARENA CONCEPT – OPTION 3

Option 3 presents a solution that solves what we understand to be all of the operational challenges with an expansive footprint and cost. A detailed drawing of Option 3 can be found in Appendix D. The program spaces vary in size, in comparison to the other two options, but fall in the larger sized requirements of the model program worksheet that we presented at the Design Charrette. A two level addition on the front and back of the existing building provides the critical space associations needed for an efficient operation. This plan will work well and has appropriate space for all of the building functions and should easily accommodate high occupancy events such as concert venues.

Renovated Space

- Team Rooms: Four large non-dedicated team rooms that share common shower restrooms to function for normal team use for practice and games located immediately adjacent the rink with two independent access points to the ice to avoid team conflicts between periods and games. Multi-gender teams would have access to an additional smaller team room with showers located next to the existing refrigeration room. A large dedicated team room is part of a new back of the house addition which will be the home for the Professional Hockey Team.
- Ice Resurfacer Room: A new relocated ice resurfacer room provides adequate space for storing a backup ice resurfacer, a large snowmelt pit, access directly to outdoors and a location that keeps the ice resurfacer movements from endangering patrons and players at the back of the building.

- Coaches Offices: Four coaches offices located adjacent the team rooms near the new front lobby area provide desk, file and conference space for coaches of the semi-professional team, minor league hockey, high school hockey, and figure skating.
- Referees Room: A referee's room with restroom and shower is located near the back of the house by the existing refrigeration room with direct access to the rear parking lot.
- Bleachers: Permanent back loaded bleachers provided on the north side of the rink allow for better site lines on the ice, a walkway and viewing area along the back of the bleachers, and storage capacity below the bleachers if constructed with fire rated masonry. Along the south side of the rink a permanent bleacher arrangement is constructed in the center of the building which includes two smaller front loaded bleacher sections, relocated team, penalty and scorers boxes and the press box above and behind the column lines. Portable bleachers would be provided on each side of this bleacher arrangement that could be moved around for special events during the dry floor season.
- Team Boxes: Team, penalty and scorer's boxes would all be located to the south side of the ice sheet where they minimize the potential conflicts between the players and spectators. In addition this new location allows for much better site lines from the primary bleacher area on the north side of the rink.
- Press Box: The press box is relocated to the south side of the rink where it doesn't impact the spectator's site lines in the prime north side bleacher viewing area. The press box is also moved back from the rink to better accommodate viewing from the adjacent bleachers.
- Skate Changing Area: A skate changing area is provided near the new front lobby in the arena space to accommodate public skating sessions. We would anticipate benches with under-storage space for shoes and other belongings during the skating session.
- Storage: An extensive storage space is generated beneath the permanent bleachers to accommodate a wide variety of users. This space can easily be compartmentalized to allow secure space for all storage needs.
- Workshop: A dedicated workshop is provided under the permanent bleachers as well for area staff to keep tools and machines necessary for maintenance activities.
- Mezzanine: A mechanical mezzanine is created over the ice resurfacer room to allow for indoor mechanical systems for easier maintenance.

New Back of House Two-Level Expansion:

- Dedicated Locker-room: A large dedicated locker-room for the Professional Hockey Team complete with locker changing area, restroom and shower area and laundry room is provided on the lower level at the back of the house with direct access to the rear parking lot. The restroom/shower area would be designed to share with the Hospitality Suite during the summer dry floor season.
- Hospitality Suite: A permanent hospitality suite located on the lower level, which shares the Professional Hockey Team restroom and shower space, will provide concert venues the needed space for performers. This space could also be used for other program activities when not in use for concerts.
- Park and Recreation Maintenance Staff Area: A second level park and recreation staff area includes a break room, training area, toilets and showers and an office for approximately 30 employees serving this function. The upper level would have direct access to the rear parking lot, the lower level via stairwell, and the upper level bleacher area.

New Front of House Two-Level Expansion:

- Entry Vestibules: Two entry vestibules are provided on the north and south side of the expansion with the primary entry on the south side which will be designed to clearly, visually define the front entry of the arena.
- Office/Control: A reception office will be located near the main entry which will be positioned to monitor patrons entering and leaving the facility. The reception office will stand alone from skate rental and concessions. The reception office will also serve as an exterior ticketing station during events.
- Concessions: An expanded concessions area and concessions storage area is centrally located to serve concessions at a wide variety of events. We would anticipate that some vending equipment may be located adjacent to the concessions area to provide minimal concessions during low occupancy times when a concessions service attendant is not warranted.
- Pro Shop: A small pro shop is located adjacent the concessions area with direct access into the arena lobby space. Patrons needing supplies or new equipment can easily obtain these items during an event.
- Concessions Eating Area: A concession eating area consisting of tables and chairs is located in the center of the lobby with adjacent viewing windows into the arena. This space could easily be converted to general lobby space when required by removal of the tables and chairs.
- First Aid: A small first aid station is located adjacent the arena with close indirect access into the arena space. Patrons requiring assistance can easily be

moved into this space from the arena and rest there until further assistance arrives.

- Skate Rental/Skate Sharpening: Skate rental and sharpening is located adjacent the south entrance and near an arena entrance point.
- Party/Multipurpose: A larger room designed to service as a party room or multipurpose room is located adjacent to the arena and lobby areas. This room will be capable of subdividing into two smaller rooms with a movable wall that will add flexibility to its program use. The party rooms have become popular for catering birthday party events at ice arenas and only require tables, chairs and a small sink and countertop for servicing the party.
- Lobby: A large lobby allows for circulation, mingling and viewing the ice activities through large viewing windows located in the arena wall. Clear site lines allow for ease of way finding to the appropriate destination. A large monumental staircase will clearly identify access to the second level where bleacher access, programming and operations staff, Multipurpose room, heated viewing, lounge and video arcade are located. Access will be convenient from exterior parking lots to north and south entrance vestibules and an elevator will provide ADA access to the second level.
- Toilet Rooms: Large public restrooms are located on the north side of the lobby to service public needs. The restroom is sized for the normal occupancy loads for hockey and figure skating practice, games and events during the skating season and normal occupancy event during the dry floor season as well as for large occupancy events. The toilet rooms will have a smaller toilet facility incorporated into the north end that can be isolated by a roll-up door. This feature serves a dual purpose: first, it will allow outdoor public use of the smaller toilet facility during the warm weather months; second, during large occupant venues the north end of the toilet rooms can be opened up and access from the interior for use by the patrons.
- Administrative Offices: An administrative office area on the second level is provided complete with one primary arena manager's office, three smaller support offices, a conference room, a small restroom and some administrative support / file space. The administrative offices are located such that they have direct views into the area proper. This area would be accessible to facility and park and recreation customers from the second level.
- Multipurpose Room: A room available for multiple uses, including aerobic exercise programs, is located along the north end of the building on the second level.
- Video Arcade: A small video arcade is provided just off the second level corridor for video machine play.

- Lounge: A second level heated lounge area overlooking the lobby below and with views directly into the arena through the heated observation area will provide some rest and refuge for those in need. This area will include comfortable lounge chairs and lighting.
- Corridor: A second level corridor for access to the back loaded bleachers will provide the primary access to spectator seating on the north side of the arena.

ARENA CONCEPT – OPTION 4

Option 4 presents a solution that compromises some of the desired programming items in an effort to solve the monetary challenges often associated with a renovation of this magnitude. A detailed drawing of Option 4 can be found in Appendix E. The program spaces vary in size, in comparison to the other three options, but are well within the range for room size requirements of the model program worksheet that was presented at the Design Charrette. A two level addition on the front and back of the existing arena provides the minimal space needed for an efficient use and operation of the facility. This plan will work well and has adequate space for the desired building functions and should easily accommodate high occupancy events such as concert venues.

Renovated Space

- Team Rooms: Four large non-dedicated team rooms that share common shower restrooms to function for normal team use for practice and games located immediately adjacent the rink with two independent access points to the ice to avoid team conflicts between periods and games. Multi-gender teams would have access to an additional smaller team rooms with showers located next to the existing refrigeration room. A large dedicated team room is part of a new back of the house addition which will be the home for the Professional Hockey Team.
- Ice Resurfacer Room: A new relocated ice resurfacer room provides adequate space for storing a backup ice resurfacer, a large snowmelt pit, access directly to outdoors and a location that keeps the ice resurfacer movements from endangering patrons and players at the back of the building.
- Coaches Offices: Four (4) coaches offices centrally located among the team rooms provide desk, file and conference space for coaches of the semi-professional team, minor league hockey, high school hockey, and figure skating.
- Referees Room: A referee's room with toilet and shower fixtures is located near the back of the house by the existing refrigeration room with direct access to the rear parking lot.
- It is anticipated that the partitions defining the above referenced areas would be painted concrete masonry units, for durability and rigidity. Flooring would

consist of skate-friendly floor covering for the locker room spaces and ceramic tile for the shower / toilet areas. Ceilings are expected to be exposed precast concrete plank. Benches, shelving and cubicle space will flank the walls of the team rooms.

- Bleachers: Permanent back loaded bleachers provided on the north side of the rink allow for better site lines on the ice, an elevated walkway and viewing area along the back of the bleachers, and storage capacity below the bleachers if constructed with fire rated masonry or concrete. Along the south side of the rink a permanent bleacher arrangement is constructed in the center of the building which includes two smaller front loaded bleacher sections, relocated team, penalty and scorers boxes and the press box above and behind the column lines. Portable bleachers would be provided on each side of the permanent bleacher arrangement that could be moved around for special events during the dry floor season.
- Team Boxes: Team, penalty and scorer's boxes would all be located to the south side of the ice sheet where they minimize the potential conflicts between the players and spectators. In addition, this new location allows for ideal site lines for the spectators from the primary bleacher area on the north side of the rink.
- Press Box: An elevated press box is relocated to the south side of the rink, where it does not impact the spectator's site lines on the prime, north side bleacher viewing area. The press box is also located back from the rink to better accommodate viewing from the adjacent bleachers.
- Skate Changing Area: A skate changing area is provided near the new front lobby, within the arena space, to accommodate public skating sessions. We would anticipate benches with under-storage space for shoes and other belongings during the skating session.
- Beer Vendor Area: The skate changing area will also double as the location for beer vending during the professional hockey games and for the dry floor events.
- Storage: An extensive storage space is generated beneath the permanent bleachers to accommodate a wide variety of users. This space can easily be compartmentalized to allow secure space for all storage needs.
- Workshop: A dedicated workshop is provided under the permanent bleachers as well for area staff to keep tools and machines necessary for maintenance activities.
- Mezzanine: A small mechanical equipment mezzanine is created over the ice resurfacer room which could be utilized for indoor mechanical systems for easier maintenance.

New Back of House Two-Level Expansion:

- Main Locker-Room: A large locker-room for the Professional Hockey Team complete with locker changing area, restroom and shower area and laundry room is provided on the lower level at the back of the house with direct access to the rear parking lot. The locker room, toilet room, shower area would be designed so that the space can double as a Hospitality Suite during the summer dry floor season.
- Hospitality Suite: A hospitality suite located on the lower level, which shares the same space as the main locker room, toilet room and shower space, will provide concert venues the needed space for performers. This space could also be used for other program activities when not in use for concerts. A smaller private toilet room is located within the hospitality space to accommodate concert performers.
- Park and Recreation Maintenance Staff Area: A second level park and recreation staff (bullpen) area includes a break area, training / meeting area, lockers and a supervisor office. The area is sized for approximately 30 employees serving this function. The upper level would have direct access to the rear parking lot / lower level of the arena via stairwell, and the upper level bleacher area.
- It is anticipated that the perimeter partitions defining the above referenced areas would be painted concrete masonry units, for durability and rigidity; the office space within the second floor bullpen area would be painted gypsum drywall. Lower level flooring would consist of skate-friendly floor covering for the locker room spaces and ceramic tile for the shower / toilet areas; upper leveling floor could consist of large format vinyl tile. Ceilings are expected to be exposed precast concrete plank. Benches, shelving and cubicle space will flank the walls of the team rooms, the kitchenette would be constructed of medium grade wood cabinets and solid surface counter top.

New Front of House Two-Level Expansion:

- Main Entry Vestibules: Two (2) primary, main entry vestibules are provided on the west side of the expansion, which will be designed to clearly, visually define the front entry of the arena. A secondary entrance located on the north side would be used for passenger drop-off and pick-up and for an access point when additional temporary toilets are needed for concert venues.
- Office/Control: A reception area will be located near the main entry which will be positioned to monitor patrons entering and leaving the facility. The reception office will stand alone from skate rental and concessions. The reception office could also serve as an exterior ticketing station during events.

- Concessions: An expanded concessions area and concessions storage area is located adjacent to the lobby to serve concessions at a wide variety of events. We anticipate that some vending equipment will be located within the lobby or rink area to provide minimal concessions during low occupancy times when a concessions service attendant is not warranted.
- Vendor Area: A small vendor area is located such that there is direct access into the arena lobby space. Patrons needing supplies or new equipment can easily obtain these items during an event.
- Concessions Eating Area: A concession eating area consisting of tables and chairs is located in the center of the lobby with adjacent viewing windows into the arena. This space could easily be converted to general lobby space when required by removal of the tables and chairs.
- First Aid: A small first aid station is located adjacent the arena with close indirect access into the arena space. Patrons requiring assistance can easily be moved into this space from the arena and rest there until further assistance arrives.
- Skate Rental/Skate Sharpening: Skate rental and sharpening is located adjacent to the arena lobby and near an arena entrance point.
- Party/Multipurpose: A larger room designed to service as a party room or multipurpose room is located adjacent to the lobby area. This room will be capable of subdividing into two smaller rooms with a movable wall that will add flexibility to its program use. The party rooms have become popular for catering birthday party events at ice arenas and only require tables, chairs and a small sink and countertop for servicing the party.
- Lobby: A large lobby allows for circulation, mingling and viewing the ice activities through large viewing windows located in the arena wall. Clear site lines allow for ease of way finding to the appropriate destination. A monumental staircase will clearly identify access to the second level where bleacher access, programs and operations staff, elevated heated viewing, and additional toilet rooms are located. Access will be convenient from exterior parking lots to north and west entrance vestibules and an elevator will provide ADA access to the second level.
- Toilet Rooms: Large public toilet rooms are located on the north side of the lobby to service public needs. The restroom is sized for the normal occupancy loads for hockey and figure skating practice, games and events during the skating season and normal occupancy event during the dry floor season. The toilet rooms will have a smaller toilet facility incorporated into the north end that can be isolated by a roll-up door. This feature serves a dual purpose: first, it will allow outdoor public use of the smaller toilet facility during the warm weather months; second, during larger occupant venues the north end of the toilet rooms can be opened

up and access from the interior for use by the patrons. The toilet facilities will have to be augmented with rental units to satisfy the larger quantity of units needed for concert venues.

- Administrative Offices: An administrative office area on the second level is provided complete with one primary arena manager's office, one smaller support offices, a conference area, a small restroom and some administrative support / file space. This area would be accessible to facility and parks and recreation customers from the second level.
- Lobby / Observation: A second level lobby area overlooking the lobby below and with views directly into the arena through the heated observation area will provide some rest and refuge for those in need. This area will include comfortable lounge chairs and lighting. The second level lobby area could be reconfigured to support vendor tables of concessions during some events.
- Corridor: A second level corridor for access to the back loaded bleachers will provide the primary access to spectator seating on the north side of the arena.

SECTION 5

Stantec

PROJECT NAME: Watertown Municipal Arena Renovation

STANTEC PROJECT NUMBER: 191060204

CLIENT CONTACT: Kurt Hauk

Sub-Project Title: **Option Comparison**

Sub-Project No.:

Issue Date: **2/6/2014**

COST COMPARISON - LOW END of COST RANGE

SERVICES	OPTION 1			OPTION 2			OPTION 3			OPTION 4		
	SqFt	Cost/S.F.	Total Cost	SqFt	Cost/S.F.	Total Cost	SqFt	Cost/S.F.	Total Cost	SqFt	Cost/S.F.	Total Cost
Construction - Program												
Building Addition - 1st Floor Front	9219	$ 150	$ 1,382,850	8101	$ 150	$ 1,215,150	10300	$ 150	$ 1,545,000	8503	$ 150	$ 1,275,450
Building Addition - 2nd Floor Front	3528	$ 150	$ 529,200	5855	$ 150	$ 878,250	5696	$ 150	$ 854,400	3330	$ 150	$ 499,500
Buiilding Addition - 1st Floor Rear	3052	$ 150	$ 457,800	3052	$ 150	$ 457,800	3052	$ 150	$ 457,800	1672	$ 150	$ 250,800
Building Addition - 2nd Floor Rear	3052	$ 150	$ 457,800	3052	$ 150	$ 457,800	3052	$ 150	$ 457,800	732	$ 150	$ 109,800
Building Renovations	11703	$ 120	$ 1,404,360	11703	$ 120	$ 1,404,360	11703	$ 120	$ 1,404,360	11703	$ 120	$ 1,404,360
Program Construction Sub-Total	**30554**		**$ 4,232,010**	**31763**		**$ 4,413,360**	**33803**		**$ 4,719,360**	**25940**		**$ 3,539,910**
Construction - Infrastructure												
Existing Roof Replacement	41760	$ 14	$ 584,640	41760	$ 14	$ 584,640	41760	$ 14	$ 584,640	41760	$ 14	$ 584,640
New Dasherboards			$ 150,000			$ 150,000			$ 150,000			$ 150,000
New Arena Lighting			$ 80,000			$ 80,000			$ 80,000			$ 80,000
New Floor (concrete and refrigeration piping)			$ 600,000			$ 600,000			$ 600,000			$ 600,000
Direct Cost Sub-Total			**$ 5,646,650**			**$ 5,828,000**			**$ 6,134,000**			**$ 4,954,550**
Soft Cost												
10% Contingency			$ 564,665			$ 582,800			$ 613,400			$ 495,455
7% Consultant Fee			$ 434,792			$ 448,756			$ 472,318			$ 381,500
3% Construction Management			$ 186,339			$ 192,324			$ 202,422			$ 163,500
3% FF&E			$ 186,339			$ 192,324			$ 202,422			$ 163,500
Total Soft Cost			$ 1,372,136			$ 1,416,204			$ 1,490,562			$ 1,203,956
GRAND TOTAL			**$ 7,018,786**			**$ 7,244,204**			**$ 7,624,562**			**$ 6,158,506**

Site/Parking and Refrigeration Equipment is excluded

PROJECT NAME: Watertown Municipal Arena Renovation

STANTEC PROJECT NUMBER: 191060204

CLIENT CONTACT: Kurt Hauk

Sub-Project Title: **Option Comparison**

Sub-Project No.:

Issue Date: **2/6/2014**

COST COMPARISON - HIGH END of COST RANGE

SERVICES	OPTION 1			OPTION 2			OPTION 3			OPTION 4		
	SqFt	Cost/S.F.	Total Cost	SqFt	Cost/S.F.	Total Cost	SqFt	Cost/S.F.	Total Cost	SqFt	Cost/S.F.	Total Cost
Construction - Program												
Building Addition - 1st Floor Front	9219	$ 180	$ 1,659,420	8101	$ 180	$ 1,458,180	10300	$ 180	$ 1,854,000	8503	$ 180	$ 1,530,540
Building Addition - 2nd Floor Front	3528	$ 180	$ 635,040	5855	$ 180	$ 1,053,900	5696	$ 180	$ 1,025,280	3330	$ 180	$ 599,400
Buiilding Addition - 1st Floor Rear	3052	$ 180	$ 549,360	3052	$ 180	$ 549,360	3052	$ 180	$ 549,360	1672	$ 180	$ 300,960
Building Addition - 2nd Floor Rear	3052	$ 180	$ 549,360	3052	$ 180	$ 549,360	3052	$ 180	$ 549,360	732	$ 180	$ 131,760
Building Renovations	11703	$ 140	$ 1,638,420	11703	$ 140	$ 1,638,420	11703	$ 140	$ 1,638,420	11703	$ 140	$ 1,638,420
Program Construction Sub-Total	**30554**		**$ 5,031,600**	**31763**		**$ 5,249,220**	**33803**		**$ 5,616,420**	**25940**		**$ 4,201,080**
Construction - Infrastructure												
Existing Roof Replacement	41760	$ 14	$ 584,640	41760	$ 14	$ 584,640	41760	$ 14	$ 584,640	41760	$ 14	$ 584,640
New Dasherboards			$ 150,000			$ 150,000			$ 150,000			$ 150,000
New Arena Lighting			$ 80,000			$ 80,000			$ 80,000			$ 80,000
New Floor (concrete and refrigeration piping)			$ 600,000			$ 600,000			$ 600,000			$ 600,000
Direct Cost Sub-Total			**$ 6,446,240**			**$ 6,663,860**			**$ 7,031,060**			**$ 5,615,720**
Soft Cost												
10% Contingency			$ 644,624			$ 666,386			$ 703,106			$ 561,572
7% Consultant Fee			$ 496,360			$ 513,117			$ 541,392			$ 432,410
3% Construction Management			$ 212,726			$ 219,907			$ 232,025			$ 185,319
3% FF&E			$ 212,726			$ 219,907			$ 232,025			$ 185,319
Total Soft Cost			$ 1,566,436			$ 1,619,318			$ 1,708,548			$ 1,364,620
GRAND TOTAL			**$ 8,012,676**			**$ 8,283,178**			**$ 8,739,608**			**$ 6,980,340**

Stantec

PROJECT NAME: Watertown Municipal Arena Renovation

STANTEC PROJECT NUMBER: 191060204

CLIENT CONTACT: Kurt Hauk

Sub-Project Title: **Option 4 Range**

Sub-Project No.:

Issue Date: **2/6/2014**

OPTION 4 OPC RANGE

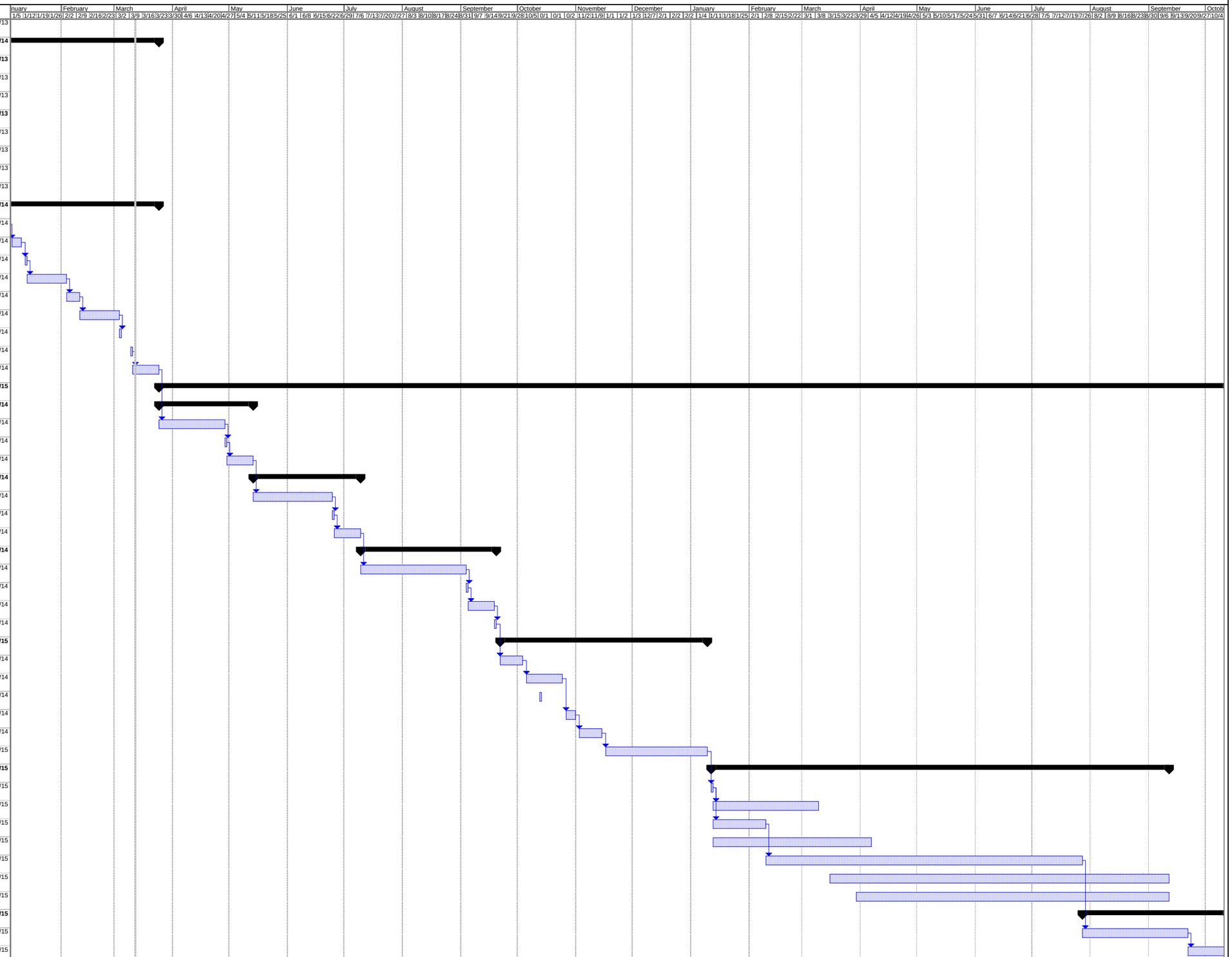
SERVICES	OPTION 4 - Low End			OPTION 4 - High End		
	SqFt	Cost/S.F.	Total Cost	SqFt	Cost/S.F.	Total Cost
Construction - Program						
Building Addition - 1st Floor Front						
Toilet Rooms	1371	$ 175	$ 239,240	1371	$ 225	$ 308,475
Program Space	5583	$ 150	$ 834,659	5583	$ 175	$ 977,025
Support Space (mechanical, etc)	143	$ 200	$ 28,600	143	$ 300	$ 42,900
Circulation	1426	$ 115	$ 163,277	1426	$ 125	$ 178,250
Building Addition - 2nd Floor Front						
Toilet Rooms	1006	$ 175	$ 175,547	1006	$ 225	$ 226,350
Program Space	1301	$ 150	$ 194,500	1301	$ 175	$ 227,675
Support Space (mechanical, etc)	403	$ 200	$ 80,399	403	$ 300	$ 120,900
Circulation	600	$ 115	$ 68,844	600	$ 125	$ 75,000
Buiilding Addition - 1st Floor Rear						
Toilet Rooms	480	$ 175	$ 84,000	480	$ 225	$ 108,000
Program Space	558	$ 150	$ 83,700	558	$ 175	$ 97,650
Circulation	634	$ 115	$ 72,910	634	$ 125	$ 79,250
Building Addition - 2nd Floor Rear						
Program Space	682	$ 150	$ 102,300	682	$ 175	$ 119,350
Circulation	50	$ 115	$ 5,732	50	$ 125	$ 6,264
Building Renovations						
Program Space	2586	$ 175	$ 451,257	2586	$ 200	$ 516,631
Support Space (mechanical, etc)	2332	$ 120	$ 279,840	2332	$ 130	$ 303,160
Circulation	6785	$ 100	$ 675,108	6785	$ 120	$ 814,200
Existing Roof Replacement	41760	$ 14	$ 584,640	41760	$ 14	$ 584,640
New Floor (concrete and refrigeration piping)			$ 600,000			$ 600,000
New Dasherboards			$ 150,000			$ 150,000
New Arena Lighting			$ 80,000			$ 80,000
Direct Cost Sub-Total			**$ 4,954,550**			**$ 5,615,720**
Soft Cost						
10% Contingency			$ 495,455			$ 561,572
7% Consultant Fee			$ 381,500			$ 432,410
3% Construction Management			$ 163,500			$ 185,319
3% FF&E			$ 163,500			$ 185,319
Total Soft Cost			**$ 1,203,956**			**$ 1,364,620**
GRAND TOTAL			**$ 6,158,506**			**$ 6,980,340**

Site/Parking and Refrigeration Equipment is excluded

SECTION 6

City of Watertown
Municipal Arena Renovation

ID	Task Name	Duration	Start	Finish
1	**Contract Negotiations**	29 days?	Wed 6/5/13	Mon 7/15/13
2	**PHASE 1**	**158 days?**	**Thu 8/15/13**	**Mon 3/24/14**
3	**Project Kickoff**	**12 days?**	**Thu 8/15/13**	**Fri 8/30/13**
4	Kickoff Meeting/Charrette	2 days?	Thu 8/15/13	Fri 8/16/13
5	Field Investigation	2 days	Thu 8/29/13	Fri 8/30/13
6	**Master Plan Development**	**60 days**	**Mon 9/2/13**	**Fri 11/22/13**
7	Design Development	30 days	Mon 9/2/13	Fri 10/11/13
8	Report / OPC	10 days	Mon 10/14/13	Fri 10/25/13
9	Watertown Review	15 days	Mon 10/28/13	Fri 11/15/13
10	Review Meeting	5 days	Mon 11/18/13	Fri 11/22/13
11	**Final Master Plan**	**86 days?**	**Mon 11/25/13**	**Mon 3/24/14**
12	Selected Option Development	30 days	Mon 11/25/13	Fri 1/3/14
13	Report / OPC	5 days?	Mon 1/6/14	Fri 1/10/14
14	Presentation to City Council - 1	1 day	Mon 1/13/14	Mon 1/13/14
15	Integrate Review Comments	15 days	Tue 1/14/14	Mon 2/3/14
16	Presentation to City Council - 2	5 days	Tue 2/4/14	Mon 2/10/14
17	Finalize Master Plan / Proposal for Phase 2	15 days	Tue 2/11/14	Mon 3/3/14
18	Submit Documents for City Council Approval	1 day?	Tue 3/4/14	Tue 3/4/14
19	City Council Approval	1 day?	Mon 3/10/14	Mon 3/10/14
20	Contract Addendum	10 days	Tue 3/11/14	Mon 3/24/14
21	**PHASE 2**	**405 days?**	**Tue 3/25/14**	**Mon 10/12/15**
22	**Schematic Design**	**36 days?**	**Tue 3/25/14**	**Tue 5/13/14**
23	Document Development / BOD	25 days	Tue 3/25/14	Mon 4/28/14
24	Review Meeting	1 day?	Tue 4/29/14	Tue 4/29/14
25	Comment Integration	10 days	Wed 4/30/14	Tue 5/13/14
26	**Design Development**	**41 days?**	**Wed 5/14/14**	**Wed 7/9/14**
27	Document Development	30 days	Wed 5/14/14	Tue 6/24/14
28	Review Meeting	1 day?	Wed 6/25/14	Wed 6/25/14
29	Comment Integration	10 days	Thu 6/26/14	Wed 7/9/14
30	**Construction Documents**	**52 days?**	**Thu 7/10/14**	**Fri 9/19/14**
31	Document Development	40 days	Thu 7/10/14	Wed 9/3/14
32	Review Meeting	1 day?	Thu 9/4/14	Thu 9/4/14
33	Comment Integration	10 days	Fri 9/5/14	Thu 9/18/14
34	Issued For Bid Documents	1 day?	Fri 9/19/14	Fri 9/19/14
35	**Bidding**	**80 days?**	**Mon 9/22/14**	**Fri 1/9/15**
36	Advertise	10 days	Mon 9/22/14	Fri 10/3/14
37	Bidding	15 days	Mon 10/6/14	Fri 10/24/14
38	Pre-Bid Meeting	1 day?	Mon 10/13/14	Mon 10/13/14
39	Bid Evaluations	5 days	Mon 10/27/14	Fri 10/31/14
40	Recommendation to City Council	10 days	Mon 11/3/14	Fri 11/14/14
41	Contract Negotiations	40 days	Mon 11/17/14	Fri 1/9/15
42	**Construction**	**175 days?**	**Mon 1/12/15**	**Fri 9/11/15**
43	Notice to Proceed	1 day?	Mon 1/12/15	Mon 1/12/15
44	Shop Drawings / Submittal	40 days	Tue 1/13/15	Mon 3/9/15
45	Mobilization	20 days	Tue 1/13/15	Mon 2/9/15
46	Fabrication / Delivery	60 days	Tue 1/13/15	Mon 4/6/15
47	East Building Addition	120 days	Tue 2/10/15	Mon 7/27/15
48	West Building Addition	130 days	Mon 3/16/15	Fri 9/11/15
49	Interior Renovations	120 days	Mon 3/30/15	Fri 9/11/15
50	**Project Closeout**	**55 days**	**Tue 7/28/15**	**Mon 10/12/15**
51	Punchlists	40 days	Tue 7/28/15	Mon 9/21/15
52	Asbuilts	15 days	Tue 9/22/15	Mon 10/12/15



Project: Schedule1
Date: Wed 3/12/14

Task | Split | Progress | Milestone | Summary | Project Summary | External Tasks | External Milestone | Deadline

SECTION A

Meeting Notes

Watertown Municipal Arena Building Upgrade

Project Kickoff Meeting / Design Charrette

Stantec Project Number 191060204

Date/Time:	8/15-16/2013
Place:	Watertown – Citibus Office
Next Meeting:	TBD
Attendees:	Erin Gardner, Jerome Romig, Kurt Hauk, Justin Wood, Stuart Shrauger, Gary Garwig, Mel Farmer, Roger Kelemecz, Jim Maland, Jeri Pickett
Absentees:	Bill Pulse
Distribution:	Attendees

Item:	**Action:**
1. The Team made introductions.	Stantec to Issue Contact List

2. The Team reviewed the Project Understanding as indicated in the RFP and Stantec's subsequent proposal; refer to the respective attachments in Tab A.

3. The Team reviewed the Scope of Work and anticipated deliverables. Stantec intends to provide a Master Plan for the facility with the following documents:

    a. Description of Existing Conditions
    b. Prioritized List of Needs and Wants
    c. Options for Improvements
    d. Opinions of Probable Cost
    e. Recommended Schedule of Implementation
    f. Graphic Representation of Key Improvements

4. The Team defined the uses for the facility:

    a. Ice runs mid-September to the end of March
        i. Semi-Pro Hockey (Privateers)
        ii. High School Hockey (boys/girls)
        iii. Recreation Hockey
        iv. Figure Skating Club
        v. Public Skating
    b. Concerts/Shows During non-ice period (ice isn't covered)
        i. Usually 8 – 10 Concerts
        ii. Shows every week:
            1. Boxing / MMA
            2. Circus
            3. Senior Fair

4. Roller Derby
5. Italian American Festival
6. Food Shows
7. Demolition Derby
8. Fair (including site)
9. Wrestling

c. Summer Rec Program uses arena when raining
d. Access to the Restrooms causes early closure of the facility
e. Year-round ice would force the concerts and shows to move to another site
f. JCC may build a community center:
   i. No ice
   ii. Indoor sports fields (turf)
   iii. Would be on JCC property
   iv. Potential bubble dome for tennis
g. There is a lot of work required between functions for setup by staff.
h. Potential for new bleachers due to previous safety incident in 2012
i. Pool was recently resurfaced; 3 pools in community total
j. Parking issues arise during Privateers Hockey, primarily during heavy snow periods, and during concerts.
k. A Pole Barn will be constructed in the North East corner of the property. A 50x100 Butler Building.
l. Some interest previously expressed in:
   i. Indoor Tennis
   ii. Second sheet of ice (city council not interested)

5. The Team discussed the Service Market:

   a. Reviewed the attached Service Competition Map within a 60 Mile radius. Refer to Tab B.
   b. Patrons come from as far away as 60 miles typically for hockey and figure skating (including Ottawa)
   c. Privateers draw people from beyond 60 miles
   d. Concerts, Fairs, and MMA draw from beyond 60 miles including Syracuse and Canada
   e. Typical users are within 30 miles (Clayton)
   f. Most of competition is seasonal like Watertown but Cicero is year-round ice.
   g. Hockey interest seems to have dropped due to costs
   h. Some interest in outside rink but weather is issue
   i. JCC has performed a study on regional ice rinks — Erin to provide copy of the study

6. The Team discussed the User's Expectations:

   a. People want the facility improved: lobby, restrooms,

concessions, locker rooms

b. The ice is recognized as being premiere
c. The arena is not set up well for family activities
d. Belief that the facility will attract more people if improvements are made
e. Concerts require dressing room and dedicated bathrooms for performers.
f. Need a structure (rigging) to support concert performer's speaker systems. Currently it can take a few days of City electricians' time to setup the electric and rigging to support requirements.
g. Not enough bathrooms to supports the quantity of people at concerts
h. Efficiency of the ice is at maximum with 10minutes between changeover of events.
i. Number of teams the arena can support is minimized by the number of available locker rooms.
j. Was interest in a second sheet of ice until interest in hockey dropped (lacrosse is peaking)
k. 28,000 people in City; draw from ~50,000
l. A/C is used for summer events; issues with cooling with 2,000 people or more.
m. CoRayVac Infrared Heating system only source of heating and keeps the facility about 10 degrees warmer than the ambient temperature; needs repair.
n. No fresh air / ventilation for the lobby area
o. Ventilation in the arena is untreated / raw outside air.
p. Need to provide separation of the spectators, the players and the officials.
q. Need better control of the entrances and ticket sales
r. Need a larger, more inviting lobby
s. Need to expand access to Concessions
t. Restrooms need to be updated, better ventilation
u. Need handicap accessibility
v. Need to eliminate cross-traffic with the Zamboni
w. New bleachers would help (sight, comfort, safety)
x. Area for catering and eating would be helpful
y. New Roof needed.
z. Need new lighting. They have grant from NYSERDA for new lights. Existing Metal Halide works ok but long strike time. There are TV broadcasts to consider for light levels.
aa. Need new showers and locker rooms
bb. Would like large meeting room(s)
cc. Heated viewing would be good.
dd. Potential for bar area.
ee. Currently bring in trailer for performers to change; pipe into sewer. Would like permanent changing rooms.
ff. Potential to sub out the concessions

gg. City Council sets the rates. Currently $70 per hour for kids and $80 per hour for adults. Rest of events are based on contracts. The arena typically loses financially on an annual basis.

7. The Team viewed the "What's Hot on Ice" presentation:

   a. Need a designated Team Room that could be used as the Summer Concert Changing Room
   b. Entertainment area/room should be co-located with Skate Rental / Changing
   c. Local kids tend not to shower while travelers do.
   d. Need to walk in hallway to access showers (concern over kids walking around in towels)
   e. Privateers are contracted for a private room; High School would like it.
   f. High School, Minor hockey, and figure skating have been using the facility for 30 years.
   g. YMCA across the street has weight room and turf fields.
   h. Would like to make the sound system and power connections for concerts easier to assemble.
   i. A party room is of interest
   j. Acoustics of the facility aren't bad. (loud transformer vibration present)
   k. Low Emissivity Ceiling would be good to avoid impacts of radiant heat during the shoulder seasons.
   l. Ice is kept at 22 degrees; interior space usually 45 to 50 degrees to November and then tracks outdoor ambient temperature. Complaints it is too cold.
   m. There are humidity issues during shoulder seasons even though there is a desiccant system (stalagtites).
   n. Arena is 85 x 200 (NHL); Cicero is Olympic size.
   o. Zamboni is gasoline fueled; tried and didn't like the electric unit.
   p. City has hydrogenerator and is contracted to National Grid thru 2029. Sells power back to grid at 17.5 cents per kwh. They do not pay SBC charge but have been successful in getting NYSERDA incentives in the past.
   q. Stantec would like to get at least 2 years of previous utility bills — Justin to provide utility history
   r. Refrigerant is R-134; may have previously been ammonia based.
   s. Geothermal and other sustainable systems are difficult to economically justify due to the good rates the City gets for electric.
   t. Looking to establish a Maintenance Service Agreement once the project is complete. Current service provided out of Syracuse on as-needed basis.

u. Previous push for the installation of practice ice but it lost support.
v. Dasherboards are 20 years old. The board is 4 feet high and the glass is also 4 feet high. The glass is 5/8" at ends and ½" on the sides. It has broken 3 times over the years.
w. There is no curling.
x. Facility is used as an emergency shelter. There is not a standby generator but portable generators are available.
y. Refrigerant lines in the floor seem to be ok. There was one problem with the lines being air locked but don't seem to be compromised.
z. There is no air quality measuring currently taking place.

8. The Team reviewed and rated the Program Interest Survey. Refer to the attached documents in Tab C for a final summary of the priority ranking. The items ranked 1 and 2 (low) were determined not to be of interest to the City. The following comments were also noted:

   a. The staff at the arena consists of approximately 30 people (full time and part time). This is what a break room should be able to support.
   b. Concessions serves the ice arena and outdoor events; not the pool.
   c. Multipurpose room could be set up to be one large room that could be divided into smaller rooms.
   d. Administration should consist of 4 offices plus one Conference Room. They also need dedicated bathrooms with a shower. This area should be located at the front of the building.
   e. Maintenance needs 5 lockers and should be located in the back.
   f. Outdoor accessible bathrooms should be 2 that are gas-station-like. This is for campers. Refer to Tab E for camper locations.
   g. Ticket booth should be in a pre-lobby area.
   h. Need 4 coaches rooms: Privateers, minor hockey, IHC high school, Figure Skaters.
   i. Co-locate first aid with Skate Rental and Concessions
   j. Concert power source tie-in should be above Zamboni room.
   k. The site currently has 2 electric services (Ralph Green):
      i. 480/277V for the Arena and Site lighting
      ii. 208/120V mostly for the pool with some sprawl into the Arena.
   l. Interest in a 200sqft Pro Shop
   m. Need some vending machine area

n. Press Box should be the same size as current.
o. First Aid is available to Life Guards; don't want dedicate room for them; need them on the pool deck.
p. Opportunities exist to locate mechanical equipment to the existing flat roof.
q. Need to keep sight of the sustainability opportunities (PV, etc). Not interested in PHEV charging stations.
r. Referees are 3 to 5 people and will all be in one room with toilets and shower.
s. Need a Municipal Arena Sign
t. Need a Digitial marquee.
u. Need some space dedicated to the sale of beer. Currently bring in small trailer.
v. Someone needs to be located on the ground floor (Celia) for receiving people or packages.

9. The Team reviewed the seating options available. Refer to the attached seating chart for concerts in Tab D:

    a. Maximum seating for hockey is currently 1260.
    b. Maximum seating for concerts is currently 3200. Arena has Maximum seating limit of 3074 posted in the facility.
    c. With the current facility arrangement the City has received a quote for new bleachers that would expand seating to 1500 with having to reconfigure anything.
    d. Being able to accommodate 4000 people would make the facility attractive to performers with larger notoriety.

10. The Team performed a Facility Condition Assessment. Refer to the attached Functional Ratings documents and an updated drawing of the existing facility in Tab E.

Stantec to provide examples of indoor snowmelt pits

11. The Team reviewed Concepts developed during the evening of the 15th:

    a. The parking lot concept was able to accommodate up to 313 cars, not including handicap spots that will be required. Refer to the attached concept drawing in Tab F.
    b. The building concepts were discussed and one of several sketches were reviewed in detail. Refer to the attached concept drawing in Tab G.

Jeri to issue Meeting Minutes

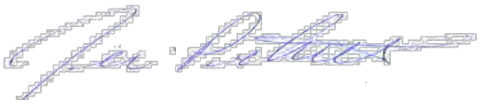
12. The Team reviewed the project schedule moving forward:

    a. Stantec will issue Meeting Minutes summarizing the events of the Charrette within 2 weeks.
    b. Overall Master Plan should be completed by mid-winter with budgeting information available by mid-march.

c. June 30th is annual budget approval
d. Construction would be planned for April 1st, 2015 when arena is closed. September 15th is the start of the ice season and should be the end of construction in and around ice area. Arena would be closed during this period with other activities redirected to other places.

The meeting adjourned at 4:00PM on 8/15; 12:30PM on 8/16
The foregoing is considered to be a true and accurate record of all items discussed. If any discrepancies or inconsistencies are noted, please contact the writer immediately.

STANTEC CONSULTING SERVICES INC.



Jeri Pickett, PE, LEED BD+C
Project Manager
jeri.pickett@stantec.com

Attachment:

c. Team

stantec.com

Stantec

Agenda

Watertown Municipal Arena Building Upgrade
Project Kickoff Meeting / Design Charrette
Day 1 - August 15, 2013

Time:	Item:
8:00AM	Introductions
8:05AM	Review Project Understanding
8:20AM	Overview – Scope of Work & Deliverables
8:35AM	Definition of Facility Use • Primary Building & Site Functions • Secondary Building & Site Functions
9:05AM	Service Market and User Expectations
9:35AM	Break
9:45AM	Visioning Exercise – “What’s Hot on Ice”
10:45AM	Visioning Exercise – Program Matrix Survey
11:45AM	Break for Lunch
1:00PM	Visioning Exercise – Program Matrix Survey (Continued)
2:00PM	Facility Condition Assessment
4:00PM	Data Review and Concept Development (Stantec Only)
6:00PM	Adjourn

stantec.com

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Agenda

Watertown Municipal Arena Building Upgrade
Project Kickoff Meeting / Design Charrette
Day 2 - August 16, 2013

Time:	Item:
8:00AM	Review of Day 1 Findings and Concepts
9:00AM	Break
9:10AM	Validation and Prioritization
10:10AM	Solitary Review (Watertown without Stantec)
10:40AM	Potential Problem Analysis / Brainstorming Session
11:40AM	Summary and Path Forward
12:00PM	Adjourn

TAB A

CITY OF WATERTOWN, NEW YORK
DEPARTMENT OF ENGINEERING
Suite 305, City Hall
245 Washington Street
Watertown, New York 13601

Tel. (315) 785-7740
Fax (315) 785-7829

1869

RECEIVED
MAR 27 2013
STANTEC

March 22, 2013

STANTEC Consulting Services Inc.
ATTN: Mr. David Balthaser, PE
61 Commercial Street
Rochester NY 14614

Re: Fairgrounds Municipal Arena Building Upgrade Request for Proposals

Dear Mr. Balthaser,

The City of Watertown Engineering Department is requesting proposals for design of the rehabilitation of the Municipal Arena located at the Watertown Fairgrounds. A scope of work for the project is enclosed. The proposal should include the following:

1. Information on each key staff member: Proposed role, relevant experience, certifications and licenses.
2. Availability of key staff with a listing of current assignments that require 20% or more of their time.
3. A listing of proposed sub-consultants with the information outlined in #1 and #2 above.
4. Firm's experience with similar work completed in the last five years, with references.
5. Overall understanding of the project and confirmation of the ability to meet the required timeline listed in the scope of work.
6. A separate fee proposal should be provided in a separate sealed envelope. Fee proposals will only be opened for short listed firms. The fee proposal will be used as the starting point for negotiations of a final scope and fee for the selected firm.

Firms are to contact Justin Wood at (315) 785-7740, to schedule a walkthrough of the facility.

Proposals are due on 26 April 2013 at 4:00 PM at the City of Watertown Engineering Office, Suite 305.

Please contact me or Justin Wood at (315) 785-7740 with questions or for additional information.

Sincerely,

Kurt W. Hauk P.E.
City Engineer

Encl.
Cc: File

SCOPE OF WORK
FAIRGROUNDS MUNICIPAL ARENA BUILDING UPGRADES
3-22-2013

I. Project Description:

The Fairgrounds Municipal Arena is an approximately 43,000 SF facility that hosts many events year round. These events include concerts, trade shows, nonprofit events, and a semi-pro hockey team. The arena is also used for public ice skating and local high school and youth hockey teams. The City of Watertown is seeking to rehabilitate the existing structure and looking to expand the amenities offered to provide an enhanced facility more suited to year-round operations at a more intense level of usage.

There are four areas that require structural repair or upgrading to continue the long term use of the arena by the public. A brief description of each issue follows below.

1. Roof System: During heavy rain events combined with high winds, water drips onto the floor causing approximately twenty puddles of varying sizes on the floor. The puddles are mostly down the center of the building but not limited to that area. It is unclear if the situation is leakage of the roof system itself, a failure of the roof vent, or a combination of both. There has also been anecdotal evidence of water drips onto the skating rink during the winter months.

2. Roof Truss System: The roof trusses have not received any maintenance or upgrade since the original roof installation. The paint system is reaching the end of its service life. It is unclear if the current truss system would meet the load requirements of the current Building Code.

3. Fire Suppression System: The existing fire suppression system has undergone repairs several times during the last few years. The overall system has not been upgraded since its installation and it only services the main arena area.

4. Concrete Floor: The floor is exhibits deterioration in several areas of the main arena. There is piping and ductwork cast into the floor that may be contributing to this situation.

There are several areas of the Fairgrounds Municipal Arena that are in need of rehabilitation or expansion to improve the operations and utilization of the facility. A brief description of each is listed below.

1. The four existing locker rooms are in need of renovation and three of the four require expansion to allow for greater flexibility when conducting multiple events. A fifth locker is required at the northeast corner of the building for use by a semi-pro hockey team and concert performers

2. The existing vestibule is not adequate as a gathering area. The lack of an overhead entrance sign creates confusion as to where the main entrance is.

3. There is a need to upgrade the existing toilet facilities and to add new restrooms at the southwest corner of the existing structure with access to the interior of the arena and also access from the outside sports fields to provide service to outdoor events during the summer.

4. To improve operations of the zamboni, access to the outside is necessary when the ice sheet is in place. Removal of two sections of wall and the addition of an overhead door would allow direct access to the outside from the ice rink area to dispose of ice shavings. This does not exist in the current configuration and ice build-up in the zamboni room is an issue.

5. Evaluate the open area on the east side of the arena for an expanded parking area with lighting. There is a pronounced lack of parking available during major events. This is especially pronounced during winter months when the fields are unavailable for parking due to snow.

6. Convert the existing office space into separate areas for storage and a party room. Provide new office space by expanding the northwest corner of the facility.

7. Evaluate existing mechanical equipment for replacement/upgrade as part of the complete renovation. Emphasis should be on life cycle costs and long term energy savings.

II. Project Scope:

1. Roof System:

-Evaluate the existing roof system, evaluate up to three (3) repair and replacement alternatives, and make one recommendation for its long term operation.
-Prepare a cost estimate for the recommended alternative.

2. Building Trusses:

-Inspect and evaluate the existing roof trusses and support structure for maintenance and repair.
-Evaluate structure for required roof loadings based on the recommended roof alternative.
-Make recommendations for required structural repairs, maintenance (to include repainting options), and required upgrades or replacement of any structural members.
-Prepare a cost estimate for the recommended work to the trusses and structural support system.

3. Fire Suppression System:

-Evaluate the building for the replacement of the fire suppression system for the areas currently serviced by the existing system. Various alternatives for replacing the existing system should be considered as required by code and use.

-Make recommendations for the replacement system which should incorporate the ability to expand the system to areas of the building currently not serviced by the existing system.
-Prepare an estimate for the cost of the recommended system.
-Provide an estimate of feasibility and cost to expand the recommended system to areas not serviced by the existing system.

4. Main Arena Concrete Floor:

-Evaluate the concrete floor for structural integrity, and identify areas requiring maintenance or repair due to spalling, delamination, severe cracking, etc.
-Evaluate the integrity of the ice rink PVC loops to determine areas of needed work.
-Provide an estimate of the cost to repair identified areas and the recommended repair treatments.

5. Locker Room Renovation:

-Renovate the four existing locker rooms.
-Evaluate the lower locker rooms for expansion by rearranging the outer hallway to provide shower facilities. Part of this may entail a relocation of the press box to improve the view and allow proper access and function to the expanded locker rooms.
-Evaluate the eastern upper locker room for expansion, possibly into the current party room area.
-Evaluate remaining space for incorporation of a small official's locker room.
-Evaluate the area in the northeast corner of the building to install a new locker room area to serve a dual purpose as a locker area for semi-pro hockey and also a dressing area for concerts. The locker room will be designed for a capacity of approximately 40 and have a separate outside entrance.
-Evaluate the existing drainage of the locker rooms and zamboni room.
-Provide recommendations and estimate.

6. Entrance Vestibule, Concession and Sign:

-Expand the area at the main entrance to provide a larger gathering area and provide for a large entrance sign overhead.
-Enclose both west side doors to provide double entry doors.
-Remove a wall and add a concession window to expand service to the main floor.
-Provide recommendations and estimate.

7. Toilet Facilities:

-Renovate the existing public restrooms and evaluate the layout to maximize the number of toilets.
-Provide an addition to the southwest corner of the building for a public restroom. This would be locked from outside access during interior events and locked to access from the interior during outdoor events.
-Provide recommendations and estimate.

8. Zamboni Room:

-Evaluate the removal of two walls (one interior, one exterior) and the installation of an overhead door for zamboni access to the outside. Provide recommendations and estimate.

9. Rear Parking Lot:

-Evaluate the area east of the arena for vehicle access and parking. Emphasis is on maximizing the number of spaces and providing adequate site lighting.

10. Administration Offices and Storage:

-Provide an addition to the northwest corner of the building, possibly in conjunction with the vestibule item, to provide new admin office space, and convert the existing office space to storage, a coach's room, and an area for small events like birthday parties or team/organization events.
-Include a designated restroom area for staff.

11. Mechanical Equipment Upgrades:

-In conjunction with all of the other tasks, evaluate and recommend upgrades to the current mechanical equipment emphasizing savings in lifecycle costs and long term energy savings.

12. Evaluation for Year-round Ice:

-Evaluate the existing slab floor for use as a year round ice rink. Make recommendations regarding energy usage, possible upgrades, or systems to retrofit the building, HVAC system and slab for year-round ice. Provide an estimate for the recommended system or upgrades

13. Design Reports:

-Prepare a preliminary design report incorporating the recommendations and deliverables listed in items #1 through #12. The report will include a preliminary cost estimate for each major item and an estimated construction timeline assuming all items are incorporated. From this list the City will outline the list of work items for continued consideration.

-Using the final list of work items from the City, a final Design Report will be prepared which will include a schedule for detailed design, bidding, and construction. It will also include an updated construction estimate. The report will assume all tasks are to be accomplished in a single arena rehabilitation project. The purpose of the schedule is to enable the City to determine feasible timeframes for the Municipal Arena to be shutdown to perform the work that will minimize the impact to operations.

III. Additional Design Tasks, Requirements and Information:

1. Upon review of the final design report, the City will determine the final scope for proceeding with final design of upgrades to the Municipal Arena. From that final scope the consultant will prepare a supplemental agreement for final design through the bidding phase of those items.

2. The consultant or a sub-consultant will have demonstrated experience with the design and rehabilitation of large commercial roof systems, as well as design of sports complexes of comparable size or larger.

3. The consultant or a sub-consultant will have demonstrated experience with the design and installation of fire suppression systems in large commercial structures.

4. A copy of the City of Watertown Ice Arena Study and the Watertown Arena Roof Inspection Report can be found on the City of Watertown website under the Projects tab at:

http://www.watertown-ny.gov

This information will serve as the basis to begin the process of feasibility and design.

5. Areas highlighted for certain proposed functions are for demonstration and illustration purposes only. Final dimensions, locations and arrangements will be determined during the design process.

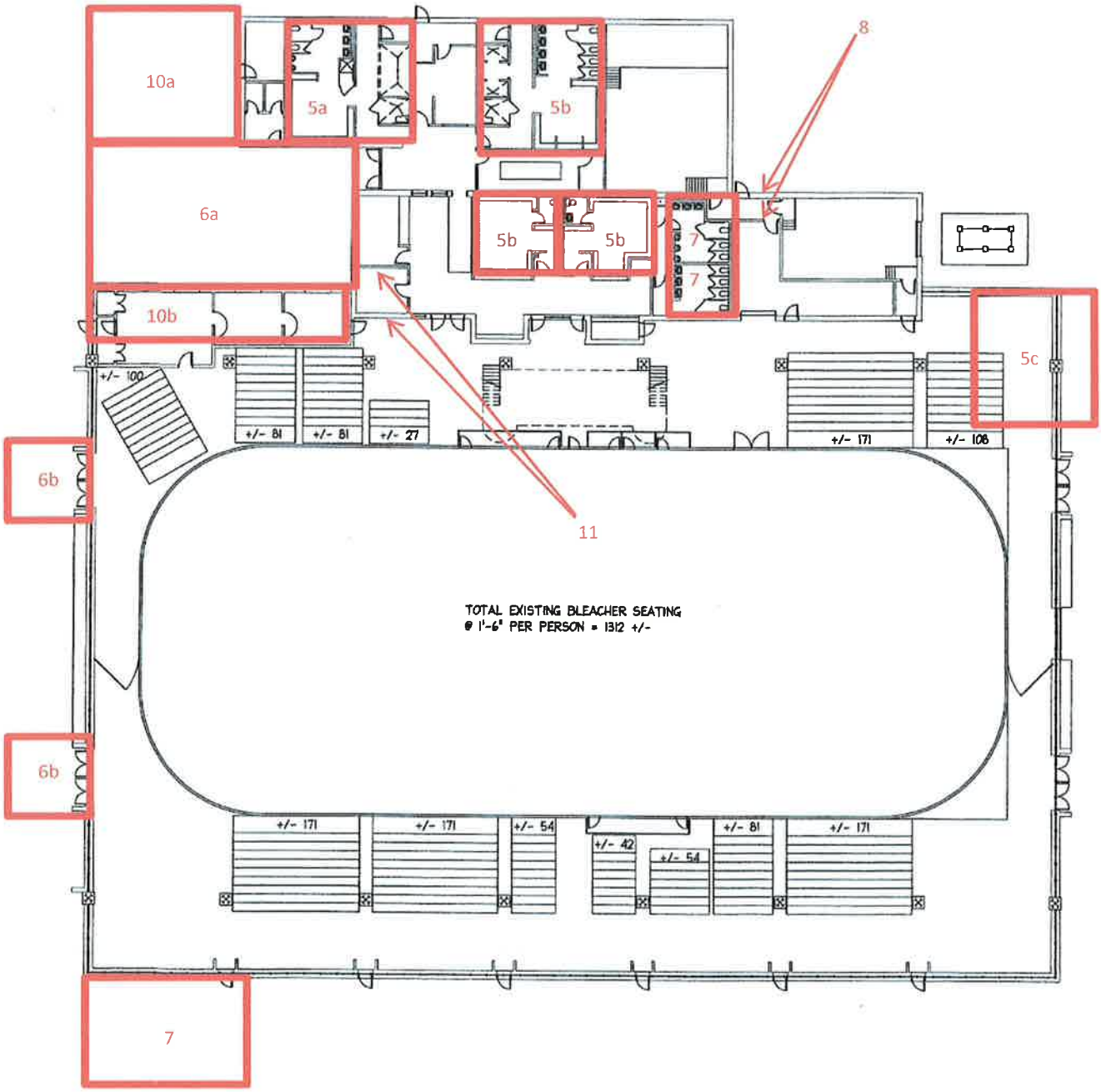
6. Firms desiring to submit a proposal are required to perform a site visit. The visit will be coordinated through the Engineering Department.

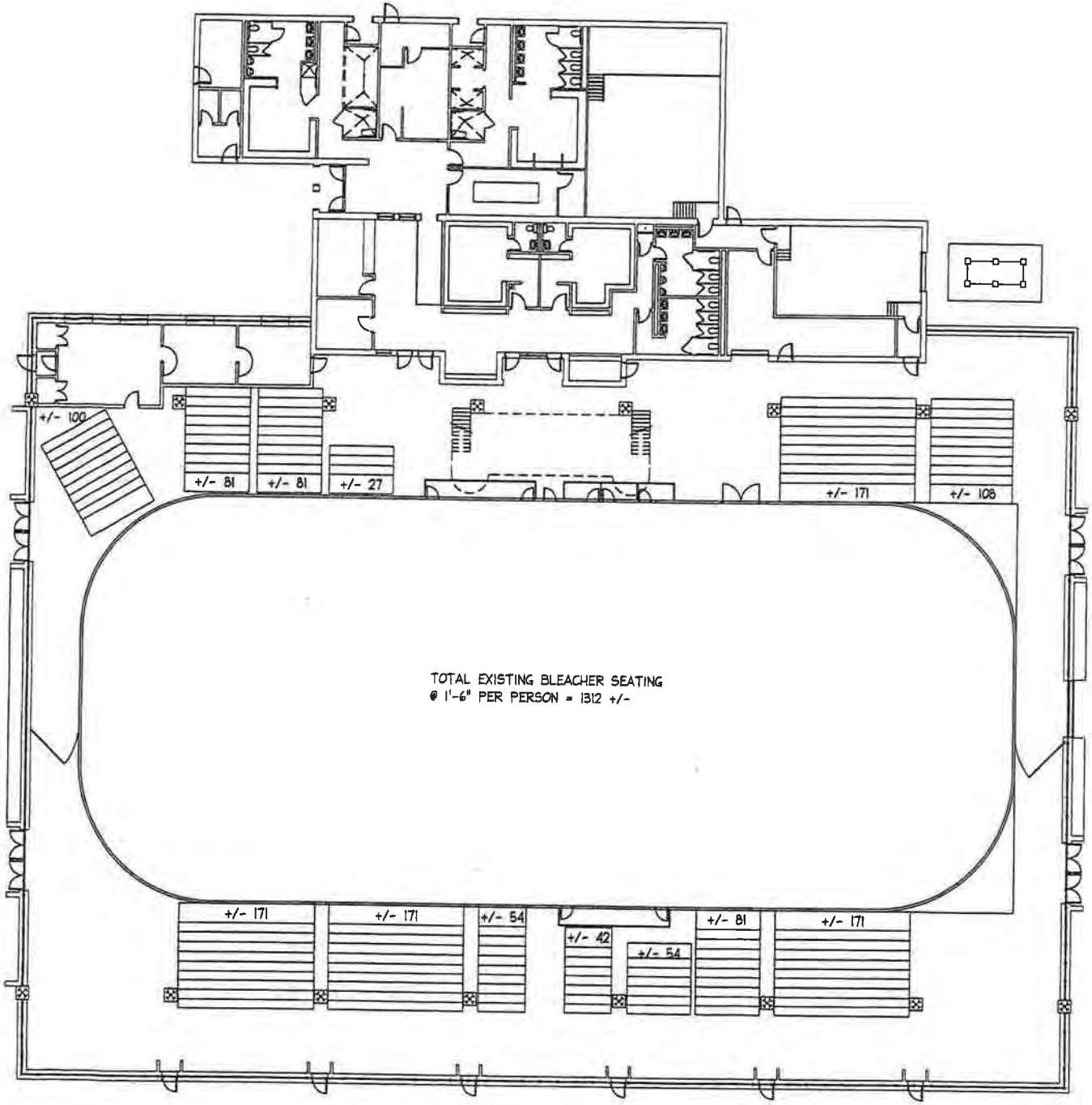
IV. Proposed timeline:

1. Proposals due to Engineering Department: 26 April 2013.
2. Professional services agreement for preliminary design approved by Council: 3 June 2013.
3. Project kickoff meeting: 14 June 2013.
4. Draft Design Report submitted: 22 November 2013.
5. Final Design Report submitted: 13 December 2013.
6. Supplemental Agreement approved by Council: 17 February 2014.

Watertown Arena
Task Location Key

5a- Renovate Locker Room
5b- Renovate Locker Room and Evaluate for Expansion
5c- Add Locker Room
6a- Expand Main Entrance Vestibule
6b- Enclose West Entrance Doors
7- Renovate Toilet Facilities and add Restroom
8- Zamboni Access
10a- New Office Space
10b- Convert Existing Office Space
11- Remove Wall and add Serving Window





ARENA BLEACHER LAYOUT PLAN

PROPOSAL

Fairgrounds Municipal Arena Building Upgrade Masterplan Design Report

April 26, 2013

Stantec

61 Commercial Street
Rochester, NY 14614
T: 585 475 1440
E: jeri.pickett@stantec.com

Prepared for the City of Watertown, New York

Stantec

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Rochester, New York 14614
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stantec.com

April 26, 2013

Mr. Kurt Hauk, PE. City Engineer
City of Watertown, Department of Engineering
Suite 305, City Hall
245 Washington Street
Watertown, NY 13601

RE: Request for Proposal: Fairgrounds Municipal Arena Upgrade — Masterplan Design Report

Dear Mr. Hauk:

Please accept this proposal and separate engineering fee proposal as Stantec's response to the City of Watertown's "Fairgrounds Municipal Arena Building Upgrade Request for Proposal" dated March 22, 2013.

The Stantec Team is pleased to present The City of Watertown with our qualifications and experience for masterplan design services for the rehabilitation of the Municipal Arena located at the Watertown Fairgrounds. During Stantec's site walk through and pre-proposal meeting it was apparent that the City of Watertown desired more than just a design report for this project and, as such, Stantec has built this proposal around a true facility masterplan effort, incorporating the design elements mentioned in the RFP into a Masterplan Design Report. We are equipped with and prepared to apply — from the outset of this work to its conclusion — the arena expertise and regional knowledge needed to accurately address the specific needs of this project. Our commitment to our public clients, responsiveness and broad expertise has facilitated our successful performance on projects throughout Upstate New York.

Why Stantec?

1. Stantec is **a leader in the parks and recreation industry** with a nationwide reputation in ice and aquatic arenas. We have a long history of successfully delivering public projects and we understand the special needs of this project. The firm's 100+ arena projects are located in 23 states from coast to coast. The majority of our projects have been done for municipalities. A number of our projects have been renovations of existing facilities, and a number of projects have been done for private sector clients.
2. Key Team Members – Stantec's **Jim Mayland has 30+ years of experience** with the **planning, design, and construction of park and recreational facilities** and will lead our ice arena consulting team.
3. Stantec **is currently a NYSEDA Technical Assistant** and we can help guide Watertown through potential funding options as we have for many other clients.
4. **Knowledge of renovation and expansion details** – Our extensive experience renovating and expanding ice arena facilities means we have a strong working knowledge of pitfalls and issues—and how to address them—associated with this type of project. Our project team will provide a comprehensive review, scrutinizing the details, to provide Watertown with an accurate, buildable design that meets your needs and budget.

Our team is very excited by the potential of this project and we know that we can provide you with the service this assignment requires. We look forward to the opportunity to offer our commitment and full attention to your project.

Sincerely,

Jeri Pickett, PE, LEED AP BD+C
Buildings Engineering Practice Lead
(585) 413-5341
jeri.pickett@stantec.com

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PROJECT UNDERSTANDING AND APPROACH

PROJECT UNDERSTANDING

For the past 35+ years the City of Watertown Municipal Arena has been a successful multi-use facility hosting year-round events. Events include concerts, tradeshows, non-profit events and a semi-professional hockey team. The ice rink is also used for public skating by both local high school and youth hockey teams.

To continue to provide quality recreational opportunities the City has requested a facility Design Report for potential expansions and improvements. This all-encompassing design report, or "masterplan" will not only assess discrete project scope items identified by the City and past engineering studies, but will provide a holistic assessment in the form of a masterplan needed for the facility to keep pace with evolving needs and allowing the facility to continue to contribute to the Greater Watertown community quality of life.

SCOPE OF WORK

Stantec proposes a masterplan study that will involve key stake holders – Parks and Recreation Personnel, City Council members and the public to help shape and define the facility's improvements. Key Masterplan highlights include:

- Creating a plan that includes both a compelling vision for the future and the practical elements needed to get there.
- Understanding and building on previous planning efforts; carefully considering a wide variety of options to capture opportunities.
- Robustly engaging the City of Watertown stakeholders to help maximize the community's sense of ownership in Watertown and build consensus in developing the masterplan. Note that Stantec will work through the City of Watertown City Council and Parks and Recreation staff on this project. Stantec will not directly engage with the public.
- Focusing on recreation and leisure to maximize public use and potential revenues
- Incorporating sustainable design, where appropriate, into the masterplan to promote responsible stewardship of the environment. Stantec will provide an overview assessment of potential sustainable components appropriate for a facility of this type.
- Successfully collaborating with community partners to help maximize investment and create efficient operations.
- Schedule consideration for a long term phased construction approach.
- Establish opinion of probable construction cost estimates along with a prioritized "menu" of future upgrades.
- Assess facility "flows" and functionality versus current industry standards.
- Utilize "what's hot on ice" planning tools.

As detailed in the request for proposal, specific facility scope upgrade items addressed by this Masterplan Design Report will include:

1. Roof System
2. Building Trusses
3. Fire Suppression System
4. Main Arena Concrete Floor
5. Locker Room Renovation
6. Entrance Vestibule, Concession and Sign
7. Toilet Facilities
8. Zamboni Access
9. Rear Parking Lot
10. Administration Offices and Storage
11. Mechanical Equipment Upgrades
12. Evaluation for Year-round Ice
13. Evaluate Alternative stage locations to maximize arena floor seating during performances.
14. Both preliminary and final Masterplan Design Reports will be provided

The preliminary masterplan will utilize workshop decision charrette and develop scope, construction schedules and opinion of probable costs (±35%) for the above scope items.

The final masterplan will incorporate final priority scope items, schedules, and costs as coordinated with the City.

PROJECT APPROACH

Stantec will be responsible to the City's vision for this project. Communication is critical to achieve this objective and to that end, we commit to a careful and collaborative planning effort. Active involvement and participation from all parties is welcomed and encouraged. Stantec will use a hands-on approach to encourage open and effective communication with the City's project team.

DESIGN WORKSHOP STARTS OUT PROJECT ON RIGHT FOOT

A successful experience re-visioning this facility will involve listening to concerns and ideas and distilling the input into a single solution. Our approach will involve a half-day workshop with the Watertown Project Team facilitated by Stantec. During the workshop, we will follow a scripted agenda to achieve goals and emphasize interaction and information exchange.

Through an open process of discussion and refinement, a sketch plan including the major design elements will emerge. Following the meeting, Stantec will email a draft sketch plan to meeting attendees. This will serve to confirm the key project components identified in the workshop.

Stantec recommends working with a designated "point person" from the City's project team. This person will handle day-to-day communication for the team. This appointment is essential to the project success and will facilitate timely decisions. The point person will channel questions and concerns between the City's team and the design team.

After the workshop, we will continue refining the plan and interacting with the Watertown Project Team to arrive at the final schematic design plan and a preliminary cost estimate.

Visual Listening Workshops: Visual listening is our way of creating a common language between architects and owner user groups with the goal of understanding the "style" and space types desired by you. Visual listening consists of posting a variety of interior and exterior architectural images on a wall to solicit your "likes" and "dislikes" regarding material, form, color, space and "style" among other things. This workshop can also include a more focused discussion on interior and exterior building materials with emphasis placed on first cost, operational cost, maintenance, aesthetics, and durability.

The following is an example of what a visual listening exercise may consist of for this project. As can be seen, we have included various attributes of the formal project as well as other concepts for your consideration. These by no means are final design elements but merely concepts that can and/or should be explored based on the input received during our site visit.

PRELIMINARY WATERTOWN ARENA TASK LOCATION KEY

POTENTIAL UPGRADES

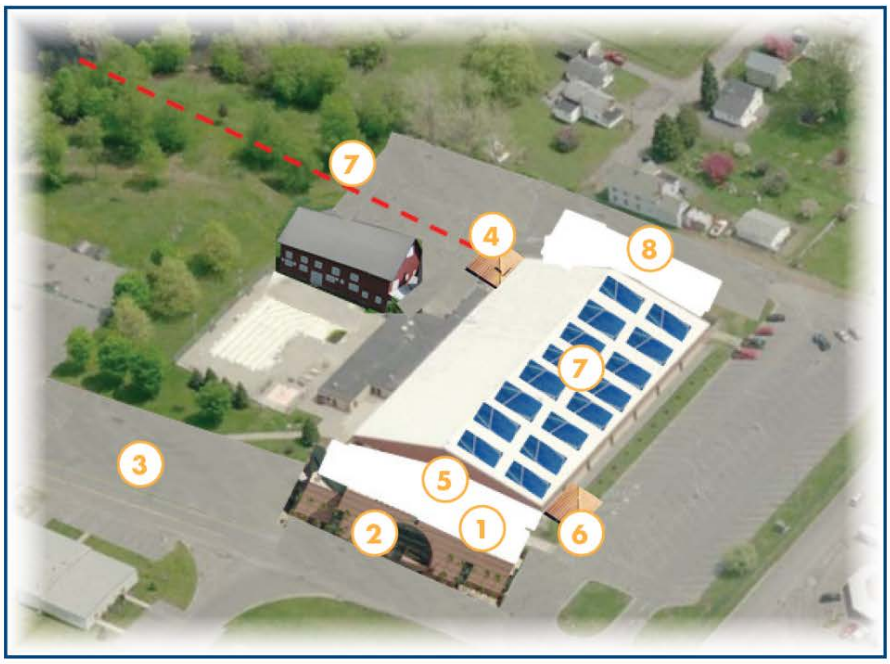


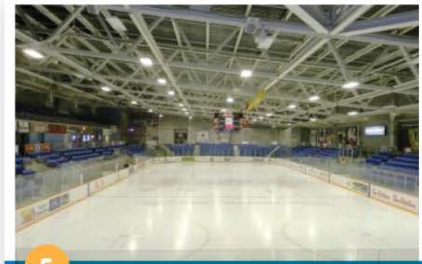
Image Key

1 Front Entrance

2 Spacious Lobby

3 Parking Lot Expansion

4 Lounge/Restroom



5 2nd Story Observation Deck

6 Outdoor Accessible Restroom

7 Solar Array & River Water Cooling

8 Stage Expansion

COST ESTIMATES PRIORITIZE NEEDS AND WANTS

The preliminary program cost estimates will enable the City of Watertown to identify construction costs and prioritize needs and wants. The cost estimate will serve as a check list that identifies features to be constructed immediately and features assigned for future inclusion or for inclusion as a construction alternate. A preliminary building cost estimate based on the schematic design will serve as a check against the budget.

MASTERPLAN DESIGN REPORT DELIVERABLES

The deliverables for the masterplan phase will include:

- Floor plans
- Building section and elevations
- Opinion of probable construction cost estimates
- Current building codes and energy codes
- Structural system and building material identification
- Building size, room sizes, door, and window opening locations
- Mechanical systems
- Electrical Power and lighting concepts
- Written report/ scope descriptions
- Rendering of shell concepts
- Internal flow diagrams
- Potential funding opportunities

PRESENTATION TO THE CITY

The summary report of the masterplan efforts will be presented to the City to narrow down the alternatives carried forward. Feedback and input will be received, and any critical issues or conflicts requiring decisions will be identified and discussed. It is anticipated that some revisions to the space programs will result and these modifications will be made prior to moving on to the next phase of work.

FUNDING AND PHASING OPTIONS

Meet with city staff to discuss funding and phasing options for the project. Stantec is currently a NYSEDA Technical Assistant and we can help guide Watertown through potential funding options as we have for many other clients. A thorough review of all options available should yield an option or combination of options that best suits Watertown's needs.

PROJECT SCHEDULE

Stantec is prepared to execute the project per the milestone schedule below wand as outlined in the City's RFP.

- Project Kick-Off Meeting — June 14, 2013
- Draft Masterplan Design Report — November 22, 2013
- Final Masterplan Design Report — December 13, 2013
- Supplemental (Detailed Design) (Approved by Council) — February 17, 2014

FIRM QUALIFICATIONS AND RELEVANT EXPERIENCE

Stantec has designed more than 150 ice rink projects nationwide.

Stantec has specialized experience in the field of ice related facilities. Our work includes masterplanning, feasibility studies, site analyses, facility evaluation reports, renovation and repair, new facility design, and construction administration and inspection.

Our 150+ arena projects are in 23 states from coast to coast. Projects range from the largest outdoor refrigerated ice rink in the U.S. (the Minnesota John Rose Oval speed skating facility and bandy rink) to a four-sheet indoor ice arena complex (Phase One of the Schwan's SuperRink in Blaine, MN) to collegiate facilities (for Iowa State University, the University of Wisconsin, and Lake Superior State University).

New or renovated, indoor or outdoor—our team understands the comprehensive range of design and operation challenges that must be resolved to deliver successful facilities.

New or renovated, indoor or outdoor—our team understands the comprehensive range of design and operation challenges that must be resolved to deliver successful facilities.

Stantec has extensive experience designing new facilities and renovating existing facilities. We have designed ice systems using direct and indirect refrigeration. We have experience using geothermal ice systems and have designed innovative ice systems with dual power systems (electric and natural gas). Some engineering considerations we address are:

- Sub-soil conditions
- Groundwater table
- Ice floor frost control
- Concrete strength and quality
- Corrosion prevention inside slab
- Commercial vs. industrial ice refrigerant systems
- Refrigerant piping system
- Ice quality control
- Resurfacing efficiency
- Snow melt pit design
- Waste heat utilization
- Heating conditions
- Lighting options and efficiencies
- Atmospheric conditions
  - Ventilation
  - Dehumidification
- Operations and maintenance
- Additional arena uses

UNBIASED DESIGN

Since we are design consultants, not vendors or equipment suppliers, our design focuses on a quality ice system unbiased toward any one supplier's system. Our designs are developed to encourage competitive bidding. We frequently see four to five bidders on a project. Our detailed specifications mean the bids received reflect an apples vs. apples comparison.

INDUSTRY INVOLVEMENT

We are a corporate member of the Ice Skating Institute, and the National Park and Recreation Association, at whose annual conferences we often make presentations. As pictured to the left, we presented our design for this innovative recreational skating concept at a recent national conference.

A recent example is our presentation “Breaking out of the Ice Age” that presented an innovative recreational skating concept, an outdoor multiuse refrigerated skate path, at the annual National Park and Recreation Association Conference, Athletic Business Conference and the Illinois Park and Recreation Association Conference. This involvement with the industry keeps us current with issues facing facility operators as well as up to date on state of the art design concepts.

SUSTAINABLE DESIGN CONSIDERATIONS

Electric power and natural gas fuel costs are rising, and are significant factors in the total annual operating costs for ice facilities. We pride ourselves on the energy efficiency of our ice system designs. Systems that minimize or eliminate the use of electricity during peak time help avoid high demand charges.

Properly sized, energy-efficient ice equipment can easily result in a 10 to 20 percent savings in the energy bill without compromising ice quality. As part of a feasibility process, we can evaluate the advantages and disadvantages of a variety of ice system options, if warranted.

For indoor facilities, maintaining air quality is critical, especially in arena spaces and locker rooms. Designing a flexible or variable flow rate ventilation system that allows the mechanical system output to match building occupancy loading can save a considerable amount of energy without compromising air quality.

A properly sized dehumidification system can save energy in the facility, provide a more comfortable environment for building users, minimize ice maintenance, and maintain a higher quality of air by keeping mold and mildew under control. Although the arena currently has a fairly new dehumidification unit, further analysis may be needed if and/or when the ice is utilized year-round.

Waste heat utilization from an ice rink refrigeration system can provide essentially free energy for a variety of facility heating needs. We have used waste heat effectively for subsoil heating beneath the ice rink, snowmelt systems for the ice resurfacer shavings, domestic hot water preheat, building space heat, spectator bleacher heat, dehumidification reheat, swimming pool water heating, and water feature heating to mention a few applications. We understand the limitations for waste heat and will guide you to good choices that won’t overtax the ice system and negatively impact facility operations, including ice quality.

As mentioned previously we have a relationship with NYSERDA and have experience with obtaining energy rebates which will help you maximize your energy savings investment.

RELEVANT EXPERIENCE

The Stantec Team has all of the relevant practice areas applicable for providing professional services required for this project. Below, we have included an illustrative sampling of projects that contain the major work elements anticipated on this project. We are confident and trust you will find that these examples demonstrate our understanding of the necessary expertise required to successfully complete the scope of work.

Fergus Falls Community Arena
Fergus Falls, Minnesota

The City of Fergus Falls was experiencing consistent growth of skating programs, and was in need of a new twin-sheet arena to replace their aging single-sheet facility. At the same time, the local school district was planning a major school reconstruction and expansion project, which included the abandonment of classroom space and the need for a large air conditioning plant. Close cooperation between the two groups allowed the construction of a new recreation facility that fits the needs of both and provides a unique sharing of features. The school district donated land adjacent to one of its school buildings and former classroom space was converted to team rooms and other arena support functions. A large ammonia-based refrigeration plant was designed by Stantec to provide ice rink cooling in the winter months and school air conditioning in the summer. An ice-building thermal storage system provides for simultaneous operation of both functions in the spring and fall.

Ice Arena Expansion
New Hope, Minnesota

In 1977, the City of New Hope constructed a 2,500-seat, regulation-sized ice arena designed with expansion in mind. The City chose Stantec to design the addition of a regulation-sized practice sheet and to renovate the existing facility.

Skylights provide a warm, welcoming atmosphere in the new 500-seat arena. Combined, the two arenas support 12 locker rooms. A walking track, training room, youth hockey office, figure skating training room and a meeting room were also added. An existing elevator serves both sheets.

Other amenities include:

- An expanded entryway
- Improved resurfacer area
- Improved ventilation system
- Greatly expanded concession area
- Improved spectator area
- Improved sight lines that allow management to supervise both rinks from the administrative area

Bielenberg Sports Center
Woodbury, Minnesota

This 118,400-square-foot facility includes two ice sheets and an air-supported field house, providing year-round recreational opportunities for the City of Woodbury and surrounding communities.

The Bielenberg Sports Center also includes a 48,600-square-foot air-supported field house, used for indoor soccer, football, softball, baseball, and track and field. A walking track circles the playing field's perimeter.

Outdoor features include 14 baseball fields, a play area, two picnic shelters and walking trails. Chain link fencing and backstops for eight new baseball and softball fields was provided, along with a fence surrounding the air-supported field house.

The original ice sheet was designed for year-round use. High- and low-level seating areas are provided for spectators using wheelchairs. The second rink's concrete floor allows the facility to be used for off-season events. A second lobby allows direct access to the new addition.

Currently, three separate 80-acre parcels are developing adjacent to the Bielenberg site. With Stantec's help, the school district planned for and is constructing one parcel as the new East Ridge Senior High School. The city is developing the other two parcels to house more fields and a large regional stormwater pond.

Packer and Riverside Arenas
Austin, Minnesota

Stantec designed a new practice facility to help alleviate congestion, and renovated the existing arena's support spaces and refrigeration system.

The growth of girls' and boys' hockey put a crunch on ice time at the City of Austin's Riverside Arena. In addition, the arena suffered from inadequate team room space, and a 28-year-old rink refrigeration system that had reached the end of its useful life.

The new practice facility—Packer Arena—is used by City youth teams. With seating for 220 spectators, the 31,600-square-foot building features an attractive heated lobby with clear visibility into the arena, four team rooms, and an 85-by-200-foot ice sheet (standard National Hockey League size). The arena configuration allows the installation of basketball and volleyball courts during the non-ice season. Packer Arena's close proximity to Riverside Arena allows both buildings to operate with minimal staffing.

Packer Arena's geothermal-based refrigeration and heating system takes advantage of the earth's heating and cooling properties. This innovative technology saves the City about $3,000 a month in electricity and natural gas costs, and qualified for a $290,000 energy efficiency grant.

Riverside Arena improvements included renovating the existing team rooms, addition of two new larger team rooms, rest rooms, and shower rooms that are used by the high school teams. The rink refrigeration system was completely reconstructed using industrial quality components. This project had extremely tight time and budget considerations. Construction was completed in time and final costs were within budget.

William G. Mennen Sports Arena
Morris County, New Jersey

The existing two ice sheets at Mennen Sports Arena were constructed in 1975 and 1984. The facility included a main rink with spectator seating for 2,500, and a practice rink with minimal seating. Ever-increasing public demand for ice time convinced the Morris County Parks Commission to hire Stantec to design a third ice sheet addition. In addition to the new facility design work, Stantec's contract scope included an energy study of the facility's rink refrigeration, mechanical, and electrical systems.

Stantec's energy study found that the existing facilities were consuming electricity at double the expected rate of similar facilities. The study recommended a staged approach to corrections, with the most critical items performed as part of the third arena construction and other items performed as funding becomes available.

The third ice sheet addition includes seating for 500 spectators, as well as support spaces such as team rooms, restrooms, and mechanical spaces. The addition complements the appearance of the existing brick-faced facilities, while incorporating innovations such as translucent wall panels to provide natural light, durable, and moisture resistant precast concrete structure, and a low-emissivity ceiling covering. Renovations were designed in the existing facility to improve traffic flow and modernize office spaces.

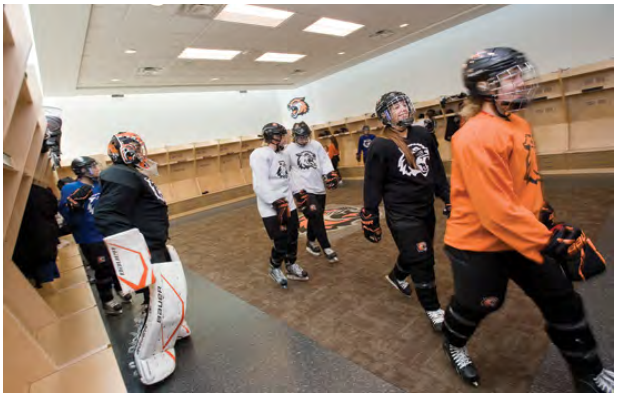
Braemar Ice Sheet Addition
Edina, Minnesota

To accommodate the growing demand for ice time, the City of Edina expanded its existing two-sheet arena. Because the original facility was not designed with expansion in mind, Stantec's architects faced multiple functional, structural and safety design challenges. To minimize grading and maintain service access, the new facility joins the short end of the west arena. Expansion joints allow the structures to respond independently to thermal changes. Roof renovations reinforce the existing roof, solve an existing drainage problem and enhance the connection with the new facility. Using ammonia as a refrigerant lowers operation costs and is environmentally friendly.

The four existing locker rooms were expanded, and four more were added to serve the new sheet. One of the existing resurfacer rooms was expanded to serve the addition. The third sheet's concrete floor allows the facility to be used for dry-floor activities. Pre-cast concrete construction means lower maintenance time and cost.

Manhattan Square Park
Rochester, New York

Stantec provided planning, design and resident project representation services, over multiple phases, to this 30 year old park in the heart of downtown Rochester. The design improvements balance revitalization of this hidden treasure with historical preservation. Sight lines are being improved to upgrade the visibility and address safety concerns. The original playground space was renovated through the addition of safety surfaces, interactive musical equipment and playground equipment. Many of the sharp angles and surfaces were altered to reflect the design. Throughout the design Stantec maintained key elements of the original design including the waterfalls and an ice rink.



Rochester Institute of Technology
Hockey Arena: Locker Rooms, Rochester, New York

R.I.T's Hockey program was promoted to NCAA Division 1 status which resulted in required improvements to their facilities. One such improvement, which was designed by Stantec, was an addition to house a new locker room facility for both the men's and women's teams. This included:

- Attached addition with separate entrance to the rink
- Team locker rooms and showers
- Coach office/ locker room
- Medical/ Rehab area
- Skate maintenance shop

Additional Arena Experience

ABERDEEN, SD *
ALEXANDRIA, MN
ALLEN COUNTY, IN
AMES, IA, IOWA STATE UNIVERSITY
ANNE ARUNDEL COUNTY, MD
ANOKA, MN (2)
ANTIOCH, CA *
APPLE VALLEY, MN (2)
ARMSTRONG COUNTY, PA
ASPEN, CO (3)
BALTIMORE, MD
BLAINE, MN, SCHWAN'S SUPER RINK
BOUNTIFUL, UT
BROOKLYN PARK, MN
CAMBRIDGE, MN *
CEDAR RAPIDS, IA
CERRO GORDO COUNTY, IA
CHICAGO, IL – MILLENNIUM PARK
CINCINNATI, OH
CLAYTON, MO
CLEVELAND, OH *
COLORADO SPRINGS, CO
COLUMBIA HEIGHTS, MN *
COLUMBUS, OH *
COON RAPIDS, MN
CORALVILLE, IA
COTTAGE GROVE, MN
DODGE COUNTY, MN
DOROTHY HAMILL ARENA, UT
EAGAN, MN
EAU CLAIRE, WI *
ELKHART, IN
FAIRMONT, MN*
FARMINGTON, MN
FORT WAYNE, IN
FINDLAY, OH *
FINDLAY UNIVERSITY, OH
FLAGSTAFF, AZ
FOREST LAKE, MN
GLENVIEW, IL
HASTINGS, MN (2)
HOMEWOOD-FLOSSMOOR, IL
HOPKINS, MN
HUTCHINSON, MN
INVER GROVE HEIGHTS, MN
KANKAKEE, IL
KETTERING, OH*
LAKE TAHOE, CA – NORTHSTAR
LANE COUNTY, OR
LE SUEUR, MN (ICE FLOOR REPLACEMENT)
LITTLE ROCK, AR – ALLTEL ARENA
MADISON, WI*

Millennium Park in Chicago, IL

Iowa State University – Ames, IA

Coralville, IA

Packer Arena in Austin, MN

MAMMOTH MOUNTAIN, CA
MASON CITY, IA
MENOMONIE, WI
MILWAUKEE COUNTY, WI (2)
MINNEAPOLIS, MN
MINNETONKA, MN
MONTGOMERY COUNTY, MD (2)
MOORHEAD, MN
MORRISTOWN, NJ
MT. LEBANON, PA
NASHVILLE, TN
NEENAH, WI
NEW BRIGHTON, MN*
NILES, IL
NORTHBROOK, IL
OAKDALE, MN*
OLMSTED COUNTY, MN
PHOENIX, AZ
PLEASANT PRAIRIE, WI
PLYMOUTH, MN
POTTSTOWN, PA
RAMSEY COUNTY, MN
RED LAKE FALLS, MN
RENO, NV
RICHLAND, WA*
RIVER FALLS, WI – UNIVERSITY OF WISCONSIN
ROCHESTER, MN*
ROCKY RIVER, OH
ROSEVILLE, MN
SAULT STE. MARIE, MI – LAKE SUPERIOR STATE
SOUTH LAKE TAHOE, CA – PARK AVENUE DEVELOPMENT
SPRINGDALE, AR
SPRINGFIELD, MO *
SQUAW CREEK AT LAKE TAHOE, CA
SUPERIOR, WI, UNIVERSITY OF WISCONSIN (REFRIGERATION SYSTEM)
ST. LOUIS COUNTY, MO
ST. PAUL, MN, COLLEGE OF ST. CATHERINE *
ST. PETER, MN *
ST. THOMAS ACADEMY, ST. PAUL, MN *
STILLWATER, MN
SUPERIOR, WI
SUSSEX COUNTY, NJ *
THIEF RIVER FALLS, MN
TOPEKA, KS *
TRUCKEE, CA
VERONA, WI
VICTORIA, MN
WASHINGTON, D.C.
WAUNAKEE, WI
WAUKESHA COUNTY, WI
WAUSAU, WI
WICHITA, KS *
WICHITA FALLS, TX *
YORK, PA
YOUNGSTOWN, OH *

** Study and/or Conceptual Drawings*

Alltel Arena in Little Rock, AR

Schwan's Super Rink in Blaine, MN

John Rose Oval – Roseville, MN

Milwaukee School of Engineering – Milwaukee, WI

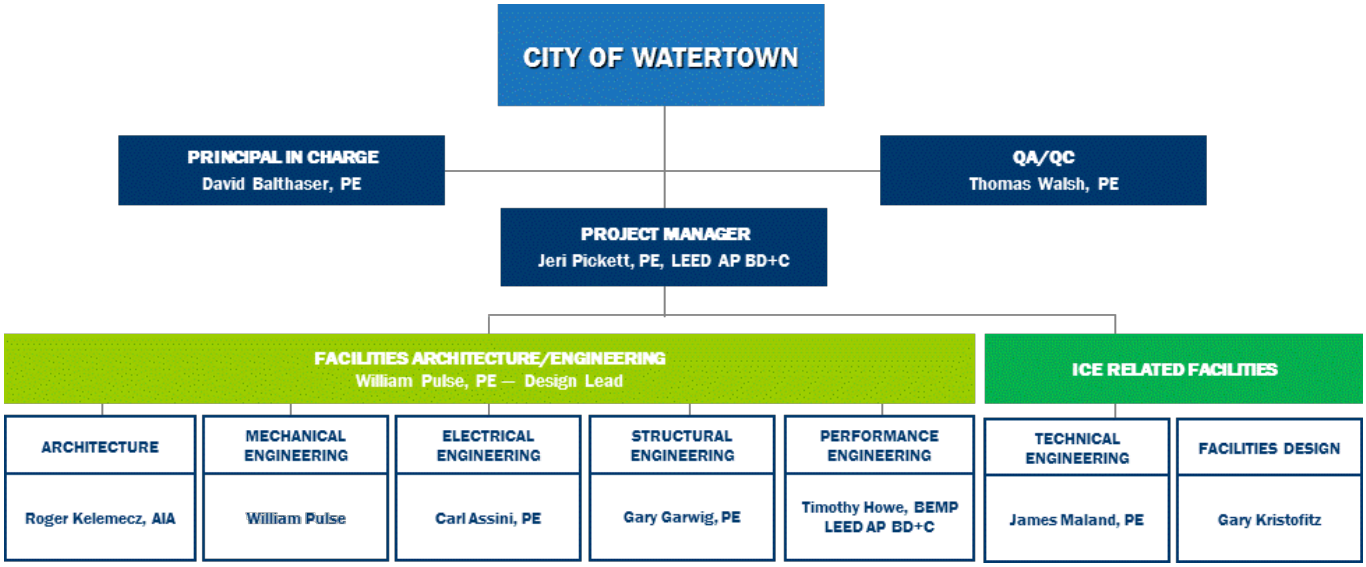
RECENT REPRESENTATIVE PROJECTS WITH REFERENCES

Project Name	Project Type	Contact	Phone
Manhattan Square Park Rochester, NY	New outdoor rink ice system and fountain design	JoAnn Beck - City of Rochester	(585) 428-6601
Coon Rapids, MN Arena	New arena 2-rink ice system design	Steve Gatlin - City of Coon Rapids	(763) 767-6458
Farmington, MN Arena	Refrigeration system replacement	Randy Distad - City Parks Director	(651) 280-6851
Bowie Arena	Ice system evaluation	Carrie Robinson - Arena Manager	(301) 809-3091
Ridgeland Common Arena	Condenser replacement/ New arena ice system design	Bill Hamilton – Park District of Oak Park	(708) 725-2300
Fergus Falls Arena	New 2-rink arena ice system design	Dan Edwards – City of Fergus Falls	(218) 332-5416
Baltimore Mt. Pleasant Arena	Ice system replacement	Gennady Schwartz –Chief of Capital Dev.	(410) 396-7948
Victoria, MN Arena	New arena ice system design	David Leschak – Perkins-Will Architects	(612) 851-5037
Washington D.C. Canal Park Rink	New outdoor rink ice system and fountain design	Sophie Robitaille – Olin Landscape Arch.	(215) 440-0030
Tinley Park Rink	New outdoor rink ice system and fountain design	Aimee Purcell – Teng Architects	(312) 616-4124
Hudson Park & Blvd Rink	New outdoor rink ice system design	Kerrie Harvey – MVVA Assoc. Land. Arch.	(718) 243-2044
Washington D.C. Harbour Rink	New outdoor rink ice system and fountain design	Beth Miller – Gensler Architects	(202) 263-5427

PROJECT TEAM & RESUMES

Stantec has assembled a team of professionals with a high level of commitment, enthusiasm, and experience to meet the requirements of this project. We believe in building relationships with client groups and stakeholders based on trust, respect, and integrity of information. It is our goal to create a partnering process, which encourages clear and open communication between all team members. Our collective project knowledge and experience is the strength behind our organization and the reason we deliver successful projects.

Organization Chart



Jeri Pickett, PE, LEED AP BD +C, Project Manager – Jeri brings more than 24 years of diverse experience to Stantec. He has leadership and project management experience, electrical engineering design, cost estimating, and construction experience and consulting experience for private, commercial, government, institutional, and industrial clients. His experience as both a consultant and as an owner provides a unique and useful perspective. Jeri promotes and engages in sustainable and energy efficient consulting. Jeri will provide you with a clear, single-point of contact on the project, supported by Stantec's in-house personnel.

James Maland, PE, Chief Recreational Facilities Engineer-Ice – Jim has 30 years of recreational facilities engineering, specializing in indoor and outdoor ice arenas, park planning, aquatic centers, and building site development. Jim is also a specialist in ice sheet design, including refrigeration and piping systems. His ice arena experience includes projects in more than 80 communities and 24 states nationwide. Jim works with clients to help them make design decisions that result in adaptable facilities geared toward maximizing revenues both on- and off-season. For most projects, Jim is involved in the formative decisions in the design process during conceptual planning and schematic design then uses his wealth of knowledge to supervise and oversee the final design and construction processes.

Thomas Walsh, PE, QA/QC – With a portfolio of work that ranges from state-of-the-art science buildings to education facilities, research facilities, and infrastructure upgrades, Tom brings the versatility, perspective, and commitment necessary to ensure our team achieves excellence across a wide variety of project types. Focusing on forming strong, content-based relationships with clients, Tom's work helps define the state-of-the-art in academic environments. Drawing from his 30 year knowledge of planning and design, Tom helps higher education clients chart courses for continued growth. His hands-on approach carries through to construction documentation and field administration to ensure that design intent is carried throughout the project's completion.

Roger Kelemecz, AIA, Architect – Roger brings over 28 years of experience to the Stantec Team. He is responsible for architectural and facilities design for many renovation and expansion projects. As a Senior Architect, he is responsible for projects from the conceptual phase through owner occupancy, including design and specification preparation, construction management, and final project closeout.

William Pulse, Senior Mechanical Engineer / Project Facilities Technical Lead – With more than 35 years of design engineering experience, Bill is responsible for engineering and project management for a wide range of projects as well as project scoping, budgeting, specifications, and construction coordination and review. Although his experience encompasses many areas, the focus of his project involvement has been industrial/process systems and the HVAC support of such systems.

Gary Garwig, PE, Structural Engineer – Gary is the project manager for various structural and building facade renovation projects and has experience in managing other condition survey and renovation projects. Mr. Garwig has extensive background in field investigation, structural evaluation and restoration of buildings. He has been involved on all project phases including investigation, evaluation, preparation of contract documents and support during construction.

Timothy Howe, LEED®AP, BEMP, Mechanical Engineer – Tim holds a Master's degree in mechanical engineering and he has been focusing on energy modeling and performance engineering and is providing assistance within the US and Canada on projects requiring this specialty. Tim has been working as a NYSERDA technical assistant facilitating energy efficient designs for A/E firms through the New Construction Program. This program includes energy studies of buildings through whole building analysis and custom measures.

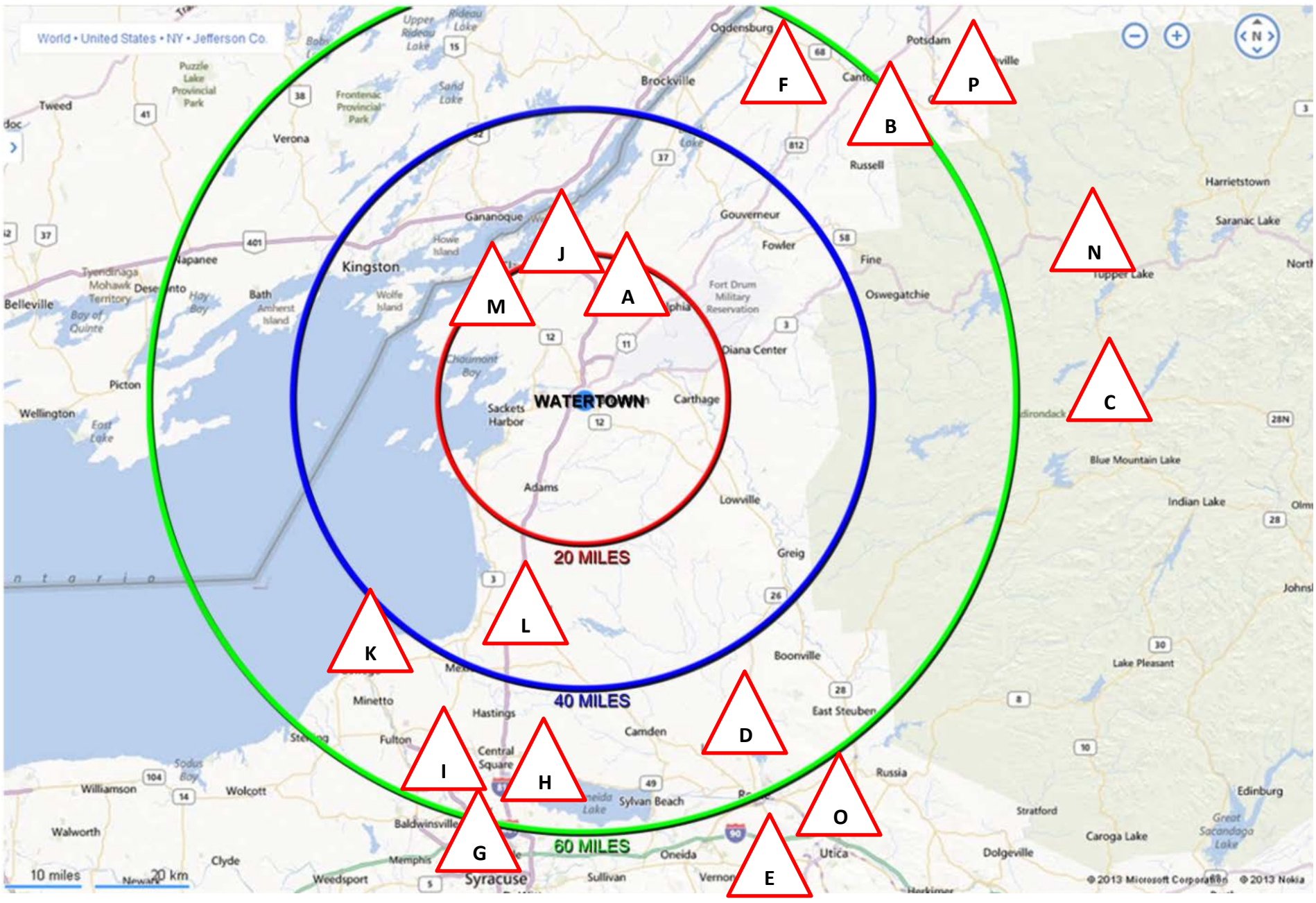
Gary D. Kristofitz, Civil Engineer – Recreation Facilities & Site Designer – Gary is a civil engineer with 29 years of experience, specializing in the design of recreational facilities. Gary's background as a construction manager and inspector in the firm's field operations group provides a strong foundation for designs that perform well once constructed. He has designed multifaceted recreational projects in more than 120 different communities. His responsibilities include ice system design, building site planning, park and outdoor recreational facility design, street and utility design, and project management and inspection.

KEY STAFF AVAILABILITY

Note that none of the above key project staff have long term assignments for the duration of this project amounting to more than 20% of their available time.

TAB B

Watertown Arena Service Competition Map



There are approximately 31 facilities in and/or around a 60 mile radius of the Watertown Municipal Arena (excluding Canada):

A – Theresa Ice Rink (Theresa)

B – Appleton Arena, Canton Recreational Pavilion, SUNY Canton Athletic & Recreation Center(Canton)

C – Ice Shack (Long Lake)

D – Kennedy Arena (Rome)

E – Clinton Arena (Clinton)

F – Lockwood Civic Center, Newell Memorial Dome (Ogdensburg)

G – Clinton Square Ice Rink, Sunnycrest, Burnet Park Arena, Coca Cola Coliseum, Meacham Ice Rink, War Memorial, Tennity Ice Pavilion (Syracuse area)

H – Cicero Twin Ice Arena (Cicero)

I – Fulton Community Ice Arena (Fulton)

J – Alexandria Bay Municipal Arena, Bonnie Castle Recreation Center (Alexandria Bay)

K – Anthony Crisafulli Skating Rink, James Cullinan Skating Rink, Romney Field House, Campus Center Ice Arena (Oswego)

L – Haldane Memorial Building Arena (Pulaski)

M – Clayton Recreation Park Arena (Clayton)

N – Tupper Lake Memorial Civic Center (Tupper Lake)

O – Utica Memorial Auditorium (Utica)

P – Pine Street Arena, Cheel Center Arena, Maxcy Hall Arena (Potsdam)

TAB C

PROGRAM INTEREST SURVEY

With Room Size Ranges

Watertown, NY Municipal Arena

August 15/16, 2013

Stantec

Program Elements	Note - ADD CIRCULATION SPACE TO FIGURES BELOW - 10% to 15%
ROOMS:	
Arena with Olympic Size Rink (100' x 200')	21,800 SF
Arena with Regulation Size Rink (85' x 200')	18,800 SF
Spectator Seating:	
1,317 (Existing Configuration)	10,200 SF
1,420 (Add seats to exist resurfacer area)	12,000 SF
1,790 (Add seats resurf area & end of rink)	14,700 SF
Other seating amount	
Entry Vestibule	Small 8 x 12 = 96 SF ; Large 10 x 30 = 300 SF
Covered Dropoff	Small 18 x 24 = 432 SF ; Large 34 x 50 = 1,700 SF
Heated Lobby Area	See below
Unheated Lobby Area	See below
Large Lobby Area	24 x 35 = 840 SF to 30 x 48 = 1,440 SF
Small Lobby Area	22 x 24 = 480 SF to 24 x 35 = 840 SF
Large Varsity/JV Team Rooms	22 x 26 = 572 to 24 x 30 = 720 SF EACH
Four Regular Team Rooms	16 x 18 = 288 SF to 20 x 24 = 480 SF EACH
Showers in All Team Rooms	100 to 160 SF EACH
Showers in Limited Team Rooms	120 to 200 SF EACH
Restrooms in All Team Rooms	100 to 150 SF EACH
Restrooms in Limited Team Rooms	200 to 300 SF EACH
Shared Team Restrooms	240 to 350 SF EACH
Free Weight Room	400 to 1,200 SF
Exercise Equipment Room	600 to 1,400 SF
Aerobic / Exercise Room	500 to 1,000 SF
Fitness Locker Rooms	350 to 800 SF EACH
Meeting Room (Class Room)	450 to 800 SF
Concessions (prepare foods on-site)	200 to 1,000 SF
Concessions (pre-prepared foods)	100 to 400 SF
Concessions Storage	100 to 300 SF
Vending Machine Area	100 to 300 SF
Eating Area	200 to 800 SF
Video Arcade	150 to 300 SF
Lounge Area	300 to 800 SF
Heated Observation Area	300 to 1,000 SF
Figure Skating Room	300 to 600 SF
Referee Changing Room - Basic	65 to 120 SF
Referee Room w/ Shower / Restroom	150 to 200 SF
Off-ice Training	750 to 3,000 SF
Multipurpose Room	600 to 1,200 SF
Party Room	300 to 800 SF EACH
Babysitting	300 to 600 SF
Daycare	400 to 1,200 SF
Playland Area	150 to 450 SF
Public Restrooms	250 to 650 SF EACH
Skate Changing Area	300 to 800 SF EACH
Minimal Arena Admin. Area (basic mgr office)	250 to 400 SF
Large Admin Area (mgr & staff offices, recep.)	500 to 3,000 SF
Separate Ticketing Area	15 to 120 SF
Coaches Room	65 to 120 SF EACH
First Aid Room	55 to 120 SF
Ice Resurfacer Room	275 to 500 SF
Refrigeration Equipment Room	400 to 600 SF
Mechanical Room	250 to 600 SF
Electrical Room	80 to 200 SF
Telephone/Computer Network Room	80 to 120 SF
Pro Shop - Minimal	100 to 300 SF
Pro Shop - Large	300 to 3,000 SF
Skate Rental Area	150 to 400 SF
Special Storage (Dasher boards)	400 to 600 SF
Press Box Area	60 to 200 SF
FEATURES	
Walking / Running Track	Add 5.5 to 8 ft. width track area where ex. corridors are not available
Standard Sound System	No space required - panels in office or mech/elec. room
Enhanced Sound System	High end systems may need a control room 100 SF or less
Energy Efficient Systems	No space required
Skate Sharpening	60to 180 SF
Dehumidification	200 to 400 SF if unit is installed indoors
Air Conditioning	200 to 300 SF if unit is installed indoors
Electric Ice Resurfacer	No space required
Propane Ice Resurfacer	No space req'd. May need exter.station if nat. gas instead of propane
Conventional Ice System	No additional space required
Geothermal Ice System	No internal space. Add 2 to 3 acre exterior field for horizontal system
Filming Platforms	50 to 150 SF
Standard Lighting	No space required
Specialized Lighting	High end systems may need a control room 100 SF or less
Elevator & Elev. Equipment	150 to 250 SF
Hockey Bag Storage Area	300 to 600 SF

PROGRAM INTEREST SURVEY

Watertown, NY Municipal Arena

August 15/16, 2013

POTENTIAL PROGRAM ELEMENTS

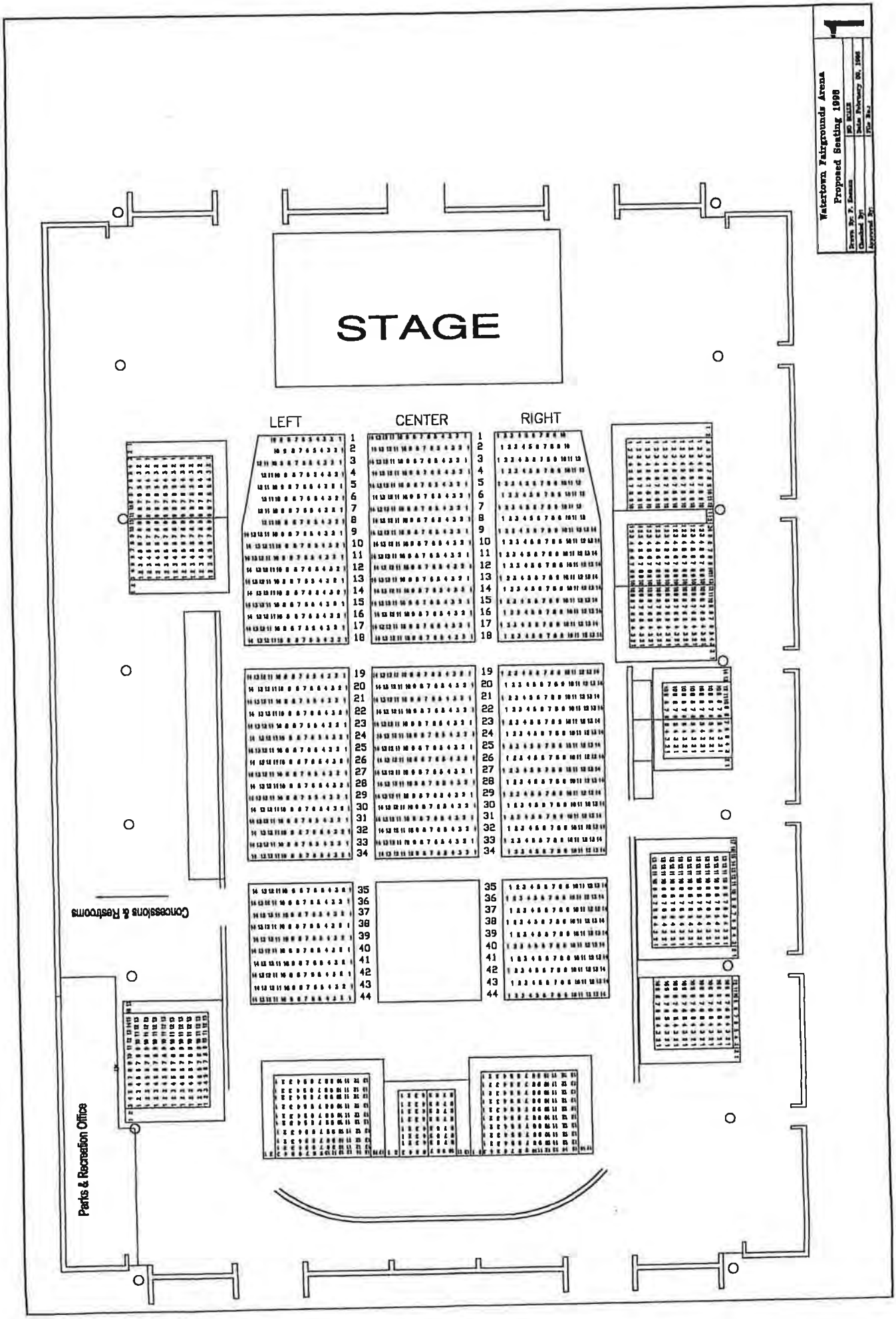
RATING (1=LOW, 5=HIGH)

ROOMS	RATING	Room Size (square foot)		COMMENTS
		Small	Large	
Arena with Regulation Size Ice Rink (85' x 200')	5	18,800	18,800	
1,260 (Existing seating configuration)	5	10,200	10,200	
1,500 (Seating based on current City seating proposal)	5	12,000	12,000	
Entry Vestibule (airlock with two sets of doors)	5	96	300	
Four Regular Team Rooms	5	288	480	Each
Additional Large Varsity Team Rooms	5	572	720	Combine end restroom with dual access to Multipurpose Rm
Shared Team Restrooms	5	240	350	
Meeting Room (Class Room)	5	450	800	
Concession (pre-prepared foods)	5	100	400	
Concessions Storage Room	5	100	300	
Eating Area	5	200	800	
Heated Rink Observation Area	5	300	1,000	
Referee Room w/ Shower / Restroom	5	150	200	
Multipurpose Room	5	600	1,200	
Party Room (Rentable for private parties)	5	300	800	Combine Party Rm with Multipurpose (Hospitality Rm)
Public Restrooms	5	250	650	
Skate Changing Area	5	300	800	
Large Admin. Area (mgr & staff offices, reception)	5	500	3,000	
Separate Ticketing Area	5	15	120	
Coaches Rooms	5	65	120	
First Aid Room	5	55	120	Locate by skate rental
Ice Resurfacer Room	5	275	500	
Refrigeration Equipment Room	5	400	600	
Mechanical (HVAC) Room	5	250	600	Small mechanical space needs for hot water and sprinkler (use rooftop units)
Electrical Room	5	80	200	
Telephone/Computer Network Room	5	80	120	
Pro Shop (Minimal)	5	100	300	
Skate Rental Area	5	150	400	Skate rental area should be by first aid
Press Box Area	5	60	200	
Break Room	5	150	300	
Enhanced Sound System	5			
Skate Sharpening Room	5	60	180	Locate at back of skate rental
Dehumidification	5	200	400	
Air Conditioning in rink space	5	200	300	
Conventional Ice Refrigeration System	5			
Standard Arena Lighting	5			
Specialized Arena Lighting	5			
Elevator & Elevator Equipment Room	5	150	250	
Standard Bleacher Seating on Benches	5			
Video screen in lobby	5			
2,000 (Additional seating with rearrange of ice resurfacer and broadcast booth)	4	15,500	15,500	
Heated Lobby Area	4			
Large Lobby Area	4	840	14,400	
Exhibit Storage Space	4			This is for trophy's etc.
Filming Platforms	4	50	150	Each
Small Lobby Area	3	480	840	
Aerobic/Exercise Room	3	500	1,000	
Video Arcade	3	150	300	
Lounge Area	3	300	800	
Energy Efficient HVAC Systems	3			
4,000 Ideal seating for expanded Concert Venue including fl	2			
Showers in All Team Rooms	2			
Restrooms in All Team Rooms	2			
Concession (prepare foods on-site)	2			

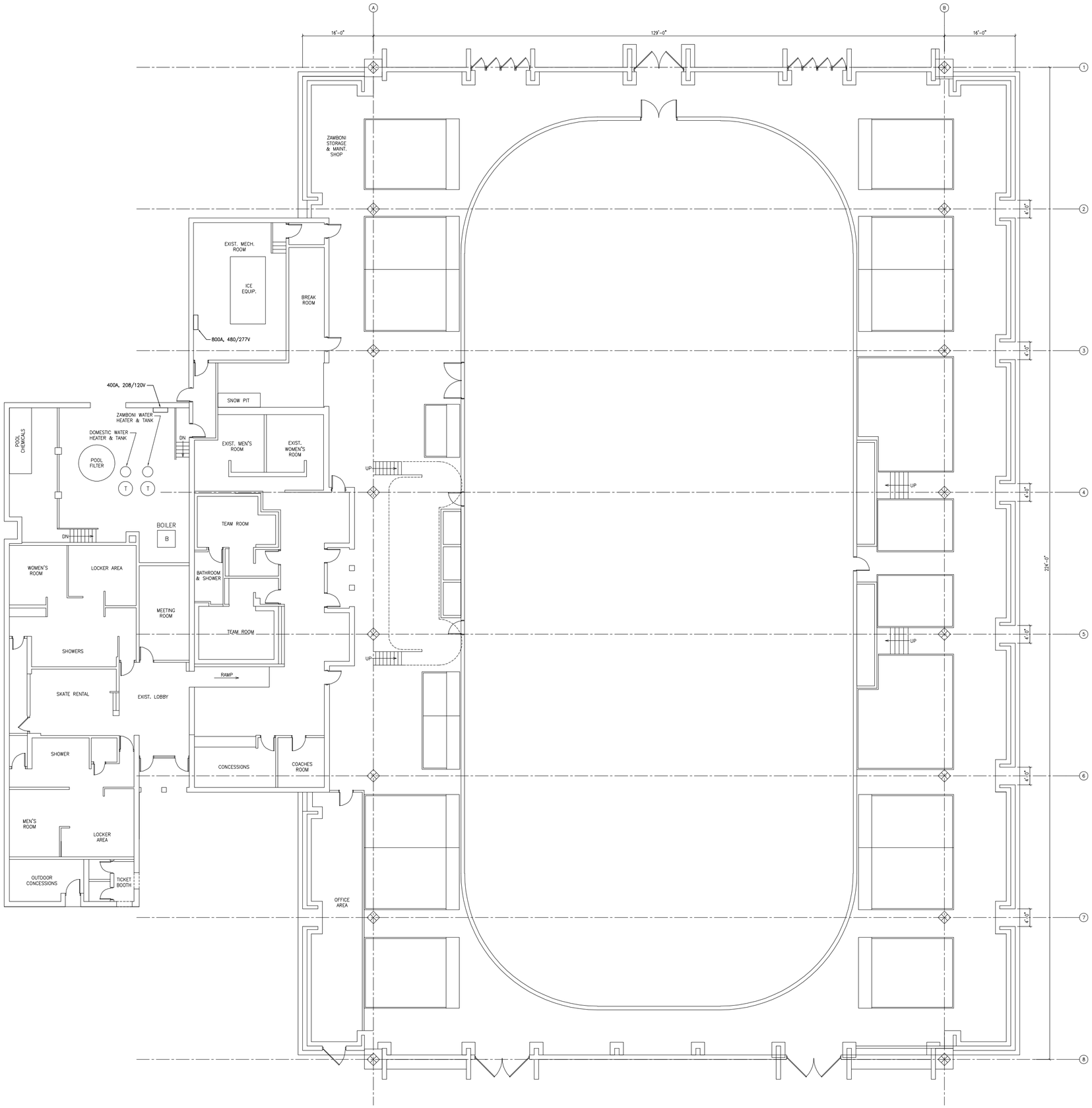
X NO

Figure Skaters Room	2
Covered Dropoff	1
Unheated Lobby Area	1
Free Weight Room	1
Exercise Equipment Room	1
Fitness Locker Rooms	1
Vending Machine Area	1
Referee Changing Room - Basic	1
Off-ice Training	1
Babysitting Room	1
Daycare	1
Playland Area	1
Minimal Arena Admin Area (basic manager office)	1
Pro Shop (Large)	1
Special Storage (dasher boards, etc.)	1
Walking / Running Track	1
Electric Ice Resurfacer	1
Propane Ice Resurfacer	1
Geothermal Ice Refrigeration System	1
Some Bleacher Seats with Backs	1

TAB D


Watertown Fairgrounds Arena
Proposed Seating 1998
STAGE
LEFT
CENTER
RIGHT
Concessions & Restrooms
Parks & Recreation Office

TAB E



1 E100 FLOOR PLAN
SCALE: 1/8"=1'-0"

Stantec

Stantec Consulting Services Inc.
61 Commercial Street
Rochester, NY U.S.A.
14614
Tel. 585.475.1440
Fax. 585.272.1814
www.stantec.com

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Consultants

Legend

Notes

Revision	By	Appd.	YY.MM.DD

Issued	By	Appd.	YY.MM.DD
1 SCHEMATIC DESIGN	CSA	JAP	13.07.30

File Name:	Dwn.	Chkd.	Dsgn.	YY.MM.DD

Permit-Seal

Client/Project
WATERTOWN MUNICIPAL
ICE ARENA ENCLOSURE

WATERTOWN, NEW YORK

Title
ELECTRICAL FLOOR PLAN

Project No.	Scale
191060204	AS NOTED

Drawing No.	Sheet	Revision
E100	of	

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2013/08/23 12:59 PM By: Wong, Chung

ORIGINAL SHEET - ARCH F

CAMPING AREAS.

Functionality Ratings

Fairgrounds Municipal Arena Building Upgrade

Watertown, NY

August 15/16, 2013

General Functionality Rating

Facility	*Finding*	*Parking*	*Entrance*	*Team Rooms*	*Signage*	*Visual Impact*	*Diversity*	*Amenities*	*Zamboni Room*	*Ice Arena Floor*	*Concessions*	*Circulation*	*Landscaping*	*Safety*	*Maintenance*	*Total*
Fairgrounds Municipal Arena	4	2	1	1	3	2	5	2	1	3	2	1	3	3	3	**36**

Note: Ratings are from 1 to 5 with 1 being the lowest and 5 the highest.

Specific Function, Ratings and Comments

Function	*Functionality*			*Comments*
	Lo	Med	Hi	
Management	X			- Cramped / Linear - Sight Line Issues - Loud - No Privacy - No Meeting Rooms - No Break Room - Need Staff Restrooms - Parking is Distant
Ticketing	X			- Booth near lobby for skating - Move booth for Concerts - Crowded - 4000 People in one hour - Security Checks Performed
Parking	X			- Not enough for large events - Safety Issues (muddy/uneven) - 1300 / 4 = 325 needed for hockey - Difficult for emergency vehicles - Summer parking in field no issues - Winter issues with snow
Spectators		X		- Handicap Issues - Press Box sightline interference - Cold
Skaters		X		- Hard to find doors - No where to hang out before events - Locker room sizes too small - Locker rooms smell
Performers	X			- Located in Trailer - No Restrooms - Buses park in muddy lot - No hospitality suite - Opportunity to decorate / express pride of the area (Ft Drum, TI, etc)

Staff	X			- No Break Room - No dedicated employee restrooms - No Meeting Rooms / Conference
Maintenance		X		- Opportunity for workshop area - Pole Barn will help alleviate needs
Staff Access		X		- Currently Park South East Corner - Walk along East well, enter Zamboni
Spectator Access	X			- Confusion on Entry Point - Not clear where to go / what door
Skater Access	X			- Confusion on Entry Point - Not clear where to go / what door - Opportunity to direct visiting team
Equipment Access	X			- Constant shuffling of equipment - Nothing has fixed home - Pole Barn will help with this
Ice			X	- Rain / Precipitation drips on ice - Infiltration or humidity issues - Interior ring of IR heating melts ice
Dasher Boards		X		- Showing Age (20 yrs +/-) - Bent - Broken welds - Netting works well - Tempered glass 4ft high - Store in arena currently / Pole Barn
Ice Equipment		X		- 10 years old +/-

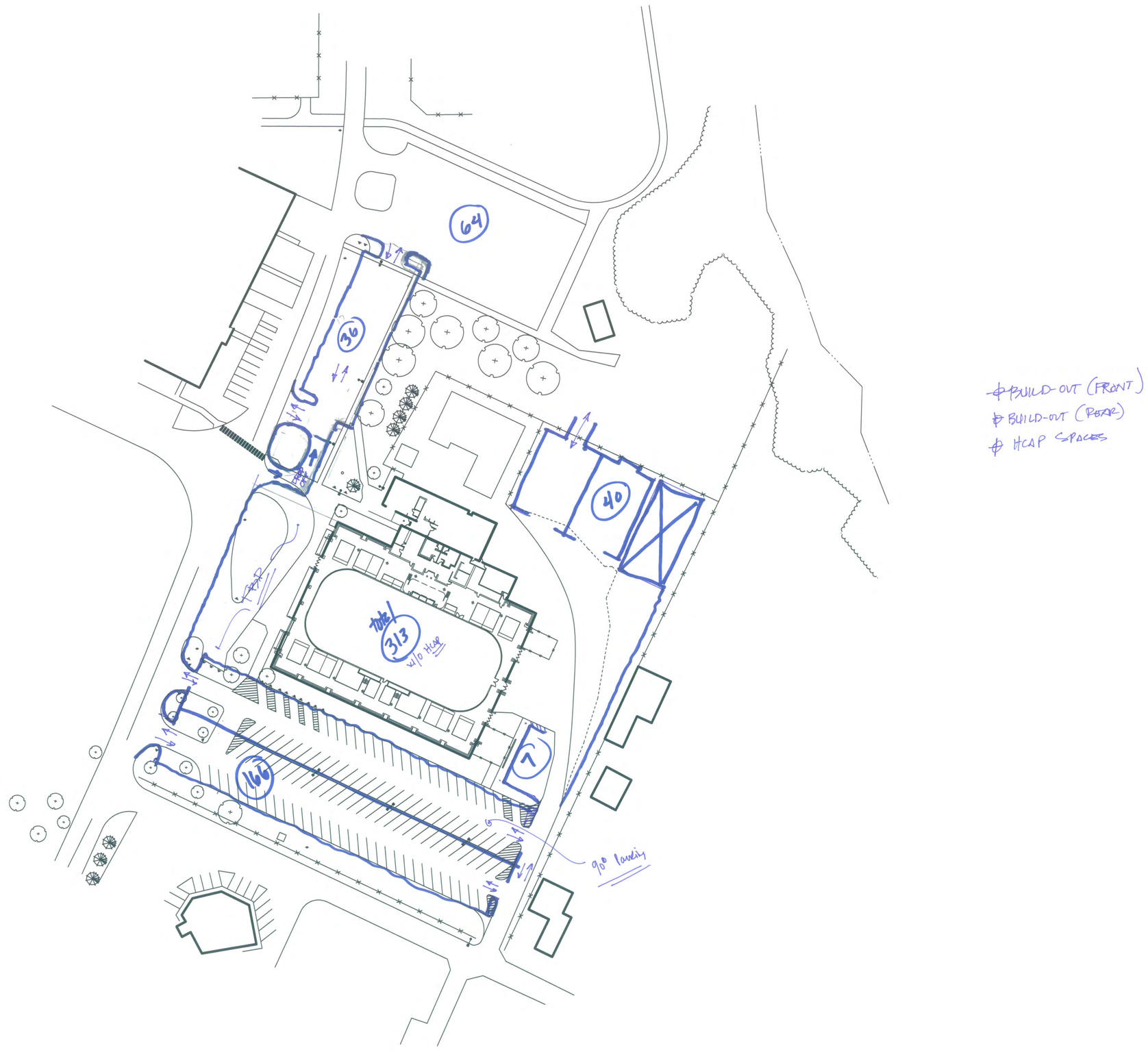
Setup for Performances		X		- Electrical setups can take days - Stage stored in arena currently - Pole barn will help with storage
Acoustics		X		- Transformer Vibration
Sound System		X		
Ice Resurfacer			X	- 8 yrs old; new one budgeted 2 years - Have 2 currently (1 backup) - Entrance issue - Like to colocate the 2 machines
Ice Maintenance		X		- Shave ice every day
Ice Shavings Disposal (snowmelt pit)	X			- Drive and Dump - Dump area is small with poor access - Prefer to dump outdoors over inside - Indoor is standard convention - Can use waste heat to melt snow - Currently use HW for showers which make them run cold
Ventilation	X			- Locker Rooms need it - Restrooms need it
Sports Lighting		X		- Noisy - HID; opportunity for fluorescent/LED '- Brighter may be better withTV - Control strategy
Performance Lighting		X		- Performers bring their own - Need rigging for it

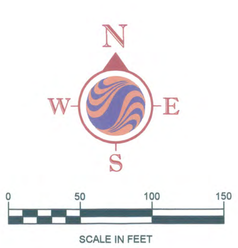
General Lighting		X		- Could use step lights for bleachers
Site Lighting		X		- Back area is dark - Wall packs are ok
Energy		X		- Smart drive was added to ice equipment; compressors don't run as much as before
Player Comfort	X			- Locker Space - Performers lounge area - Lack of restrooms
Spectator Comfort	X			- Cold - Bleachers are hard - Lack of restrooms - Concessions access is difficult
Concessions		X		- Lack of access - small area, cramped for workers - Way finding is not good - need to add stanchions to direct flow
Team Rooms	X			- Too small - Lack ventilation
Restrooms	X			- Old - Poor location - Lack ventilation - not enough
Scoring			X	- No issues - Opportunity for scoreboard at other end or center

Broadcasting			X	- Good condition - Located too close to the ice blocking views - Space below box is dead space - Box is probably bigger than it needs to be
Storage	X			- No real storage area - Only place is over office area via a forklift - Need storage for equipment, concessions, Rec Program, First Aid
Energy Consumption		X		- Facility is 4th highest user in the City - Metered separately from the pool
Seating Capacity		X		
Skate Sharpening	X			- Too close to rental activities - Area should be separated - Area is too small
Referees			X	- Currently have dedicated room and shower
First Aid	X			- Do not have dedicated room for this currently
Water		X		- Hot water shortage due to snow melting but otherwise good
Sewer			X	- Trailers hook up for summer performers

Stormwater Drainage		X		- There is water leaking back into the south side doors of arena from roof runoff; door have heaved a bit
Neighborhood Issues		X		- Minimal vandalism; trash thrown into the pool - Restaurants to south have parking issues during large events
Swimming Pool		X		- Vandalism - one of three in City - have to close for concerts; need the restrooms
Emergency Access		X		- Over crowded parking - Snow bank issues - No issues in summer
ADA Access	X			- No Complaints but organizations have protested other areas of the city - No ADA evaluation has been done - Concerns over bathrooms and spectator seating
Building Envelope				- Opportunity for more ambient light penetration with translucent panels - Need control over ambient to keep facility dark for concerts
Solar Panels				- Interest of member of City Council

TAB F





Stantec

THE CITY OF WATERTOWN NEW YORK

AUGUST 2013

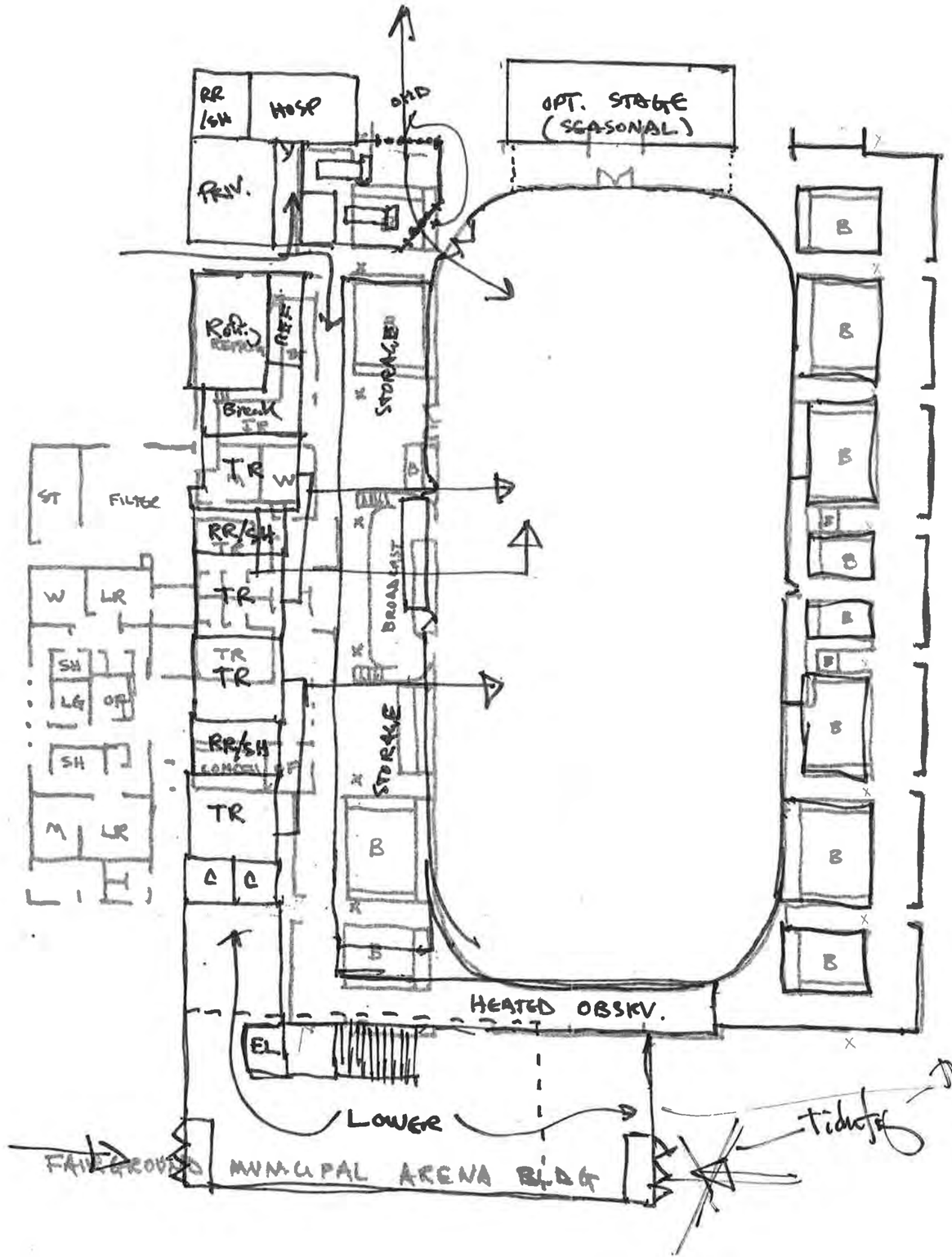
TAB G

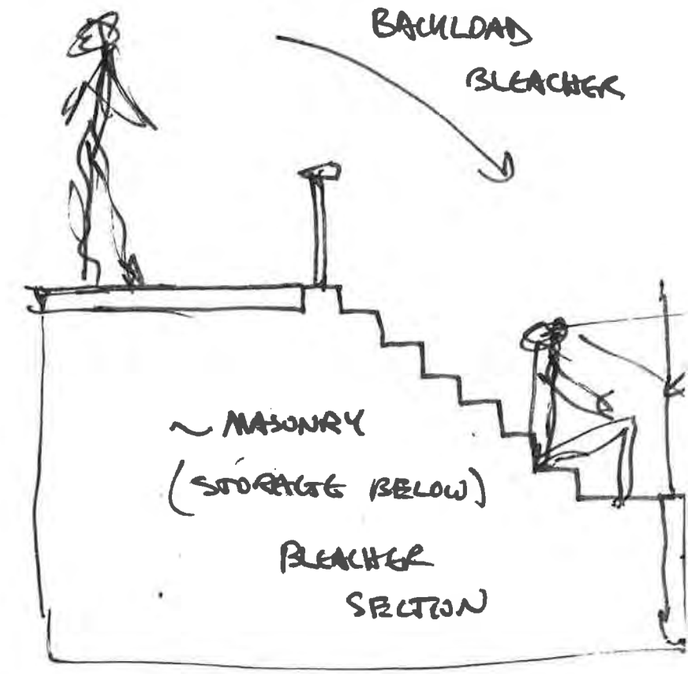
LOWER FRONT

ENTRY VESTIBULE
MEETING ROOM
CONCESSION
EATING AREA
PARTY ROOM
PUBLIC RESTROOMS
SKATE CHANGING
TICKETING
FIRST AID
SKATE RENTAL
PRO SHOP
LOBBY

UPPER FRONT

HEATED OBSERVATION
ADMIN
AEROBIC EXERCISE
VIDEO ARCADE
LOUNGE





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ticketing

out side 2 PRLab / M or W

1" = 30'

SECTION B

1 A101-01A **FIRST FLOOR**
1/8" = 1'-0"

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Client/Project
WATERTOWN

ICE ARENA

OFFICE

Title
OPTION 1A PLANS

Project No. 191060204
Scale

Drawing No. A101-01A
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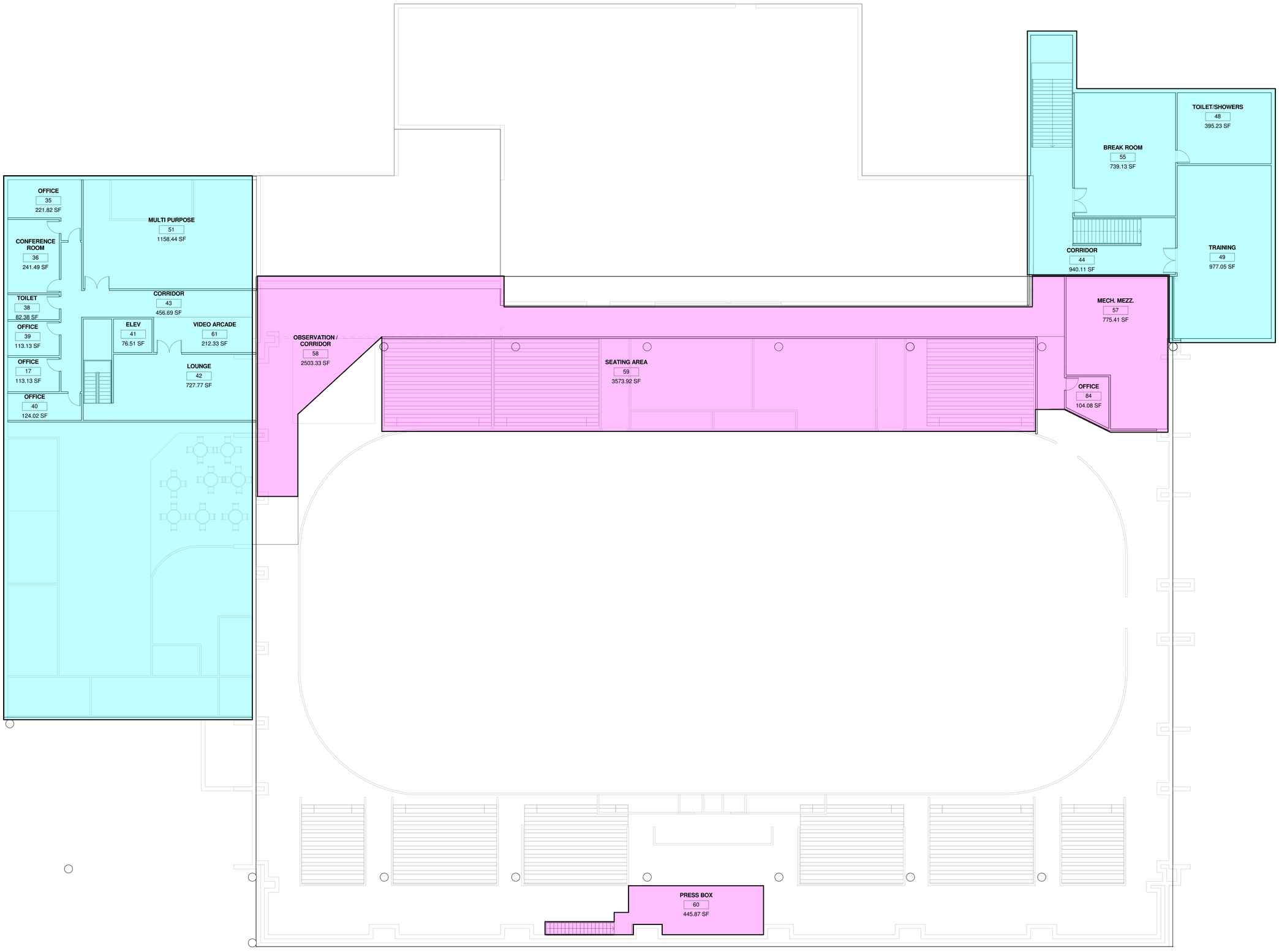
Revision



1 A102-01A **SECOND FLOOR PLAN**
1/8" = 1'-0"

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Title
OPTION 1A PLANS

Project No.
191060204

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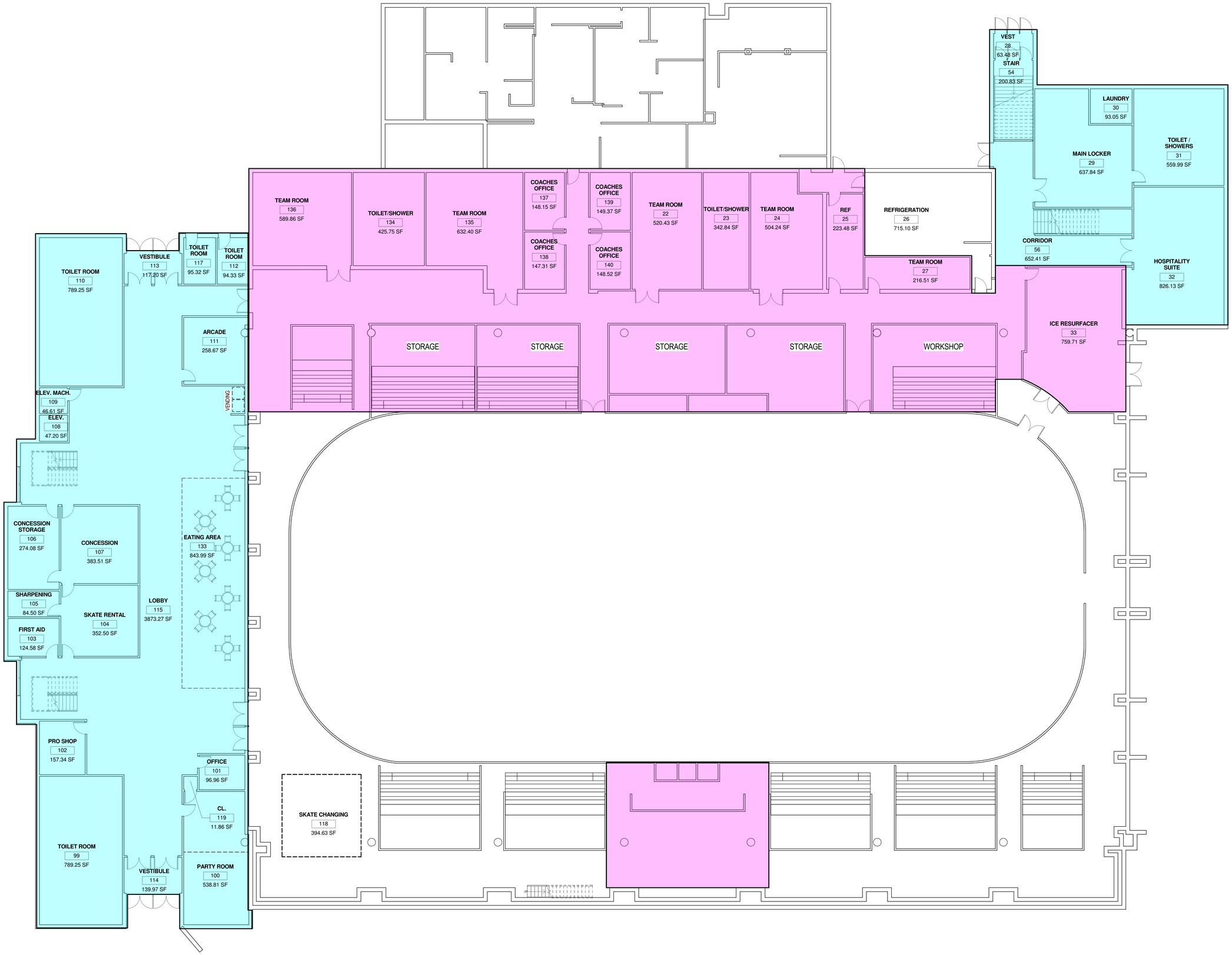
Drawing No.
A102-01A

Sheet

Revision

SECTION C



1 A101-02A **FIRST FLOOR**
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Title
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Project No. 191060204
Scale

Drawing No. A101-02A
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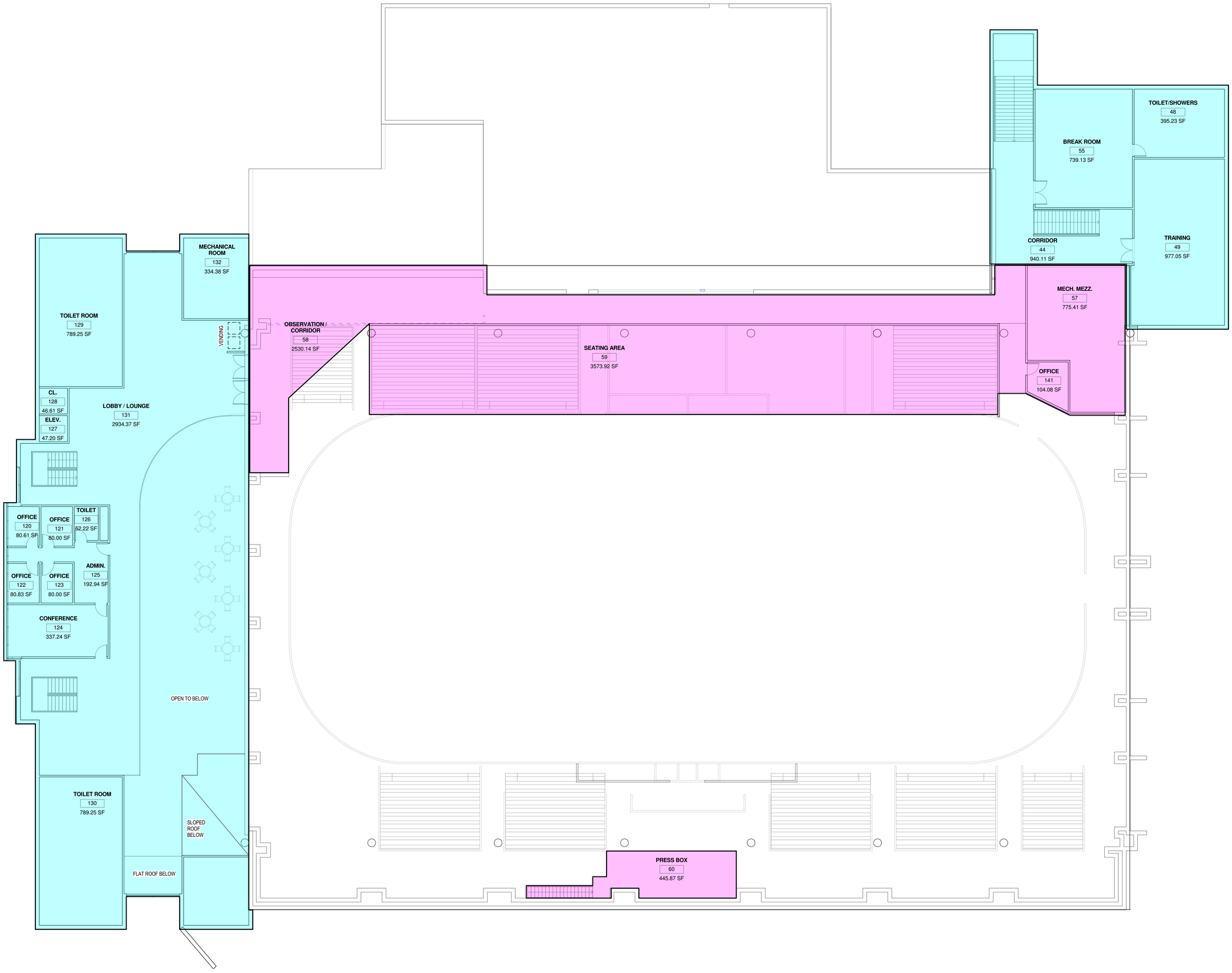
Revision



1 A102-02A **SECOND FLOOR PLAN**
1/8" = 1'-0"

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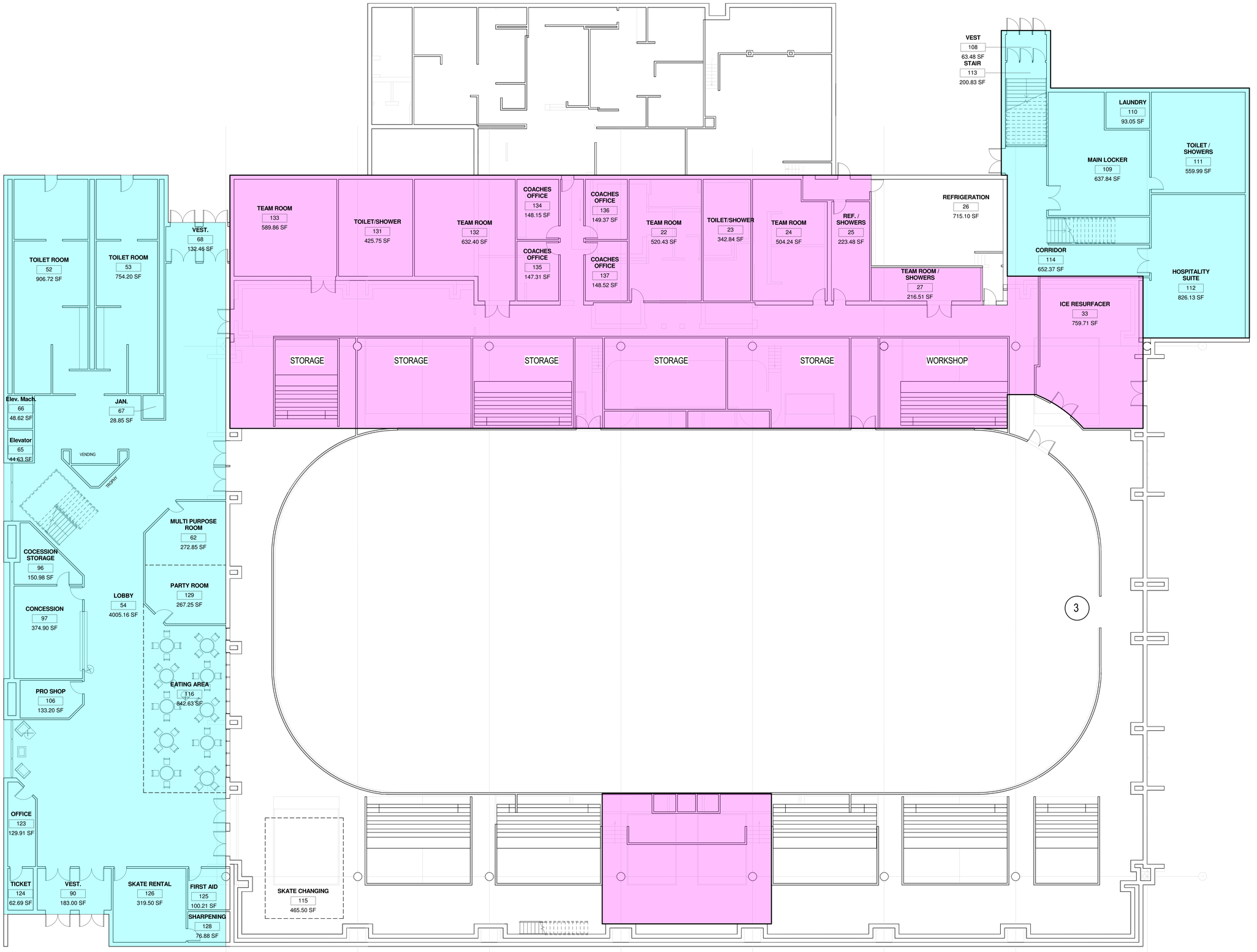
SECTION D



1 A101-03A **FIRST FLOOR**
1/8" = 1'-0"

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ICE ARENA

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Title
OPTION 3A PLAN

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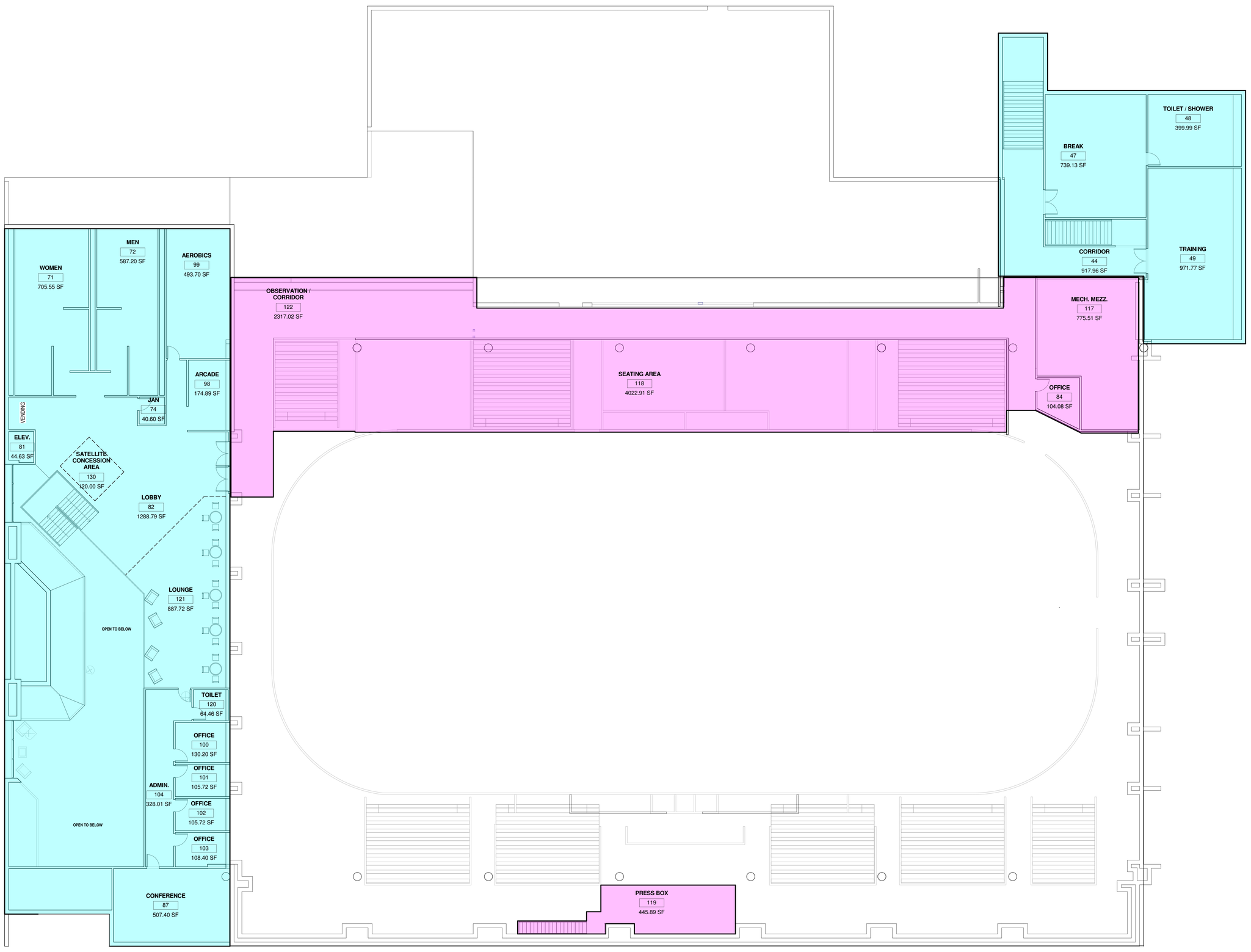

1 A102-03A **SECOND FLOOR**
1/8" = 1'-0"

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WATERTOWN

ICE ARENA

OFFICE

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Project No. 191060204
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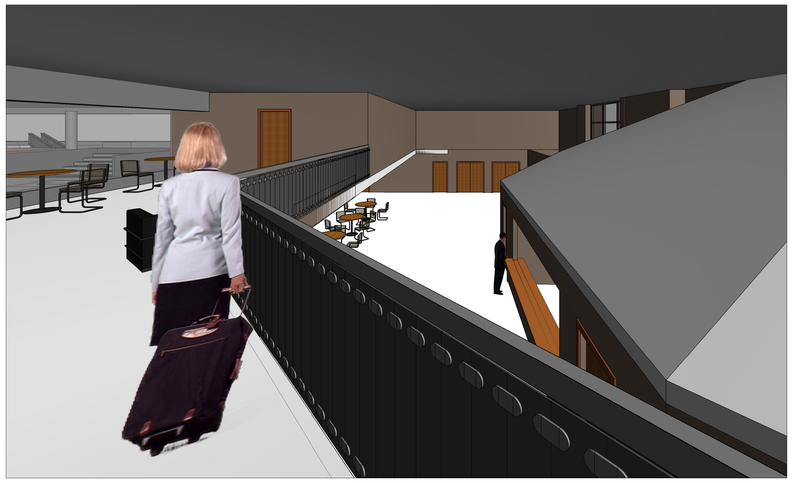

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ICE ARENA

OFFICE

Title

VIEWS

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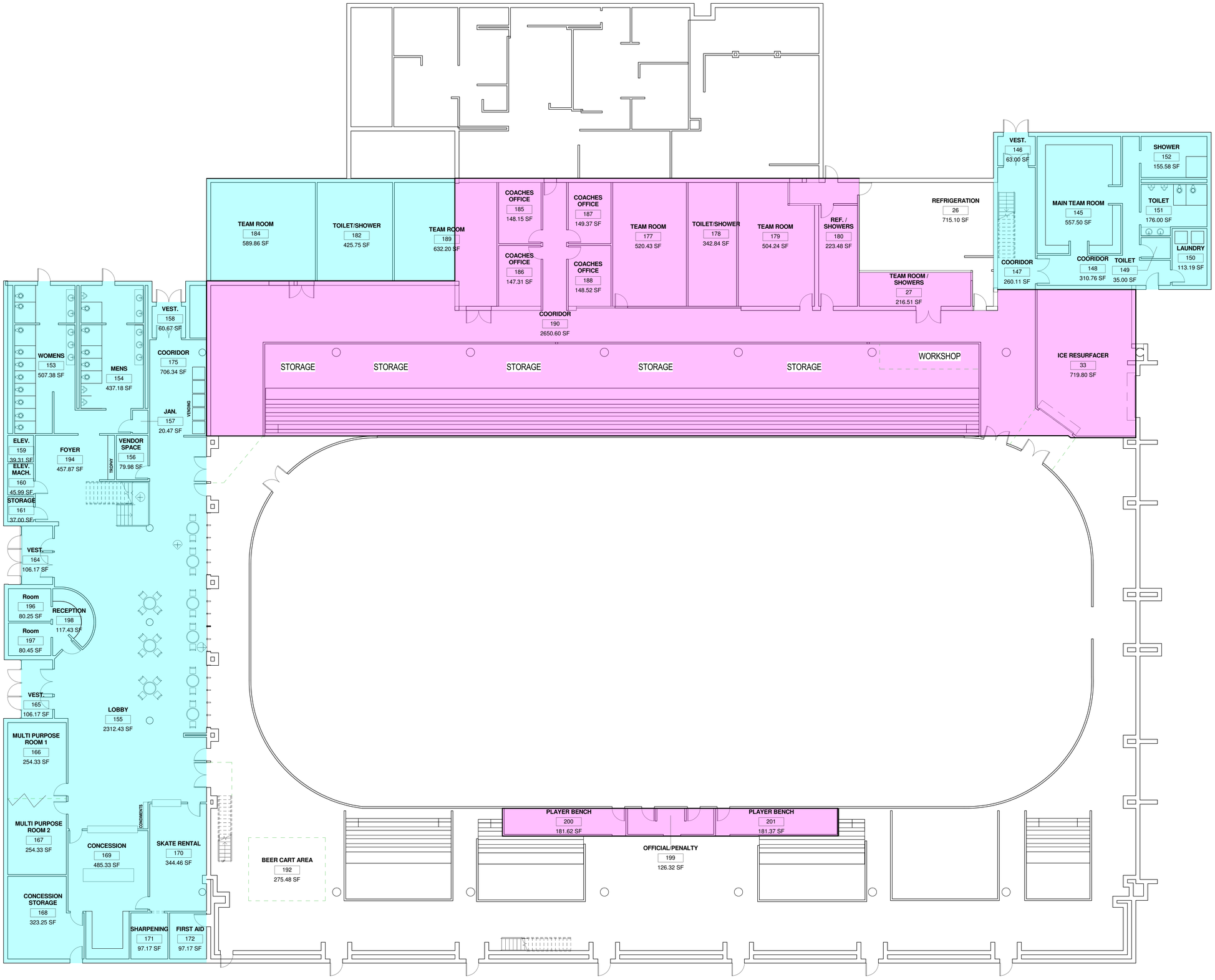

1 A101-04 **FIRST FLOOR**
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WATERTOWN

ICE ARENA

OFFICE

Title
OPTION 4 PLAN

Project No. 191060204
Scale

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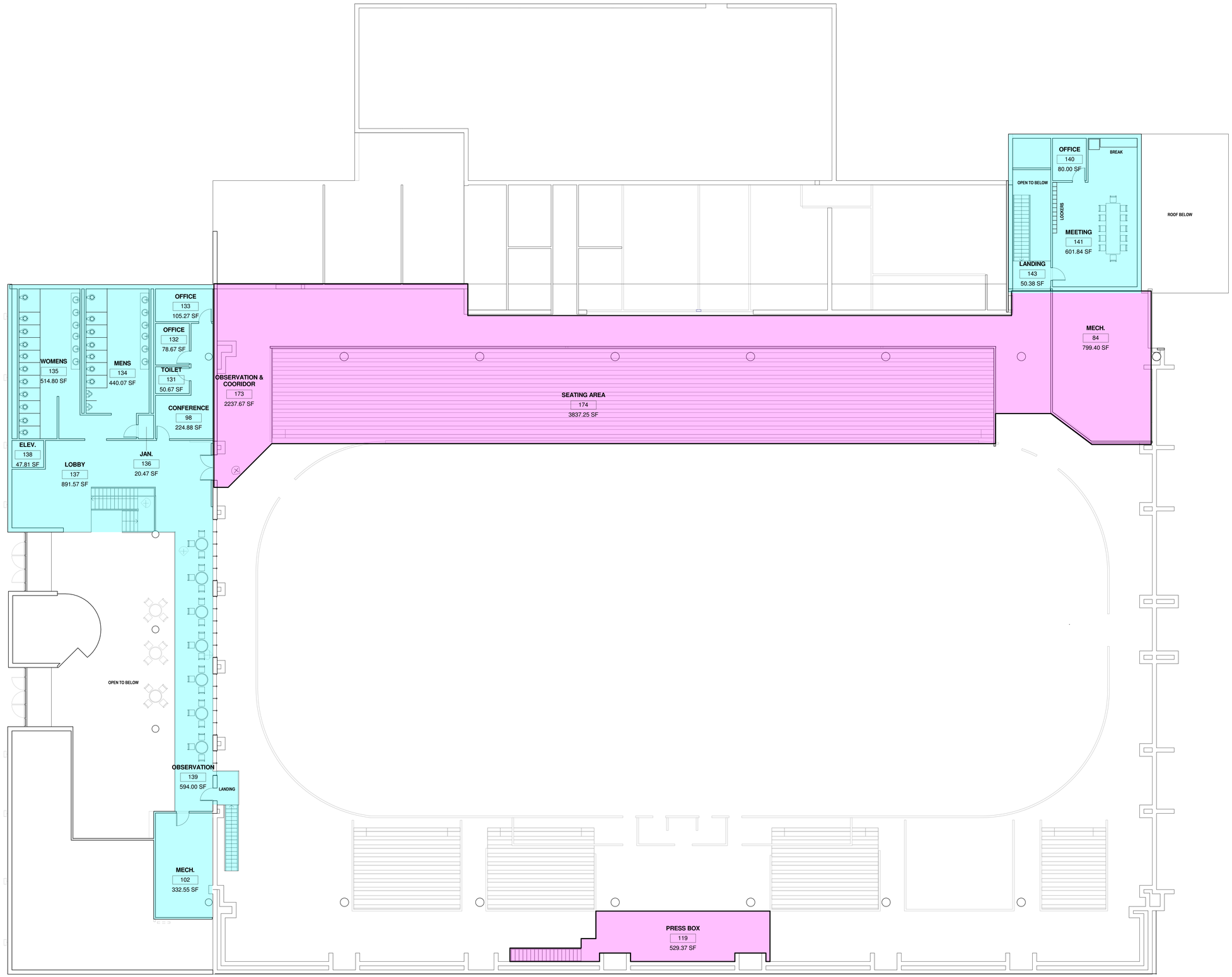

1 A102-04 **SECOND FLOOR**
1/8" = 1'-0"

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Client/Project
WATERTOWN

ICE ARENA

OFFICE

Title
OPTION 4 PLAN

Project No. 191060204
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Revision

1 A103-04 **ELEVATION - WEST**

3/16" = 1'-0"

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Title

SITE PLAN & ELEVATION

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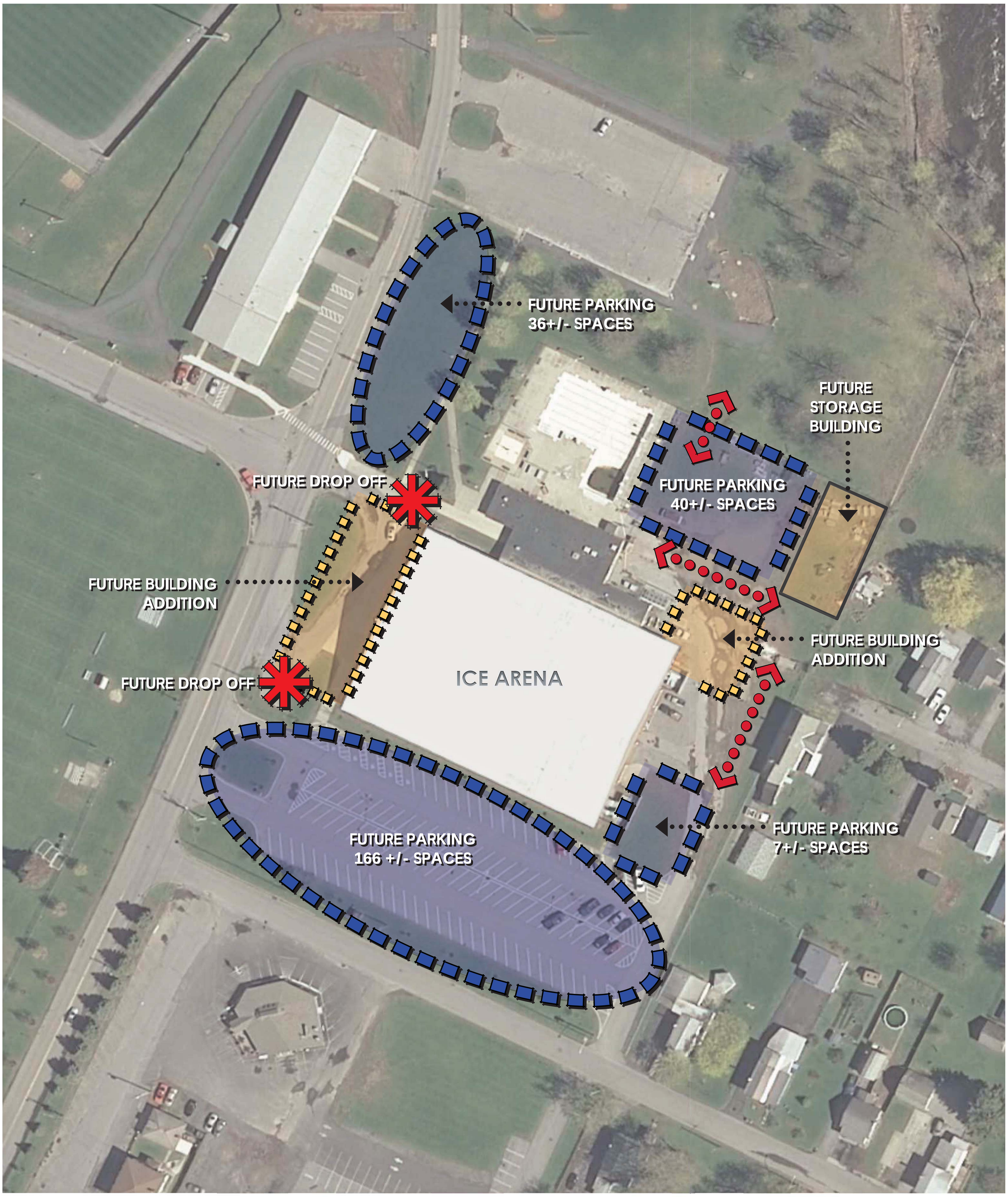

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SCHEMATIC SITE PLAN

OCTOBER 2013

SECTION D

WATERTOWN MUNICIPAL ARENA
Programming Space Assessment - New Construction

SPACE	AREA (sqft)						
	Option 1*	Option 2*	Option 3*	Option 1A**	Option 2A**	Option 3A**	Option 4***
Front Addition -1st Floor							
Women's Room	595	907	907	691	885	907	507
Men's Room	581	754	754	675	885	754	437
Vestibule(s)	431	264	315	524	257	315	273
Lobby/seating/Foyer/Circulation	4160	4932	4987	3951	4717	4848	3476
Concession	524	453	375	521	384	375	485
Concession Storage	398	286	151	286	274	151	323
Office	120	83	63	185	97	130	160
First Aid	76	119	119	83	125	100	97
Skate Rental	112	347	345	112	353	320	344
Sharpening	74	59	61	74	85	77	97
Janitor/Closet	78	29	29	78	0	29	57
Elevator	67	45	45	67	47	45	40
Elevator Machine Room	83	48	48	83	47	49	46
Party/Multi Purpose Room	286	500	500	424	550	540	508
Ticket	0	50	46	0	0	63	0
Reception	0	0	0	0	0	0	117
Pro Shop	0	0	133	0	157	133	0
Vendor Space	0	0	0	0	0	0	80
Arcade	0	0	0	0	259	0	0
Sub Totals	**7585**	**8876**	**8878**	**7754**	**9122**	**8836**	**7047**
Difference from Option 4	**538**	**1829**	**1831**	**707**	**2075**	**1789**	**0**
Front Addition -2nd Floor							
Women's Room	0	705	705	0	790	706	515
Men's Room	0	587	587	0	790	587	440
Lobby/Lounge/Circulation	728	2425	2463	728	2934	2297	1486
Office	592	290	448	572	320	448	184
Conference	188	228	507	241	337	507	225
Areobics	1185	0	494	0	0	494	0
Video Arcade	669	290	175	669	0	175	0
Toilet	75	29	0	82	62	65	51
Janitor/closet	0	0	40	0	47	41	20
Mechanical	0	0	0	0	334	0	333
Admin	0	178	508	0	193	328	0
Multi Purpose	0	0	0	1158	0	0	0
Sub Totals	**3437**	**4732**	**5927**	**3450**	**5807**	**5648**	**3254**
Difference from Option 4	**183**	**1478**	**2673**	**196**	**2553**	**2394**	**0**
Rear Addition -1st Floor							
Home Team Room	656	656	656	638	638	638	558
Vestibule(s)	85	85	100	63	63	63	63
Hospitality Suite	797	797	797	826	826	826	0
Toilet/Showers	560	560	560	560	560	560	367
Laundry	76	76	76	93	93	93	113
Circulation	652	652	652	852	852	852	571
Sub Totals	**2826**	**2826**	**2841**	**3032**	**3032**	**3032**	**1672**
Difference from Option 4	**1154**	**1154**	**1169**	**1360**	**1360**	**1360**	**0**
Rear Addition -2nd Floor							
Break Room	739	739	997	739	739	739	0
Toilet/Showers	395	395	503	395	395	400	0
Training	837	837	977	977	977	972	0
Office	100	100	0	0	0	0	80
Meeting/break/lockers	0	0	0	0	0	0	602
Circulation	807	807	473	940	940	918	50
Sub Totals	**2878**	**2878**	**2950**	**3051**	**3051**	**3029**	**732**
Difference from Option 4	**2146**	**2146**	**2218**	**2319**	**2319**	**2297**	**0**
GRAND TOTAL	**16,726**	**19,312**	**20,596**	**17,287**	**21,012**	**20,545**	**12,705**
Difference from Option 4	**4,021**	**6,607**	**7,891**	**4,582**	**8,307**	**7,840**	**-**

Renovation Area is constant at 11,03 sqft

*Options 1 -3 were developed in the initial Draft Report

**Options 1A - 3A were modified versions of the original options resulting from initial City Council comments

***Option 4 was the last option presented

SECTION I

Structural Analysis

DESIGN CRITERIA, LOADING

Occupancy Category	III
Roof Snow Load	
Ground Snow Load	Pg = 60 psf
Snow Exposure Factor	Ce = 0.9
Snow Load Importance Factor	I = 1.1
Flat Roof Snow Load	Pf = 46.0 psf
Wind Design Data	
Basic Wind Speed	V = 90 mph
Wind Importance Factor	I = 1.15
Wind Exposure	C
Floor Live Loading Data	
Offices	50 psf
Corridors	100 psf
Stadiums and Arena Space	100 psf
Seismic	
Seismic Design Category	C
Seismic Site Class	D
Importance Factor	1.25
Sds	.34
Sd1	.12

The Watertown Ice Rink and supporting structures include two separate structural systems. The Ice Rink building is on open floor plan, gable roof building and includes a slab-on-grade concrete floor, brick masonry enclosure, steel truss roof structure supporting on steel columns, open web joist purlins and structural steel member bracing. A standing seam metal roof was installed over purlins and was later coated with a urethane system. The building structure is founded on concrete spread footings and strip footings at the wall perimeter.

The support building to the north is a single story flat roof building and includes a slab-on-grade concrete floor, brick masonry enclosure and load bearing walls and a flat roof structure consisting of concrete plank on load bearing masonry walls. The building structure is founded on concrete strip footings for load bearing walls.

The scope of the project includes the following project scope related to the structure include:

- Inspect and evaluate the existing roof trusses and support structure for maintenance and repair.
- Evaluate structure for roof loadings based on roof alternatives
- Make recommendations for required structural repairs or upgrades to structural members.

Structural Components descriptions

Ice Arena

Slab-on-grade:

Over the ice rink footprint, the slab cross-section is a 6” thick concrete slab, on 4”of insulation and a 2” sand bed. Beneath the slab is a network of 4” diameter drainage piping. Outside of this footprint, the slab cross-section is a 4” thick concrete slab on 6” of porous fill. There is an expansion joint between the two different slab construction cross-sections.

Brick Masonry Enclosure:

The rink building was enclosed in 1976 and the enclosure generally is generally constructed of a 4” cast-in-place concrete wall with brick masonry cladding on both the interior and exterior surfaces. The upper portion of the wall consists of horizontal window bands above the wall system.

Steel Truss Roof Structure:

There are eight (8) north-south column lines at 32 feet on-center spacing. Columns support two truss types (T-1 – interior trusses and T-2 – end trusses) spanning 125 feet. T-1 trusses consist of a W10 x 77 top cord and a W10 x 45 bottom cord while T-2 trusses consist of a W10 x 72 top cord and a W10 x 33 bottom cord. Various W10 members connect the two cords. Trusses provide a 20 feet clear height above the ice surface.

The roof trusses are braced by nine (9) truss braces spanning 21’-3” and consist of W8 x 17 members.

Steel Columns:

Columns consist of a built-up section including one W24 x 100 and two (2) WT 12 x 50 and extend 17 feet above finished floor

Purlins:

Purlins consist of 20 HG open web joists spanning 32 feet between column lines. A light gage framing system attaches the insulating panel to the bottom cord of purlins.

Metal Roof

The roof consists of 24 gage, 1-3/4 V Seam.

Lintels

There are various steel lintels and masonry bond beams at wall openings.

Corrosion Protection

All structural steel and metal is painted with an unknown paint system.

Single Story Structure

Slab-on-grade:

The slab consists of a 4” thick concrete slab on 6”of compacted fill.

Brick Masonry Enclosure:

The masonry enclosure generally is generally constructed of a 8” CMU wall with 4” masonry brick cladding.

Roof Structure:

The roof structure consists of 8” concrete plank covered by a concrete topping sloped to roof drains.

Inspection Activities

The inspection consisted of a drawing review and visual observations. A detailed inspection of the Ice Rink roof deck was conducted at two locations using a City of Watertown lift for close access. The inspection of the roof structure and roof deck required removal and resetting of the insulating panel covering the top truss cords, purlins and metal deck.

Inspection Findings

Ice Arena

Slab-on-grade:

The concrete slab overall was in good condition with only minor cracking and surface deficiencies typically located at the east end.

Joint between insulated 6" slab and 4" slab at the perimeter.

Brick Masonry Enclosure:

The masonry enclosure was in good condition with isolated cracking in the brick masonry and impact damaged brick at corners generally at outside doors. Mortar joints were in good condition.

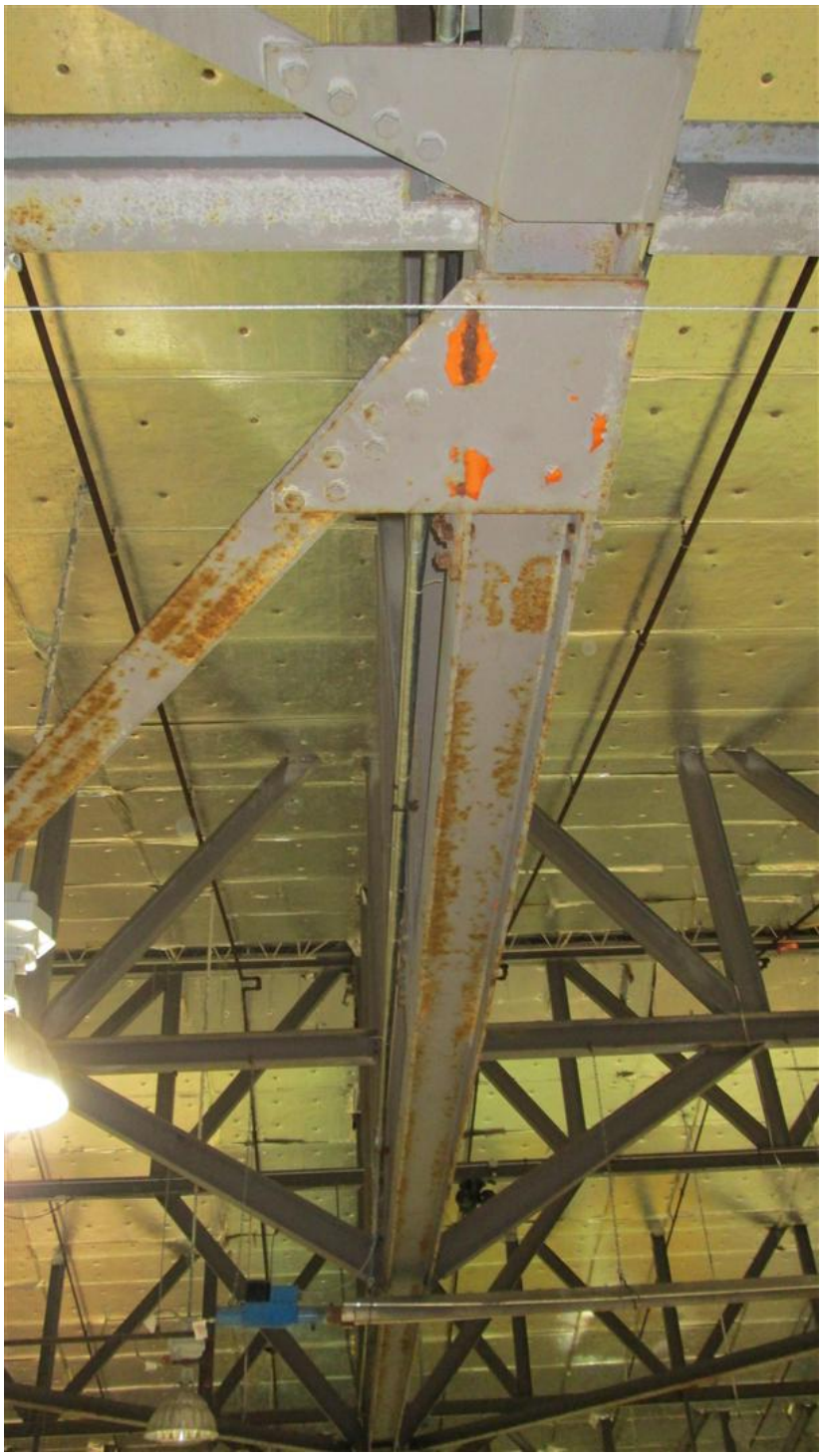
Impact damaged brick units at openings

Steel Truss Roof Structure, Bracing and Purlins:

The steel truss roof structure and bracing was in very good condition with only deficiency being failed coating system covering the steel. The top cord of the trusses, bracing and purlins beneath the insulating panel was found to be in good condition with a similar level of paint coating failure.

Open web steel joists above insulation panel with light corrosion on top cord.

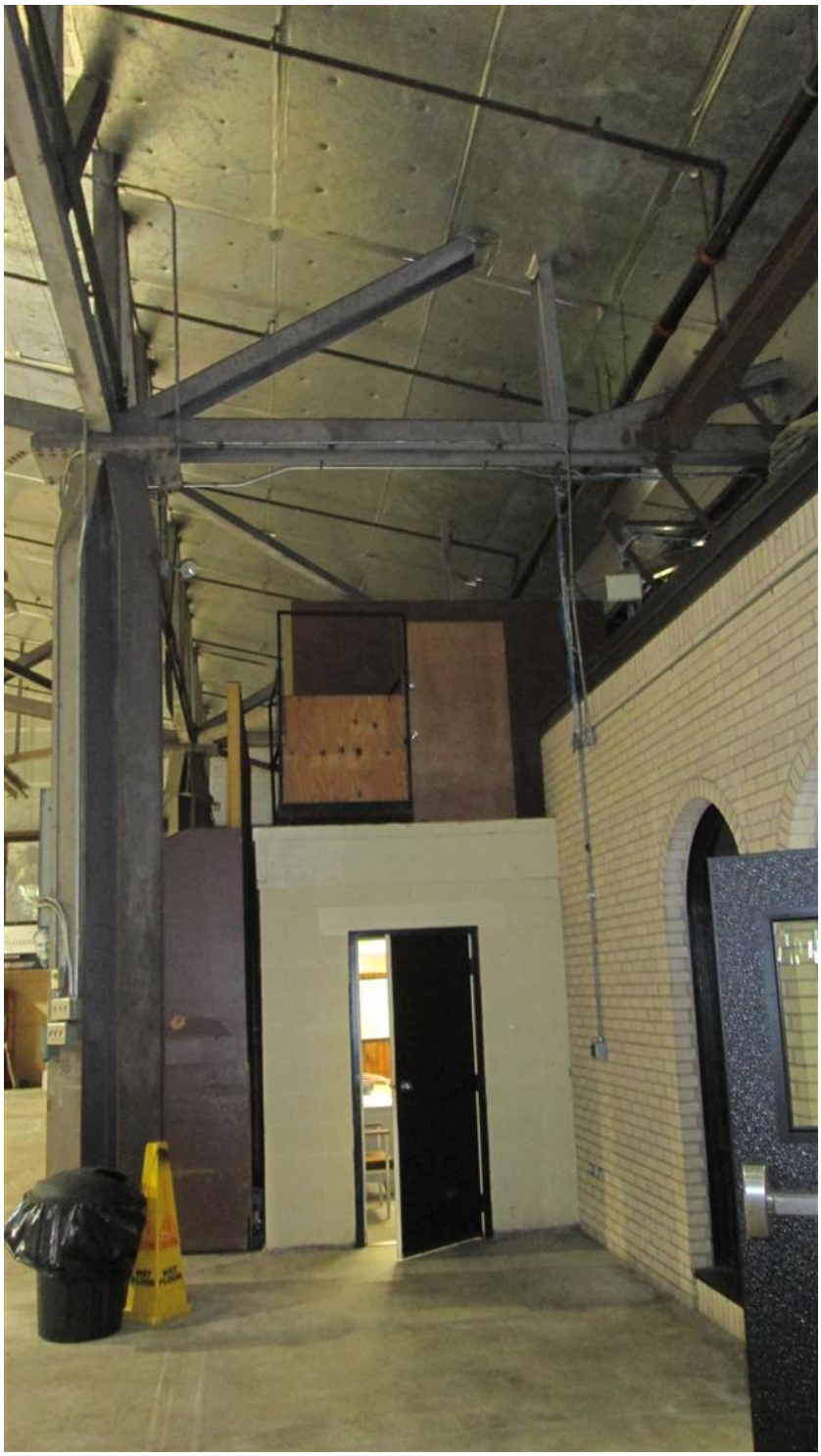
Open web steel joists, top cord of steel truss above insulation panel with light corrosion on top cord.



Truss and bracing with failed coating and rusting at bottom cord and bracing.

Steel Columns:

The columns were in very good condition with only deficiency being the failed coating system over steel.



Typical column supporting interior truss

Metal Roof:

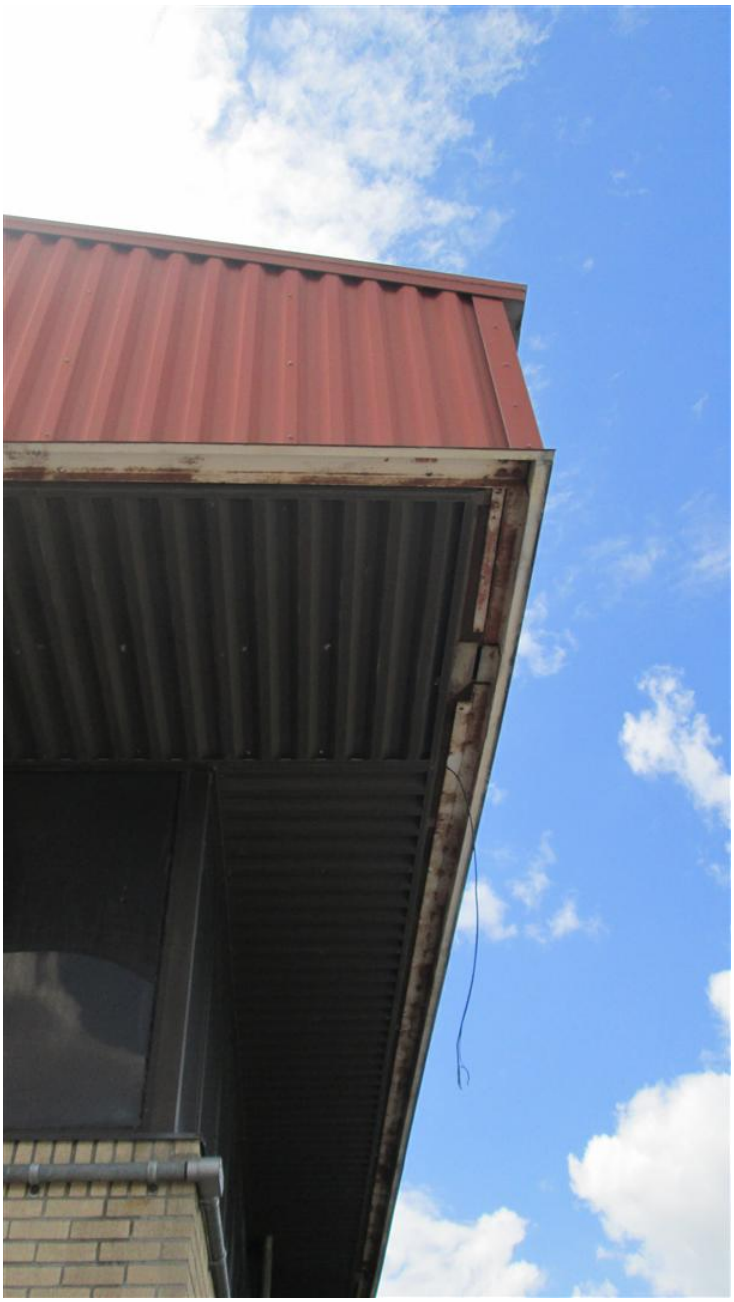
The soffit of the metal roof was in good condition with similar paint coating failure. There is reported condensation at the ends of the skating season creating some rust staining on the ice surface but this condition is likely not an widespread issue based on observations. The top side of the metal deck exhibits urethane coating failure with exposed urethane foam. With failed coating, the urethane foam will tend to retain moisture and is a worse condition to the roof deck integrity than if no insulation was in place.

Metal deck above insulating panel with corrosion a peeled paint

Metal deck coated with urethane. Sound elevation with greater occurrence of failure.

Lintels and Miscellaneous Metal:

The steel lintels are in very good condition with only deficiency being the failed coating system over steel. Bond beams were in good condition.



Corroded metal angle supporting metal enclosure

Single Story Structure

Slab-on-grade:

The concrete slab overall in is good condition with only minor cracking. The Zamboni pit for dumping exhibits moderate scaling of concrete surfaces.

Pit with concrete scaling.

Brick Masonry Enclosure:

The masonry enclosure was in good condition with isolated cracking in the brick masonry. Mortar joints were in good condition. The expose CMU was also in good condition with the most severe defect being a 3/16”± wide crack at a load bearing wall location.

CMU load bearing wall with vertical crack.

Roof Structure:

The concrete plank soffit is in good condition with some minor staining at roof penetrations in the mechanical room.

Mechanical Room with leakage at penetration in precast plank.

Precast plank roof is subject to heavy snow loads

Structural Analysis

Introduction

Ice Arena

The analysis focused on the following components:

- Steel Trusses
- Purlins
- Metal Deck

One-Story Structure

- Pre-cast Plank

Findings

Steel Truss Roof Structure

Members Checked:

Truss T-1

Top Cord - W10x 77
Bottom Cord – W10 x 45
Vertical Panel – W10 x 29

Truss T-2 Top Cord - W10x 72

Top Cord - W10x 72
Bottom Cord – W10 x 33
Vertical Panel – W10 x 29

Purlins

Checked purlin 4.08' from peak

Typical purlin

Metal Deck

1 ½" Corrugated steel roof deck.

Precast Plank

Checked 8" thick precast plank with 2" topping

Analysis Findings

All structural items are acceptable for loads imposed by current building codes.

All roof systems have structural capacity to support PV solar systems.

Ord No. 1

March 13, 2014

To: The Honorable Mayor and City Council

From: James E. Mills, City Comptroller

Subject: Bond Ordinance – Arena Rehabilitation Design

Earlier tonight City Council was presented with an agreement with Stantec Consulting Services Inc. for the design of the Arena rehabilitation in the amount of $510,403. A bond ordinance must also be approved as approval of the agreement was contingent upon approval of the attached bond ordinance.

A summary of the project's current costs are as follows:

Stantec	$ 510,403
Geotech services and hazardous material testing	35,000
Bonding costs	4,597
Bond Ordinance	$ 550,000

March 17, 2014

ORDINANCE

An Ordinance Authorizing the Issuance of $550,000 Bonds of the City of Watertown, Jefferson County, New York, to Pay the Costs of the Design for the Reconstruction and Expansion of the City's Fairgrounds Arena, in and for Said City

	YEA	NAY
Council Member BURNS, Roxanne M.		
Council Member BUTLER, Joseph M. Jr.		
Council Member JENNINGS, Stephen A.		
Council Member MACALUSO, Teresa R.		
Mayor GRAHAM, Jeffrey E.		
Total		

Introduced by

_____

At a regular meeting of the Council of the City of Watertown, Jefferson County, New York, held at the Municipal Building, in Watertown, New York, in said City, March 17, 2014, at 7:00 o'clock P.M., Prevailing Time.

The meeting was called to order by _____, and upon roll being called, the following were

PRESENT:

ABSENT:

The following ordinance was offered by Councilman _____, who moved its adoption, seconded by Councilman _____, to wit:

WHEREAS, all conditions precedent to the financing of the specific object or purpose hereinafter described, including compliance with the provisions of the State Environmental Quality Review Act to the extent required, have been performed; and

WHEREAS, it is now desired to authorize the issuance of bonds of said City to finance costs of said specific object or purpose; NOW, THEREFORE,
BE IT ORDAINED, by the Council of the City of Watertown, Jefferson County, New York, as follows:

Section 1. For the specific object or purpose of paying costs of the design for the reconstruction and expansion of the City's Fairgrounds Arena, in and for the City of Watertown, Jefferson County, New York, including incidental expenses in connection therewith, there are hereby authorized to be issued $550,000 bonds of said City pursuant to the provisions of the Local Finance Law.

ORDINANCE

An Ordinance Authorizing the Issuance of $550,000 Bonds of the City of Watertown, Jefferson County, New York, to Pay the Costs of the Design for the Reconstruction and Expansion of the City's Fairgrounds Arena, in and for Said City

	YEA	NAY
Council Member BURNS, Roxanne M.		
Council Member BUTLER, Joseph M. Jr.		
Council Member JENNINGS, Stephen A.		
Council Member MACALUSO, Teresa R.		
Mayor GRAHAM, Jeffrey E.		
Total		

Section 2. It is hereby determined that the estimated maximum cost of the aforesaid specific object or purpose is $550,000 and that the plan for the financing thereof is by the issuance of the $550,000 bonds of said City authorized to be issued pursuant to this bond ordinance. The amount of bonds to be issued will be reduced by the amount of any appropriations of current funds to pay part of the cost of the aforesaid specific object or purpose.

Section 3. It is hereby determined that the period of probable usefulness of the aforesaid specific object or purpose is five years, pursuant to subdivision sixty-two of paragraph a of Section 11.00 of the Local Finance Law.

Section 4. Subject to the provisions of the Local Finance Law, the power to authorize the issuance of and to sell bond anticipation notes in anticipation of the issuance and sale of the bonds herein authorized, including renewals of such notes, is hereby delegated to the City Comptroller, the chief fiscal officer. Such notes shall be of such terms, form and contents, and shall be sold in such manner, as may be prescribed by said City Comptroller, consistent with the provisions of the Local Finance Law.

Section 5. The faith and credit of said City of Watertown, Jefferson County, New York, are hereby irrevocably pledged for the payment of the principal of and interest on such obligations as the same respectively become due and payable. An annual appropriation shall be made in each year sufficient to pay the principal of and interest on such obligations becoming due and payable in such year. There shall annually be levied on all the taxable real property of said City, a tax sufficient to pay the principal of and interest on such obligations as the same become due and payable.

Section 6. Such bonds shall be in fully registered form and shall be signed in the name of the City of Watertown, Jefferson County, New York, by the manual or facsimile signature of the City Comptroller and a facsimile of its corporate seal shall be imprinted thereon and may be attested by the manual or facsimile signature of the City Clerk.

Section 7. The powers and duties of advertising such bonds for sale, conducting the sale and awarding the bonds, are hereby delegated to the City Comptroller, who shall advertise such bonds for sale, conduct the sale, and award the bonds in such manner as he shall deem best for the interests of the City, provided, however, that in the exercise of these delegated powers, he

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Council Member BURNS, Roxanne M.		
Council Member BUTLER, Joseph M. Jr.		
Council Member JENNINGS, Stephen A.		
Council Member MACALUSO, Teresa R.		
Mayor GRAHAM, Jeffrey E.		
Total		

shall comply fully with the provisions of the Local Finance Law and any order or rule of the State Comptroller applicable to the sale of municipal bonds. The receipt of the City Comptroller shall be a full acquittance to the purchaser of such bonds, who shall not be obliged to see to the application of the purchase money.

Section 8. All other matters, except as provided herein relating to such bonds, including determining whether to issue such bonds having substantially level or declining annual debt service and all matters related thereto, prescribing whether manual or facsimile signatures shall appear on said bonds, prescribing the method for the recording of ownership of said bonds, appointing the fiscal agent or agents for said bonds, providing for the printing and delivery of said bonds (and if said bonds are to be executed in the name of the City by the facsimile signature of the City Comptroller, providing for the manual countersignature of a fiscal agent or of a designated official of the City), the date, denominations, maturities and interest payment dates, place or places of payment, and also including the consolidation with other issues, shall be determined by the City Comptroller. It is hereby determined that it is to the financial advantage of the City not to impose and collect from registered owners of such bonds any charges for mailing, shipping and insuring bonds transferred or exchanged by the fiscal agent, and, accordingly, pursuant to paragraph c of Section 70.00 of the Local Finance Law, no such charges shall be so collected by the fiscal agent. Such bonds shall contain substantially the recital of validity clause provided for in Section 52.00 of the Local Finance Law and shall otherwise be in such form and contain such recitals in addition to those required by Section 52.00 of the Local Finance Law, as the City Comptroller shall determine.

Section 9. This ordinance shall constitute a statement of official intent for purposes of Treasury Regulations Section 1.150-2. Other than as specified in this ordinance, no monies are, or are reasonably expected to be, reserved, allocated on a long term basis, or otherwise set aside with respect to the permanent funding of the object or purpose described herein.

Section 10. The validity of such bonds and bond anticipation notes may be contested only if:

1) Such obligations are authorized for an object or purpose for which said City is not authorized to expend money, or

2) The provisions of law which should be complied with at the date of publication of this ordinance are not substantially complied with,

ORDINANCE

An Ordinance Authorizing the Issuance of $550,000 Bonds of the City of Watertown, Jefferson County, New York, to Pay the Costs of the Design for the Reconstruction and Expansion of the City's Fairgrounds Arena, in and for Said City

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Council Member BURNS, Roxanne M.		
Council Member BUTLER, Joseph M. Jr.		
Council Member JENNINGS, Stephen A.		
Council Member MACALUSO, Teresa R.		
Mayor GRAHAM, Jeffrey E.		
Total		

and an action, suit or proceeding contesting such validity is commenced within twenty days after the date of such publication, or

3) Such obligations are authorized in violation of the provisions of the Constitution.

Section 11. This ordinance, which takes effect immediately, shall be published in full in the Watertown Daily Times, the official newspaper, together with a notice of the City Clerk in substantially the form provided in Section 81.00 of the Local Finance Law.

Unanimous consent moved by Councilman _____, seconded by Councilman _____, with all voting "AYE".

The question of the adoption of the foregoing ordinance was duly put to a vote on roll call, which resulted as follows:

_____ VOTING _____
_____ VOTING _____
_____ VOTING _____
_____ VOTING _____
_____ VOTING _____

The ordinance was thereupon declared duly adopted.

* * *

APPROVED BY THE MAYOR

_____, 2014.
Mayor

STATE OF NEW YORK)
) ss.:
COUNTY OF JEFFERSON)

I, the undersigned Clerk of the City of Watertown, Jefferson County, New York, DO HEREBY CERTIFY:

ORDINANCE

An Ordinance Authorizing the Issuance of $550,000 Bonds of the City of Watertown, Jefferson County, New York, to Pay the Costs of the Design for the Reconstruction and Expansion of the City's Fairgrounds Arena, in and for Said City

	YEA	NAY
Council Member BURNS, Roxanne M.		
Council Member BUTLER, Joseph M. Jr.		
Council Member JENNINGS, Stephen A.		
Council Member MACALUSO, Teresa R.		
Mayor GRAHAM, Jeffrey E.		
Total		

That I have compared the annexed extract of the minutes of the meeting of the Council of said City, including the ordinance contained therein, held on March 3, 2014, with the original thereof on file in my office, and that the same is a true and correct transcript therefrom and of the whole of said original so far as the same relates to the subject matters therein referred to.

I FURTHER CERTIFY that all members of said Council had due notice of said meeting.

I FURTHER CERTIFY that, pursuant to Section 103 of the Public Officers Law (Open Meetings Law), said meeting was open to the general public.

I FURTHER CERTIFY that, PRIOR to the time of said meeting, I duly caused a public notice of the time and place of said meeting to be given to the following newspapers and/or other news media as follows:

Newspaper and/or Other News Media Date Given

Regular meeting of the City Council held in accordance with Section 14-1 of the Municipal Code

I FURTHER CERTIFY that PRIOR to the time of said meeting, I duly caused public notice of the time and place of said meeting to be conspicuously posted in the following designated public location(s) on the following dates:

Designated Location(s) of Posted Notices Date of Posting

Regular meeting of the City Council held in accordance with Section 14-1 of the Municipal Code

March 17, 2014

ORDINANCE

An Ordinance Authorizing the Issuance of $550,000 Bonds of the City of Watertown, Jefferson County, New York, to Pay the Costs of the Design for the Reconstruction and Expansion of the City's Fairgrounds Arena, in and for Said City

	YEA	NAY
Council Member BURNS, Roxanne M.		
Council Member BUTLER, Joseph M. Jr.		
Council Member JENNINGS, Stephen A.		
Council Member MACALUSO, Teresa R.		
Mayor GRAHAM, Jeffrey E.		
Total		

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of said City on March _____, 2014.

_____

City Clerk

(CORPORATE SEAL)

March 14, 2014

To: The Honorable Mayor and City Council

From: Michael J. Sligar, Water Superintendent

Subject: Purcell Development and the Garland City Trailer Park

Two water requests have come from outside the City for properties adjacent to the City in its northwest quadrant. These are the Purcell Proposal off outer Bradley Street and the Garland City Trailer Park off outer West Main Street. The City is in a strong position to provide water for both. The two properties share an extensive common "rear lot line."

The mechanics of providing the water would be to extend the City's existing 10" water main in Bradley Street up to and through the Purcell property, and continue the new water main to outer West Main and attaching to an existing City 8" water main serving the Library System. I am not advocating that the City actually install these mains, but rather only advocating that if the mains were to be installed by another, this is the way it ought to be done. Attached are three maps that indicate the footprint of the trailer park, the proximity of the two properties in question between the boundary formed by outer West Main and outer Bradley Street, and the existing City water main infrastructure mentioned above.

The Development Authority of the North Country (DANC) has also been evaluating the various methods of providing water to the Purcell Property. James Wright, Executive Director, DANC has caused a map to be prepared outlining two alternatives (see Sauter-Tuttle Bradley Street Purcell attached). The DANC Map in essence highlights the "loop" outlined above using the City as the source of the water (referred to as New Water Main B) and also the ability to provide water from Glenn Park via a tap at the intersection of County Routes 281 and 190 (New Water Main A).

By superimposing the two alternatives on the DANC Map, the fundamental difference between the two alternate sources is highlighted. The New Water Main A with Glenn Park as its source would be an end of run system with a single point connection to its source. There are two disadvantages to this (the first more serious than the second): first, if the single source were to be interrupted (i.e. a water main break) the users on the system would be without water, and second, low demand users on end of run mains often experience the aesthetic issues presented by stagnant water versus water that remains flowing in the more desired looped systems. New Water Main B (the City's source) would be "looped" (in that it would be connected to the City at two locations at opposing ends – one on outer Bradley and one on outer West Main). Interruptions at one

of the connections would not shut the system down as the feed could continue via the second tap that is still connected. Main B as shown has a weakness as the connection at Bradley (as shown) would be substandard (a 2” HDPE) and ineffective as a source for multiple users. To be effective, the connection would need to be extended via an 8” or 10” pipe to the City’s 10” Pipe that ends at the City Corporation Boundary Line.

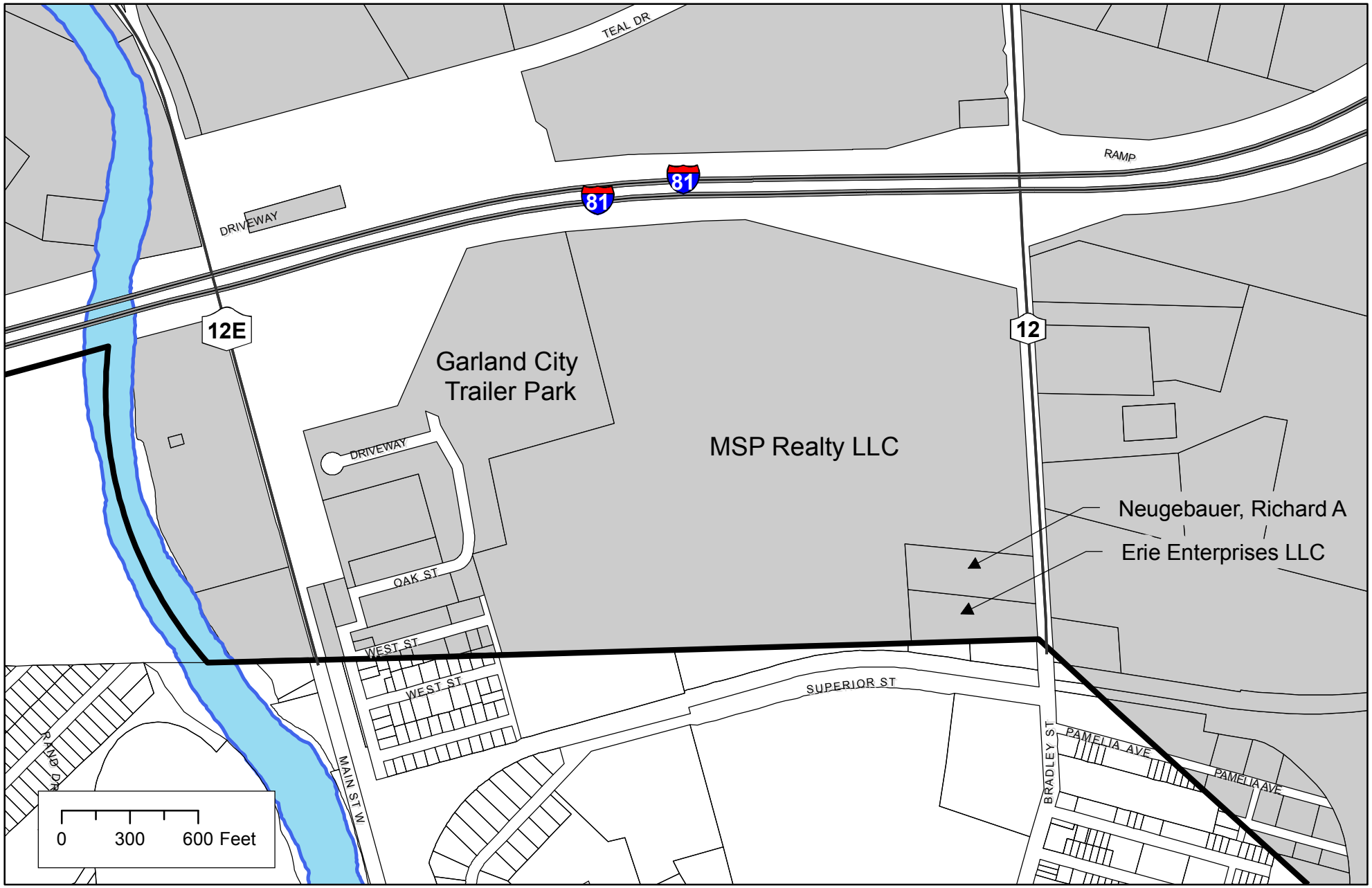
CITY OF WATERTOWN, NEW YORK
GIS DEPARTMENT
ROOM 305B, MUNICIPAL BUILDING
245 WASHINGTON STREET
WATERTOWN, NEW YORK 13601
TEL: (315) 785-7793

Drawn By: J.Carlsson				
Date: 2/6/2014				
Approved By:				
Date:				
Scale: As Noted				
Map Number: 14-04 sht. 1	Revision:	Description of Revision:	Date:	By:

Project: Water Distribution Expansion Proposal

Title: Bradley St to Main St W

Document Path: X:\Water\MXDs\BradleyMainWConnection.mxd; Print Date: 2/6/2014



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Drawn By: J.Carlsson				
Date: 2/6/2014				
Approved By:				
Date:				
Scale: As Noted				
Map Number: 14-04 sht. 2	Revision:	Description of Revision:	Date:	By:

Project: Water Distribution Expansion Proposal

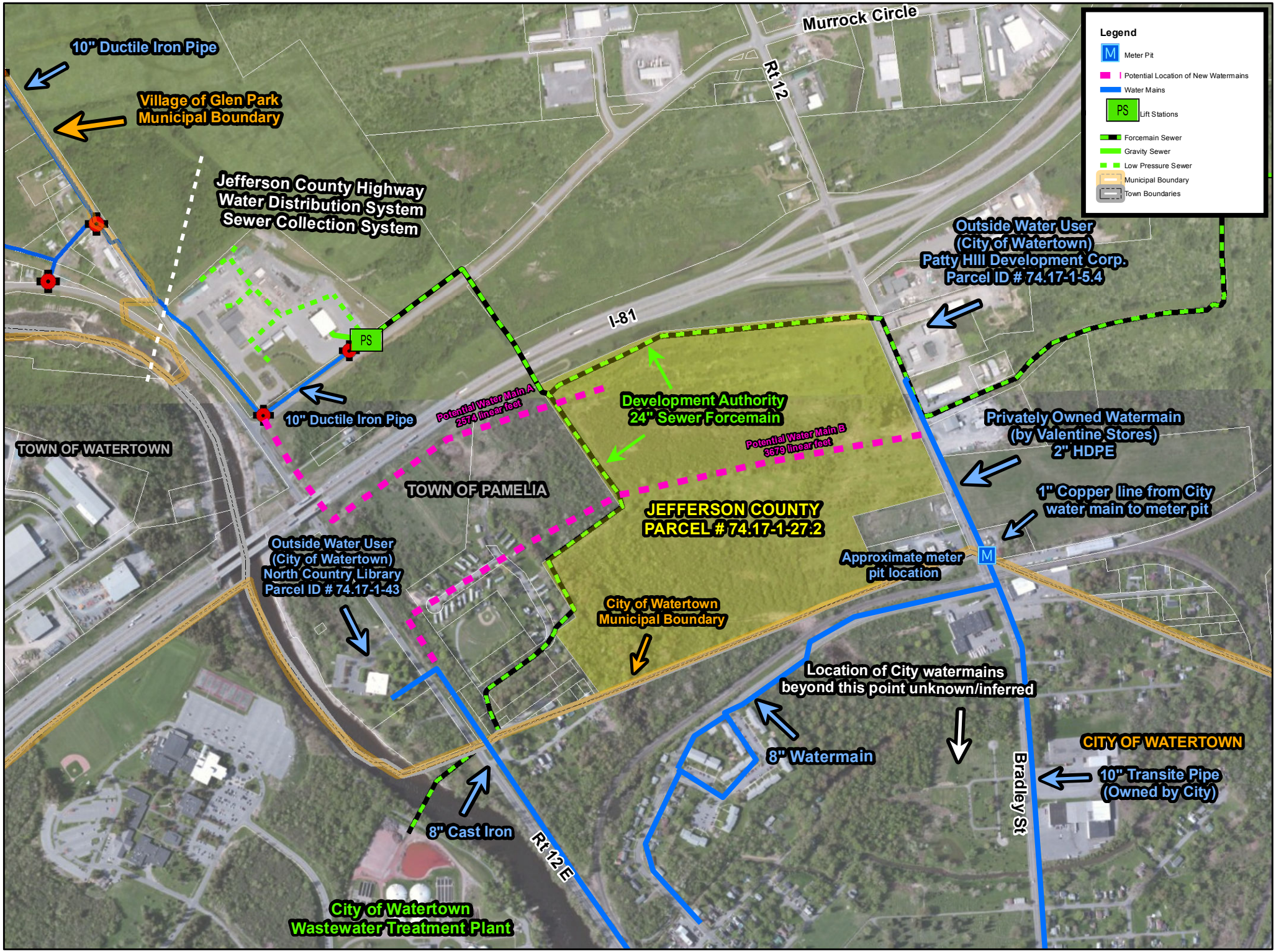
Title: Bradley St to Main St W

Document Path: X:\Water\MXDs\BradleyMainWConnectionParcels.mxd; Print Date: 2/6/2014

Jefferson County Map Viewer

Garland City 74.17-1-28

This map was created using the Jefferson County Map Viewer application. It should be used for reference purposes only. Reasonable efforts have been made to ensure the accuracy of this map and the quality of the GIS data. Jefferson County disclaims any responsibilities or liabilities from the use of this map for any other purpose other than its intended use.



Note: Revised on 3/12/14

March 14, 2014

To: The Honorable Mayor and City Council

From: Michael J. Sligar, Water Superintendent

Subject: Impact of Two Tier Approach for Bulk Sales to Town Water Districts

The Water Service Agreement between the City of Watertown and the Town of Watertown for its Water Districts 1, 3, 4, 5 and 6 are up for renewal. There is difficulty addressing water rates.

The rate specified in the expired agreement was a fixed rate set at $37.00 per 1,000 cubic feet which was based upon the rates charged by the City at the time the agreement became effective. The City Code specifies a two tiered rate for monthly billings for Outside Users (which each of the Town Districts are):

Per § 301-17 of the Code of the City of Watertown the rates are:

$44.40 per 1,000 cubic feet for the first 400 cubic feet; and
$30.00 per 1,000 cubic feet for the remaining usage that month.

The difficulty encountered is that the above two tiered rate schedule envisions individual property meters and not bulk sales meters that would then be distributed to the users at what amounts to a significantly lower rate never intended by the Code. The following is offered to illustrate what is being said:

Month	**Town District**	**Metered Consumption (cubic feet)**	**Billed @ $37.00 per 1,000 CuFt**	**Billed @ $44.40 per 1,000 CuFt**	**Billed By § 301- 17**	**Effective Rate of § 301-17**
Jan 2014	1	740,600	$ 27,402.20	$ 32,882.64	$ 22,220.80	$ 30.00
Feb 2014	1	519,000	$ 19,203.00	$ 23,043.60	$ 15,572.80	$ 30.01
Jan 2014	3, 4 & 6	484,700	$ 17,933.90	$ 21,520.68	$ 14,543.80	$ 30.01
Feb 2014	3, 4 & 6	352,500	$ 13,042.50	$ 15,651.00	$ 10,577.80	$ 30.01

Jan 2014	5	30,500	$ 1,128.50	$ 1,354.20	$ 917.80	$ 30.09
Feb 2015	5	16,700	$ 617.90	$ 741.48	$ 503.80	$ 30.17

The "$37.00 per 1,000 CuFt" rate is the Tier 1 rate for inside the City monthly metered sales. The "$44.40 per 1,000 CuFt" is the Tier 1 rate for outside the City monthly metered sales. The "Billed by § 301-17" is the bill that would be charged if done by the City Code as it is currently written, and the "Effective Rate of § 301-17" is the actually discounted rate that users outside the City realize by using the two tiered system of the Code. This discount results from billing a bulk sales meter (of which we have no choice) and not individual user meters.

The correction can be addressed by adding language to the Code directing that outside users being billed via a bulk sales district meter would be billed at Tier 1 rates only, and then specify what the Tier 1 rate would be for this very specific case.

March 12, 2014

To: The Honorable Mayor and City Council

From: Sharon Addison, City Manager

Subject: Billing Adjustments to Water and Sewer Charges

Water Superintendent, Michael Sligar, recently developed a department policy governing an adjustment or refund to a customer of a certain overcharge or penalty as related to their water and sewer bill. The policy categorizes billing adjustments into six categories, five of which are inconsequential: estimated usage because actual reading did not occur prior to billing date; out of cycle reading due to transfer of owner or tenant; an unusual circumstance causing the customer to protest the amount due for charges; payments postmarked on time, but late penalty was already added to bill; penalty incurred because payment was made to a different account in error; and, a customer account under management review which could incur late penalty.

To achieve consistency with abating public funds similar to the recent change in ordinance resulting from Council's direction to grant the City Manager the authority to abate the Code Enforcement fee, it is my recommendation that Council grant the City Manager the authority to abate charges due to unusual circumstances, if determined appropriate, and report back to Council. It is also my recommendation that the decision to abate the charges and/or penalties for the remaining five categories fall under the purview of the Water Superintendent.

Should Council desire, an Ordinance amending Section 301-17 I of the City Code of the City of Watertown can be put forward for the April 7, 2014 meeting.

March 11, 2014

To: The Honorable Mayor and City Council

From: Kenneth A. Mix, Planning and Community Development Coordinator

Subject: Community Development Block Grant Program Consolidated Plan and Annual Action Plan Public Hearing

Earlier tonight City Council was presented with a resolution on the adoption of a Citizen Participation Plan for the Community Development Block Grant (CDBG) Program. One of the requirements of the plan and for the CDBG Program is for the City to hold a public hearing as the City develops its CDBG Consolidated Plan and/or Annual Action Plan.

Planning Staff is beginning the process of developing the City's 2-Year Consolidated Plan and the Annual Action Plan. A public hearing must be held to obtain input from citizens, involved agencies and interested persons for the development of funding priorities and projects for the plans.

We also intend to discuss the plans at the City Council Work Session on April 14, 2014.

It is recommended that the City Council schedule a public hearing for 7:30 p.m. on Monday, April 7, 2014.

March 12, 2014

To: The Honorable Mayor and City Council

From: Sharon Addison, City Manager

Subject: Board and Commission Appointments

Below is a listing of current and upcoming vacancies on City Boards and Commissions for City Council review.

With Council approval, Staff will contact members for reappointment.

Board or Commission	Appointed By	Term	Name of Member	Date of Appt.	Term Expires
Board of Assessment Review	Council	5 Years	Linda J. Fields	7/18/2011	9/30/2016 Resigned
Transportation Commission	Council	3 Years	Sam Purington	5/16/2011	4/1/2014
Transportation Commission	Council	3 Years	Michelle L. Appleby	5/2/2011	4/1/2014
Transportation Commission	Council	3 Years	Owen Virkler	5/2/2011	4/1/2014
Empire Zone Admin. Board	Council	3 Years	Robert Lawlor	8/15/2011	5/31/2014
Empire Zone Admin. Board	Council	3 Years	James Fitzpatrick	8/1/2011	5/31/2014
Empire Zone Admin. Board	Council	3 Years	Peter Sovie	8/1/2011	5/31/2014

March 12, 2014

To: The Honorable Mayor and City Council

From: Matthew Owen, GIS Coordinator

Subject: Local Government Efficiency (LGE) North Country Regional Shared GIS Services

In March 2012 City Council passed a resolution supporting a partnership with the Tug Hill Commission and Jefferson, Lewis and St. Lawrence Counties in a Local Government Efficiency Planning Study led by The Development Authority of the North Country (DANC). This full draft report is available on our website for your review. As a result of this study, three shared service recommendations have been identified and selected for inclusion in a second round of LGE funding. At this point, DANC would like to know if the City intends to participate in these three initiatives.

The following is a brief summary of the three initiatives that will comprise the implementation phase of the LGE project, their benefits to the group as a whole, and the situation of the City as it relates to the initiatives.

1. Regional Map Viewer

Intent: The goal of this initiative is to consolidate public map viewers into one regional source for public GIS data. The expected benefit of the regional viewer is to reduce reliance on consultant services and the cost of the required software and hardware. It is expected to cost approximately $12,000 - $30,000 for the initial setup and $5,000 - $8,000 annually for maintenance.

Current Situation: The City currently has its own map viewer that displays parcels, zoning and other geographic information. This is hosted onsite and has no outside operating expense. Updates require negligible amounts of time and can be performed on an as needed basis. The City also has all of the resources in place to create an updated version of this public viewer based on newer technology.

2. Lidar Data Acquisition

Intent: Lidar is an accurate way to measure ground features using an airplane based laser system. The resultant data is extremely useful for surface modeling, flood mapping and site visualization. The proposal for this project is to hire a vendor to conduct an aerial survey of the three county area. The anticipated cost of this is roughly $600,000 - $1,800,000 depending on the level of accuracy of the data acquired. There is no ongoing maintenance cost.

Current Situation: The City has recently acquired Lidar data from the NYSDEC as part of their FEMA Floodplain Map Modernization Program at no charge. This dataset is complete for the City's needs.

3. Self Service Map Viewer

Intent: This initiative is to provide a shared software platform to be used by the partners to host internal, non-public data. The expectation is that this will reduce costs for consultants, hardware and software. The expected initial cost of this is $50,000 - $60,000 and approximately $10,000 - $20,000 annually for maintenance costs.

Current Situation: The City's existing GIS software platform is designed to be a highly customizable and scalable solution. This has allowed staff to recently update internal GIS applications. These applications were developed in-house to meets the needs of various departments. This approach provides a very flexible solution that can be easily modified based on changing workflows and staff requests.

The total cost of implementation for the project is between $662,000 and $1,890,000 with ongoing maintenance costs ranging from $15,000 to $28,000 per year. Depending on the number of participants, the group is eligible for up to $1,000,000 in funding, including a ten percent local share. It is unknown what the City's actual cost would be until the participation of all group members is determined. When this cost is better understood a follow up report will be forwarded to Council for a decision if needed. This may become clearer after the group's March 19th meeting.

After extensive discussion with City staff members it is the consensus that participation in the project does not offer real or tangible benefits to the City at this time. Therefore, it's staff's recommendation to continue to be supportive of the project by assisting when necessary but decline to participate monetarily in this round of the implementation grant. The City should be open-minded about future possibilities of participation in the event that other opportunities present themselves for grant applications.

North Country
Shared GIS Services Planning Study
Appendix A

Report Technical & ROI Information

D R A F T

March 2014

produced by

This document was produced by Applied Geographics, Inc. (AppGeo) under contract with the Development Authority of the North Country

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1 PARTNER SUMMARY TABLES

1.1 GIS RESOURCES MATRIX

The table below summarizes the GIS resources across all partner agencies.

	Development Authority of the North Country	City of Watertown	Tug Hill Commission	Jefferson County	Lewis County	St. Lawrence County
GPS Receivers	X	X	X	X	X[a]	X
Mobile Computers	X	X	X			
Data Servers	X	X	X	X	X	X
Plotter/ Scanner	X	X	X	X	X	X
ArcGIS Desktop	X	X	X	X	X	X
ArcGIS Server	X	X		X		
Map Viewer Support Budget	X			X		X
GIS Training Budget	X	X	X	X[b]		X[b]

[a] Trimble GeoXT is out for repair, have a couple recreation grade GPS receivers

[b] Budget for conferences only, not formal training

1.2 ESRI LICENSING MATRIX

The current Esri license status for each LGE partner is summarized in the table below.

Software in Use, and being maintained annually						
License	City of Watertown	DANC	Jefferson County	Lewis County	St. Lawrence County	Tug Hill Commission
ArcGIS Desktop						
Basic – Single	(1) primary	(1) primary (1) secondary w/ extensions		(1) primary (3) secondary	(1) primary (3) secondary	
Basic – Concurrent	(1) primary		(1) primary			
Standard – Single	(1) primary (1) secondary	(2) primary w/ extensions				
Standard – Concurrent		(1) primary				(1) primary (1) secondary
Advanced – Concurrent			(3) primary			
ArcGIS Server						
Workgroup – Standard	(2) two core		(2) one core (1) two core			

Software in Use, and being maintained annually						
License	**City of Watertown**	**DANC**	**Jefferson County**	**Lewis County**	**St. Lawrence County**	**Tug Hill Commission**
Enterprise – Advanced		(1) four core				
Extensions						
Spatial Analyst – Concurrent		(1) primary				(1) primary
Network Analyst – Concurrent			(1) primary			
Data Interoperability – Concurrent		(1) primary				
Other						
ArcPad		(4) (1) 3 month license (2014)	(3) primary			(1)

Software in use, License not maintained						
ArcGIS Desktop						
Basic – Single	(1) v3.x				(1) v8.2 (1) v3.x	
Standard – Concurrent					(1) 8.3	
Extensions						
Spatial Analyst					(1) v2.x (1) v8.1	

1.3 INTERVIEW SUMMARY TABLE

The table below summarizes key information gathered during the partner meetings. It is important to note that the strengths and goals/improvement areas were evaluated by the agencies themselves.

Agency	Interview Date	Interview Participants	Strengths	**Goals / Improvements**
Development Authority of the North Country	6/13/13	Dave Cook, Star Carter	Utilizing economies of scale GIS well aligned with organizational objectives Can bring in regional funding	Improve quality and diversity of service Increase visibility and success of GIS in the region. Improve communication with other GIS entities in the region

Agency	Interview Date	Interview Participants	Strengths	**Goals / Improvements**
Jefferson County	6/20/13	Mike Kaskan, Roxanne Burns, Michelle Bunny, Don Canfield, Joe Plummer, Debbie Patchen, Rick Snow, Sean Vincent, Chris Downey, Greg Hudson	Skilled, dedicated staff gets the job done with limited resources Strong cartography skills enhance mapping support for all county departments Maintain high quality data to support emergency dispatch services	Organize central repository for GIS data More GIS training and outreach to other county departments Improve efficiency of field data collection process
Lewis County	6/25/13	Russ Brownell, Nichelle Billhardt, Jackie Mahoney	Willingness to share data and knowledge across departments Ability to provide GIS support with limited dedicated GIS staff	Implement data standards Create data repository and access methods Software compatibility across departments Increase outreach to other county departments
St. Lawrence County	6/25/13	Jason Pfotenhauer, Jim Race, Raeanne Dulanski, Ryan Herron, Erica Kelley	Map viewer huge asset to the public, municipalities and outside departments User base appreciative of GIS services and capabilities Work well together sharing data and knowledge	Increase training and staff development Spend more time interacting with other GIS professionals Improve upon both built and natural environment asset management
Tug Hill Commission	6/13/13	Mickey Dietrich, Katie Malinowski, Jennifer Harvill, Matthew Johnson	Flexible and innovative approach to finding GIS solutions Diversity of project experiences	Improve data management and organization Streamline data sharing among communities, Commission and partners
City of Watertown	6/20/13	Matt Owen, Josh Carlsson, Mike Sligar, Dale Herman, Russ Randall, Peter Keenan, Brian Phelps, Kurt Hauk	Skilled GIS department Provide value to all departments through data collection, mapping and analysis support	Increase distribution of available data Deploy data for field use Improve currency of high volume of data Enhanced education and outreach to internal departments and public

1.4 PARTNER GIS WEBSITE STATISTICS

The table below is an estimate of each partner's map viewer usage at the time of this report. This estimate can be revised as more web stats are gathered. Some partners don't gather these statistics and so the information is represented as N/A.

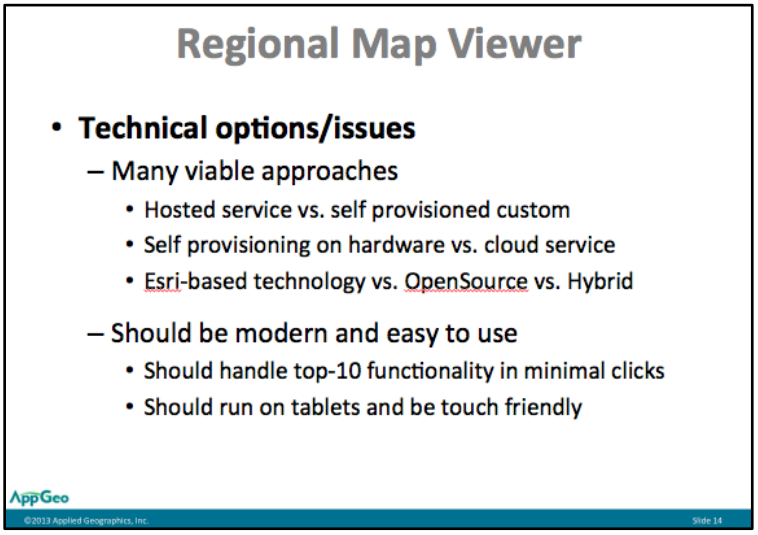
LGE Partner	Unique Users/Month	Total Users/Month
DANC	356	N/A
Jefferson	1,800	5,386
Lewis County	N/A	2,174
St. Lawrence	N/A	N/A
Tug Hill	N/A	1,122
Watertown	N/A	N/A

1.5 PARTNER GIS REVENUE STREAMS

LGE Partner	GIS Revenue
Development Authority	Fee-based GIS hosting services with a tiered pricing structure at $50, $75 or $100 per month based on data quantity being hosted.
Jefferson County	Revenue from charging commercial users for the release of parcel data: $250 for the County and $25 for parcel data for a single town.
Lewis County	Revenue from charging commercial users for the release of parcel data: $500 for a countywide parcel dataset and $25 for individual towns and for additional data layers.
St. Lawrence County	Revenue from charging commercial users for the release of parcel data: $50 per town or $1,000 for the whole County.
Tug Hill Commission	No direct GIS Revenue
City of Watertown	No direct GIS Revenue

2 TECHNICAL OPTIONS FOR WEB SOLUTIONS

2.1 FOR SECTION 3.3.1 – REGIONAL MAP VIEWER



As the figure to the right illustrates, there are many viable approaches for deploying a regional web viewer and there are some key choices that the partnership will have to make.

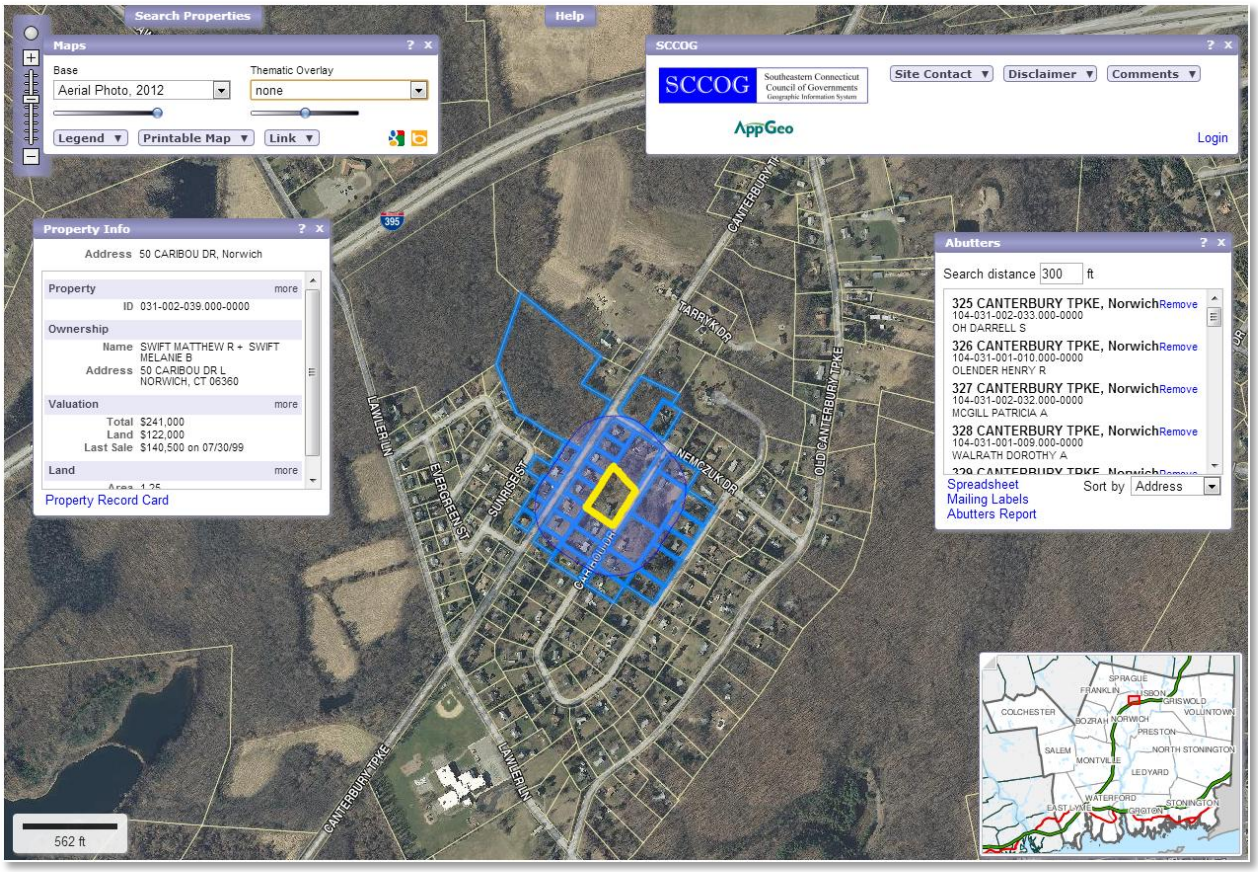
The first and most fundamental choice is whether the partnership wants to develop and host its own solution as opposed to purchasing an existing hosted solution on a subscription basis. Building a custom solution would involve upfront development costs and then ongoing costs for purchasing, running (e.g., power, air conditioning, etc.) and maintaining the server side and web technology. Furthermore, a custom solution could be obsolete in as little as 2-3 years and require a capital upgrade. Obtaining an existing hosted solution would likely involve a lower startup cost, as the solution exists and only needs to be loaded with the region's data and configure for regional use. However, an existing solution by nature would be less customizable.

If the custom option is chosen, most likely, a consulting arrangement would be pursued for the design and development of this kind of viewer. Such a viewer would require backend, server technology which could be either commercially based or Open Source. Leading commercial software tools include Esri's ArcGIS Server, and leading open source tools include the "Boundless Stack" which includes PostGIS and GeoServer. Commercial software costs include both software purchase and annual maintenance. While Open Source software may be free, it would be recommended that annual maintenance support for the tools be purchased (e.g., from Boundless).

A custom solution could either be hosted by the consultant or self-hosted by one of the partners. If self-hosted, then the entity that would host the application has another choice of how to obtain the hardware. Until recently, the purchase of new hardware has been the leading option, however, new cloud-based "Infrastructure as a Service" offerings, such as Amazon Web Services (AWS), could provide a very viable and cost effective alternative. Under the AWS model, an organization builds a "virtual machine" on the AWS infrastructure and pays a monthly fee to keep that machine on-line. All power, air conditioning and internet connectivity for the virtual servers is included in the monthly fee, and these kinds of cloud providers offer attractive "up-time" guarantees in excess of 99.9% availability. The flexibility and rapid deployment of cloud-based offerings are extremely attractive and this option is being increasingly pursued by both government and commercial organizations.

As described in Section 3.3.1, the second option for a "top 10 viewer" would be to subscribe to a commercial, high performance hosted solution that includes data management and a friendly user interface for accessing "top 10" functionality. Third party hosting and data management would free one of the partners from taking on these responsibilities. Instead of buying hardware (or leasing "virtual

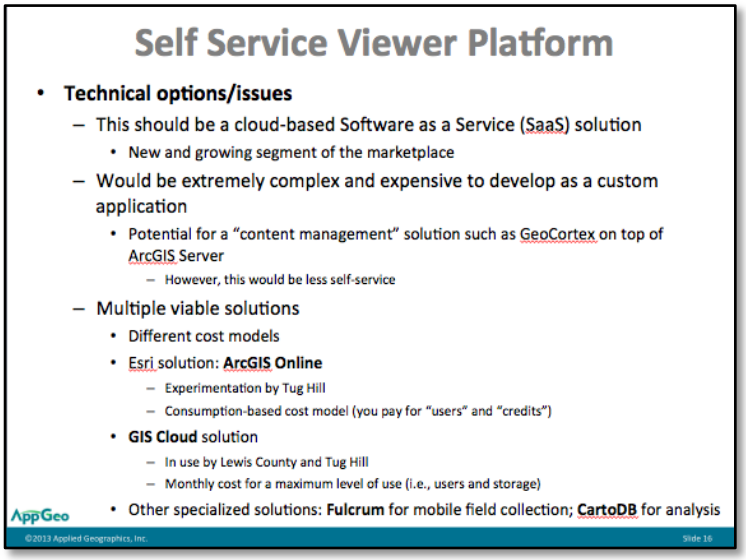
hardware") and software and paying for custom development, a subscription solution would involve an initial setup fee, and then a fixed annual, or monthly subscription payment. There are several firms that have this type of offering and the region would choose the solution that best met its needs. It is assumed that if this option is pursued it would be acquired via an appropriate, competitive public procurement process. As an example, AppGeo's subscription offering is shown below, and other options are listed further below at the end of this section. AppGeo's offering is called MapGeo and the screenshot below shows its implementation for another regional organization, the Southeastern Connecticut Council of Governments (SSCOG).



Southeastern Connecticut Council of Governments (SCCOG) Regional MapGeo Viewer.
Accessed via: www.MapGeo.com/SCCOGCT

Other firms in the Northeast that offer subscription-based web viewing solutions include, but are not limited to: New England Geosystems, Inc.; Cartographics Associates, Inc.,; PeopleGIS Inc.; Tighe & Bond, Inc. and Main StreetsGIS.

2.2 FOR SECTION 3.3.2 – SELF-SERVICE MAP VIEWER PLATFORM



As the figure to the right illustrates there are several viable options for acquiring an existing Software as a Service (SaaS) based platform and two principal options – ArcGIS Online and GIS Cloud – were considered for the North Country region.

These options are GIS Cloud (http://www.giscloud.com/), which is currently being used by Tug Hill Commission and Lewis County, and Esri's ArcGIS Online (http://www.arcgis.com/), which has also been utilized by Tug Hill Commission (as explained in section 2.2). Both of these solutions would allow the participating agencies to create, configure, publish, and maintain map viewers without any programming skills.

Thus, based on the operational and functional requirements, implementing a solution such as GIS Cloud or ArcGIS Online would be effective for this group and a strong complement to a regional "top 10" map viewer. These are both "do-it-yourself" platforms and the participants would be able to load data, and configure and deploy map viewers as needed. Ongoing maintenance costs are a concern and could affect feasibility of some solutions. However, the partners should be aware of the trade-off between cost and functionality; a more expensive solution may be necessary to meet the requirements of some partners.

Either of these options is viable for the region and it is recommended that a final decision on which of these platforms to pursue be made in consultation with the partners. The following provides an initial, high-level comparison of these two options and some open questions:

GIS Cloud

- Successfully deployed by two partner agencies
- Existing knowledge and expertise within the partnering communities
- Company is amenable to group licensing across partners
- Straightforward cost structure based on monthly fees and numbers of users

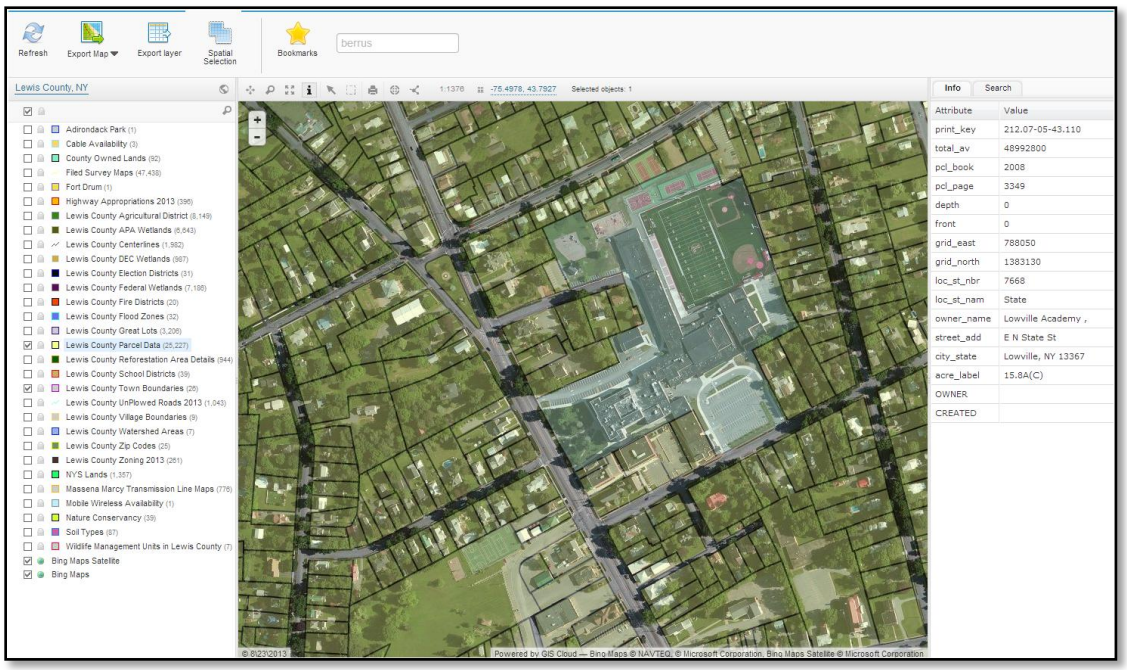
Esri ArcGIS On-line

- Esri technology is widely deployed within the region and ArcGIS on-line can leverage data managed in that environment
- Limited partner agency experience with ArcGIS On-line, but some experimentation
- Esri does not typically provide "group" licenses/subscriptions that span multiple organizations or government entities
- Cost structure is based on consumption of credits. It can be difficult to predict the rate of credit consumption

Based on this recommendation, and working towards Strategic Goal #1 (shared initiatives to increase efficiency), it is anticipated that the participating partners would all be working from the same cloud-based infrastructure and the cloud-based data store would contain "publication ready" copies of the partner managed data. This shared data store of publication ready data would allow for easy data sharing and would reduce data redundancy.

Within a cloud-based platform, accounts can be managed separately, allowing all partners and departments to have their own account, but these accounts could share data in one "North Country" cloud-based data store. Data publishers would grant appropriate permissions to other users and/or the public for access to their data layers and viewers. Since the partners will continue to manage their own data locally, they would be responsible for periodically uploading revised/updated data to the data store. This type of configurable platform solution allows for direct data sharing, but maintains some level of partner autonomy.

Below is an image showing Lewis County's GIS Cloud solution:



Lewis County's GIS Cloud viewer http://viewer.giscloud.com/map/111328/lewis-county-ny

Other technical options:

In addition to the primary SaaS-based, cloud solutions describe above, other low-cost options such as GeoExplorer and CartoDB were also assessed and eliminated as they do require programming skills and potentially additional software maintenance (e.g. PostGIS and Geoserver). While these are certainly viable options and take advantage of OpenSource software, they were not ideal for the self-service viewer platform use case, nor this group. One final option, MangoMap, was considered and appeared promising, but ultimately was eliminated due to the fact that it is simply too new and after some testing had some apparent bugs.

In addition to "general purpose" platforms such as ArcGIS Online and GIS Cloud, there's an emerging ecosystem of "specialty platforms" that can be subscribed to as a SaaS offering. A good example of this is Fulcrum which is a specialized tool that enables users to author map forms and then collect data in the

field through those forms. As this market continues to develop, the North Country region will want to continue to monitor new offerings that may provide benefits.

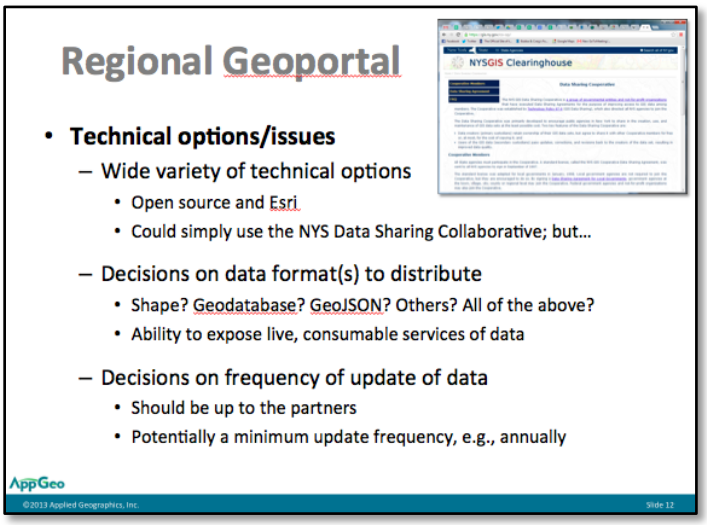
Last, while it would be extremely expensive and complicated to develop and deploy a platform such as ArcGIS Online and GIS Cloud to be self-hosted, there is a class of geospatial, web content management tools that sit on top of commercial server-based software. An example of this that runs on top of ArcGIS Server is GeoCortex. This tool could provide some of the capabilities the SaaS offerings, but in addition to requiring dedicated hardware and server-based software it is typically "managed" by an expert and does not have the same level of "self-service" and "no programming" found with the cloud-based offerings.

3 OTHER RECOMMENDATIONS CONSIDERED

The purpose of this section is to capture recommendations that were made early on in the preparation of this report, but were considered to be low-priority by the partners. Although the partners do not at this time feel these recommendations are a priority, the group wanted to make sure that they were adequately captured in the report so that they could be revisited in the future. The three other recommendations that were considered outlined in the various sections below along with an explanation as to why they are not at this time considered a priority.

3.1 REGIONAL GEOPORTAL

The partners evaluated implementing a geoportal, but did not at this time feel that the costs justified the potential benefits of implementation.



A geoportal is a type of website used to find and access geographic information and data, and includes the ability to view said information/data. A geoportal is the most effective means of efficiently disseminating GIS data to the end user. It differs from a Map Viewer in that it provides direct access to the data either through download or web map services (i.e. "WMS"). Geoportals serve an increasingly important role in the sharing of geographic information and can avoid duplicated efforts, inconsistencies, delays, confusion, and wasted resources. Data provided via a geoportal can be provided to the public and/or exclusively used for internal needs (via secure login). Currently, each of the partners has separate means for geographic information data access and dissemination (i.e. fulfilling data requests from external users). This can lead to inefficient data access, duplication of effort and confusion over what is the "best available" data.

Should the partners choose to implement a geoportal for data viewing and sharing (i.e. upload and download), it is recommended that it be closely integrated with the regional map viewer as to provide a unified gateway to GIS for the region. 3). Some of the regional map viewer platforms (such as GIS Cloud or ArcGIS Online) have built-in geoportal capabilities. Should the partners choose not to implement a solution such as GIS Cloud or ArcGIS Online, an alternative option for the geoportal would be to develop

a custom solution that fulfills the needs described above. If this option were chosen, the recommendation would be to utilize cloud-based technology to save on server/hardware, storage and maintenance costs. For example, Amazon cloud storage (http://aws.amazon.com/) could be a viable and cost-effective alternative to maintaining local servers. The data on the geoportal could be stored on Amazon servers, and the application itself could be hosted from there as well. This option would require some additional system maintenance and management that the ArcGIS Online/GIS Cloud option does not. More specifically, a custom geoportal will require setting up software to publish and view the data and a database platform to house the data. These additional components would all add to the cost of this type of solution.

In the event an existing platform, such as ArcGIS Online or GIS Cloud is not used the following summarizes additional decisions that need to be made prior to detailed implementation planning:

- Hardware:
  - Building a new system would require a decision on whether to use local hardware or cloud-based virtual servers.
- Software:
  - Building a new system would require a decision on which kind of platform to develop the geoportal including operating system and web server (i.e., Unix vs. Windows; IIS vs. Apache; etc.); and what kind of user interface to support (e.g., simple FTP vs. query-based interface).
- Data:
  - Best available datasets from each participating partner would be uploaded to the geoportal regularly and with a minimal update cycle (e.g., annually) that would replace data contents as changes are made.
  - Partners would need to decide which kind of download format(s) to support (e.g., Esri shapefile and/or Esri geodatabase and/or GeoJSON and/or DXF, etc.).
  - Partners would need to decide whether they wanted to support the consumption of web services based on the geoportal's contents in addition to data download.
- Labor:
  - One designated "data custodian" per participating agency. This person will be responsible for ensuring data on the geoportal is kept current for their agency.
  - One designated "geoportal administrator" who would be responsible for monitoring the overall technology and uptime of the geoportal.
  - Other users will get logins as needed for any secure/private viewers
- Training:
  - Initial training to learn how to load and maintain data
  - Ongoing/as-needed training to learn any new capabilities

Option of using the New York State Data Sharing Cooperative

The New York State (NYS) Data Sharing Cooperative includes a "geoportal" called the New York State Clearinghouse (hereafter, NYS Clearinghouse). The Clearinghouse has been in place for over a decade and several members of the North Country region are members of the cooperative and have some of their holdings in the Clearinghouse. Nevertheless, the Clearinghouse has not completely met the needs

of it users (e.g. data are not consistently maintained and access to some datasets is limited to members only) and has some limitations including the inability to : A) perform a text search for datasets , B) preview data before downloading, and C) search for datasets based on geographic extent or descriptive information (i.e. metadata). If the partners used the NYS Clearinghouse, a user searching for North Country data would need to search out each member one-by-one to find the holdings of interest.

Using the existing NYS Clearinghouse's existing technology could be feasible. However, if this approach was taken, the partners would need to agree to be disciplined about curating their holdings within the Clearinghouse framework and regularly updating those holdings. In addition, they would need to have similar data sharing settings to provide common sharing across the region. Last, using the NYS Clearinghouse would remove the possibility of developing a "brand identity" for the North Country's geoportal.

3.2 CONSISTENT PARCEL DATASETS

In order to simplify this report for non-technical readers, two recommendations concerning parcels have been grouped together. Readers should understand that in terms of implementation, these two recommendations can be handled separately and at different times. That is implementation of one component is not dependent on the other. These two parcel-related recommendations are:

1) *Consistent Schema* which refers to the consistency of the data/fields used to describe the parcels (i.e. owner names, addresses, etc.) referred to by GIS professionals as the 'schema.' Presently, the counties and City of Watertown use different naming conventions to describe the same data elements. For instance, the 'Owner' field in one partner's parcel dataset may be called 'Owner_Name' in another.

2) *Edge-Matching* refers to the consistency of the actual spatial location of the parcel lines/boundaries. For instance in some areas along jurisdictional boundaries, considerable overlap of parcel lines and gas between parcel boundaries exist.

The partners chose not to address consistent parcel datasets at this time citing internal administrative challenges with Real Property Departments that would likely require a significant amount of time to be worked out before moving forward. It is hoped that the implementation of the Regional Map Viewer will help make a better case for consistent parcel data across jurisdictional boundaries and help the partners better demonstrate need to their internal departments.

Parcels are a core dataset for almost all GIS analysis. A parcel schema is the database structure and format in which parcel data is stored. When there is a need to combine data across county boundaries (which happens frequently as "real life" does not follow lines on a map), differing schemas and formats can be a roadblock to efficient data analysis. Each County and the City of Watertown has their own unique parcel database, and some are currently maintaining their parcel data in CAD as opposed to GIS format. Parcel data is shared between partners on an as-needed basis. Parcel data from different jurisdictions needs to be standardized to meet the needs of regional/cross-county projects, and standardization is a time consuming process that needs to be repeated whenever a new parcel dataset is incorporated.

This recommendation is to develop a consistent parcel schema and edge-match parcels across jurisdictional boundaries. As a benefit, this will facilitate seamless regional data sharing and analysis across jurisdictional boundaries. For example, this would enable more streamlined analysis of the data for economic development purposes by developers looking at perspective sites in the region. It is recommended that schema developed follow national and/or NY State standards. Developing the

regional map viewer would is a first key step in demonstrating need for consistent parcel data across the region and addressing internal administrative challenges.

Should the partners choose to implement consistent parcel data in the future, they should keep in mind the following key points:

- Edge-matching and consistent schema can be implemented separately.

- Edge-matching parcels between jurisdictional boundaries are likely to require a field, survey component which will require a consultant and could prove to be quite expensive. A rough order of magnitude estimate for consulting services for edge matching is $35k - $70k.

- There are varying degrees of managing parcel data to achieve a consistent schema. Given that the partners are managing parcels in different systems (CAD and/or GIS), these options each have costs and trade-offs that would need to be considered by the partners. These options are discussed below.

Consistent Parcel Schema Options

Option 1: Full Migration – In this option, the county performs a one-time data migration from CAD to GIS for parcel data maintenance. Then, going forward, the county maintains data in GIS format using a shared, consistent schema. This is the most comprehensive solution. However, it will require full commitment from the county Real Property office and will also require changes to internal maintenance procedures (and potentially software training to learn these new procedures). Additionally, changes will need to be made to any internal GIS processes/products that have a dependence on parcel data. This includes, for example, updating any mapping files or database linkages (that reference parcels) to use the new schema.

Option 2: GIS Migration – In this option, the county converts their GIS parcels (whether maintained in GIS or CAD) to a consistent schema for in-house GIS use and for external sharing. This would essentially mean that the county could maintain the data in CAD if they chose to, but when exporting the CAD data to GIS, they would export to a consistent schema agreed to by all partners. This would allow counties to maintain the data as they see fit, but would greatly streamline GIS data sharing and analysis. Similar to Option 1, this option would also require some re-working of internal processes/products that are dependent on parcel data.

Option 3: Annual Data Conversion - In this option, there is no data migration, but rather a repeatable annual data conversion process is established by the Counties and the City to convert parcels to the agreed-upon shared schema. This repeatable process is called Extract-Transfer-Load (ETL). Each year, the county parcel data would be ETL'd into the shared schema prior to publication on the Viewers/Geoportal. No changes are made to internal county processes, but this option does require additional labor each year to carry out the conversion process and perform thorough QA/QC to ensure the data was properly converted.

The table below summarizes these three options:

Parcel Data Migration Options

Highest Commitment — Lowest Commitment

	Data Maintenance	In-House GIS Use	External Sharing
Option 1 **Full Migration**	**Migrate CAD to shared GIS Schema (one time)** *All jurisdictions maintain data in new GIS schema. May require software training for new update procedure.*	**Use new shared GIS Schema** *Alter in-house GIS routines (e.g., maps, applications) to use new parcel schema as needed*	***Use shared GIS Schema*** *Sharing is easy as data is already in format to be distributed*
Option 2 **GIS Migration**	***No change*** *Jurisdictions can maintain in CAD or GIS*	**Migrate to new shared GIS Schema (one time)** *All jurisdictions agree on a common GIS format. Alter in-house GIS routines (e.g., maps, applications) to use new parcel schema as needed*	***Use shared GIS Schema*** *Sharing is easy as data is already in format to be distributed*
Option 3 **Annual Data Conversion**	***No change*** *Jurisdictions can maintain in CAD or GIS*	***No change*** *Jurisdictions continue to use a variety of GIS schemas for in-house GIS maps and applications.*	**Annual data conversion** *All jurisdictions convert data to common GIS schema on an annual basis. Will require building repeatable "conversion routines" in Year 1.*

3.3 LABOR SHARING

Labor sharing was discussed at length between the partners. However, due to administrative barriers, it was not considered for implementation at this time. It is recommended that partners re-look at the feasibility of labor sharing after meaningful and long-term GIS shared services are implemented in the region.

There are many ways to interpret the term 'Labor Sharing'. It can be as simple as allocating tasks informally among participants to best utilize available skills, or, it can be a formalized agreement between entities whereby each entity funds and receives a certain percentage of a staff role. The major benefit of this type of labor sharing is that an agency can add staff capacity in small increments, rather than needing to fund an entire position. For example, if two agencies each need to add staff capacity, perhaps one needs ¼ FTE and the other needs ¾ FTE, it may make financial sense to hire one staff person to be split than to fill two additional full time positions, or to find appropriate talent that's willing to work on a part-time basis. Of course, this kind of "position sharing" can be administratively challenging to execute in a government setting.

Currently, there is no formal labor sharing happening currently between the six partner agencies, although it is a topic that has come up in several of the partner interviews. All agencies agree that spending time on the daily upkeep of GIS means time cannot be spent furthering the GIS program as a whole. Labor sharing could be considered as a viable option to deal with some of the inefficiencies and redundancies in daily GIS management. For example, data maintenance can be a time consuming task,

particularly when only done occasionally. If data maintenance (particularly of similar types of data) from several agencies were all maintained by the same person, it would take less time to maintain that data. Further, simple Labor Sharing on tasks such as RFP writing and procurement (in joint acquisition or grant writing ventures) can have deliver labor savings for each cooperating organization.

4 WORK INVENTORY SURVEY

4.1 SURVEY OVERVIEW

In anticipation of the labor component of the ROI analysis, information was gathered from partner agency staff regarding the percent of their time they spend on various GIS responsibilities. The goal of this was to determine the labor costs of the GIS tasks. These costs were then used as a benchmark to show potential savings of labor efficiency gains that could result from implementing the recommended shared GIS services.

Below are the task categories (and examples) that respondents were asked to allocate a percent of their time towards.

- Data Compilation/ Maintenance
    - Data Updates and Edits (i.e. maintaining parcel layer)
    - Field Data Collection/Verification
    - Geocoding
- Data Processing, Analysis and Map Production
    - Data Analysis
    - Database modeling & design
    - Cartography/Map Design (i.e. symbology, layout, etc.)
- Basic GIS use and viewing
    - Looking up information and answering questions using GIS
    - Viewing data on web-based applications
    - Using pre-formatting GIS map documents and desktop software to view data
- Data Distribution and Acquisition
    - Fulfilling data requests (i.e. sending your data to someone else)
    - Data gathering (i.e. requesting new data from another agency, downloading from clearinghouse)
- Application Development / Maintenance
    - Application programming, design/development
    - Map Viewer Maintenance
    - Map service updates
    - Interacting with website contractor for updates/enhancements
- Professional Development
    - Technology research (i.e. learning/testing new GIS tech)
    - GIS training (formal or informal)
    - Receiving technical support from vendors (Esri, etc.)
- Supervisory/Management

    - Supervising other GIS staff
    - Preparing GIS-specific budgets
    - Developing GIS RFPs
    - Consultant/vendor selection and oversight
    - Purchasing GIS/GPS equipment
- Internal GIS Support
    - Answering questions about GIS datasets received from internal departments
    - GIS-specific Tech Support (Answering technical questions, training end users, troubleshooting software problems, software maintenance)
- External Outreach
    - Providing technical consulting/project implementation for external customers (i.e. those outside of your organization)
    - Assisting external customers in acquiring GIS technology (software & equipment)
    - Coordinating workshops & presenting at conferences
- Other non-GIS work
    - Other non-GIS responsibilities (e.g. installing printers, training staff on use of Microsoft applications)

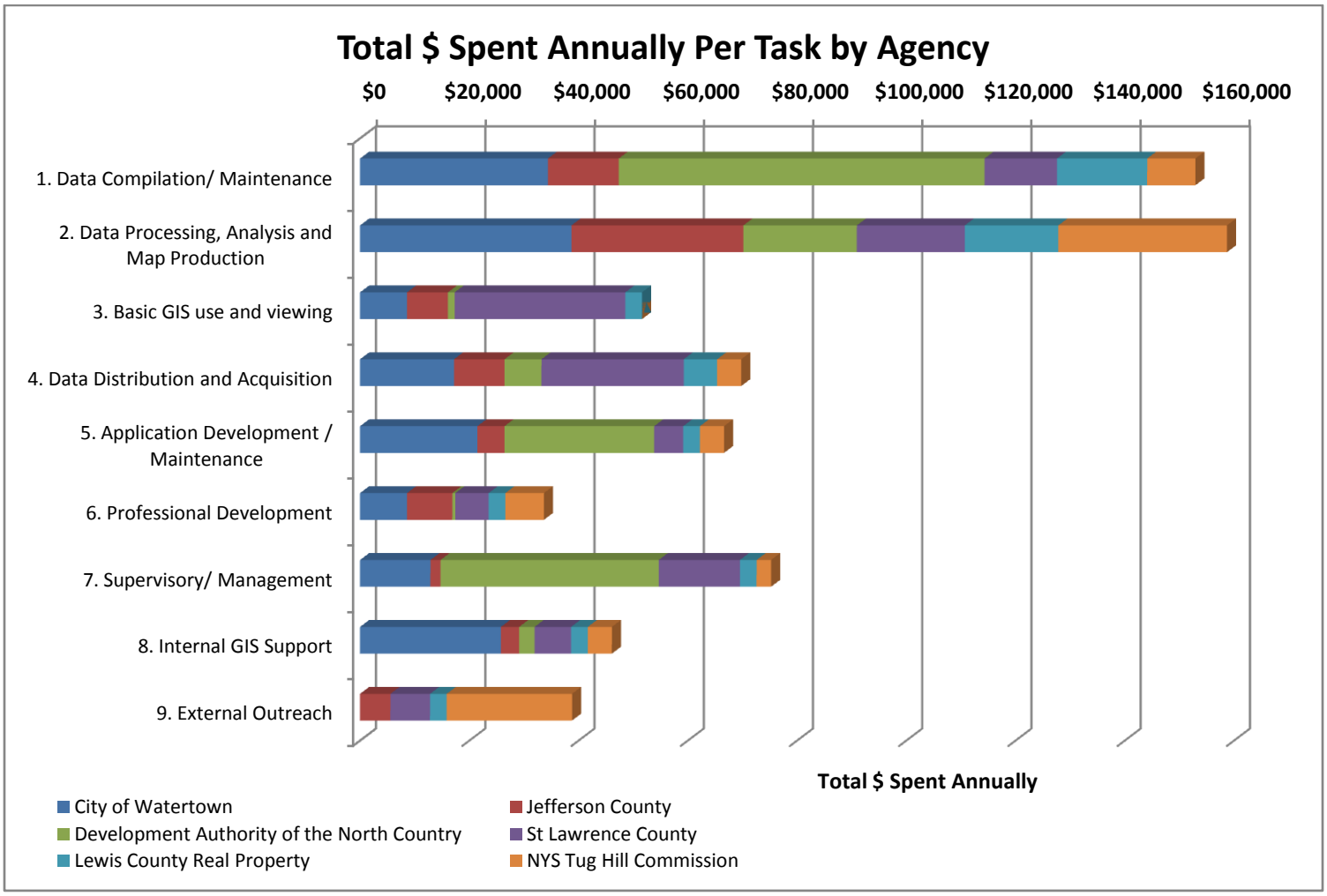
4.2 SURVEY RESULTS

There were a total of 14 respondents to the survey. Of these respondents, for the purposes of survey analysis, 9 were considered to be dedicated GIS staff, and 5 were considered to be non-dedicated GIS staff (i.e. only a part of their role is GIS work). Dedicated GIS staff were determined if the majority of their time was split across all GIS tasks, with only a small portion going to 'Other non-GIS work'. In the case of non-dedicated GIS staff, it was the opposite, where a majority of their time (for example, 75%) went into non-GIS work, with the remaining 25% split between various GIS tasks. The table below shows the determination of GIS versus non-GIS staff. Again, this distinction was merely made for the purpose of analyzing survey results.

Agency	**Job Title**	**Role Determination for Survey Analysis**
City of Watertown	GIS Technician	GIS
City of Watertown	GIS Coordinator	GIS
Jefferson County	Senior Planner	non-dedicated GIS
Jefferson County	GIS Specialist	GIS
Jefferson County	Administrative Supervisor	non-dedicated GIS
DANC	GIS Specialist	GIS
DANC	GIS Analyst	GIS
DANC	GIS Intern	GIS
St. Lawrence County	Sr. Tax Map Technician	GIS
St. Lawrence County	Deputy Director	non-dedicated GIS
St. Lawrence County	Planner II	non-dedicated GIS
SLC Soil & Water Conservation District	District Technician	non-dedicated GIS
Lewis County Real Property	Tax Map Technician	GIS

Agency	Job Title	Role Determination for Survey Analysis
NYS Tug Hill Commission	GIS Specialist	GIS

In answering the survey, all respondents were directed to be sure the total of all values entered totaled up to 100%. The percent values for each work category provided by the respondents were then converted to hours, and matched with fully burdened labor rates[1] to determine annual labor costs for various GIS tasks. The first chart below ("Total Labor Cost Annually Per GIS Task") shows these resulting annual costs. All respondents' hours were included to determine the total annual cost of the various GIS tasks across the six partner agencies.



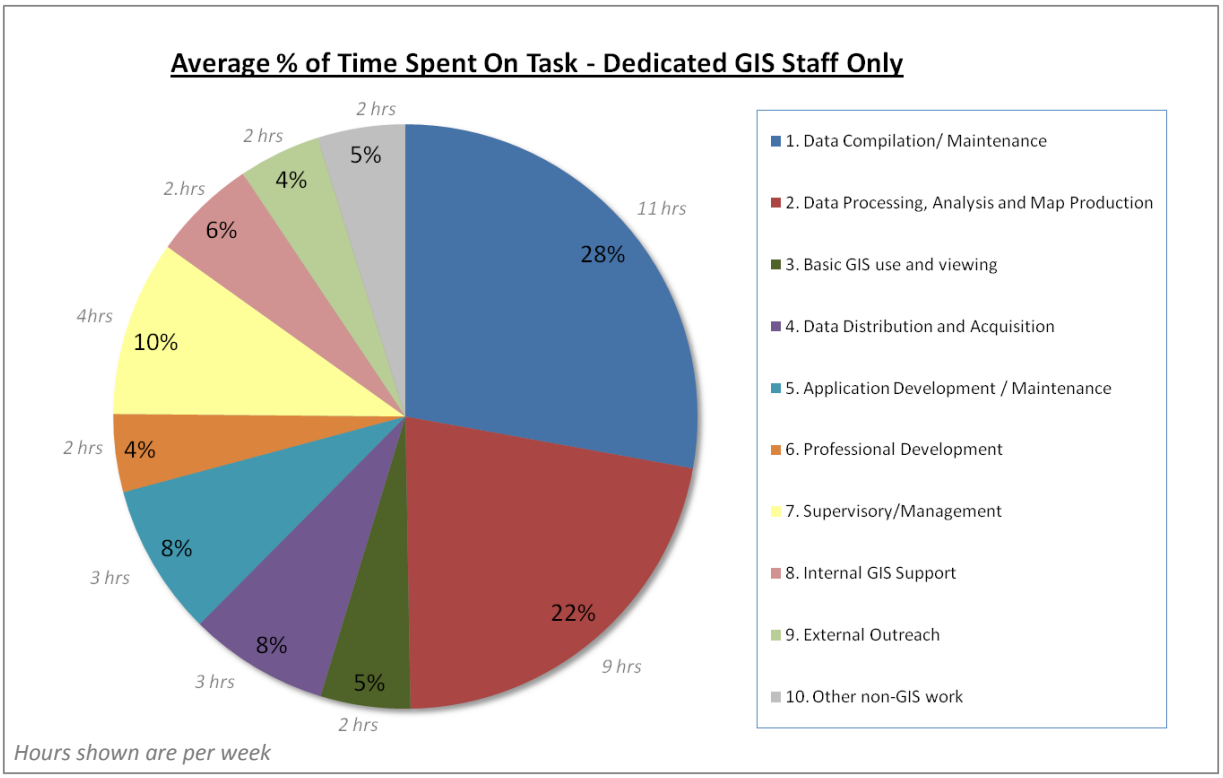
[1] Rates were derived from salary information on http://seethroughny.net/ and included fringe benefits. Fringe benefits were calculated for each position based on the Development Authority's rates for FICA, Worker's Compensation, Pension, Post Retirement and Health Insurance benefits.

	DANC	*Jefferson County*	*Lewis County*	*Tug Hill Commission*	*St. Lawrence County*	*City of Watertown*	**Total $ Spent Annually**
1. Data Compilation/ Maintenance	$66,970	$12,965	$16,520	$8,823	$13,261	$34,406	**$152,945**
2. Data Processing, Analysis and Map Production	$20,773	$31,483	$17,131	$30,882	$19,761	$38,702	**$158,733**
3. Basic GIS use and viewing	$1,234	$7,499	$3,059	$0	$31,244	$8,600	**$51,637**
4. Data Distribution and Acquisition	$6,753	$9,261	$6,118	$4,412	$26,045	$17,206	**$69,796**
5. Application Development/ Maintenance	$27,407	$4,958	$3,059	$4,412	$5,309	$21,496	**$66,641**
6. Professional Development	$567	$8,290	$3,059	$7,059	$6,090	$8,600	**$33,664**
7. Supervisory/ Management	$39,942	$1,854	$3,059	$2,647	$14,863	$12,890	**$75,255**
8. Internal GIS Support	$2,833	$3,335	$3,059	$4,412	$6,674	$25,793	**$46,106**
9. External Outreach	$0	$5,557	$3,059	$22,941	$7,257	$0	**$38,815**
TOTAL	**$166,479**	**$85,202**	**$58,123**	**$85,588**	**$130,504**	**$167,693**	**$693,592**

When performing the ROI analysis on the recommendations, these annual labor costs will be used to demonstrate how efficiency gains in labor can lead to real cost savings, and reallocation of labor towards more value-added GIS work.

In the chart on the next page ("Average Percent of Time Spent on Tasks – Dedicated GIS Staff Only"), only the 9 GIS staff responses were used to demonstrate the average % of time spent on each task. For reference, the numbers in grey indicate what those percent values equate to in a typical[2] work week. This chart simply provides a visual representation of which tasks the dedicated GIS staff spend the most of their time working on. Data Compilation/Maintenance is the most time consuming of all tasks. If efficiency gains can be found through the recommendations, more hours can be opened up and used for other important GIS tasks such as Professional Development and External Outreach.

[2] Hours in a work week can vary across the partners (e.g. from 35 hrs/week to 40 hrs/week.). Responses were provided in percentages to accommodate this. Approximate average hours per week of each task are provided for reference only.



5 RETURN ON INVESTMENT

The information in this section represents a high-level ROI study to give the partners a sense of the estimated costs and potential benefits (cost savings) that could come from implementing the various recommendations. **It is expected that these numbers (both the costs and benefits) will be refined as the partners move through the process towards implementation.**

5.1 ROI FOR POTENTIAL NEW PROJECTS

5.1.1 Regional Public Map Viewer ROI

COST TO IMPLEMENT

Because decisions will need to be made by the group of partners that ultimately agree to pursue implementation of a Regional Public Map Viewer, the various cost estimates provided below are for *preliminary* review. In the benefits/savings section below, average costs are used for analysis.

The table below includes estimated direct costs for the options described in the section 2.1 above. These costs are estimates based on current industry trends.

Regional Public Map Viewer Direct Cost Estimates [3]	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Custom	$30,000	$7,500	$7,500	$7,500	$7,500	$60,000
Hosted Solution	$12,000	$7,500	$7,500	$7,500	$7,500	$42,000
AVERAGE of Regional Viewer Direct Costs	**$21,000**	**$7,500**	**$7,500**	**$7,500**	**$7,500**	**$51,000**

EXPECTED BENEFITS AND SAVINGS

To assess the estimated savings of a user friendly regional public map viewer we will look at potential labor savings in reduced "counter visits" to municipal/county buildings to get answers to location-related questions. For the purposes of this analysis "counter visits" will include both actual in-person visits as well phone calls looking for information.

In the table below, the orange column includes the inputs/estimates used in this analysis and the green column represents the result of each input, building on previous information. The analysis walks through the following steps:

1. Estimate the number of unique GIS website visitors per month across the three counties, the city and DANC (using an average of available website statistics, see Appendix 1). These are the "counter visit" partners[4] that get visits or phone calls from the public looking for help and/or information that could otherwise be found on a map viewer.

2. Estimate number of users who avoided a trip into a municipal/county building for a "counter visit" because they were able to easily get their question answered on the regional viewer. Note that this is a very modest percent avoidance estimate due to the fact that:

- the vast majority of users may likely not end in a "counter visit" even if the regional viewer did not exist; and
- some users may still be able to answer their question by using the other available viewers that may still be hosted by partners

However, as seen below, even this modest counter visit avoidance estimate (5%) represents significant labor savings.

3. Estimate the length of a single counter visit and multiply that by the number of users that avoided a counter visit (from step 2) to come up with a total number of hours saved, per month.

4. Finally, use the total number of hours saved multiplied by an estimated labor rate to determine the labor costs saved on a monthly and annual basis.

	Input/Estimate	***Result***
	Estimated Average	Estimate Across 5 Partners
1. Current Viewer Unique Users (per month)	800	4,000
	Percent	Total Users (per month)

[3] Cost estimates for the regional viewer represent estimates based on AppGeo industry experience.
[4] In this context, Tug Hill doesn't get public "counter traffic" like a county/city or DANC does.

2. Estimated Users who avoided a counter visit	5%	200	
	Length of a single Counter Visit (minutes)	Hours Saved on avoided Counter Visits (per month)	
3. Estimated Counter Visit Time	15	50	
	Counter labor cost per hour	Counter Labor Saved (per month)	**Counter Labor Saved (per year)**
4. Counter Visit Avoidance Labor Savings	$35	$1,750	**$21,000**

The table below then summarizes the estimated average costs and estimated labor savings provided above to demonstrate potential savings over a five-year timeframe.

Summary of Expected Savings	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**TOTAL**
Estimated Average Annual Direct Costs	($21,000)	($7,500)	($7,500)	($7,500)	($7,500)	**($51,000)**
Estimated Annual Labor Savings	$21,000	$21,000	$21,000	$21,000	$21,000	**$105,000**
Expected Cost Savings	**$0**	**$13,500**	**$13,500**	**$13,500**	**$13,500**	**$54,000**
Annual Cumulative Savings	$0	$13,500	$27,000	$40,500	$54,000	

5.1.2 Self-Service Map Viewer Platform ROI

COST TO IMPLEMENT

For the two configurable, self-service platforms, estimated costs are coming directly from the vendors (GIS Cloud and ArcGIS Online). Below are the cost details for both GIS Cloud and ArcGIS Online that were used for the costs/benefit analysis below. For both vendors, and to normalize the costs as much as possible, we are assuming a total of 45 users/logins.

ArcGIS Online is $2,500 for 5 named users (i.e. logins)[5]. The table below lists estimated users per agency and associated annual cost.

[5] http://www.arcgis.com/features/plans/pricing.html

ArcGIS Online Estimated Costs	Named Users	
	Count	Cost
DANC	10	$5,000
Jefferson County	10	$5,000
Lewis County	5	$2,500
St. Lawrence County	5	$2,500
Tug Hill Commission	5	$2,500
City of Watertown	10	$5,000
TOTAL Annual Cost	**45**	**$22,500**

ArcGIS Online also utilizes a "credit" system for tracking the costs of hosting data, which makes it difficult to understand and anticipate the real costs. The $2,500 cost comes with 2,500 credits. For more information on the credit system, see the online credit estimator[6]. As shown on this online tool, layer storage and publishing feature services are relatively "cheap". According to the estimator, an organization can publish roughly 50 data layers for 144 credits. By contrast, tiling is very "expensive" in terms of credits, as tiling one county-sized layer is roughly 1,300 credits.

GIS Cloud pricing is as follows:

Annual Map Editor License	$561
Annual Map Viewer License ($7/month assuming 40-50 total)	$84

The table below estimates the number of editor/viewer licenses needed for each agency, and calculates the total annual license cost. Additionally, after year 1, there will be a $95/month fee for each agency to have their own GIS Cloud viewer. This cost is included as well, although the reality may be that not all agencies end up implementing a GIS Cloud viewer.

GIS Cloud Estimated Costs	Editor Licenses		Viewer Licenses		Total Annual License Cost[7]	Annual Map Portal Cost after yr 1 ($95/mo)	Total Annual Cost (year 2-5)[8]
	Count	Cost	Count	Cost			
DANC	1	$561	9	$756	$1,317	$1,140	$2,457
Jefferson County	1	$561	9	$756	$1,317	$1,140	$2,457
Lewis County	1	$561	4	$336	$897	$1,140	$2,037
St. Lawrence County	1	$561	4	$336	$897	$1,140	$2,037
Tug Hill Commission	1	$561	4	$336	$897	$1,140	$2,037
City of Watertown	1	$561	9	$756	$1,317	$1,140	$2,457
	6	**$3,366**	**39**	**$3,276**	**$6,642**	**$6,840**	**$13,482**

[6] http://www.esri.com/software/arcgis/arcgisonline/credits/estimator
[7] This is the estimated year 1 cost for GIS Cloud
[8] Annual License cost + Map Portal Cost for years 2-5

The table below lays out the GIS Cloud estimated costs over five years.

GIS Cloud Direct Cost Estimates over 5 years	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
DANC	$1,317	$2,457	$2,457	$2,457	$2,457	**$11,145**
Jefferson County	$1,317	$2,457	$2,457	$2,457	$2,457	**$11,145**
Lewis County	$897	$2,037	$2,037	$2,037	$2,037	**$9,045**
St. Lawrence County	$897	$2,037	$2,037	$2,037	$2,037	**$9,045**
Tug Hill Commission	$897	$2,037	$2,037	$2,037	$2,037	**$9,045**
City of Watertown	$1,317	$2,457	$2,457	$2,457	$2,457	**$11,145**
Subtotal GIS Cloud	**$6,642**	**$13,482**	**$13,482**	**$13,482**	**$13,482**	**$60,570**

Finally, the table below pulls together the estimated ArcGIS Online costs with the GIS Cloud costs to determine and average cost to be used in the ROI section below.

Self-Service Platform Direct Cost Estimates	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
GIS Cloud	$6,642	$13,482	$13,482	$13,482	$13,482	$60,570
ArcGIS Online	$22,500	$22,500	$22,500	$22,500	$22,500	$112,500
AVERAGE of Self-Service Direct Costs	**$14,571**	**$17,991**	**$17,991**	**$17,991**	**$17,991**	**$86,535**

In addition to these estimated direct annual costs, there are also anticipated year-1 start up costs for the self-service platform, which include learning the new software, loading data, and configuring the initial viewers. The table below provides estimates for these labor costs: (note that some agencies are higher than other based on anticipated number of viewers to be deployed).

For labor costs, the follow rates are used[9]:

GIS / Tax Map Tech hourly rate	$35
Manager hourly rate	$50

	GIS/Tech		Manager		
Self-Service Year 1 Setup Estimated Labor Costs	**Hours**	**Labor Cost**	**Hours**	**Labor Cost**	**Total Cost**
DANC	120	$4,200	8	$400	**$4,600**
Jefferson County	80	$2,800	8	$400	**$3,200**
Lewis County	80	$2,800	8	$400	**$3,200**
St. Lawrence County	80	$2,800	8	$400	**$3,200**
Tug Hill Commission	80	$2,800	8	$400	**$3,200**
City of Watertown	120	$4,200	8	$400	**$4,600**
Initial Year 1 Self-Service Viewer Setup Labor Cost Estimate					**$22,000**

[9] These are fully burdened *estimated* rates and align with rates used in the work inventory survey.

EXPECTED COST SAVINGS

In order to estimate the cost savings of implementing a self-service map viewer platform, we first look at the current map viewer expenditures, both in terms of direct costs and labor. The table below summarizes the current map viewer hosting and support costs. It is possible that current Esri server software maintenance costs could be reduced or eliminated for some partners[10]. However, due to the fact that it is unclear what these reduced license costs would be, we have only taken the hosting/support into account here, and any cost reduction in Esri licensing would simply be added savings.

Current Annual Map Viewer Direct Costs	**Hosting and Support**
DANC	$6,000
Jefferson County	$4,200
Lewis County	$0
St. Lawrence County	$750
Tug Hill Commission	$0
City of Watertown	$0
Total	**$10,200**

Looking at labor costs, based on the work inventory survey, the annual labor cost of application development and maintenance is estimated to be $66,641. Needless to say, some of this labor may go towards non-viewer applications, but certainly a portion of it would be reduced through implementing a standardized platform, and eliminating the need for local software/hardware maintenance (through a cloud-hosted solution). For the purposes of this analysis, we are estimating that application development and maintenance labor could be reduced by roughly 30% if a self-service cloud-based viewer solution were implemented. This would result in an annual application development and maintenance estimated labor cost of $46,649. Using these assumptions, and pulling from the cost estimates provided above, the table below summarizes the estimated potential savings over a five year timeframe.

Estimated reduction in App Dev/Maintenance Labor Due to standardized platform and no in-house hardware/software to maintain	**30%**

[10] At Esri's version 10.2, ArcSDE is packaged with ArcGIS Desktop in addition to ArcGIS Server (previously, ArcSDE was only packaged with ArcGIS Server). Thus, (if/when upgraded to 10.2) partners needing ArcSDE would not have to maintain an expensive ArcGIS Server license solely for the purpose of having access to ArcSDE. DANC, City of Watertown and Jefferson County currently have ArcGIS Server licenses for website hosting and ArcSDE, but depending on decisions made following this plan, these may be able to be reduced or eliminated altogether. It should be noted that upgrading to 10.2 may not be able to happen immediately due to external dependencies/software.

Summary of Expected Savings	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Current Annual Map Viewer Direct Costs	$10,200	$10,200	$10,200	$10,200	$10,200	**$51,000**
Current App Dev/Maintenance Labor Costs	$66,641	$66,641	$66,641	$66,641	$66,641	**$333,205**
Subtotal Current Costs	**$76,841**	**$76,841**	**$76,841**	**$76,841**	**$76,841**	**$384,205**
Estimated Average Annual Direct Costs	$14,571	$17,991	$17,991	$17,991	$17,991	**$86,535**
Estimated Year 1 Setup Labor Costs	$22,000					**$22,000**
Estimated App Dev/Maintenance Labor Costs	$46,649	$46,649	$46,649	$46,649	$46,649	**$233,244**
Subtotal Expected Future Costs	**$83,220**	**$64,640**	**$64,640**	**$64,640**	**$64,640**	**$341,779**
Estimated Expected Savings Total (Current Costs minus Expected Costs)	($6,379)	$12,201	$12,201	$12,201	$12,201	**$42,427**
Annual Cumulative Savings	($6,379)	$5,823	$18,024	$30,225	$42,427	

5.1.3 LiDAR Data Acquisition ROI

COST TO IMPLEMENT

As discussed in Section 3.3.3 of the main report text, the costs to implement this recommendation are variable based on the area being collected and the quality requirements of the data. Rough order of magnitude costs for LiDAR data acquisition are estimated to be between $596,800 - $1,790,400. This cost range assumes data quality meets basic existing federal and state standards and covers the entire region (Jefferson, Lewis, and St. Lawrence counties). The cost range was provided by Verne La Clair, a member of the NYS GIS Association familiar with other LiDAR data acquisition projects in the state. The midpoint of this cost range, $1,193,600, will be used to simplify ROI calculations. Given the wide range in costs, it is highly recommended that the partners obtain firm cost estimates from consultants, using a written scope of work. Firm cost estimates can be used to refine the ROI calculations presented in this Appendix. The partners should keep in mind that the range of costs provided does not include optional, LiDAR-related services such as training for GIS professionals or development of LiDAR-derived data products such as: contours, hydrology-enforced elevation models, etc.

After acquiring the data and training for GIS professionals, there are no on-going maintenance costs associated with the LiDAR data acquisition. On-going LiDAR data training for GIS professionals would be covered under existing staff training appropriations of the partners. It is AppGeo's professional opinion that LiDAR data are useful for 10-20 years depending on the level of development in the region. The table illustrates the 5-year estimated costs of the LiDAR Data Acquistion recommendation.

LiDAR Data Acquisition Estimated Costs over 5 years	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
LiDAR Data Acquisition	$1,193,600	$0	$0	$0	$0	$1,193,600

EXPECTED BENEFITS AND SAVINGS

ROI for LiDAR is difficult to quantify and like data acquisition costs ROI is variable based on the number of uses for the data, which could numerous and ever-evolving. In order to provide some idea of expected benefits and savings for LiDAR data acquisition, the partners conferred with GroundPoint Technologies, LLC. (GroundPoint) to provide information pertaining to ROI for LiDAR data acquisition. GroundPoint has affiliations with the NYS GIS Association and experience in LiDAR data acquisition for federal, state and municipal projects.

In response to the partners' request, GroundPoint supplied a written report (see Appendix B) summarizing literature from other LiDAR data acquisition projects and providing rough estimates of cost and benefits. GroundPoint's Appendix B provides a range of costs for LiDAR data acquisition for the region between $100 - $300 per mi^2. Given the combined area of the region (defined as Jefferson, Lewis, and St. Lawrence counties) of 5,968 mi^2, this translates into a cost of $596,800 - $1,790,400. Referencing literature from previous LiDAR ROI studies, GroundPoint estimated a cost savings of at least $100,000 per partner.

In order to calculate a 5-year ROI, AppGeo used the midpoint of the LiDAR data cost estimate range ($1,193,600) and an estimated annual cost savings of $600,000. This cost savings figure assumes that six of the partners participate in LiDAR data acquisition. The table below summarizes costs and savings over a 5 year period.

Parcel Migration Costs/Saving Summary	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**TOTAL**
LiDAR Data Acquisition Cost	**($1,193,600)**	**$0**	**$0**	**$0**	**$0**	**($1,193,600)**
LiDAR Cost Savings	$600,000	$600,000	$600,000	$600,000	$600,000	**$3,000,000**
Total Annual Savings	($593,600)	$600,000	$600,000	$600,000	$600,000	**$1,806,400**
Annual Cumulative Savings	($593,600)	$6,400	$606,400	$1,206,400	$1,806,400	

Over five years it is estimated that there will be **$1,806,400 in savings.** As pointed out in Appendix B supplied by GroundPoint, this figure only represents the agencies included in this study, and does not take into account the countless other end-users of the LiDAR data that could benefit.

5.2 ROI FOR ONGOING POSSIBILITY RECOMMENDATIONS

5.2.1 Shared Vendor Acquisition ROI

COST TO IMPLEMENT

The project costs of a shared vendor acquisition project will obviously vary widely depending on the nature and the scope of the project. Regardless of the type and scope of a project, there will be labor savings when agencies join together to run the project. Thus, we will focus on the labor aspect of a shared acquisition project, as that we can quantify and develop estimates (regardless of the exact nature of the project). As with the other sections, the following labor rates are used:

GIS / Tax Map Tech hourly rate	$35
Manager hourly rate	$50

The estimates below quantify the administrative and project management tasks associated with starting and running a vendor acquisition project. These estimated labor costs are used in the next section to demonstrate labor savings when agencies enter into a joint procurement vs. running a project solo.

	GIS/Tech		Manager		
Labor Estimates	**Hours**	**Labor Cost**	**Hours**	**Labor Cost**	**Total Cost**
RFP Writing	8	$280	24	$1,200	$1,480
Vendor Review/Selection	8	$280	24	$1,200	$1,480
Project Administration	8	$280	16	$800	$1,080
Project Execution	40	$1,400	40	$2,000	$3,400
				TOTAL	**$7,440**

EXPECTED BENEFITS AND SAVINGS

Using the estimates above and focusing simply on labor costs, the analysis of an individual agency running the project solo vs. several agencies sharing labor costs is quite simple. The same project administration and management is needed whether the project covers (for example) 1 county or all 3 counties. Thus, the labor costs can be shared when multiple entities are involved, spreading the burden across several agencies. The table below depicts this.

Acquisition Project Type	**Labor Costs**	**Agencies**	**Cost per Agency**
Individual Agency goes Solo	$7,440	1	$7,440
Shared between 3 agencies	$7,440	3	$2,480
Cost Savings per Agency when Labor is Shared			**$4,960**

5.2.2 Mobile Application Implementation ROI

COST TO IMPLEMENT

Due to the unknowns associated with developing a mobile data collection application, this analysis will use ballpark estimates to demonstrate the simple fact that sharing costs between two or more agencies

will yield significant cost savings. Costs will be broken down into the categories below. For all labor, the following rates are used:

GIS / Tax Map Tech hourly rate	$35
Manager hourly rate	$50

Cost breakdown is as follows:

Requirements Analysis – labor estimate per agency prior to project start-up to assess and determine application functional requirements. This cost only shows up in year 1.

Requirement Analysis Labor Cost Estimates	**GIS/Tech**		**Manager**		
	Hours	**Labor Cost**	**Hours**	**Labor Cost**	**Total Cost**
Per Agency	40	$1,400	24	$1,200	$2,600
TOTAL estimated Labor Cost per Agency					**$2,600**

Procurement and PM Labor Costs – this is the same as in the previous section (shared vendor acquisition) and includes the labor associated with RFP writing, vendor review/selection, and project management labor for project administration and execution. These costs only show up in year 1.

Procurement and PM Labor Cost Estimates	**GIS/Tech**		**Manager**		
	Hours	**Labor Cost**	**Hours**	**Labor Cost**	**Total Cost**
RFP Writing	8	$280	24	$1,200	$1,480
Vendor Review/Selection	8	$280	24	$1,200	$1,480
Project Adminstration	8	$280	16	$800	$1,080
Project Execution	40	$1,400	40	$2,000	$3,400
TOTAL estimated Labor Cost per Project					**$7,440**

Direct Costs – the final three costs are the Application Development/Implementation (year 1), Annual Application Maintenance (annual), and Training (higher year 1 and then reduced by 50% each subsequent year). For Application Development, the estimated range is $20,000 – $50,000 where the low-end of this range might represent a more "out of the box" solution and the high-end might represent a more custom solution. For the purposes of this plan the average estimated cost of $35,000 will be used. Additionally, an estimate of $7,500 for annual maintenance has been used. For Training, using the average one-day cost of a instructor-led training ($3,375) the assumptions are that two of these will be needed in year 1, with one training session needed in subsequent years.

The table below shows the total estimated project costs over a five-year timeframe using the above assumptions and estimates:

Project Cost Estimates, Single Agency						
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**TOTAL**
Requirements Analysis Labor	$2,600	$0	$0	$0	$0	$2,600
Procurement/PM Labor	$7,440	$0	$0	$0	$0	$7,440
Application Development	$35,000	$0	$0	$0	$0	$35,000

Annual Application Maintenance	$7,500	$7,500	$7,500	$7,500	$7,500	$37,500
Training	$6,750	$3,375	$3,375	$3,375	$3,375	$20,250
Subtotal Project Costs, Single Agency	$56,690	$10,875	$10,875	$10,875	$10,875	$100,190

EXPECTED BENEFITS AND SAVINGS

Using the cost assumptions/estimates above, this analysis will look at the possibility of two agencies sharing a mobile application development project. Again, the costs will be broken down as follows:

- **Requirements Analysis** – It is assumed that in a shared project, the two agencies would work together on this step. Each agency will need the full amount of labor here (no shared savings).
- **Procurement and PM Labor Costs** – These costs will be split in half when a project is shared between two partners.
- **Direct Costs -** These costs will also be split in half when a project is shared between two partners.
- **Additional Administrative Labor for Sharing** – This is a new cost category introduced in the sharing scenario. This takes into account the additional administrative time required to work out and manage the details of sharing the project and project costs between two agencies. This is estimated at 40 hours per agency at $50 per hour for a total estimated labor cost of $2,000 annually per agency.

The table below compares the project costs of a single agency running and paying for the project versus sharing the project between two agencies.

	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Estimated Project Costs, Single Agency						
Requirements Analysis Labor	$2,600	$0	$0	$0	$0	$2,600
Procurement/PM Labor	$7,440	$0	$0	$0	$0	$7,440
Application Development	$35,000	$0	$0	$0	$0	$35,000
Annual Application Maintenance	$7,500	$7,500	$7,500	$7,500	$7,500	$37,500
Training	$6,750	$3,375	$3,375	$3,375	$3,375	$20,250
Subtotal Estimated Project Costs, Single Agency	$56,690	$10,875	$10,875	$10,875	$10,875	$100,190
Estimated Costs when Shared between 2 agencies						
Requirements Analysis	$2,600	$0	$0	$0	$0	$5,200
50% of Procurement/PM Labor	$3,720	$0	$0	$0	$0	$3,720
50% of Application Development	$17,500	$0	$0	$0	$0	$17,500
50% of Annual Application Maintenance	$3,750	$3,750	$3,750	$3,750	$3,750	$18,750
50% of Training	$3,375	$1,688	$1,688	$1,688	$1,688	$10,125
Additional Admin/Labor for Sharing	$2,000	$2,000	$2,000	$2,000	$2,000	$12,000
Subtotal Estimated Project Costs, per Agency when Shared	$32,345	$7,438	$7,438	$7,438	$7,438	$62,095

	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Total Estimated Savings per Agency when shared	**$24,345**	**$3,438**	**$3,438**	**$3,438**	**$3,438**	**$38,095**
Annual Cumulative Labor Savings	$24,345	$27,783	$31,220	$34,658	$38,095	

These potential savings don't take into account the long-term benefits of sharing a single application platform. For example, partners can share best practices and assist each other with troubleshooting issues. This type of collaboration will lead to greater efficiencies and better data, and would not be possible if agencies develop separate applications independently.

5.2.3 Training and Knowledge Sharing ROI

COST TO IMPLEMENT

Costs of training are categorized in two main ways. For self-led classes (i.e. someone in the group leads the training), cost is a function of labor. For instructor-led classes, there are direct costs. Below are some estimated costs for three example training options:

Self-Led Training Labor Cost Estimate	**Hours**	**Labor Cost**
Estimated labor (including prep) @$35/hr	24	**$840**

Instructor-led Esri ArcEditor Training Cost[11]	**Vendor A**	**Vendor B**	**Average**
Single onsite training session for 9 people	$3,250	$3,500	**$3,375**

Individual Esri training cost	**Per student per day**	**Number of participants**	**Total**
Formal training, at Esri facility	$505	9	**$4,545**

As stated above, it will be up to the participating partners to determine the optimal mix of formal training and informal knowledge sharing that will have a beneficial impact. One option might be for the partners to meet 4 times per year (quarterly) for formal training sessions, and also engage in ongoing, informal knowledge sharing. To save costs on the 4 training sessions, perhaps 2 of these sessions could be led by members of the team, and 2 could be run by an outside contractor but held onsite at one of the partner locations, with direct costs shared across the partners. This cost scenario would look something like:

Example Training Scenario	**Cost per class**	**Number of classes Annually**	**Total Cost**
Team-Led (*Labor Costs*)	$840	2	$1,680
Instructor-Led (*Direct Costs*)	$3,375	2	$6,750
		TOTAL	**$8,430**

[11] The estimates for Vendor A and Vendor B were provided by two geospatial vendors from Central NY and Capital district.

Defining costs for knowledge sharing is much harder, but in many ways knowledge sharing could be more beneficial as the costs can be very low (it doesn't take much to share an idea via email), but benefits can be very high (not needing to re-learn the best practices or recreate the wheel, if a colleague already has experience).

EXPECTED BENEFITS AND SAVINGS

Quantifying the benefits of training can be difficult, particularly when the specific training topics are not known and will depend on the participants needs. However, from the work inventory survey, we can evaluate the 4 work categories that typically require some technical skill and software knowledge, and determine estimated gains in efficiency due to an effective training program. The table below shows that these 4 GIS work categories make up nearly $430k worth of labor annually, which is roughly 62% of the total labor spent on GIS-related tasks across the survey participants.

Technical/Software GIS Work Inventory Categories	Current Annual Labor Costs
Data Compilation/ Maintenance	$152,945
Data Processing, Analysis and Map Production	$158,733
Basic GIS use and viewing	$51,637
Application Development / Maintenance	$66,641
TOTAL	**$429,956**

The next table assigns potential estimated efficiency gains for each of these work categories if there were a training program to help participants improve their skills in one or more of these areas. The estimated percent values would vary depending on the training topic, how much time the user spends on a specific task they are getting training for, and their level of skill before training (i.e. how much room they have to grow skills). It is assumed that the most basic users of GIS, those that use it the most infrequently fall mainly into the "Basic GIS use and viewing" category and would potentially have the most to gain. The other 3 categories would pertain more to the advanced user, but modest efficiency gains would still be found through formal training and skill building.

Estimated Labor Savings through Training	Current Labor Costs	Estimated % Efficiency Gains	Estimated Labor Savings
Data Compilation/ Maintenance	$152,945	5%	$7,647
Data Processing, Analysis and Map Production	$158,733	5%	$7,937
Basic GIS use and viewing	$51,637	25%	$12,909
Application Development / Maintenance	$66,641	10%	$6,664
TOTAL	$429,956	8%	**$35,157**

Even with relatively modest efficiency gain assumptions, we still see significant labor savings through training staff in the technical aspects of GIS. When converted to GIS Analyst hours, the labor savings in the table above equates to roughly 1,000 hours saved annually through implementing effective training classes.

To assess the value of knowledge sharing, we can look at the current labor spent on professional development, which includes technology research, learning/testing new GIS tools, understanding best practices, and receiving technical support for software issues, etc. All of these tasks can be made more efficient and time spent researching or troubleshooting can be reduced by gaining knowledge from a colleague. The table below shows that an estimated 20% efficiency gain by learning from others can lead to $6,733 in professional development labor savings, which equates to roughly 192 GIS Analyst hours annually.

Current labor spent on Professional Development annually	**$33,664**
Estimated % reduced via getting information/best practices from colleagues	20%
Potential Professional Development Savings from Knowledge Sharing	**$6,733**

6 WEB TECHNOLOGY ASSESSMENT TABLES

6.1 HIGH LEVEL WEB VIEWER GAIN/LOSS SUMMARY TABLES

These tables represent an example summary of what each agency would potentially be gaining and giving up by choosing a GISCloud solution for either of the web viewer recommendations. The tables do not imply that GISCloud is the best solution, but serve as a framework to assist the partners in evaluating all solutions and choosing the one that best meets their requirements and provides the greatest benefit.

6.1.1 Self Service Platform

	Potentially Replace	**What you would gain**	**What you would lose**
DANC	Secure/customer Esri viewers	Improved Performance, Updated site and improved functionality Mobile Access (broader audience) Ability to deploy and update viewers without programmer or consultant	Onsite hosting Potential to lose some custom/specialized tools
City of Watertown	City public Esri viewer Secure department Esri viewers	Improved Performance, Updated site and improved functionality Mobile Access (broader audience) Ability to deploy and update viewers without programmer or consultant	Onsite hosting Potential to lose some custom/specialized tools
Tug Hill Commission	Secure/customer GIS Cloud viewers	No measurable change if GIS Cloud were chosen.	N/A
Lewis County	County public GIS Cloud viewer	No measurable change if GIS Cloud were chosen.	N/A

	Potentially Replace	What you would gain	What you would lose
Jefferson County	County public Esri viewer	Improved Performance, Updated site and improved functionality Mobile Access (broader audience) Ability to deploy and update viewers without programmer or consultant	Potential to lose some custom/specialized tools
St. Lawrence County	County public GeoExplorer viewer	Ability to deploy and update viewers without programmer or consultant	Potential to lose some custom/specialized tools

6.1.2 Regional Map Viewer

The Regional Map Viewer could supplement the existing viewers regardless of whether the partners opt to keep their existing viewer or migrate to a shared self-service platform.

	Supplements and/or Potentially Replaces	What you would gain	What you would lose
DANC	Regional public Esri viewer	Improved Performance Simpler user interface Runs on mobile devices	Some traffic to current viewer Individual brand identity
City of Watertown	City public Esri viewer	Improved Performance Simpler user interface Runs on mobile devices Seamless data coverage with neighboring jurisdiction	Some traffic to current viewer Individual brand identity
Tug Hill Commission	Regional public ArcGIS Online viewers(planned migration to GIS Cloud)	Simpler user interface	Some traffic to current viewer Individual brand identity
Lewis County	County public GIS Cloud viewer	Simpler user interface Seamless data coverage with neighboring jurisdiction	Some traffic to current viewer Individual brand identity
Jefferson County	County public Esri viewer	Improved Performance Simpler user interface	Some traffic to current viewer Individual brand identity

		Runs on mobile devices Seamless data coverage with neighboring jurisdiction	
St. Lawrence County	County public GeoExplorer viewer	Simpler user interface Seamless data coverage with neighboring jurisdiction	Some traffic to current viewer Individual brand identity

6.2 SELF SERVICE MAP VIEWER PLATFORM ASSESSMENT MATRIX

The table below compares existing map viewer functionality to two potential self-service platforms, GISCloud and ArcGIS Online. Again, the tables do not imply that GISCloud or ArcGIS Online are the best solutions, but they serve as a framework to assist the partners in benchmarking possible solutions against functionality in the partners' existing map viewers.

	Self Service Platform Options		**Current Viewers**					
Functional Requirements	**GIS Cloud**	**ArcGIS Online**	City of Watertown	DANC	Jefferson County	Lewis County	St. Lawrence County	Tug Hill Commission
Map Viewer								
Pan/Zoom tools	✓	✓	✓	✓	✓	✓	✓	✓
Full Layer Control	✓	✓	✓	✓	✓	✓	✓	✓
NY Ortho Imagery	✓	✓	✓	✓	✓	✓	✓	✓
Search (parcel)	✓	✓	✓	✓	✓	✓	✓	✓
Identify	✓	✓	✓	✓	✓	✓	✓	✓
Measurement Tools	✓	✓	✓	✓	✓	✓	✓	✓
View associated Real Property Data	✓	✓	✓	✓	✓	✓	✓	✓
Coordinate Tool	✓	X	X	✓	✓	✓	✓	✓
Full screen-mapping	✓	✓	X	✓	✓	✓	✓	✓
Print to PDF	✓	✓	X	✓	✓	✓	X	✓
Map Legend	✓	✓	✓	✓	✓	✓	X	✓
Buffer	✓	X	✓	✓	✓	✓	X	✓
Export results to Excel	✓	X	✓	✓	✓	✓	X	✓
Basic layer metadata (date, source, etc)	X	✓	✓	✓	✓	X	✓	X
Layer Transparency	✓	✓	X	✓	X	✓	✓	✓
Document Hyperlinking	✓	✓	X	X	X	✓	✓	✓
Choice of basemaps (Google, Bing, etc)	✓	✓	X	X	X	✓	✓	✓
Search (non parcel data layers)	✓	✓	X	✓	X	✓	X	✓
View on a tablet mobile device	✓	✓	X	X	X	✓	✓	✓
Launch/Update individual viewers	✓	✓	X	✓	X	✓	X	✓
Abutters	✓	X	X	✓	X	✓	X	✓
Bookmark tool	✓	✓	X	X	X	✓	X	✓
Markup/Annotate	X	✓	X	✓	X	X	X	X
Create Elevation Profile	X	X	X	✓	X	X	X	X
Pre-defined "Map Themes"	X	X	X	X	X	X	X	X

	Self Service Platform Options		Current Viewers					
Functional Requirements	**GIS Cloud**	**ArcGIS Online**	City of Watertown	DANC	Jefferson County	Lewis County	St. Lawrence County	Tug Hill Commission
Simple (non-GIS) User Interface	X	X	X	X	X	X	X	X

6.3 REGIONAL MAP VIEWER ASSESSMENT MATRIX

The table below shows a comparison of the top 10 functional requirements of a Regional Map Viewer compared to current viewer functionality. It is important to note that the regional viewer can and likely will have added capability beyond these top 10 items, determined by the design/implementation phase.

Regional Public Viewer Top 10 Functional Requirements	City of Watertown	DANC	Jefferson County	Lewis County	St. Lawrence County	Tug Hill Commission
1. Can I locate a parcel by owner name/address/parcel ID?	✓	✓	✓	✓	✓	X
2. Can I see my assessed value and other information from my assessment record (e.g., parcel area, bedrooms, prior sales, etc.)?	✓	✓	✓	✓	X	X
3. What is my neighbor's assessed value?	X	✓	✓	✓	X	X
4. Can I zoom/pan around my area with ease and flexibility?	✓	✓	✓	✓	✓	✓
5. Can I see the aerial imagery for my area?	✓	✓	✓	✓	✓	✓
6. Can I see the development constraints for my areas (e.g., zoning/historic districts/protected lands, availability of water/sewer, etc.)?	✓	X	X	X	X	X
7. Can I see the natural resources for my area (e.g., topography/flood plains/wetlands and water bodies)?	✓	✓	✓	✓	✓	✓
8. Can I see a list of the properties that abut a given property and produce a mailing list?	X	X	X	X	X	X
9. Can I print out the map on the screen as a "what-you-see-is-what-you-get" PDF file?	X	✓	✓	✓	X	✓
10. Can I email a link of the map I am looking at to a friend or government official?	X	X	X	X	X	✓

7 SAMPLE INTERMUNICIPAL AGREEMENT

Below is a sample Intermunicipal Agreement (IMA) between Erie and Niagra counties, which details the specifics of the shared services described in section 1 of the Shared Services Planning Study. Attachment A has detailed description of the services to be provided through the IMA.

INTER-MUNICIPAL COOPERATION AGREEMENT BETWEEN THE COUNTIES OF ERIE AND NIAGARA FOR GEOGRAPHIC INFORMATION SYSTEM OPERATIONS

THIS AGREEMENT made this ____day of October 2012 is made pursuant to General Municipal Law Article 5-G by and between the COUNTY OF ERIE ("Erie") and the COUNTY OF NIAGARA ("Niagara"), municipal corporations in the State of New York.

RECITALS:

WHEREAS, it is in the best interests of the taxpayers of the Counties of Erie and Niagara to share resources in the undertaking of the following mutual and reciprocal public work and services: geographic information systems (GIS) assistance, internet/intranet mapping, custom applications, and off-site data storage; and

WHEREAS, Erie and Niagara Counties have previously entered into an Intermunicipal Agreement for Shared GIS Services for the period 2008- 2012 and wish to extend this IMA for an additional five years; and

WHEREAS, Erie possesses a current GIS infrastructure that would able Niagara, under a mutual agreement, to offer similar GIS services to its departments without incurring the high startup costs associated with establishing an enterprise-level GIS operation; and

WHEREAS, by sharing GIS services and resources, it is anticipated that with a five (5) year contract term, the parties will achieve cost efficiencies, standardization and uniformity of services and qualification for future funding and incentives; and

WHEREAS, it is the reasonable expectation of the parties that the activities contemplated by this agreement will be reciprocal and be roughly equal over the five (5) year contract period and that the exchange and sharing of equipment and services will result in more cost effective work performance at a minimal extra cost to both parties; and

WHEREAS, flexibility in operating local governments in their public work and services is necessary to ensure efficiency and maximum operational benefits; and

WHEREAS, each party has, by legislative authorization, authorized their respective Real Property Tax Services to exercise their professional discretion in the execution of this agreement; and

WHEREAS, general public oversight will be accomplished through regular, periodic and annual reports by the parties' Real Property Tax Service responsible department heads to their respective legislative bodies; and

WHEREAS, although certain risks are anticipated, as is the case in any public undertaking, the risk occasioned by the mutual and reciprocal services contemplated by this agreement presents no substantial additional risk to either party herein,

NOW, THEREFORE, it is agreed as follows:

1. Terms of Erie and Niagara Inter-municipal Agreement (IMA) Summary Incorporated by Reference: The parties hereby incorporate by reference all of the terms and conditions of the Erie and Niagara Inter-municipal Agreement (IMA) Summary executed and delivered between the parties of even date and attached hereto as Schedule "A". It is the intent of the parties that the terms and conditions of Schedule "A" be consistent with the terms of this, main agreement; however, in the event of a conflict in terms, the terms of Schedule "A" shall control.

2. Term of Agreement: This agreement shall begin on the 1st day of January, 2013 and terminate on the 31st day of December, 2017.

3. Default and Termination: Any of the following shall constitute an event of default in which event the non-defaulting party may exercise the right to terminate this agreement on thirty (30) day written notice:

A. Filing by either party of a voluntary petition under Chapter 9 of the U.S. Bankruptcy Code of the filing of an involuntary petition against either party under Chapter 9 of the U.S. Bankruptcy Code; and

B. Failure by either party to perform any obligation or term of this agreement.

4. Entire Agreement: This agreement constitutes the entire agreement between the parties. It may be amended only by the written consent of both parties with each party executing and acknowledging the document containing the amendment through its duly authorized representative.

5. Miscellaneous Provisions: This agreement shall be governed under the laws of the State of New York. This agreement may not be assigned by either party unless it obtains the prior, written consent of the other party. No waiver of any provision of this agreement and its schedules shall in any event be effective unless made expressly in writing executed by both parties and, in such event, such waiver or consent shall be effective only in the specific instance and for the purpose for which such waiver is given. No modification or amendment to any provision of this agreement and schedules shall be effective unless made in writing executed by both parties. The headings of the paragraphs contained in this agreement and schedules are only a guide and shall not be interpreted as governing the meaning of the actual text; a court declaration that one or more provisions of this agreement and schedules is/are unconstitutional or invalid shall not invalidate the remaining provisions of this agreement and schedules.

6. Assignment: Neither party may assign or transfer its rights or interests in this agreement to another entity unless the prior written consent of the other party has been obtained provided however, that if either or both parties dissolve into, merge with or wholly annex the other party, the party remaining after the dissolution, merger or annexation, or the new merged municipality, as the case may be, shall retain all the rights, duties and interests in this agreement that were held by the parties immediately prior to such dissolution, merger or annexation.

7. Approvals: Each party represents and warrants this agreement has been approved by its governing body, such approval by a majority of vote of the full Legislature of each party; resolutions of each governing body approving this agreement are attached to this agreement collectively as Appendix "D".

IN WITNESS WHEREOF, Erie has caused these presents to be signed by the Erie County Executive, and its seal to be affixed hereto, and Niagara has caused these presents to be signed by the Chairman of the Legislature of the County of Niagara, New York as of the day and year first above written.

COUNTY OF ERIE, NEW YORK

By _____

Dated _____

COUNTY OF NIAGARA, NEW YORK

By _____

Dated _____

ASSISTANT ERIE COUNTY ATTORNEY
APPROVED:

By _____

Dated _____

NIAGARA COUNTY ATTORNEY
APPROVED:

By _____

Dated _____

APPROVED AS TO CONTENT:

By _____
Dated _____

Appendix A:
Erie and Niagara Counties Intermunicipal Agreement (IMA) for Shared GIS Services

Summary

The Erie and Niagara County IMA is a joint-agreement that is designed to primarily leverage Erie's current GIS infrastructure to enable Niagara County to offer similar GIS services to its departments, without incurring the high start-up costs associated with establishing an enterprise-level GIS. By sharing GIS services and resources, it is anticipated that both parties can expect the following benefits over the course of the 5-year contract term:

- Cost efficiencies gained through sharing and combining resources;
- Intermunicipal GIS standardization and uniformity of services; and
- Future qualification for incentives and funding

GIS Assistance: To the extent possible, Erie and Niagara Counties agree to provide mutual GIS advice, technical guidance and assistance, and information to each other, upon request. Assistance, for each request, will be provided on a Short-term basis.

GIS Emergency Assistance: In the event of an emergency (natural or man-made disaster, etc.), Erie and Niagara Counties will provide mutual GIS assistance, subject to the extent permissible under each County's respective Incident Command System (ICS).

Internet/ Intranet Mapping: Erie County will be responsible for hosting and conducting basic maintenance on 8 Internet Mapping Services (IMS) using ArcGIS Server for Niagara County.

Custom GIS Applications: Erie and Niagara County agree to share, unless restricted by contracts or licenses, custom GIS applications extensions, code, or programs which have been developed to enhance GIS network, desktop, or internet/ intranet mapping applications. Where possible, both parties agree that existing applications will be leveraged for future application development to minimize costs OR one or both Counties will enter into a joint agreement to pursue the acquisition of a new application which will mutually benefit both municipalities.

Off-Site Data Storage: Niagara County will partner with Erie County to back-up up to 30GB of Erie County's GIS data on Niagara County data servers, and up to 85GB of Niagara County's GIS data (excluding Pictometry imagery and including ArcGIS Server website data) on Erie County data servers.

Negotiated Costs (please refer to Appendix C for details)

1.0 Introduction

1.1 Background Information

An Intermunicipal Agreement (IMA) is a written contract between two municipalities that provides guidelines for sharing certain services. For the purposes of Erie and Niagara Counties, the shared service described in the sections below, relates to Geographic Information Systems (GIS) - the components of which have been explicitly defined and agreed upon by both parties, prior to contract implementation. The IMA is designed to leverage existing GIS resources of Erie and Niagara Counties to mutually aid and benefit both parties for the duration of, and beyond, the 5-year contract term.

1.2 Purpose for the Intermunicipal Agreement

Upon implementation, the Erie\Niagara County IMA is anticipated to provide immediate and long-term benefits for both parties. Erie County's existing GIS center proves to be an ideal candidate for providing Niagara County with the necessary resources required to establish a distributed County-wide GIS; reducing start-up costs and removing infrastructure duplication for Niagara. With this in mind, the joint-agreement ensures that Erie's current GIS services remain in situ and uncompromised, with provisions made for expansion in the future. In addition to limiting redundancy with respect to GIS infrastructure and associated costs for Niagara County, both entities expect the following benefits over the course of the contract term:

- Cost efficiencies gained through sharing and combining resources;
- Intermunicipal GIS standardization and uniformity of services; and
- Future qualification for incentives and funding

1.3 Existing Municipal Organizational Practices

Erie County's GIS department has long been established to provide county-wide GIS services to its many departments and to the public. By leveraging Erie's current GIS infrastructure, the IMA will enable Niagara County to offer similar services to its departments, without incurring the high start-up costs associated with establishing an enterprise-level GIS. As of 2012, Erie County currently maintains an enterprise-level GIS featuring ESRI ArcGIS Server (Standard Enterprise) – with ArcSDE, using Geocortex Essentials.

2.0 Provisions and Terms of Agreement

Legal Requirements of the IMA will be consistent with the *Terms of Agreement* (as discussed below) and the *Distribution of Costs* associated with them have been mutually agreed upon by both parties.

Erie County will invoice Niagara County for any costs associated with this agreement on a quarterly basis that will include all applicable costs for each three (3) month period.

Each service, identified in sections 2.1 through 2.5, as part of the Erie and Niagara County IMA will be defined as follows:

Description: A precise definition of the service and associated maintenance requirements. The IMA will include a discussion for any known limitations or exigent circumstances that could prevent the described service being rendered. The Agreement will specify which municipality owns what service, or the ratio of ownership in the case of jointly owned services.

Distribution of Costs: The Agreement will specify how Operation and Management costs will be divided between the Counties. For example,

- If jointly owned, all associated costs might be split according to the ratio of ownership. The Agreement will specify how capital costs will be distributed between the owners and how any debt owed on the services will be paid.
- Whether or not jointly owned, costs might be split according to the percent each participant expects to use. If not jointly owned, the owning municipality might bill the other municipality in accordance with its accountability system.
- If costs are to be split according to a ratio of ownership or use, the Agreement will specify how the annual budget will be prepared and some mechanism whereby both parties must agree to the budget amounts and a method for resolving any disagreements.

Implementation: A description of how the service will be rendered within the Counties, upon commencement of the IMA. If required, a schedule will be provided.

2.1 GIS Assistance

Description: To the extent possible, Erie and Niagara Counties agree to provide mutual GIS advice, technical guidance and assistance, and information to each other, upon request. Assistance, for each request, will be provided on a Short-term basis.

Distribution of Costs: Since both counties are expected, and therefore potentially called upon, to provide this service, costs are expected to be equally balanced between the two parties over the duration of the contract term. A mid-term review will be held to determine if one municipality is dispensing more resources than the other, and subsequently, provisions will be made to rectify the situation.

Implementation: Each request will be managed through a single point of contact (POC) from each County. The POC is responsible for communicating the specifics of the request to his/her counterpart at the other municipality. After the initial contact has been made by County POCs, Subsequent, yet related, discussions may occur through other personnel.

Requests are normally handled informally on a first-come first-serve basis. Erie County will contact the Niagara County POC in that event that multiple high priority requests occur.

2.2 GIS Emergency Assistance:

Description: In the event of an emergency (natural or man-made disaster, etc.), Erie and Niagara Counties will provide mutual GIS assistance, subject to the extent permissible under each County's respective Incident Command System (ICS).

Distribution of Costs: Since both counties are expected, and therefore potentially called upon, to provide this service, costs are expected to be equally balanced between the two parties over the duration of the contract term. A mid-term review will be held to determine if one municipality has dispensed more resources than the other, and subsequently, provisions will be made to rectify the situation.

Implementation: All requests for emergency GIS assistance will be managed through a single point of contact (POC) from each County. The POC is responsible for communicating the specifics of the request to his/her counterpart at the other municipality. Please refer to Appendix B for contact information for those individuals from Erie and Niagara Counties who are appointed as Emergency GIS service POC's.

To the extent allowed under current licensing or contractual agreements, both counties will share GIS hardware, software, applications, and data during the length of the emergency. Software or applications will remain under the ownership of the county that holds the license or contract. Erie County has ample hardware and software resources to respond to crises in both counties.

Additionally, personnel records will be maintained for possible 3rd party reimbursement of staff time in responding to an emergency. For example, reimbursement claims to the Federal Emergency Management Agency (FEMA) might include the personnel costs for the GIS responders from each county, and any subsequent compensation will be awarded to the appropriate county.

It is important to note, that both Erie and Niagara County representatives understand that their respective emergency logistic plans, protocols, or Incident Command Systems (ICS) might restrict or prevent GIS services being executed at the time of an emergency. As such, neither County will be held responsible for emergency services that are not rendered.

2.3 Internet/ Intranet Mapping

Description: Erie County will be responsible for hosting and conducting basic maintenance on up to eight (8) Internet Mapping Services (IMS) using ArcGIS Server for Niagara County, all of which will be maintained on Erie County ArcGIS Server infrastructure. Erie County will update image or feature services up to 4 times a year (e.g. data updates, ArcGIS server upgrades, etc.). Erie County will not be responsible for customizing existing or new Niagara County IMS applications, as part of the quarterly updates.

Erie County agrees to host up to fifteen (15) additional internet mapping sites for use by Niagara County municipalities. An additional cost will be negotiated at the time of the website's creation or migration. The Niagara County GIS POC will coordinate all requests and associated technical activity between Erie County and the Niagara County municipalities requesting the Service.

Distribution of Costs: Please refer to Appendix C (Cost Summary Sheet) for the line items associated with this service.

It is expected that the annual fee, quoted in Appendix C will change according to software maintenance price fluctuations and hardware/software upgrades. Appendix C will be updated on a yearly basis by both municipalities and reconciled according to existing County billing practices.

Implementation: Erie County will ensure that ArcGIS Server will be ready to host any of the 8 proposed Niagara County websites within 2 months of entering into the contract term.

All maintenance, updates and new website requests (including those requested by Niagara County for any of the fifteen (15) Niagara County municipalities) are to be managed through the appropriate communication channels, namely the Erie and Niagara County Point of Contacts (POC) cited in Appendix B. Given, that Erie County will update image or feature services up to 4 times a year (e.g. data updates, ArcGIS server upgrades, etc.), Niagara County, or their contractor, may choose to seek permissions to push updates to existing Niagara County map services over the Erie County network. Erie County will provide permissions (e.g. VPN access) to the extent technically possible without compromising either party's security concerns.

Erie and Niagara Counties agree, where practical, to share map services, custom map service applications or related code, which address the mutual needs of both parties. This may include new map services developed under consultant contracts, where the agreement allows for use of programming code by both counties. Related to this, it is understood that Erie County is not responsible for developing custom map services for Niagara County. However, Erie County will develop basic, non-customized map services, using standard ArcGIS Server technology and will not charge Niagara County a set-up fee for the first 8 sites. Aside from the allotted 8 websites, should Niagara County require any additional ArcGIS server sites to be hosted and maintained by Erie County, a set-up fee will be negotiated at the time of the website's creation or migration.

Erie County will run daily checks to determine if all the Niagara County IMS sites are up and running. Erie County will take all reasonably practical steps to restore any website that is inactive. Niagara County will be informed of restoration procedures, if warranted.

As part of the documentation for issuing quarterly invoices under this IMA (Appendix C), Erie County will issue quarterly analytics reports on the Niagara County map services hosted by Erie County. These analytics reports will include statistics on overall site usage as well as reports on system performance.

2.4. Custom GIS Applications

Description: Erie and Niagara County agree to share, unless restricted by contracts or licenses, custom GIS applications extensions, code, or programs which have been developed to enhance GIS network, desktop, or internet/ intranet mapping applications. Where possible, both parties agree that existing applications will be leveraged for future application development to minimize costs OR one or both Counties will enter into a joint agreement to pursue the acquisition of a new application which will mutually benefit both municipalities

Distribution of Costs: Existing applications will be shared according to current software vendor license agreements. Future application costs will be negotiated by one or both parties prior to any custom application development or purchase of services.

Implementation: As per existing license agreements, Erie and Niagara Counties agree to share any currently-used applications. If required, parties will provide training materials or on-site training, to ensure that the applications are utilized correctly. Associated training costs will be determined at a future date.

Prior to retaining consultant services for developing custom GIS applications, each county will consult with the other to determine if there is mutual interest in the proposed application. Where there is mutual interest, each county will ensure that any contracts issued for GIS applications or services allow the GIS applications or services to be shared between Niagara and Erie Counties.

2.5 . Off-Site Data Storage

Description: Niagara County will partner with Erie County to back-up up to 30GB of Erie County's GIS data on Niagara County data servers, and up to 85GB of Niagara County's GIS data (excluding Pictometry imagery and including ArcGIS Server website data) on Erie County data servers. Both parties will be granted access to their stored data as directed by their respective IT Department protocols. Niagara and Erie Counties agree to maintain, backup, and protect any GIS data from the other party, that is stored on their current network.

Distribution of Costs: Please refer to Appendix C (Cost Summary Sheet) for costs associated with this service. Erie County will allot and/or purchase 200GB of server space for Niagara County's GIS data back-up.

Implementation: Both Counties will allow the GIS Point of Contacts, or appropriate designees, access to the file server. Parties will upload data to the file server, on an as needed basis. Both Counties are responsible for running suitable back-up routines to ensure stored GIS data is protected over the course of the 5-yr IMA contract term. A mid-term review will assess if additional server space is required, at which time costs will be renegotiated between the two parties.

If either County requires additional GIS data storage on the other County's servers, the requesting County will be responsible for the costs associated with acquiring and maintaining the added storage.

3.0 Revision and Cancellation Policy

3.1 Revision of Terms and Provisions

The aforementioned terms and provisions of the Erie and Niagara County IMA will be active for a length of the 5 years, commencing the date the IMA is signed. Both parties understand that the IMA can be revised if the ratio or type of use changes over time, and as such a mid-contract appraisal (after year 2 and before year 3) will be conducted to evaluate the potential impact of such changes to the current agreement.

3.2 Cancellation Policy

Either party can cancel the IMA at the end of a term year. The Agreement might be canceled if the shared service(s) are no longer adequate to serve both parties and/or one party wishes to assume sole ownership of the service(s), with the understanding that the other party is to construct replacement services of its own, at no additional cost to the canceling party. Additionally, if the IMA is cancelled, the disposition of any jointly owned assets will be specified.

4.0 Breach of Contract and Dispute Resolution

- *The Agreement will contain procedures for each municipality to perform, in the advent of a breach of contract.*
- *Legal definition of a breach of contract*

APPENDIX B: Contact Information (not included)

APPENDIX C: Cost Summary Sheet (not included)

APPENDIX D: Legislative Resolutions from Erie and Niagara Counties (see following pages)

NIAGARA COUNTY LEGISLATURE

FROM: Administration Committee DATE: 06/19/12 RESOLUTION #AD-017-12

APPROVED CO. ATTORNEY	REVIEWED CO. MANAGER	COMMITTEE ACTION	LEGISLATIVE ACTION
		AD - 6/12/12	Approved: Ayes ____ Abs. ____ Noes 0
			Rejected: Ayes ____ Abs. ____ Noes ____
			Referred:

ERIE NIAGARA INTER-MUNICIPAL AGREEMENT
GEOGRAPHIC INFORMATION SYSTEM (GIS) FIVE-YEAR EXTENSION

WHEREAS, the Niagara County Legislature, passed Resolution AD-041-07 in 2007, and

WHEREAS, under Resolution AD-041-07, Niagara County, through its Real Property Tax Services and Information Technology Departments, was authorized to enter into a five (5) year inter-municipal agreement with Erie County for the purpose of sharing one common GIS data center, and

WHEREAS, the five-year agreement is set to expire at the of 2012, and

WHEREAS, the common GIS data center inter-municipal agreement with Erie County has worked well for Niagara County with benefits in cost efficiencies, as well as, standardization and uniformity of services, and

WHEREAS, Erie County, in the interest of ensuring that the agreement continues for another five (5) years, has proposed fees with a reduction for the first year of approximately $9,517, and

WHEREAS, Niagara County would be best served by extending the inter-county agreement with Erie County for GIS for another five (5) years because Erie County has already made the initial investment in the hardware, software, communication lines and staff maintenance for internet mapping services, and

WHEREAS, the Niagara County Legislature has already established and funded a capital project for the development and deployment of a county-wide GIS program, and

WHEREAS, the funds are currently available in the GIS budget, and

WHEREAS, prior to the execution of the inter-municipal agreement, the County Attorney will review the agreement for approval as to legal form, language and compliance, now, therefore, be it

RESOLVED, that Niagara County, through its Information Technology Department, is hereby authorized to enter into another five (5) year inter-municipal agreement with Erie County for the purpose of sharing one common GIS data center at a cost of: Year 1- $25,620; Year 2 -$26,902; Year 3 - $28,247; Year 4 - $29,659; Year 5 - $31,142, and, be it further

RESOLVED, that following the County Attorney's review, the Chairman of the Niagara County Legislature be, and hereby is, authorized to execute the aforementioned inter-municipal agreement.

ADMINISTRATION COMMITTEE

STATE OF NEW YORK

LEGISLATURE OF ERIE COUNTY
CLERK'S OFFICE

BUFFALO, N.Y., July 19, 2012

TO WHOM IT MAY CONCERN:

I HEREBY CERTIFY, *That at the 14th Session of the Legislature of Erie County, held in the Legislative Chambers, in the City of Buffalo, on the Nineteenth day of July, 2012 A.D., a Resolution was adopted, of which the following is a true copy:*

WHEREAS, the Buffalo Niagara Partnership "Who Does What" Commission's Niagara County Study conducted in 2003 recommended that Niagara County implement a county-wide GIS system and in addition recommended that Niagara County would be best served by entering into an Intermunicipal Agreement with Erie County for GIS services; and

WHEREAS, Erie County has an existing enterprise-level GIS system, consisting of significant investments in computer hardware, software, communications, staff, and applications (such as an Internet Mapping System); and

WHEREAS, Erie and Niagara Counties entered into a five-year Intermunicipal Agreement for Shared GIS Services in 2008, which will expire at the end of 2012; and

WHEREAS, Erie and Niagara Counties desire to continue the mutually beneficial IMA for Shared GIS Services for another five-year term covering the period 2013 - 2017; and

WHEREAS, Niagara County has agreed to compensate Erie County for GIS services rendered in support of the proposed Intermunicipal Agreement; and

WHEREAS, sharing of GIS services between Erie and Niagara Counties will avoid duplication of GIS services in the future between the two counties and will promote cost savings in the provision of these services.

NOW, THEREFORE, BE IT

RESOLVED, that Erie County Executive is authorized to enter an Intermunicipal Agreement for Shared GIS Services between Erie and Niagara for a five-year term covering the period 2013 - 2017; and be it further

RESOLVED, that Erie County will receive annual payments from Niagara County for GIS services for the five-year term in the amounts of: Year 1 - $25,620, Year 2 - $26,902, Year 3 - $28,247, Year 4 - $29,659, Year 5 - $31,142. These revenues, totaling $141,570, shall be recorded in commitment item 420270 (GIS Services-Other Governments); and be it further

RESOLVED, that certified copies of this resolution shall be forwarded to the County Executive; the County Attorney; the Commissioner of the Department of Environment and Planning; the Director of Data Processing; the County Comptroller; and the Director of the Division of Budget and Management.

REFERENCE: **COMM. 13E-16 (2012)**

Dearing
Stronczek
Swanekamp
Morris

ATTEST

ROBERT M. GRABER
Clerk of the Legislature of Erie County

8 PARTNER INTERVIEW NOTES

This section contains partner interview summary notes. Each section contains notes by AppGeo staff as to the topics of discussion at each of the individual partner interviews. Notes contain meeting attendees, general background about the organization and topics relevant to this study.

8.1 DEVELOPMENT AUTHORITY OF THE NORTH COUNTRY

Date: 6/13/13

Attendees:

- DANC: Dave Cook, Star Carter
- AppGeo: Morgen Healy, Linda Rockwood

1. General Agency Background Info.

- Revenue-based agency, created by state legislature to support Fort Drum expansion/population growth in the region
- Internal GIS Supports operating divisions: telecommunication network, solid waste management facility, and water/wastewater operations. Divisions are at different stages of GIS acceptance/integration with their business processes.
- External support constitutes GIS consulting (mainly infrastructure data development). GIS projects are primarily community mapping projects (typically grant funded). This side of the business is growing for DANC, but given DANC's three-county service area, there are a finite number of communities to approach.
- DANC is looking to reduce reliance on external/contractor support overall

2. Current GIS

- Current GIS Staff and GIS Users
    - Dave, Star, Carrie, summer interns (1-3 per season) and Bob (Telecom Outside Plant Manager)
- Additional Notes/Follow-up from Survey or Documents
    - Primarily focused on infrastructure GIS
    - Parcels come from counties (annually)
    - Other datasets come from state or other various data sources
    - All sever hardware is virtualized at DANC
    - ArcGIS Server is administered internally to host individual customer data viewers (each has a login)
    - ArcSDE with versioning to manage edits
- Strengths
    - Recognized as GIS Leader in the region
    - Utilizing economies of scale
    - GIS well aligned with organizational objectives

    - Can bring in regional funding
- Needs Improvement
    - Increase diversity of services
    - GIS overall in the region needs a boost. This project, and implementing shared services will help to raise awareness/visibility of GIS, which will promote GIS and be mutually beneficial for all involved
    - Better communication with other GIS entities in the region

3. Current/Existing Shared Services

- Some attempts, none very successful. Of note is an unsuccessful attempt to negotiate shared DANC-Tug Hill Commission ArcGIS Server license with ESRI in 2009.

4. Ideas/Opportunities for Shared Services

- North Country Geodata portal (view, download, WMS)
- Consolidate Map Viewers
- DANC as a possible facilitator of shared services
- Consistent Parcel Schema
- Labor Sharing
- Hardware Sharing (GPS, Server space)
- Open Source options should be investigated
- Suggested to develop a "Work/Skills Inventory" (see section 6 below for more detail)

5. Challenges/Concerns about Shared Services Model

- Lack of productive and open communication
- Political issues
- In terms of sharing DANC infrastructure data, the Authority prefers personal contact with entities requesting data so that: 1) appropriate clarification can be provided with dataset(s) based on their intended use(s), 2) entities requesting data can be contacted in the event of significant change(s)

6. Other Misc.

- Other agencies/groups that would benefit and be a user of shared services/data:
    - North Country Regional Council
        - (Jefferson, Lewis, St. Lawrence, Franklin, Clinton, Essex and Hamilton counties.)
    - Fort Drum Regional Council
- Work/Skills Inventory
    - Info collected would include GIS skill strengths and what each individual spends the majority of their time on
    - This inventory could support the planning study recommendations, particularly in terms of the labor component

    - The skills inventory could be kept up to date and be a resource for all partners to know who might be able to help them out and provide best practice recommendations for future projects/questions.
- DANC's internet map application (IMA) (programming assistance from Fountains Spatial)
    - DANC does publically publish its infrastructure data. GIS hosting customers choose whether to make their datasets publically accessible.
    - DANC charges a fee for hosting of community's data on its IMA proportional to the quantity of data stored. Fee levels are $50, $75, and $100/month.
    - DANC will interact with external engineering firms on some projects, take that data and put it in their IMA viewer, for appropriate communities to view
- Open Source vs ESRI
    - DANC does rely on their current ESRI support, because they don't have any IT people if server goes down, etc.
    - Any open source solution would need similar tech support available
    - DANC does have time sensitive issues due to critical infrastructure management and services to customers (i.e. server issues need to be resolved ASAP)

8.2 NYS TUG HILL COMMISSION

Date: 6/13/13

Attendees:

- THC: Mickey Dietrich, Katie Malinowski, Jennifer Harvill, Matthew Johnson
- AppGeo: Morgen Healy, Linda Rockwood

1. General Agency Background Info.

- Tug Hill Commission is state funded, no earned income, non-regulatory, serve local governments and citizens
- serves 61 communities, GIS plays a role in nearly all projects
- Focus on natural resources, planning, community development
- Circuit rider program – go to local municipal meetings, bring back ideas, help answer questions

2. Current GIS

- Current GIS Staff and GIS Users
    - Mickey, Katie, Jennifer, Matt and various interns
    - two concurrent ArcGIS licenses for 4 users.
- Additional Notes/Follow-up from Survey or Documents
    - Tug Hill is primarily a data consumer
    - Parcels come from counties (annually). Tug Hill occasionally will add attributes to parcels for their own analysis/purpose
    - Other datasets come from state or other various data sources

- Strengths
    - Flexibility to answer communities needs - commission adapts as technology changes
    - Innovative - Often finding low/no cost solutions
    - Commission does work to build capacity, knowledge within communities.
    - No Fee Service
    - Diversity of Projects
- Needs Improvement
    - Data Management and Organization (minimize file duplication internally)
    - Data Sharing - A structure to share more efficiently between agencies they receive data from and provide data to.
    - Metadata
    - Mobile Capability

3. Current/Existing Shared Services

- Some GPS hardware sharing
- JIMI Project – still in the implementation phase (moving towards web version of Cartegraph)
- Other various projects with member communities (e.g. Lewis Co and GIS Cloud)
- Shared service in some form with most all of our communities and counties
- Trail mapping – i.e. Winona, others
- Support to Tug Hill Tomorrow Land Trust

4. Ideas/Opportunities for Shared Services

- Shared GPS hardware / software and training
    - GPS sharing may be challenging due to distances between partners, and in some cases GPS is needed in an emergency to locate a structure, etc
- Uniform data attributes between agencies (i.e. parcels, zoning, etc.)
- Aligning county parcel data for this project with the NY State parcel project
    - Maybe utilizing the free WMS hosting NYS GIS Clearinghouse is currently offering counties
- Streamline data sharing (WMS, data portal for download, could be as simple as an FTP site or something like DropBox)
- Use Open Source to save $$ where appropriate (e.g. PostGIS to replace SDE)
- Sharing of online maps between other participants utilizing a cloud solution like ArcGIS Online or GIS Cloud. (Functionality of these type of applications are needed.)
- Improve communication and collaboration in the group
- Shared training (Could have some of this done by members of the group for no cost.)
- Centerline work – THC has captured roads with GPS, perhaps incorporate that data back into NYS centerline road file and the County Highway Map?

5. Challenges/Concerns about Shared Services Model

- Increased cost

- Loss of flexibility and ability to respond in an agile manner to community requests
- Losing control of web-based maps (needing someone else to update and publish data)
- Being limited to one software/solution (loss of freedom to be innovative)
- Sharing ESRI licenses, leading to decreased license availability
- Becoming less efficient, and less effective at serving local governments
- Commission already has good shared services relationship with current communities and organizations, doesn't want to lose that.

6. Other Misc.

- Carthage HS:
    - Works often with Carthage H.S., lend GPS equipment, training
    - Commission can use their H.S. computer classroom for meetings/training
    - H.S. kids work on projects: trail mapping, hydrant mapping, etc.
    - Very successful, have won some state awards
- Tug Hill GIS Cooperative agreement, Jefferson County was one of the first to sign-up, primarily for the use of digitizer, plotter, etc. Started years ago, when Commission was primarily the only one with GIS capabilities. Other non-profits/agencies in area without GIS staff or equipment/software could join.
- City of Watertown also uses Cartegraph asset management software – not part of JIMI project currently
- Lewis County has pilot program with GISCloud.com for their web viewer, also being used to share data back to Commission. Pilot is for one year, free. Different license fees: $15/$35/$55 per month, depending on edit level. User can move up and down licenses (flexible). ArcGIS Online licensing not flexible.

8.3 CITY OF WATERTOWN

Date: 6/20/13

Attendees:

Linda Rockwood – AppGeo project team
Matt Owen - GIS Coordinator
Josh Carlson - representing DPW department head
Mike Sligar - Water Department Superintendent
Dale Herman - Fire Chief
Russ Randall - Deputy Fire Chief
Peter Keenan - IT Manager
Brian Phelps - City Assessor
Kurt Hauk - City Engineer

1. General Background

- GIS in use since 1993, hired first full-time GIS employee in 2004
- second GIS position created in 2007 to meet demand

- second position currently unstaffed due to recent retirement, actively looking to fill position
- GIS is within the IT department, works well, no one department monopolizes GIS services

2. Current GIS

- Current GIS Staff and GIS Users

  GIS Coordinator and GIS Technician
  maintain geodatabases on server, create internal web viewers
  data fieldwork, mapping, overall system buildout
  two ArcGIS desktop standard single use licenses

  o Assessor's Office
  uses ArcView 3.2 to draft parcel changes, measurement, inventory verification, change detection
  internal GIS viewer use

  o DPW, Sewer and Water Departments
  use internal GIS viewers, heavy consumers of data
  Cartegraph and asset management ArcGIS desktop concurrent license
  vehicle routing software RouteSmart, advanced extension for ArcGIS, avl, moderate data analysis

  o Engineering
  CAD shop, internal GIS viewer use, heavy consumers of data, field data work

  o Fire Department/Emergency Management
  use internal GIS viewers, minimal GIS data analysis
  priority is keeping address point data current/correct for Spillman County dispatch system

  o Planning Department
  use internal GIS viewers, heavy map consumers, some analysis

  o Codes Department
  underutilize GIS viewers, use assessor's real property system

- Additional Notes/Follow-Up from Survey or Documents

  o City makes use of Jefferson County Pictometry
  o City maintains own parcel data, shares with County when requested, no procedure to regularly send data to dispatch
  o City does not get many requests to share data, no charge for data
  o public map viewer is ArcIMS, SDG ImageMate link for property data, needs to be updated, functionality is good, nice to add more real-time data, maybe more public data
  o other ArcGIS basic single license is on Server, so work can be done right on server machine
  o Transmap project captured right-of-way images, 2006 and 2009
  o use manifold GIS for its extensions
  o GPS: two older GeoXTs, considering trade in, and two Trimble sub centimeter, used regularly
  o 36 inch plotter and scanner for engineering and GIS

- Strengths

  o provide value to all departments that consume GIS data
  o can do some basic programming in-house, internal viewers

- have a knowledgeable GIS department
- provide data collection, mapping and analysis support to all departments

- Needs Improvement

  - distribution of data: have data, not all available to serve out
  - keeping data up to date (full-time job)
  - education and outreach to internal departments and to the public
  - stronger GIS programming skills
  - deployment of data out to the field

3. Current/Existing Shared Services
   - Parcel and address point data to Jefferson County for dispatch
   - City sells water to outside services

     (no sharing of software, equipment – City is very self-contained)

4. Ideas/Opportunities for Shared Services

   - Sharing of water and sewer systems' GIS data within Jefferson County (approximately 20 miles outside city)
   - Willing to share GPS base station
   - Disaster management/damage inventory – opportunity to share across large geographic area
   - Happy to consider low/no cost solutions, not married to ESRI
   - Would like to see everyone maximize the potential use of software tools already in place
   - Partner together to offset training costs
   - Partner together to develop web maps and mobile apps
   - Transmap data capture, big cost is in mobilization at location

5. Challenges/Concerns about Shared Services Model

   - Need to know that City's priorities will be met
   - Concern about ownership and control of data, must guarantee 365/24/7 access
   - Need flexibility to combine data to create own maps to serve own purposes
   - Can't share labor, understaffed
   - Concerned about hierarchy of information – okay to share some data to public, some data should only be for dispatch, for example
   - Probably would not share critical infrastructure data
   - Increased cost, have very good situation for licensing now
   - Some vendor software requires ESRI licensing
   - Given the equivocal nature of the data, there is a big concern about human interpretation of data (representation of data outside of City by a different entity, they may not be seeing the full picture)
   - Communication seen as weak link across region

6. Other Misc.

- Have TSOMobile vehicle location software, used by street sanders, would be really nice to have historic data for GIS, but no time for project like this
- Have Fluid Mobility Qbit dashboard, used by refuse vehicles, may use for Police Department in future
- City is currently converting parcels from CAD format to geodatabase, in-house project
- Very interested in mobile, tablets in particular, ruggedized for field crews, create working documents out in the field and also to capture information for Water, DPW, Assessment, Codes, Fire

8.4 JEFFERSON COUNTY

Date: 6/20/13

Attendees:

Mike Kaskan - Deputy Administrator
Roxanne Burns - Real Property
Michelle Bunny - GIS Specialist/Planning
Don Canfield - Director of Planning
Joe Plummer - E 911 Coordinator
Debbie Patchen -Technical Communication Officer for dispatch
Rick Snow - Highway Department Administrative Supervisor
Sean Vincent - IT
Chris Downey - GIS Specialist/Real Property
Greg Hudson – Director of IT
Linda Rockwood – AppGeo project team

1. General Background

- 43 municipalities in Jefferson County, with 120,000 residents
- grants funded original GIS needs assessment and implementation, 2001 – 2002
- GIS started in Planning Department
- IT department provides 24/7 server support
- second server at vendor location for hosting public viewer

2. Current GIS

- Current GIS staff and GIS Users

  Planning Department
  one dedicated full-time GIS specialist, one part-time GIS user
  finalize parcel data for distribution
  maintain own copy of street centerline data
  create/maintain other layers for Planning, other departments and for municipal government support
  one ArcGIS Desktop Advanced concurrent license

  o Real Property
  one dedicated full-time GIS specialist
  prepare shapefile and attribute data for parcel layer
  maintain street centerlines, address points, common places, street intersections, emergency response zones, municipality boundaries for dispatch

one ArcGIS Desktop Advanced concurrent license

o Emergency Management
part-time GIS user
Spillman dispatch software, linked to ESRI software
one ArcGIS Desktop Basic concurrent license
ArcGIS Network Analyst concurrent license – intended for quickest route project, on back burner, potential to drop this license

o Highway Department
part-time GIS user
one ArcGIS Desktop Advanced concurrent license
Cartegraph asset management, with ArcGIS license
ArcPad license

- Additional Notes/Follow-Up from Survey or Documents
  - o parcel data in CAD, no immediate plans to convert to geodatabase
  - o rare to have license sharing conflicts
  - o moving towards Enterprise GIS license
  - o currently migrating from ArcGIS 9.3 to 10.0
  - o Highway Department GPS: three Ashtech units for sign and drainage collection, Carlson (sub cm), Trimble Ranger (rugged, meter), third unit (new, vendor??)
  - o basic map viewer hosted locally 7-8 years ago, public viewer now hosted off-site (Fountains Spatial), running on ArcGIS 9.2, needs upgrading
  - o Planning, Real Property and Highway – all maintain own copy of street centerline data
  - o no centralized GIS data nor GIS Department
  - o part of JIMI project, along with seven municipalities in County (and six in Lewis County). Transmap data collection of county roads, participating municipality roads, and town roads where County owns bridges
  - o DANC is collecting data for other communities in the County (i.e., Clayton)
  - o cost would be the only motivator to consider non-ESRI/open-source, Spillman dispatch must have ESRI

- Strengths
  - o skilled, dedicated staff with limited resources, get the job done
  - o proud of data that supports Spillman dispatch
  - o strong cartography skills, map support for all county departments

- Needs Improvement
  - o data sharing within County – need central hub/repository for GIS data
  - o untrained users in other departments: public health, board of elections, social services
  - o education/outreach – do have lots of resources and data, can do more to help improve all County functions
  - o more efficient field data collection, have more people use ArcPad

3. Current/Existing Shared Services
   - provide zoning and comprehensive plan mapping for municipalities in County
   - oversee snowmobile trail program for snowmobile clubs in County (processing GPS data, fund distribution)
   - share parcel data with DANC and Tug Hill
   - freely share county GIS data with municipalities

- limited other sharing, always project-based

4. Ideas/Opportunities for Shared Services
   - all counties contract for Pictometry together
   - share public viewer across counties – hardware/software, each county has own portal, or one big viewer with
     levels of filtering
   - public safety related – Sheriff, fire, EMS (Spillman software probably implemented in neighboring counties)
   - create data consistencies in each county for state's benefit, especially public safety/hazmat situations

5. Challenges/Concerns about Shared Services Model
   - not structured to share labor with LGE project partners , but maybe depending on the nature of project if of benefit to County
   - must have full-time access to software to be able to do job
   - emergency services must have E911 system all the time
   - custodians of data – who maintains – all same standards? (ie, consistency of data entry)
   - for shared services, must look at hours of time to implement – what is the return?
   - people have own method/ways of doing things, especially in each county (no standardizations, slightly different cultures)

6. Other Misc.
   - Do have good countywide cell reception, going to 4G now, just a couple small spots without reception
   - Training – go to conferences, free webinars, no paid training – would like python training, switching from 9.x to 10.x to be more productive, new features in 10.1.1 for muni layers
   - Would like to have real time data (not 6 months to one year old data)
   - Mobile data collection for assessing data: collection in field versus writing it down, then keying it in, don't have equipment, staff needs to be trained, take pictures, measurements
   - Highway Dept. would like ruggedized tablets, still lots of infrastructure to gather, small pipes that Transmap couldn't see, things not close to road, more storm sewer
   - Possibility of citizens' input to GIS – to report potholes, sign down, etc.
   - Cartegraph mobile app, can mark spot, send request for service
   - Fort Drum (in Jefferson County) – very different entity – do have significant GIS presence – sharing is limited by DOD procedures

8.5 ST. LAWRENCE COUNTY

Date: 6/25/13

Attendees:

Jason Pfotenhaeur – Deputy Director of Planning
Matilda Larson – Planning
Jim Race – Real Property

Raeanne Dulanski – Soil & Water
Ryan & Erica – Highway Department
Linda Rockwood – AppGeo project team

1. General Background

- 45 municipalities in St. Lawrence County, with 111,944 residents, 40% in Adirondack Park
- GIS got started in late 1980s with digitizing of tax maps
- ArcView 3.x, initially in Planning and Real Property
- County has never had GIS budget as line item

2. Current GIS

- Current GIS Staff and GIS Users
  - o Planning Department
    four ArcGIS Basic 10.1 licenses, single use
    copy of ArcView 3.2 to export old files as needed
    staff member recently retired, will probably drop one license or maybe transfer to another department
    maintain ag districts, zoning for municipalities, redistricting data

  - o Real Property
    two ArcGIS Basic 10.1 licenses, for three users, no sharing problem
    ArcGIS Spatial Analyst 8.1 extension, not maintained, for contours
    create parcel shapefiles from CAD, once a year update in March

  - o Emergency Management
    Positron dispatch system, very basic map capability
    looking to upgrade to Spillman dispatch (requires ESRI license)
    have access to standalone Pictometry

  - o Highway Department
    ArcView 3.x license, not in use anymore, no computer left to run it on/no upgrade license
    use Civil 3D and Map 3D CAD for project design work, MS access database for attribute data
    miss not having the GIS to be able to look up culvert and/or guide rail data spatially, with attributes
    have two GPS units
    Trimble ProXR and Topcon GMS-2 with recently purchased Total Station
    Maintain multi-use trail data in CAD

  - o Soil and Water Department
    technician and forester both use GIS
    co-located with USDA NRCS, have access to their ArcGIS 10.1 licenses
    handheld Garmin GPS

- Additional Notes/Follow-Up from Survey or Documents
  - o Planning and Highway both update street centerlines, send info back to NYSGIS Clearinghouse
  - o have server for dedicated Pictometry, whole County flown 2008, northern more urban part flown 2012, hope to fly every five years, sheriff department funds project
  - o no plans to switch parcels from CAD to geodatabase, financial constraints

- o Highway Department has GPSed culverts, guide rails, multiuse trails, various data for some municipalities
- o Real Property maintains parcel data for E 911 use
- o address point data for whole County comes from NYSGIS Clearinghouse
- o Planning has copy of QGIS, no time to learn, have explored Manifold GIS in the past
- o web viewer built on open source (geoserver, open layers), used by appraisers, realtors, assessors, codes officers, planning and zoning boards, public citizens
- o County uses all shapefiles, no geodatabases, data is centrally stored on server
- o would like for training in basic GIS/fundamentals, moving from 10.1 to 10.2, extensions

- Strengths
  - o geo-portal/public viewer is a huge asset
  - o everyone works well together, sharing information, technical assistance
  - o outside departments, municipalities, public – impressed with GIS capabilities
  - o abilities match needs (80% requests to create locator maps)
  - o doing what is needed, doing it well

- Needs Improvement
  - o training and staff development
  - o spend more time interacting with other fellow GIS users
  - o not getting the practical day-to-day techniques at various area GIS user group meetings
  - o need to do more with asset management (both built and natural)

3. Current/Existing Shared Services

- Partner with nearby St. Lawrence University, have students help with GIS projects, share data with each other, University uses QGIS, introduced Jason to QGIS
- Assist St. Lawrence County Housing Council with mapping for housing rehab grants
- occasionally assist County IDA
- have worked on projects with Adirondack Park Agency
- occasionally share data with DANC

4. Ideas/Opportunities for Shared Services

- all have geo-portal together for the public, with parcels, imagery, wetlands, soils, boundaries, ag districts, water, sewer
- share training resources – reduced expense, hold at central location
- Pictometry – all counties fly together as one project
- Desire a system that's set up so it's easy to find data, only one central copy, must be time saver

5. Challenges/Concerns about Shared Services Model

- would not share real property data not yet released (roll not closed)
- would not share parcel data that currently is revenue-generating
- loss of autonomy -- Example: regional web portal/viewer, St. Lawrence County has less experience and resources, possible loss of control in determining what an end product would be

- if commitment of resources required (financial), County resources are very tight, would be tough to make any contribution for ongoing maintenance (would have to get grant funding)
- each county is different, St. Lawrence is far removed from Watertown/Ft. Drum area - very natural resources/natural beauty focused
- balancing representation with other partners – to be equitable – but maybe it doesn't have to be (?)
- Small concern about making lots of data available to public as that might bring in more questions rather than fewer questions to the county departments

6. Other Misc.
   - Soil and Water uses GIS for conservation planning, soil productivity, general soils and wetlands project work, snowmobile program
   - Real Property creates maps for assessors, prints maps for public
   - Planning Department prints maps for public, local planning board meetings, try to encourage people to use web viewer instead, do charge for large format printing
   - no charge to distribute parcel data within County departments or to municipalities, for external entities: $50/town and $1000 for County
   - open to open source as a concept, but pretty tied to ESRI, don't have any resources to learn new software
   - minimal need for mobile GIS – primarily Real Property and assessing
   - Map for All Seasons project – have updated data but not published new version of paper map, PDF version on County website http://www.co.stlawrence.ny.us/Departments/Planning/MapforAllSeasons,
   - for future, no funding for hardcopy version so thinking about combining with County Highway map
   - High-speed Internet access, getting better, mostly DSL, cable in northern end of County, cable in villages
   - cell reception pretty good, dead zones inside Adirondack Park, a few other dead zones

8.6 LEWIS COUNTY

Date: 6/25/13

Attendees:

Russ Brownell – Real Property
NichelleBillhardt – Soil & Water
Jackie Mahoney – Trails Coordinator (newly hired)
Linda Rockwood – AppGeo project team

Via phone:

Cheryl LaLonde – Dispatch Supervisor, Emergency Management
David Becker – Highway Department Supervisor

1. General Background

- 27 municipalities in Lewis County, 17 Towns and 9 Villages with 27,087 parcels, eastern portion of 5 towns in Adirondack Park
- GIS started early 2000's, ESRI software, water quality funding
- have had ArcIMS in the past
- GIS data very fragmented across county

2. Current GIS

- Current GIS Staff and GIS Users
  o Planning Department
  occasional GIS use, down one staff position
  one ArcGIS 10.1 Basic single use license, on central computer
  maintain zoning and develop maps for review of projects for County Planning Board

- Real Property
  two GIS users
  two ArcGIS 10.1 Basic single use licenses
  maintain parcel data, extract from RPS and CAD
  maintain street centerlines, School , Fire, Light, Sewer Districts, etc
  Maintain GIS Cloud map data, Forestry data, Survey Map data, in the past we have maintained ATV Map Data and Snow Trails Data.
  Maintain Great Lot Line Data, Town and Boundary Data, and Aerial Photo Inventory, and other pertinent historical data.

  o Emergency Management
  just beginning conversion to Spillman dispatch system (requires ESRI license)
  currently, dispatch and real property maintain address data
  use Pictometry

  o Highway Department
  Only software in use is Pubworks for tracking/managing all projects
  County is part of JIMI project, have Cartegraph software and data, do not have Carlson GPS unit as part of project
  Department has recreation grade GPS (Garmin)

  o Soil and Water Department
  contract agency, three staff and intern
  access to one USDA NRCS-owned ArcGIS 9.2 Basic license
  one in-house ArcGIS 9.3 Basic license
  single use Carlson-Intelcad license (separate from JIMI project)

  o Trails Coordinator
  One ArcGIS 10.1 Basic single use license
  Historically, position has been consumer of data with shapefiles maintained by real property
  New hire has GIS skills

- Additional Notes/Follow-Up from Survey or Documents
  - County has Trimble GeoXT, currently being repaired

- 2012 LIDAR for Black River Valley, not using data yet
- 2006Pictometry, also use Google Earth
- County uses shapefiles only, no geodatabases
- GISCloud.com public viewer and private data storage, have had for over a month
  public viewer – can view all layers
  private viewer – can extract layer as shapefile, work on it, store back up in cloud
  $55 per month as editor license, would be for a department like real property
  have free use for one year as pilot project
  has plug-in for ArcGIS, 10.x version, to import/export data
  huge advantage for inter-Department sharing, very interested in cloud sharing concept
  could save County big bucks – no need to get SAN server
- some ArcCAD training in real property, all take free webinars, learn as go, teach each other
- would like to have Spatial Analyst capability
- Codes Officers use GIS viewer

- Strengths
  - knowledgeable people (without GIS specific degrees)
  - willing to cooperate across departments – data and knowledge

- Needs Improvement
  - how information is shared (ie., email me the shapefile, not the preferred method)
  - haveall departments aware of what is available
  - software compatibility across departments
  - have data standards

3. Current/Existing Shared Services
   - Share parcel data freely to Tug Hill Commission, municipalities, DANC

4. Ideas/Opportunities for Shared Services
   - Share data across county lines, especially parcels, streams, soils, trails
   - Have a GIS coordinator: a dedicated GIS person across the whole region/all partners, this person could also help with training, help implement standards, would have advanced skills, help all to utilize software to full potential
   - Spillman dispatch in all 3 counties, act as backup system with adjoining counties: 1) as another server with all data, and 2) backup as mutual aide also
   - sharing seen as positive because it helps with costs and allows them to do things they can't do now

5. Challenges/Concerns about Shared Services Model
   - data – would not share farm data/private landowner data
   - would not share parcel data that is source of revenue (external)

- if shared service for all partners, would there be any limitations as to number of users that can be on system at a time
- if someone is editing data, is there still a read-only copy until updates are posted
- accessibility – what will/will not be public
- need layers of administration for each partner – one person given right to edit
- hacking, need to protect what is implemented

6. Other Misc.
    - charge external for parcels – land surveyors, land companies, consultants, logging, $500 for county, $25 for town, $25 additional layers
    - High-speed Internet: very poor across County, DSL if exist at all, mostly in villages, bad in the towns, limited cable available
    - Cell reception: bad on Tug Hill, Adirondack Park, decent in rest of County
    - RFP to convert CAD parcels to geodatabase is part of Spillman dispatch project, goal is to just have one geodatabase, Real Property will maintain
    - Highway Dept: when need mapping info, like property owners abutting a project, go to Real Property, do have map on wall, countywide road map with wetlands, parcels, streets – very helpful
    - IT department looking at getting SAN Server (storage area network) for GIS data
    - Huge database of forest inventory data, folding into Trails Coordinator department
    - No mobile GIS yet, would like tablet with layers for use in the field as quick reference: is location in a wetland, in what zones, natural heritage area? Also take pictures, geo-tag. And could use for assessing – take photos, measurements, zoning check

North Country
Shared GIS Services Planning Study
Appendix B

LiDAR Data Acquisition ROI

D R A F T

March 2014

produced by

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1. INTRODUCTION

In January 2014, GroundPoint Technologies, LLC (GroundPoint) was contacted by the Development Authority of the North Country (DANC) to help the organization and its regional partners develop some quantifiable return on investment (ROI) figures for LiDAR data acquisition. It is GroundPoint's understanding that these figures will be used to support a Shared GIS Services Planning Study being conducted by Applied Geographics for DANC and its partners including: The New York State (NYS) Tug Hill Commission, The City of Watertown; and Jefferson, Lewis, and St. Lawrence counties. Furthermore, ROI metrics may be used to substantiate a grant application to the NYS Division of Local Government Services' Local Government Efficiency (LGE) grant program.

GroundPoint as a company emerged from the Institute for the Application of Geospatial Technology (IAGT). IAGT, a non-profit geospatial technology incubator created in 2001 by NASA's Regional Application Center for the Northeast, is based in Auburn, NY and collocated with Cayuga Community College. GroundPoint's founders have over 15 years of experience in geospatial technology application in federal, state, and municipal government settings. GroundPoint's main business focus is the creation of high resolution LiDAR data products to support local government applications.

Pursuant to DANC's request, GroundPoint has summarized LiDAR ROI studies and reports conducted by other state, federal, and private agencies in the United States. These studies and reports are summarized in the Literature Review Section below.

2. LITERATURE REVIEW

2.1. Iowa Geographic Information Council

The Iowa Geographic Information Council (IGIC) ROI report, compiled by the Geospatial Information Technology Association (GITA), focused on nine datasets. Four of those nine framework data layers are influenced in their quality, accuracy, and precision by LiDAR:

Transportation,
Elevation,
Hydgrography, and
Building Footprints

The Executive Summary of the IGIC report also specifically calls out the need for a holistic approach to a geospatial program in order to "best capture the realizable costs and benefits of such a program." Statewide, their 20 year analysis indicated an ROI for the overall geospatial program of 24.21%. Two areas were recognized as having particular tangible benefit but needing better metrics to establish quantifiable return on investment:

Economic Development, and
Emergency Services

Economic development benefits are specifically cited as having enormous potential benefit. In both cases they recommended establishing methods for measuring changes brought to their processes through use of geospatial data such as LiDAR.

The IGIC report also recognizes that there are costs involved. In particular, counties that lack dedicated GIS staff will face costs and significant learning curves to training non-GIS staff to become proficient with LiDAR elevation. The data is inherently complex and voluminous. As such, it is helpful to look closely at the business use cases and evaluate the requirements for derivative data products. This can reduce both the learning curve and the specific software costs associated with developing those required data products that will provide the highest degree of benefit to staff for little or no additional training.

The IGIC report has an excellent table in "Section 4. Financial Analysis" describing individual job category benefits for geospatial data. While many are State level functions, the benefits are clearly applicable to DANC and its partners. Highlights from that section that are impacted by LiDAR data are based on the four framework data layers listed above are included in the table below.

Extracted Table from IGIC Report on Geospatial Return on Investment

Job Function	**Layers**	**Benefit Description**
Transportation Engineer (DOT)	Hydrography Elevation Transportation	Labor avoidance incorporating found points into DOT system= 90 hours/year
Environmental Specialist (DOT)	Hydrography Elevation	Labor avoidance acquiring, creating and manipulating hydrology= 510 hours/year
Environmental Specialist (DNR)	Hydrography Elevation	Watershed Improvement – improvements to watershed modeling for sediment delivery = 200 hours/year
Environmental Specialist (DNR)	Hydrography Elevation	Water Quality NPDS – point discharge permit locations, how far from streams, where does it drain = 180 hours/year
Environmental Engineer (DNR)	Hydrography Elevation	Floodplain Management - floodplain determinations for buildings = 600 hours/year
County SWCD USDA CREP Program	Elevation Hydrography	Cost avoidance of preliminary surveys, engineering services, and surveys for wetland structures. = $67,500/year

Job Function	Layers	Benefit Description
County Planning/Zoning	Elevation Building Footprints	Site planning savings for structures =40 hrs/yr
County Planning Department	Elevation Transportation	Cost avoidance for Transportation Planning = $24K/yr
County Planning/Zoning	Elevation	Viewshed analysis would be possible. They would use this for cell towers and wind farms. Have done this with USGS topo maps
County Sheriff Deputies	Elevation Building Footprints	Emergency preparedness savings for structures = 10 hrs/yr
County Public Health Inspector	Elevation/ Hydrography Building Footprints	Time savings from using aerial survey data = 40 hrs/yr
County Level (General Benefits)	Elevation	Avoidance of survey crew time for preliminary design = $50,000/yr
County Highway Department	Elevation Transportation	Avoidable road maintenance costs using LIDAR for analysis = $92,200/yr
County Highway Department	Elevation Transportation	Cost avoidance for preliminary surveys for roads and culverts = $50,000/yr
County Engineer's Office	Elevation Transportation	Avoidance of survey crew time for preliminary design 20 crew days/year at $150/hour = $24,000/yr
County Surveyor	Elevation Transportation	25% of total time on any one field work project reduced = $75,000/yr

In one example above, a county planner estimated that new LIDAR may save the public from having to go to an engineering firm seeking better data for their site plans. Work on even a small parcel costs ~$2000-$3000. Conservative estimate of saving to the public from use of LIDAR would be $40,000/year for this county. In another example, Soil and Water District Conservation offices have contracts for engineering services for drainage, wetlands and other site specific design services that could be reduced significantly by providing those contractors with LiDAR data.

The conclusions from the IGIC report state that the use of LiDAR in place of preliminary surveys and to aid in preventative road maintenance provided a large savings to counties. Benefits to consulting firms are significant, and savings would be passed on to taxpayers in county and municipal agency contracts with these firms. These conclusions support the concept that LiDAR data can have a big impact in helping to reduce infrastructure design and maintenance costs to taxpayers.

2.2. The USGS Report

The USGS contracted with Dewberry to produce the National Enhanced Elevation Assessment (NEEA), which also resulted in the subsequent National Requirements for Enhanced Elevation Data report. The NEAA report states that a nationwide LiDAR map could provide a 5:1 ROI for the 27 business uses, for a total savings of up to $13 billion annually. Relevant information from the USGS report is summarized below.

The top categories for public ROI recognized in this assessment include:

- Land Navigation and Safety
- Agriculture
- Geologic Hazard mitigation
- Infrastructure and construction management
- Flood risk management
- Natural resources conservation
- Wildfire management planning and response
- Water Supply and Demand
- River and Stream Resource Management
- Forest resource management
- Homeland Security, Law Enforcement, Disaster Response

In Agriculture, LiDAR is worth $5/acre for not having to hire surveyors to solve common drainage problems. LiDAR is required for all agricultural land areas for topographic analysis of slope, aspect, curvature and soil wetness (surface and subsurface), and resultant site-specific application of seed, fertilizer, lime, pesticides and water to optimize farm yields. LiDAR derivative products are very important for Precision Ag: (1) slope data are used to minimize soil erosion; (2) aspect data are used to identify areas of solar heating where soils are more wet or dry; and (3) landscape position (curvature) data are used to identify areas of high/low soil moisture content.

Farm drainage issues cost American farmers many hundreds of millions of dollars annually in crop production losses. While not suggesting that LiDAR alone would prevent such losses, Simplot has demonstrated that LiDAR data and Precision Ag technologies dramatically reduce drown outs and oversaturated soils. If LiDAR could solve just 10% of the farm drainage problems, the value to American farmers would be over $50 million annually.

2.3. ESRI GIS Guide for Elected Officials

The Environmental Systems Research Institute (ESRI) published a GIS Guide for Elected Officials. In the Guide there are several LiDAR applications recognized for cost savings and ROI. They include reduction in staff time, asset management, direct cost reductions, and economic development. Using that same model, below we have included some examples of how LiDAR data can provide an immediate return on investment.

Site Planning

How does LiDAR data improve efficiencies? An example of a common derivative of LiDAR data is a detailed slope map. In New York State, the State Environmental Quality Review Act governs how municipalities review land development proposals. Typically several entities are involved to review development proposals for regulatory slope requirements. The Planning Department may review road grade requirements, the Health Department reviews water and sewer requirements, and the Public Works Department may review plans for storm water or erosion and sediment control. Some local municipalities have separate steep grade land use controls for permits governing new construction and site development proposals. Without LiDAR, no consistent elevation data set exists for agencies to review slope and as such they rely on the applicant to provide site specific field survey data to support their proposal. These are typically submitted on paper maps and reviewed manually by agency staff. Having a single, consistent, shared high resolution digital slope dataset derived from LiDAR that is adequate for site specific reviews can reduce up to a half hour of labor time per office for each review. This can translate into hundreds of hours of saved labor per year between all agencies combined just in the development review process.

Asset Management

There are plenty of examples of how using GIS to support maintenance and repair of infrastructure and facilities can yield cost savings in improved program performance and prevention of failures.

How can LiDAR improve asset management? More and more communities are recognizing that their assets are not limited to man-made infrastructure like roads, bridges, and sewer lines, but also include natural assets that not only provide social values (like recreation or scenic beauty) and enhance community resiliency to natural disasters and chronic environmental degradation. Managing those natural assets starts with good mapping. LiDAR data can be used in conjunction with aerial imagery to create very high resolution land cover data that may include impervious surfaces, tree canopy coverage, and wetland areas. In fact, recent techniques using LiDAR and imagery for wetland mapping have been shown to be effective at updating National Wetland Inventory (NWI) and National Hydrography Data (NHD) that are fundamental GIS datasets used in most natural resources inventories. These data are essential for use in strategies designed to:

- Reduce flooding and peak flows by increasing runoff travel times and enhancing absorption and water storage,
- Reduce treatment costs for drinking water supplies by reducing erosion and suspended sediment associated with precipitation that can foul filters at the water treatment plan plant,
- Improve water quality in public water bodies intended to support uses such as swimming, fishing, or wildlife habitat.
- Reduce storm damage to physical infrastructure by absorbing storm impacts

In addition, LiDAR can provide information to support the maintenance of existing facilities, such as sewer systems. Often as built data on existing sewers is based on measurements tied to manhole elevations and locations. These locations are often relative in the as-built documentation and not tied to real world elevation or location coordinates. LiDAR data makes it possible to tie manhole and catchment elevations to as-built diagrams that are part of ongoing maintenance and work order systems to upgrade, repair, and maintain existing infrastructure. In addition, tying this infrastructure to real world elevation coordinates helps municipal engineering and public works staff better design system improvements and plan for emergency events like pump station failures or storm related overflows. LiDAR data can also be used to meet storm water regulatory requirements like the Municipal Separate Storm Sewer Systems (MS4).

Surveying Cost Reduction

How can LiDAR data result in direct cost savings to taxpayers? LIDAR data can support planning and engineering design of public works infrastructure projects. In many cases, LiDAR data can be used in lieu of pre-design surveys, or at a minimum significantly reduce the amount of field survey required for design purposes. Elevation data, cross sections, and profiles can be extracted from the LiDAR and input directly into surveying and engineering design software. This translates into a direct cost savings on public infrastructure projects that are normally bid to local engineering and surveying firms. Total project costs are reduced by the amount of the previously needed design survey work. At anywhere from $5K -$10K per project for surveying, even a modest number of public works projects can realize as much as $100K per year in direct cost savings to taxpayers.

Economic Development

Just as direct cost reductions benefit taxpayers on municipal engineering projects by eliminating or reducing the need for pre-design surveying, the same thing can be said for private site development projects. Anytime overall costs can be reduced, it benefits the economy. Surveyors and engineers become more efficient and more competitive, and the costs to property owners goes down if they can leverage public domain high resolution topographic data in lieu of conducting an independent topo survey. Topographic surveys for individual lots can cost anywhere from $1,000 to $5,000; more for larger subdivisions or commercial properties. Even a moderate level of site design work in a county in any given year can result in hundreds of thousands of dollars in cost savings for developers, investors, or property owners.

3. COSTS

Costs for LiDAR data acquisition are dependent on the quality requirements of the data being collected and the extent of the area being covered. The USGS report includes a cost table broken out by quality level and summarized by cost per mi^2. USGS' costs do NOT include additional derivative products and assume pricing for a minimum of 4,000 square miles. The table below was taken from the USGS report and summarizes costs based on varying degrees of quality denoted by Q1, Q2, Q3, etc.

Table F.1. Estimation of Costs per Square Mile for the Five Quality Levels

A	B	C	D	E	F
Quality Level	$/mi^2	QA/QC	Subtotal	USGS	Total $/mi^2
QL1 LiDAR (48 states)	$453.25	$67.99	$521.24	$26.06	$547.30
QL2 LiDAR (48 states)	$277.00	$41.55	$318.55	$15.93	$334.48
QL3 LiDAR (48 states)	$209.25	$31.39	$240.64	$12.03	$252.67
QL4 1-m Image DEM (48 states)	$134.00	$20.10	$154.10	$7.71	$161.81
QL5 IFSAR (Alaska)	$90.00	Included	$90.00	$4.50	$94.50
QL5 IFSAR (49 states)					$80.00

Note that USGS' costs are negotiated and are under federal contract. Today's LiDAR acquisition costs may be lower due to advances in data collection techniques from 2012, when the USGS report was written. Quality assessment/control (QA/QC) are broken out separately and are approximately 15% of the collection cost. In addition to QA/QC, there are other desirable LiDAR-related services and products that are recommended for DANC and its partners that LiDAR data acquisition vendors may or may not include with their base costs. Some of these items are summarized in the table below along with cost estimates presented as a percentage of the base cost of LiDAR data acquisition based on GroundPoint's experience:

Additional Product/Service	Additional Cost % of Base Cost	Benefit(s) of Additional Product/Service
High-precision contouring	10% - 15%	Topographic analysis for storm water and hazards analysis
Hydrographically enforced digital elevation models (DEMs) and Digital Surface Models (DSM)	15% - 25%[1]	Used for view shed analysis, cut and fill calculations, tree canopy, etc.
Training for GIS professionals on managing LiDAR data	1% – 3%	Allows users to manage LiDAR and derive other data products

It is GroundPoint's professional opinion that DANC and its partners will require a quality of Q2. Note that the higher the quality level (e.g. Q1 vs. Q2), the greater the cost, but also the greater potential benefit of the data. For brevity, the quality levels are summarized in the table below which was taken from the USGS report. Readers should reference the USGS report for more detailed information concerning the quality levels (see References Cited Section).

[1] Range is dependent on the quantity of hydrography improvement models included.

Table 1. Predefined topographic data quality levels.
[IFSAR, interferometric synthetic aperture radar; lidar, light detection and ranging]

Elevation QLs[1]	Horizontal resolution terms			Vertical accuracy terms		Principal source[7]
	Nominal point density[2], in pts/m^2	Nominal pulse spacing[3], in meters	DEM post spacing[4], in meters	Vertical RMSE[5], in centimeters	Equivalent contour accuracy[6], in feet	
QL1	8	0.35	~1	9.25	1	Lidar.
QL2	2	0.7	~1	9.25	1	Lidar.
QL3	1–0.25	1–2	~3	≤18.5	2	Lidar.
QL4	0.04	5	~10	46.3–139	5–15	Aerial imagery.
QL5	0.04	5	~10	92.7–185	10–20	IFSAR.

Based on previous experience with LiDAR data acquisition projects in New York State, GroundPoint estimates that DANC and its partners could likely negotiate a unit cost of $200 per mi^2 for a quality level Q2. This $200/mi^2 unit cost includes all optional products/services discussed above: QA/QC, high-precision contouring, hydrographically enforced DEMs and DSMs, and training. DANC and its partners should develop a formal request for proposal (RFP), including quality requirements and any optional services, to verify this pricing. It may be beneficial for DANC and its partners to consider hiring a LiDAR data acquisition project management consultant in addition to a LiDAR data collection vendor. This consultant can act as a broker between the partners and the LiDAR data collection vendor to ensure that the quality and scope of the deliverables outlined in the RFP is delivered. Note that NYS has negotiated standardized pricing for LiDAR data collection. However, this contract only includes collection of raw LiDAR data and not any recommended optional products/services.

4. CONCLUSION

GroundPoint has done its best to summarize available information pertaining to ROI for LiDAR data for DANC and its partners' reference. Based on the information presented, an annual ROI for LiDAR data acquisition for DANC and its partners is estimated to be $100,000 to $300,000 per year per partner. Assuming all six partners participate in the LiDAR data collection effort, this would equate to a $600,000 - $1.8M annual figure. Note, that this figure is conservative and does not include long term benefits such as reduced property losses because of improved insurance and flood risk planning, or reduced impacts of storms due to enhanced buffering and absorption, etc. There are many public benefits and values LIDAR data can support that provide a long term regional return on investment above and beyond those discussed above. Depending on the total cost, it is possible for the payoff period to be as little as 1-2 years.

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North Country
Shared GIS Services Planning Study

Prepared For:

Development Authority of the North Country

Jefferson County

Lewis County

St. Lawrence County

Tug Hill Commission

City of Watertown

D R A F T

March 2014

Prepared by

AppGeo

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APPENDICES

Appendix A – Report Technical & ROI Information
Appendix B - LiDAR Data ROI (By GroundPoint Technologies, LLC)

EXECUTIVE SUMMARY

In 2012, the Development Authority of the North Country (Development Authority), the New York State Tug Hill Commission, the City of Watertown, and Lewis, Jefferson, and St. Lawrence counties (Partners)

began a process to develop a Shared GIS Services Planning Study. Funding for this study was provided to the Development Authority (serving as the lead applicant on behalf of the Partners) by the NYS Department of State, Division of Local Government Services through their Local Government Efficiency (LGE) Grant Program. **The overall goal of this study was to develop a shared GIS services plan to increase GIS efficiency, reduce costs, improve GIS services, and ultimately save taxpayer dollars.**

This North Country collaboration is unique in that it combines State, Regional, County, and Municipal forms of government in partnership to reduce the cost and improve the efficiency and overall GIS services for the taxpayer.

The Process

Interviews and outreach to the partners gathered information about each partner's current situation, goals and long-term expectations. Data on GIS resources, staffing, data, and percent of time spent on GIS tasks was gathered as part of this process. Subsequent to that, a conceptual plan was developed followed by draft reports which included recommendations and cost/benefit analysis. Comments received were incorporated throughout the process to develop the final report and presentation.

Current Situation

Each of the six partners has implemented GIS within their organization, but to varying degrees. For example, all have an online GIS presence, but some are in need of enhancement to take advantage of the latest technologies available (e.g. use from mobile devices). As this plan will describe in detail (section 2) there are many successes of GIS implementation in the region, but these successes do not necessarily maximize the efficiencies that could be gained from implementing strategic shared services.

The following summarizes (in general) some of the high-level goals that exist for GIS services in the North Country:

- Provide improved/updated GIS web viewers
- Improve data consistency across the region for streamlined sharing
- Implement mobile apps for use in the field (data collection, data viewing)
- Emphasize training and professional development for GIS staff
- Increase outreach and training for GIS users and the general public

Strategic Goals

Three overarching strategic goals represent the high-level objectives for achieving a sustainable, shared services model for geospatial activity in the North Country. Moving forward towards realizing these three goals will position the region to have the strongest and most efficient suite of geospatial capabilities available to all partners and the general public:

- Identify **GIS services and initiatives that can be shared** to increase efficiency and lower labor and/or direct costs across the region
- **Foster communication and GIS collaboration** among the partner agencies and across the region
- **Provide effective GIS services to both government entities and the public** that answer critical questions, thus increasing overall use of GIS as a community/public service.

Recommendations

Generally speaking, the recommendations fall into two categories, and are listed in no particular order. The first three represent possible **new projects** that the partners could embark on together, potentially with additional grant-funding from the LGE program. The remaining three represent **ongoing possibilities** that the partners should consider as opportunities arise.

NEW PROJECTS (potentially grant-funded)

Recommendation 1. Develop an extremely user-friendly, Regional Public Map Viewer that is aimed specifically at the general public (although it can, and will also be used by government employees) and publishes the most commonly sought map-based information across the region (e.g., orthoimagery, parcels, elevation contours, and roads). Users across the region - both public and governmental - will be exposed to, and get familiar with a common user interface. A user friendly and high quality viewer would be useful and visible to a wide and potentially increasing pool of non-GIS users and would increase awareness and utilization of local/regional GIS programs.

Recommendation 2. Employ a Standardized Self-Service Map Viewer Platform that enables the development of many different map viewers that can support specific business activities and the individual needs of partners. Viewers built with this platform may be limited to internal use by one department within a single partner; they could be aimed at the publication of less commonly accessed public information; or used to deploy a highly focused public viewer. By developing a standardized approach for map viewers and eliminating the others, economies of scale may be achieved for hardware, software, data storage, maintenance, and application development/subscription. This approach would also build a community of users who would all be working on the same technical platform and could share expertise.

Recommendation 3. Aquire LiDAR Data for the region (Jefferson, Lewis, and St. Lawrence counties) or high priority areas, depending on budget. In addition to acquiring the data, ensure GIS professionals receive adequate training to derive useful data products. Make LiDAR-derived datasets (e.g. contours) publically available on the Regional Map Viewer to increase public awareness. Hold regional seminars/informational meetings with target interest groups (public officials, local engineering firms, etc.) to increase awareness of the availability of LiDAR-derived data products.

ONGOING POSSIBILITIES

Recommendation 4. Collaborate on Vendor Acquisitions – There are a number of areas that require the services or products from the private sector including, for example; hardware, software, data collection, contract labor, or application development services. Partners should collaborate on vendor acquisition efforts and projects as opportunities arise. This will provide potential cost savings not only on the project itself through economies of scale, but also saves on labor for the RFP writing, vendor selection, and project execution and administration. In addition, when it comes to data collection projects, shared acquisition can lead to more consistent data across the region.

Recommendation 5. Share Mobile Application Development and Maintenance – Several agencies expressed interest in developing mobile data collection applications. Where possible, two or more partners should share the mobile application requirements analysis, project administration, application development costs, and ongoing maintenance costs. In addition, if the partners are using the same or similar platforms, additional efficiencies can be gained by all and data will be collected in a more consistent manner.

Recommendation 6. Implement a Shared Training Program – All partners have an ongoing need for formal training and informal knowledge sharing programs. Because of the relatively widespread use of GIS by all the partners and the potential for shared technology applications/platforms, developing a program to share training and other information learned by the partners with each other provides great potential for time, cost and administrative savings. Also, there is a knowledge sharing benefit attained from having additional direct contact among the partners' staffs during training sessions.

Benefits Summary

In summary, the technologies described below all support the free flow of geospatial data across the region. When the data flow more freely and easily, the best data become more available and accessible to support a variety of important planning and decision-making functions across government. While difficult to quantify, the better and more informed planning and decision-making that follows indirectly leads to and supports qualitative benefits such as enhanced environmental quality, improved public safety and higher levels of economic development. Benefits to each recommendation are listed below:

1. Regional Top 10 Web Viewer
    - Improved public data access (via desktop and mobile devices) to important geospatial information across the region
    - End-users no longer need to visit several different map viewers when looking for information across the region
    - Cut down on "counter traffic" in local county/town/village offices by providing convenient access to those seeking data, and free up the staff time that would be spent servicing the counter.
    - Facilitate regional economic development prospects by making it easier for developers to gain access to key datasets (e.g. parcels, elevation, imagery, existing infrastructure) that help determine suitability of land for different development purposes
    - Creates a platform that supports mobile applications for partners that do not presently have this capability.
2. Shared Self-Service Viewer Platform
    - Consistent, standardized user interface and toolset across the region
    - Partners can deploy, manage and update viewers as needed without application development/programming skills or vendor support
    - Partners have flexibility to deploy specialized viewers that meet their specific needs (e.g. layers, tools, permissions)
    - A community of users working on the same technical platform could share expertise
3. LiDAR Data Acquisition
    - Significant cost savings on economic development projects for using LiDAR derived elevation data over hiring a surveyor to perform site visits
    - Reduces trips to the field to document/verify 'lay of the land'
    - Aids in municipal and regional infrastructure planning
    - Provides a key input for storm water management planning; there are several communities in that could benefit from LiDAR to meet MS4 requirements
4. Shared vendor acquisition

    - Consistent product (i.e. data collected, services provided, hardware purchased) across the region
    - Increased knowledge sharing and collaboration stemming from shared services/products
    - Reduced duplication of effort through single RFP/Procurement process
5. Shared Mobile Application Implementation
    - Eliminate duplication of effort in designing and implementing a mobile data collection application
    - Sharing a single application platform will allow partners to share best practices and assist each other with troubleshooting issues
    - This type of collaboration will lead to more consistent and higher quality data across the region
6. Training and Knowledge Sharing
    - Increased collaboration among partners
    - Improved GIS skills and services through the sharing of best practices (at little/no cost)

Next Steps

As this planning study is finalized, the partners are looking ahead towards the next steps, which are briefly described below.

- Partners determine which recommendations they would like to proceed with, and garner internal support for those recommendations
- Partners should consider establishing some written acknowledgement of the partnership and the intention of the shared services to be implemented
- As appropriate, the partners will apply for grant funding for any capital expenditures
- Design and Implementation teams (made up of representatives from participating partners) should be established to continue work on the chosen recommendations

Phased Implementation

In order to be successful at a shared service model, it will be critical to build the program methodically and in phases. By using this approach, it will allow the participants to build communication and collaboration best practices. For example, the more visible and critical items (e.g. Map Viewers, LiDAR data, Training/Knowledge Sharing) are addressed first (in phases) to show progress and efficiency gains, and to gain group momentum for some of the other future recommendations.

1 INTRODUCTION

This study has been commissioned to evaluate the feasibility of, and provide recommendations for, implementing a shared services Geographic Information System (GIS) model in the North Country. It evaluates GIS use and capabilities of participating governments and agencies and identifies opportunities to share resources along with administrative and technical recommendations on how to implement these shared resources.

1.1 BACKGROUND

In 2012, six government/regional organizations in the North Country Region of New York State partnered to embark on a Shared GIS Services Planning Study. These partners include: The Development Authority of the North Country (Development Authority), the New York State Tug Hill Commission (hereafter Tug Hill Commission), the City of Watertown, and Lewis, Jefferson, and St. Lawrence counties. Funding for this study was provided to the Development Authority (serving as the lead applicant on behalf of the other partners) by the NYS Department of State (NYSDOS), Division of Local Government Services through their Local Government Efficiency (LGE) Grant Program; reference NYSDOS project # C1000075.

The map below shows the geographic relationship between the partners:

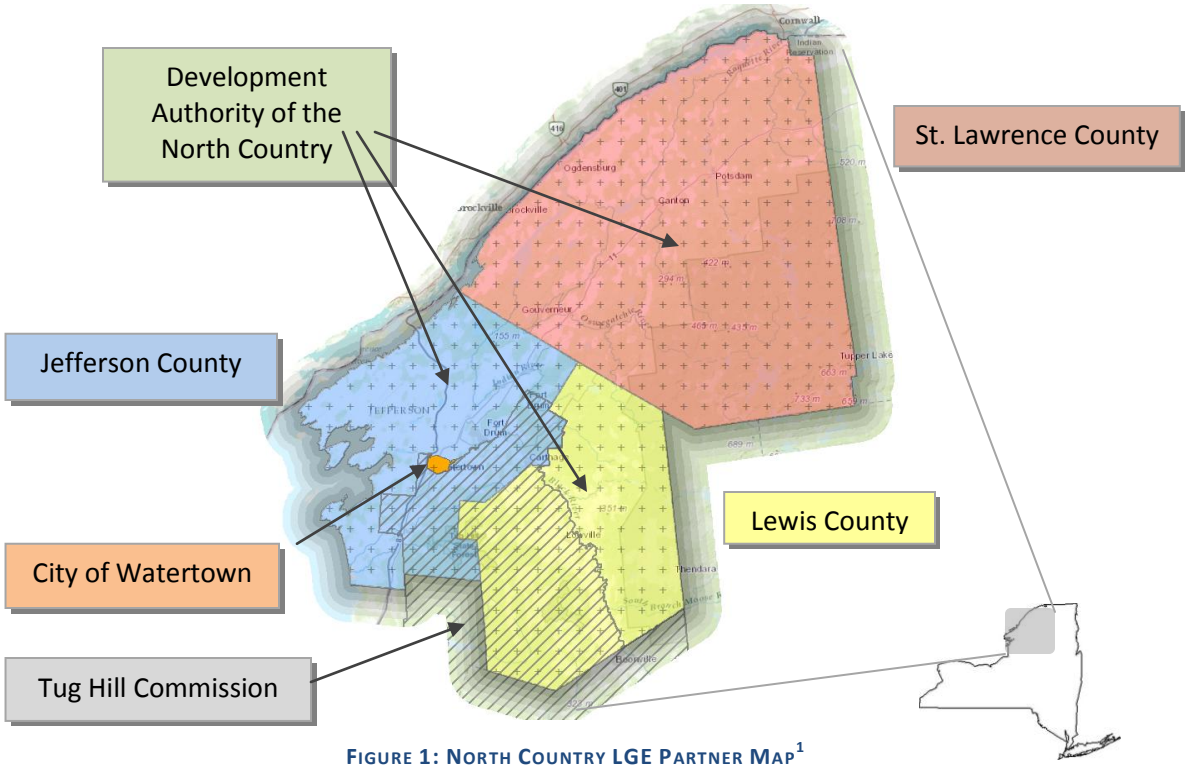

FIGURE 1: NORTH COUNTRY LGE PARTNER MAP[1]

[1] The Development Authority covers St. Lawrence, Jefferson and Lewis Counties. The Tug Hill Commission covers portions of Jefferson and Lewis Counties and also extends south into Oswego and Oneida counties (beyond the focus of this planning study).

As the LGE grant application notes, "the ability to combine unrelated data by spatial location is a key benefit of GIS. This utility is particularly useful to North Country government organizations that are responsible for managing public infrastructure, coordinating environmental protection, and community planning. Many of these organizations view GIS as a critical tool necessary for fulfilling their mission. However, GIS implementation is not a simple task and requires significant resources and long-term planning. GIS implementation requires high capital expenditure and personnel resources before providing quantifiable benefits. As a result, entities lacking funding, staff, and proper planning do not often implement GIS to its full potential."

The grant application continues on to state that "through the completion of this study, six partnering government entities in the North Country will develop a plan to provide better services to internal and external GIS customers in a more efficient manner, thereby reducing the cost of government services."

The goal of a shared GIS services model is to increase GIS efficiency, reduce costs, improve GIS services, and ultimately save taxpayer dollars. Although the concept of shared GIS is not new, a collaboration of this size (both geographically and number of entities) is unique.

1.2 PROJECT APPROACH

The following outlines the process used to complete this shared services planning study:

Step 1 – Project Kick-off Meetings

The project team met directly with all of the partners to discuss the regional approach and to further learn about their current operations, constraints, and objectives with respect to a regional approach. Web-based surveys were also used to collect information from partner agencies regarding current GIS resources, staffing, data, and percent of time spent on GIS tasks (to be used on cost/benefit).

Step 2 – Conceptual Plan Development

The project team consolidated the analysis of written information and documentation of current GIS with findings from the meetings and interviews. Then, using this information, the project team developed a set of key programmatic objectives and a conceptual plan for a regional approach.

Step 3 – Recommendations and Analysis

The project team performed analysis of the programmatic objectives to create ROI analysis for future grant proposals, and compiled the suite of programmatic objectives and recommendations into a single plan framework.

Step 4 - Plan Finalization and Presentation

The project team compiled the results from the preceding three steps into a comprehensive Shared Services Plan (this document), prepared an Executive Summary, and prepared a final presentation.

1.3 THE SHARED SERVICES MODEL CONTINUUM

A shared service model can mean many different things. For example, it can be as simple as sharing key GIS datasets across jurisdictions, or as sophisticated as one or more of the entities managing GIS operations for the region. Often, as the level of sharing and integration increase, so do the cost savings. However, with increased sharing there can be a loss of some autonomy. In the context of this project, the recommendations will fall somewhere in the middle, maximizing the benefits of sharing while respecting organizational independence.

The diagram below depicts this **Continuum of Shared Services**, and indicates where the agencies currently fall and where the recommendations of this plan will land on the continuum.

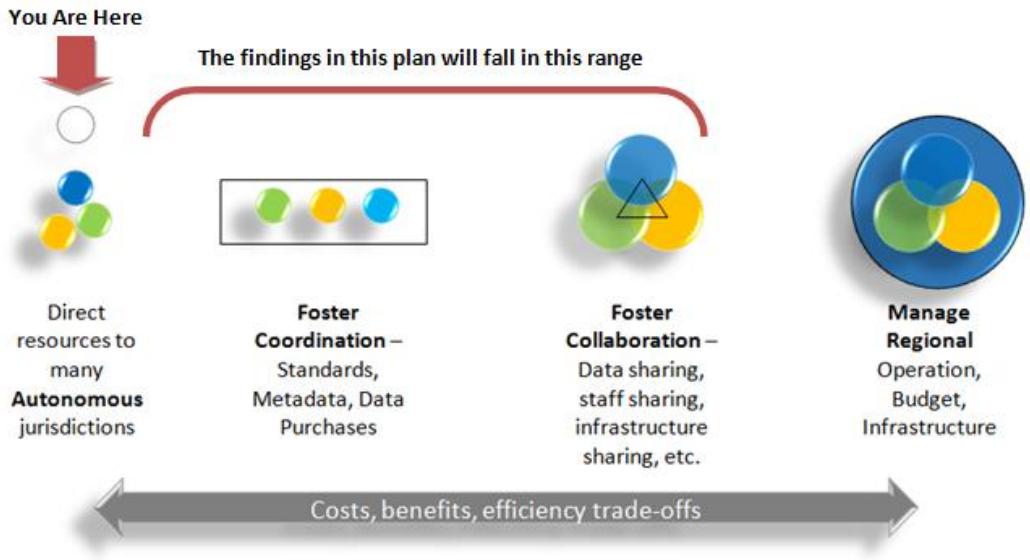

FIGURE 2: CONTINUUM OF SHARED SERVICES

The partner agencies involved in this study are of varying types and sizes, and have a wide range of GIS needs. Therefore, a key concept of this plan is that each agency will be able to choose which shared services they participate in, thus selecting only those that meet their agency's needs and business practices. Not all agencies will participate in all shared service recommendations. This will allow for maximum flexibility within each agency and not force unneeded solutions or programs on any agency.

1.4 SHARED SERVICE MODEL EXAMPLES

This North Country collaboration is unique in that it combines State, Regional, County, and Municipal forms of government in partnership to reduce the cost and improve the efficiency and overall GIS services for the taxpayer in a geographic area equaling the size of the State of Connecticut. Examples of various GIS sharing models exist within New York State counties (Westchester) and between counties (Erie and Niagara).

Examples of shared GIS services are provided below to demonstrate that a successful shared services model is possible and beneficial to the taxpayer. While the North Country shared services model would be a first for New York State, in terms of geographic area and complexity, it is achievable through proper planning, a long-term commitment and regular communication by each of the partners.

1.4.1 Within New York State

WESTCHESTER COUNTY

Westchester County initiated a data sharing program with its 45 municipalities over ten years ago. As part of this program, each entity signed a formal Intermunicipal Agreement (IMA) with the county. That agreement resulted in the county agreeing to provide each municipality its imagery, transportation, street features, facility, environmental, addressing and other relevant countywide data. The municipalities, in turn, supplied the county with local spatial data. Across the county, GIS capabilities varied from municipality to municipality. Many of the municipalities did not have the GIS expertise to provide GIS services for themselves. In addition, it became clear to others that it was not cost effective for them to build their own GIS capacity when they could, instead, leverage existing County products and services. As needs arose, the county was often requested to provide maps or GIS expertise to assist these municipalities.

Over the years, the county's GIS expertise grew while GIS technology advanced rapidly. To meet its own needs, the county established on-line mapping services. These services allowed county offices to obtain GIS services and maps directly that met their business needs while reducing the burden on the county's GIS staff for paper maps and other individualized services.

As the program matured, the county began offering on-line mapping services for each municipality. Setting up the on-line mapping for the municipalities was relatively easy because the county already had the infrastructure in place and the incremental cost of providing the service for the municipalities was minimal. The county's GIS data is central to the services because it represents the "authoritative" underpinnings of the on-line mapping. Also, under this program, the county obtains important and costly data such as tax parcels and utilities (e.g. water, storm water, wastewater) from the municipalities without having to go through the administrative efforts to contract and pay for it. As a result, the county does not charge the municipalities for its on-line mapping services. It emphasizes providing content via the web mapping services and enabling the users to select a viewer that best meets their needs.

Significant support for this program is garnered from county offices as well as municipal highway, public works, police/fire, and planning departments. Private engineering firms support it as well because the published services can be used with their computerized engineering systems. Lastly, both the county and the municipalities find the services invaluable in meeting the reporting requirements for the environmental program entitled, "Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4)."

Obtaining tax parcel data from the 45 municipalities was a key incentive for the county. In order to make that data useful to the county, minimum standards were set for the data to be published. In cases where municipalities strongly objected to the publishing of certain fields for public viewing, those were eliminated on a case-by-case basis.

Westchester County provides the follow services to the municipalities:

1. Internet Mapping through Westchester County's online mapping application.
2. Geospatial Data Warehouse
3. Training and education
4. Project management and needs assessments

Sam Wear, Assistant Chief Information Officer-GIS, noted that by centralizing these services at the County level, significant efficiency gains are found, and significant cost saving opportunities are provided for GIS hardware, software, maintenance, and training to municipalities across the county including those with limited technical and financial resources. He also reports that the program is now expanding to include the 57 school districts in the county as well.

ERIE AND NIAGARA COUNTIES

Erie and Niagara Counties share borders with each other and the Niagara River. Over the years, Erie County developed advanced GIS capabilities while Niagara County was not as fortunate. When staff from Erie County left to work in Niagara County, an opportunity arose to re-examine how GIS services could be delivered in Niagara County. Soon the counties became aware of a grant for shared services through the NYS Shared Municipal Services Incentive (SMSI) program. Their proposal received a $305,000 SMSI grant to fund the installation of a high-speed microwave network connection between Erie and Niagara Counties. This network, in turn, enabled the sharing of GIS data and applications between the two counties as well as public safety information. (Subsequent to that, the Erie-Niagara Shared GIS Services project recently received a second SMSI grant to extend the partnership to all local governments within the two counties.)

As part of this partnership, the counties signed an Intermunicipal Agreement[2] for sharing GIS services, technical/intellectual knowledge, staff support and technical information. This agreement was developed out of a mutual interest between the two counties to develop and maintain their GIS programs in the most cost effective manner. Its goal was to provide the staff and residents of both counties with high quality geospatial services while saving money through sharing of GIS infrastructure and geospatial applications.

Through this agreement, Erie County provides an enterprise-level GIS environment for Niagara County to build their GIS program on and is responsible for hosting and conducting basic maintenance on map services for Niagara County. All of these services are maintained on the Erie County GIS servers. Erie County also hosts several map viewers for use by Niagara County municipalities. In essence, Erie County provides Niagara County a GIS IT backbone which gives them access to Erie County's servers and GIS database. Erie County also hosts Niagara County's GIS data including their parcel database. In exchange, Niagara County provides annual funding to Erie County to help sustain the GIS infrastructure and both counties share GIS applications that they (or their consultants) develop whenever possible.

Other elements in the agreement include Erie County providing Niagara County with emergency GIS equipment and personnel when needed (as a mutual aid service). Finally, both counties store backup copies of the each other's essential GIS data so that they have an immediately accessible database if a disaster takes down either data center.

This sharing agreement takes advantage of economies of scale, and allows Niagara County to utilize advanced GIS capabilities that it otherwise would not have access to because of lack of funding and GIS expertise.

[2] This IMA is included in Appendix 6 for reference.

1.4.2 Out-of-State

Similar GIS initiatives have been successfully undertaken in different parts of the country. A key example is the MetroGIS initiative (within the Metropolitan Council serving the seven counties encompassing 250+ local governments in the Minneapolis/St. Paul, Minnesota metropolitan area). MetroGIS has been functioning continuously since 1995 and has won several awards for the various GIS sharing initiatives and collaborations that it has undertaken across the seven counties it encompasses.

AppGeo has worked with MetroGIS over the past 5 years to help them assess, improve and enhance the shared services program. Specific projects have included; development of a prototype shared Address Editing/Maintenance Tool, development of a collaborative model for regional Road Centerline Data Maintenance, and performing a Shared GIS Service Needs Assessment to determine which current shared services are most in need of improvement, and to identify potential next generation shared services.

MetroGIS is a voluntary collaboration of participating stakeholders, including regional agencies, state and federal agencies, counties, cities, school districts and water management organizations. The Metropolitan Council (the regional planning and operating agency for the Twin Cities area) acts as the primary financial sponsor of MetroGIS, and also houses the staff responsible for managing MetroGIS's administrative operations. MetroGIS is guided by a policy board, comprised of twelve elected officials. The board is supported and informed by two groups: a Coordinating Committee and a Technical Advisory Team. The Coordinating Committee makes recommendations to the policy board based on information from the Technical Advisory team.

Of MetroGIS's several accomplishments, some of the most widely used and successful shared services include:

- Implementation of various regional data solutions to answer the most common data needs (e.g. jurisdictional boundaries, street addresses, parcels/parcel identifiers, highway and road networks, census boundaries, lakes, wetlands, land cover, and planned land use.)
- Implementation of web mapping services to allow the use of spatial data on desktop computers with GIS software
- Implementation of the MetroGIS DataFinder for easier GIS data searching and download
- Implementation of a regional geocoding service (this provides a method to geographically locate places based on their address)
- Execution of parcel data sharing agreements between all government interests serving the seven county area without fee and subject to identical access requirements.

These services provide benefits at all levels of government as well as to the general public both in terms of time and cost savings. Two testimonials below demonstrate the value of shared services.

> "Having an organization that coordinates the sharing of data is a much more efficient mechanism than having all the region's cities, and other organizations, spending time to acquire the data individually. The bottom line is better service to the public – by

enabling management and elected officials to make more informed decisions because of access to the wealth of information that can be processed and displayed using GIS."
- Dennis Welsch, Community Development Director, City of Roseville MN[3]

"The process for assembling the data we need has become much easier under the MetroGIS data-sharing agreements, and our costs have gone way down. The regional datasets will also be a big plus because we will not have to spend our time standardizing the data from one county to another. We can go about our business of controlling the mosquito population."
-Nancy Read, Technical Services Leader, Metropolitan Mosquito Control District[4]

2 CURRENT SITUATION

2.1 THE NORTH COUNTRY REGION

Implementing a successful shared services GIS model in any area is a challenge. Challenges typically include budget constraints, staff levels, and wide geographic dispersal of agencies with varying objectives. There are several success stories of effective use of GIS in the North Country region and just as many cases where things could be improved.

In the second decade of the 21st century, the public has come to appreciate the need for computer word processing, spreadsheet analysis and emails as a necessary and helpful part of government/agency function, but GIS as a whole does not enjoy this level of public recognition. It has been commented upon in interviews and follow-up discussions that map viewers are underutilized by those that could benefit from the data they provide, yet for those who do use the public map viewers, they find them indispensable, and it saves county/agency GIS staff considerable time by not having to answer basic data questions. Providing effective and beneficial GIS services to both government agencies and the public starts with a strong web presence, in the form of user-friendly GIS web mapping capabilities.

In terms of web mapping capabilities, all partners have or recently have had public map viewers of varying levels of sophistication and technology implementations. Three of these viewers were developed using older Esri ArcIMS technology no longer supported by the vendor (Esri is the industry leader in GIS software); two of these viewers have been discontinued (Lewis County and Tug Hill Commission) and one can no longer be enhanced (City of Watertown). Since then, Lewis County and Tug Hill have deployed new viewers using GIS Cloud, a cloud-based technology. Watertown continues to use their viewer on the old platform. Jefferson County uses an older version of ArcGIS Server which needs updating to enhance functionality and performance. The Development Authority and St. Lawrence County also have viewers, both discussed in more detail below, one using ArcGIS Server (DANC) and one using GeoExplorer, which is an open source software (St. Lawrence). It's clear that some level of consistency in web viewer platform would be a benefit to the region. Furthermore, the regional viewers created by the Development Authority and by the Tug Hill Commission contain much of the same geographic information as the three county viewers. This leads to redundancies in data

[3] http://www.metrogis.org/benefits/testimonials/roseville.pdf
[4] http://www.metrogis.org/benefits/quotes/index.shtml

storage and the potential for incongruent data versions and end-user confusion (i.e. which viewer has the most recent and "best available" data?).

Resources and in-house skills both influence how decisions are made, and ultimately whether a GIS program can succeed long-term. The lack of in-house programming skills (e.g. to build a GIS map viewer) will drive the decisions made when implementing a GIS viewer, but does not rule out a robust solution. Without these skills in-house, the partners will need to rely on outside consultants (to develop and upgrade the solutions on their behalf) and/or make use of "self-service" platforms that allow GIS professionals without specific programming skills to manage and deploy GIS web applications. Both are viable options, and perhaps a combination of the two will be the optimal solution. A "self-service" option allows this to happen without in-house programming staff and is often less expensive and more timely than relying on outside consultants.

In recent years, Light Detection and Ranging (LiDAR) data have become a very important component to GIS programs. For example, requests for LiDAR-derived elevation data in Tompkins County, NY have exceeded requests for county parcels. Presently, about 50% of New York State's land area has been imaged with LiDAR. This includes a 400 mi^2 area along the Black River floodplain in Lewis and Jefferson counties. The Black River LiDAR data was acquired in 2011 by the United State Department of Agriculture and did include the City of Watertown. Although LiDAR data do exist in the North Country, the extent only covers 3% of the region (defined as the combined extent of Jefferson, Lewis, and St. Lawrence counties). The third recommendation in Section 3.3.3 addresses this shortcoming.

Field data collection is a major focus throughout the region although it is often done independently, with the exception of the recent road asset inventory project (JIMI project with vendor Transmap) coordinated by The Tug Hill Commission and involving communities within Lewis and Jefferson counties. All the partners collect data using GPS receivers, and, in their interview sessions, each agency indicated a desire to consume more GIS data out in the field on mobile devices. This presents opportunities to share equipment and to benefit from economies of scale by working together on potential mobile application development projects rather than as individual organizations.

Finally, a common theme discussed in the interviews was the ongoing need for professional development, likely in the form of training and knowledge sharing. GIS technologies are constantly changing and keeping up with latest technologies and tools can be very challenging when also trying to balance daily GIS maintenance responsibilities. The partners could benefit from collaborating on professional development, both in terms of shared training and sharing GIS experience and best practices.

2.2 NORTH COUNTRY PARTNER AGENCIES

2.2.1 Development Authority of the North Country

The Development Authority is a New York State Public Benefit Corporation and relies entirely on revenues generated from telecommunications, solid waste, water/wastewater services, and community development projects in Jefferson, Lewis, and St. Lawrence Counties. GIS is centrally managed and well-endowed with staff, hardware and software resources.

ORGANIZATION AND STAFFING

The Development Authority's GIS program is managed by the Engineering Division and has two-full time dedicated GIS staff; a third GIS staff member is proposed for fiscal year ending 2015 Interns have also been used historically to assist with larger projects that require extensive field work such as telecommunication expansion or water quality mapping projects. Additionally, the Telecommunications Technical Services Manager has editor level access to the GIS.

SERVICES PROVIDED

Internally, the GIS program supports infrastructure facilities (telecommunications, water/wastewater, and solid waste) construction and maintenance as well as environmental stewardship initiatives such as trail development and wetlands protection. The Authority's GIS program is also used for regional development, housing and municipal projects.

The Development Authority takes a regional approach to providing GIS services to municipal customers by coordinating GIS data development projects that are eligible for state grant funding and facilitating municipal shared services projects. GIS hosting is also provided to external municipal customers. Presently, the Development Authority provides GIS hosting services for 30 municipalities in Jefferson, Lewis, and St. Lawrence counties with a tiered pricing structure. No-fee public access to the map viewer is also available.

GIS DATA, SOFTWARE AND HARDWARE

The Authority stores all of its geospatial data in a centrally managed, multi-user Esri ArcSDE geodatabase. Safeguards are in place to protect the data integrity at all levels of access (versioning, check-in/checkout capability for disconnected editing environments). Multiple data collection devices are available for staff and intern use, including six toughbooks and one survey grade GPS receiver.

Infrastructure data is created and maintained within the Authority's GIS with parcel data contributed by the partner counties annually. Other agencies' data is requested when appropriate or downloaded from the NY State Clearinghouse.

PUBLIC VIEWER

The Authority's GIS viewer, dubbed the Internet Mapping Application (IMA), was developed by a consultant using Esri's current ArcServer technology combined with Adobe Flex. The IMA is internally hosted and maintained by the Authority, with assistance from a consultant on an as-needed basis. Although fast, this technology implementation is not accessible on mobile devices.

LOOKING AHEAD

The goal of the Development Authority's GIS program is to coordinate and standardize management of spatial data and associated information for the benefit of internal Authority operations as well as the Authority's external customers. To this end, the Development Authority recognizes the need to continue development of its GIS and ensure that content is relevant and program requirements are remaining current as technology evolves. This will mean updating the Authority's current IMA and deploying more mobile applications.

2.2.2 Jefferson County

With the City of Watertown and Fort Drum within its borders, Jefferson County is the least rural and has the most established GIS staff support of the three LGE partner counties. GIS started in the Planning Department with grant monies funding the original GIS needs assessment and implementation.

ORGANIZATION AND STAFFING

Jefferson County benefits from the support of two fulltime GIS specialists housed in the Real Property and Planning departments. GIS support is spread across the Planning, Real Property, Emergency Management and Highway departments, with the Information Technology Department providing server support.

SERVICES PROVIDED

GIS use within the Planning Department focuses on production of zoning, agricultural district, land use, recreation, soils, redistricting, election districts, housing, economic, and demographic maps, and creating and maintaining data in support of the county and its municipalities. Furthermore, the Planning Department assists numerous other county departments with data requests, analysis and abundant map generation requests.

The Real Property Department maintains parcels (except those within the City of Watertown) using CAD software (and subsequently converts CAD parcels to shapefile for GIS use), assigns and geocodes E911 addresses in ESRI software for the GIS based emergency dispatch system, and maintains street centerline and boundary data for emergency management purposes.

Both the Emergency Management and Highway Departments regularly consume and edit GIS data. The Emergency Management Department's Spillman dispatch system (a custom GIS based dispatch software) primarily depends on on-the-fly GIS geocoding. Therefore, Spillman's versioning limits the version of ESRI software employed in the County as they work in concert with each other.

GIS DATA, SOFTWARE AND HARDWARE

Jefferson County GIS staff create and maintain all county-specific data needed to support department functions that rely on geospatial data. Advanced level Esri software licenses are used within the Planning, Real Property and Highway departments, with an additional Basic level license available for Emergency Management use. Currently, data is stored in both Esri shapefile (single use) and file geodatabase (multi-use) formats, and each department maintains its own GIS data separately. .

The County's decentralized approach to GIS does lead to data maintenance redundancies: the Planning, Real Property and Highway departments all maintain street centerline files. There are no immediate plans to convert parcel data from a CAD format to GIS geodatabase format.

Jefferson County participated in the Joint Infrastructure Management Initiative (JIMI) project, along with some of the other LGE partners. In addition to the survey grade GPS receiver acquired through the JIMI project, the County also has five additional GPS units for various project uses.

Jefferson County does charge for release of parcel data for commercial purposes, but a shared services partner or GIS consultant working on behalf of a municipality within the County is not charged.

PUBLIC VIEWER

Jefferson County's current map viewer is hosted at a vendor site, using EsriArcServer technology. The viewer is a popular service, receiving over 150 visitors per day, but has limited functionality on tablet and smartphone devices; the County would like to add this functionality.

LOOKING AHEAD

The County's GIS staff would like to work towards streamlining their data maintenance efforts and incorporate a central data repository to eliminate redundant data maintenance activity and better handle the increased demand for their services. As resources allow, the GIS staff seek to obtain more GIS technical training and expand internet GIS offerings to display more spatial data, thereby improving services countywide. Incorporating GPS and mobile technology into fieldwork are additional goals of Jefferson County.

2.2.3 Lewis County

Lewis County is predominantly agricultural and its GIS support mirrors this, with in-house GIS capability in their Parks & Recreation, Forestry and Soil and Water (contract agency) departments, in addition to use within the Real Property, Planning, Highway and Emergency Management departments. The County's Esri-based GIS program started with water quality funding several years ago.

ORGANIZATION AND STAFFING

Although GIS support is decentralized and there are no dedicated GIS specialists, the different departments' staff work well together sharing data and knowledge.

This decentralized approach does create opportunities to improve upon data standardization, reduce software incompatibilities and to create a central data repository with data access procedures, as recognized by the staff. Further challenges to providing optimal GIS support include the County's Planning Department currently being down one staff person and having no one with strong GIS skills. Additionally, one of the two fulltime tax map specialists in the Real Property department who also provided GIS support has recently resigned. It is uncertain at the present time which position will be filled.

SERVICES PROVIDED

Lewis County's Real Property Department maintains the parcel and street centerline data, with the Planning Department maintaining the County's zoning data. Historically, the Real Property Department has maintained natural resources data, but this can now transition to the Parks & Recreation Department as the new Director has GIS skills.

GIS DATA, SOFTWARE AND HARDWARE

Basic level Esri GIS software licenses are being used to create and maintain the County's data across multiple departments. Data is stored in shapefile format only (single use) and is fragmented across the County.

Lewis County is just beginning their conversion to the Spillman dispatch system, which requires an Esri license. Additionally, a portion of the grant money received for this effort will be used to convert from CAD-based parcel data to GIS database format.

The County also is part of the JIMI project along with Jefferson County but does not have a survey grade GPS unit as part of this project. The County does have a mapping grade GPS receiver (currently under repair) in addition to a recreation grade GPS receiver.

The County has recently begun a software trial period with a Cloud-based GIS services provider, GISCloud.com. In addition to providing public map viewer support, discussed below, this Cloud-based solution also provides for private data storage, facilitating inter-department sharing.

The release of GIS data to external customers, primarily land surveyors, loggers, land companies and consultants, is a source of revenue for Lewis County.

PUBLIC VIEWER

Until February 2013, Lewis County provided a public map viewer hosted on the Tug Hill Commission's server running under the no longer supported Esri ArcIMS platform. With the technical assistance of the Commission, Lewis County has switched to GISCloud, a cloud-based viewer solution that stores all their data on a cluster of servers in a shared environment, greatly reducing costs and downtime. Use of the viewer is currently free, as Lewis County is acting as a beta site for the solution provider.

LOOKING AHEAD

Lewis County's primary GIS users hope to implement data standards, create a new data repository and access methods and improve upon software compatibility across departments in the foreseeable future. Increasing outreach to other county departments is seen as a desirable goal as time allows.

2.2.4 St. Lawrence County

The largest by far of the three partner counties, St. Lawrence County spans over 2,800 square miles and has one of the lowest population densities in the state. Vast size and distance from fellow GIS professionals, particularly the other five LGE partners, makes it harder for the GIS staff to benefit from much interaction with their peers. GIS started initially in the Planning and Real Property departments with the digitizing of tax maps.

ORGANIZATION AND STAFFING

There are no dedicated GIS specialists within any of the County's departments. The Real Property, Planning, Soil & Water and Highway departments all provide their own GIS support. Communication is strong among offices however, and GIS expertise is shared as needed.

SERVICES PROVIDED

The Planning Department maintains redistricting data, agricultural districts and zoning data. The Real Property Department maintains the County's parcel data and contour data.

The Highway Department provides GPS support for County departments and for some municipalities. St. Lawrence County's GIS efforts are demonstrated by the well-used public viewer and a public and internal county government user base appreciative of the services and support provided.

GIS DATA, SOFTWARE AND HARDWARE

Basic level Esri software licenses are used throughout the departments to create and maintain data. An unmaintained Esri ArcEditor level license, along with an unmaintained Esri Spatial Analyst license are

also in use within the Real Property Department. The Soil and Water Department GIS users have access to the USDA NRCS Esri licenses for their GIS data work.

Both the Planning and Real Property departments share in the maintenance of street centerline data, with updates sent back to the state clearinghouse. There are no plans to switch from a CAD-based parcel data structure to a GIS database format, primarily due to financial constraints. All of St. Lawrence County's GIS data is currently in shapefile (single user) format.

Revenue is generated from the sale of parcel data to entities other than St Lawrence County municipalities/internal departments and for commercial use.

PUBLIC VIEWER

St. Lawrence County does have a very up-to-date public map viewer that enjoys considerable use by appraisers, realtors, assessors, codes officers, the planning and zoning boards and public citizens. Although developed free of charge for the County as a demonstration site using the open source platform GeoExplorer, it is not possible to freely add additional data or features, so the viewer cannot reach its full potential currently. Budget has been available to cover hosting costs but not data updates and enhancements.

LOOKING AHEAD

The GIS staff would like to further elevate the capabilities and amount of GIS support across the County with increased technical training and staff development. The County possesses an abundance of natural and man-made features that would benefit from improved asset management efforts through the use of GIS technology.

2.2.5 New York State Tug Hill Commission

The Tug Hill Commission is a non-regulatory state entity within the NYS Dept. of State charged with helping local governments, organizations, and citizens shape the future of the region, especially its environment and economy. GIS supports the Tug Hill Commission's programs of planning, community development, technical assistance and natural resource management through production paper mapping and data analysis. Seen as an early leader for GIS support and implementation across the Tug Hill region, the GIS staff continues to provide flexible and creative spatial data solutions for in-house projects and to their 61 member communities.

ORGANIZATION AND STAFFING

Currently, one fulltime person provides dedicated GIS support. Three additional staff also possess strong GIS skills and are frequent GIS users. As part of a state agency, the Commission is entirely dependent on New York State to fund its operations and has seen a reduction in budget and staff over the past few years. The Commission's GIS program has not been reduced as GIS both for Commission staff and for Tug Hill communities' saves money in the long run.

SERVICES PROVIDED

The Commission's GIS supports all programs and services, including but not limited to data management and analysis of land use patterns, watershed protection, main street revitalization and business development, especially in forest products, farming, tourism and recreation.

GIS DATA, SOFTWARE AND HARDWARE

The Tug Hill Commission is primarily a GIS data consumer with parcel data provided by the LGE partners annually. The Commission occasionally adds attributes to the parcel data for their own analysis purposes. Standard level Esri software licenses are available to share concurrently among staff along with a single copy of Esri's Spatial Analyst. Because of the high volume of data use across numerous projects, the Commission admits to having an inadequate system in place to manage and organize data to avoid duplication. Shapefiles and personal geodatabases (single use formats) are the predominant data storage structures for GIS activity.

The Commission adapts as technology changes and has explored numerous other lower cost or freely available GIS software tools in recent years for internal benefit and for use by their member communities.

The Commission coordinated the JIMI project for several area municipalities along with Jefferson and Lewis Counties but does not have a survey grade GPS unit (one can be borrowed from other JIMI participants as needed). They do have three mapping grade GPS units along with a recreational grade GPS receiver for data collection projects.

PUBLIC VIEWER

Originally, the Commission provided an Esri ArcIMS internally hosted public map viewer but hardware server issues and discontinued support for ArcIMS made continued use of this approach impractical. At the same time, ESRI's ArcGIS Online was just becoming available and was initially offered as a free service. The Commission replaced their public viewer with ArcGIS Online, providing four interactive maps for the region's aquifers, councils of government, topography and general overview map including DEC lands. Free mobile map viewing within the ArcGIS Online service offering provided additional incentive to pursue this new direction. The four viewers are currently available on the Commission's website but are not being maintained, as explained below.

Esri changed their ArcGIS Online pricing structure after the first year, requiring a minimum license level of 5 users at $2,500 annually, making this a nonviable approach for the Commission and the small towns and villages within the Commission's member communities. New alternative solutions were sought out, and GIS Cloud was chosen as a very powerful and affordable option with varying pricing tiers and no annual commitment level. For example, a community can get a license for a short period of time while working on a project with the Commission. Both parties can fully benefit from the ability to work on the data, mapping, and analysis requirements in a cloud-hosted environment, eliminating the need to create numerous paper map drafts of project work. The Commission anticipates fully switching from the ArcGIS Online service to GIS Cloud in late 2013.

LOOKING AHEAD

The Commission seeks to improve data management and organization with the goal of minimizing file duplication, and streamlining data sharing among member communities, the Commission and the LGE partners. Accessing data readily while in the field from tablet devices and phones is also becoming a priority to be able to respond to member community inquiries in a timely manner.

2.2.6 City of Watertown

The City of Watertown benefits from a substantial fund balance[5] and a strong economic base, given its close proximity to Fort Drum and shoppers from Canada. Numerous internal map viewers and integration of GIS into day-to-day operations have leveraged resources across the City's many departments, allowing staff to accomplish more with less time, effort and expense.

ORGANIZATION AND STAFFING

The City of Watertown's two fulltime GIS staff are within the Information Technology Department and provide support to all City departments within a geographic region covering 9 square miles and 27,000 residents. GIS support is centralized, well funded, well established and able to serve the City's numerous departments effectively.

SERVICES PROVIDED

The GIS staff maintain all GIS data on the in-house server, create internal web viewers for specific department and project use and provide data field work, mapping and overall system build-out. GIS is used frequently by Assessing, DPW, Sewer and Water, Engineering, Fire/Emergency Management and the Planning department. Of all the departments, Code Enforcement has the greatest potential to increase use of GIS with a mobile based platform.

The City maintains its own parcel data and shares with Jefferson County when requested.

The GIS staff makes it a priority to keep addressing data current and correct for use in Jefferson County's Spillman dispatch system. Address changes typically originate from Assessing or Engineering.

GIS DATA, SOFTWARE AND HARDWARE

The City of Watertown houses its geospatial data in a centrally managed, multi-user Esri ArcSDE geodatabase, much like the Development Authority. Basic and Standard level Esri software licenses are available for use, along with an unmaintained, considerably older Esri ArcView license in the Assessor's office. Various other vendor software packages are used by some of the City's departments that require Esri licenses.

The GIS staff is in the process of converting all parcel data from CAD format to GIS database format, anticipating completion by 2013 year end.

GPS receivers include two older model mapping grade units (hoping to trade in) and two higher precision units that enjoy regular use.

PUBLIC VIEWER

The City has provided parcel, zoning and natural resource information to the public within its map viewer for several years, although it should be noted that the City's current public map viewer is running on a no longer supported Esri ArcIMS license. Parcel data is kept current within the viewer but no additional functionality can be added. The City's internal map viewers are developed in-house using the newer ArcGIS Server technology and are hosted on the City's GIS server.

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[5] 2013 Fiscal Profile City of Watertown http://www.osc.state.ny.us/localgov/pubs/fiscalprofiles/watertown.pdf

LOOKING AHEAD

Among its many goals, the City of Watertown would like to implement mobile GIS solutions for use in the field and improve data distribution and expand GIS outreach. Improving the currency of their high volume of data is also hoped for.

2.3 COMMON CHALLENGES AND CONCERNS

During the course of the partner interviews, participants were asked to discuss their GIS challenges as well as their concerns regarding shared services. Below is a summary list of the items that came up in several interviews, indicating that these are common themes shared by many of the partner agencies.

COMMON GIS CHALLENGES

- Need mobile apps for use in the field (data collection, data viewing)
- Lack of adequate funding for training/professional development
- Outreach and training for GIS users (letting people know what is available and teaching them what it can do for them)
- Limited time to properly plan for technological improvements and critical upgrades needed for GIS program to be successful
- Data organization and distribution
- Data maintenance

COMMON CONCERNS ABOUT SHARED SERVICES

- Loss of flexibility, autonomy, control of data, etc. due to participating in a shared service
- Data security/ownership/access concerns
- Data sharing concerns and policies
- Need full-time access and very little downtime
- Concern over increased cost
- Potential loss of efficiency
- Inadequate communication between partners and across the region

It is the goal of this planning study to address as many of these challenges as possible through the findings and recommendations, while keeping in mind the concerns voiced by the participants. Section 3 describes these strategic goals and recommendations.

2.4 USE OF STATE RESOURCES

New York State government provides a number of services that are currently being used, and should continue to be utilized to the greatest extent possible. These services include:

- Hosting of imagery and other GIS data on the NYS GIS Clearinghouse[6]
- Conferences and training via the NYS GIS Association
- Next Generation 911 Roads and Address data development
- Geocoding engine (for locating addresses)

All of the partner agencies are members of the NYS GIS Data Sharing Cooperative, and thus eligible to take advantage of relevant data from the 1,000+ members of the Cooperative. Currently, all partners have data posted to the Clearinghouse (some more up to date than others). Some, like the Tug Hill Commission, have been actively involved in the NYS GIS Association in planning the NYS GIS conference and in establishing the Geospatial Technology Institute, which provides training opportunities in the region. The state hosted web map service (WMS) for Ortho imagery are currently being used by all partners, which saves server storage space by avoiding duplication of these large datasets on local servers.

In addition, the State is in the midst of a Next Generation 911 roads and addressing program called SAM (Street Address Mapping). Point files for Lewis, St. Lawrence and Jefferson Counties will be complete by the end of 2013. These addresses will be standardized to roof tops for single addresses, to entrance roads for multiple addresses and to the parcel center point for parcels with no structures. In addition, the State will provide a standardized geocoding engine for use by all as well as an on-line data maintenance tool for County use. As these datasets become available, the data should be used both within the agencies and on the viewers/Geoportal (via WMS). Counties should also collaborate with the State to the greatest extent possible in using the online data maintenance tool (forthcoming).

2.5 SOFTWARE LICENSING

Esri desktop software and tools are used by all partners and are integral to the daily operations and maintenance of their GIS programs. As part of this plan, the project team has deliberated on the likelihood of pursuing some kind of "group licensing" structure and/or using collective bargaining to negotiate a group rate for Esri software maintenance.

Historically and in general, Esri enters license agreements with single organizations, and collective bargaining or a shared licensing pool spanning multiple agencies is very uncommon. In all likelihood, Esri would suggest an ELA (Enterprise License Agreement) for the region. This would potentially be complex since ELAs are generally aimed at one organization rather than a consortium. Further, ELAs aren't typically structured to save money, but instead are aimed at streamlining purchasing within an organization and providing additional enterprise advantage services. Thus, cost savings of a region-wide ELA might be negligible or nonexistent.

There are desktop GIS options outside of the Esri suite of software/tools that are viable compliments and alternatives for certain GIS activities. Some of the partner agencies have shown interest in exploring these alternative software options, in particular as Open Source GIS software. One prime example of a viable Open Source desktop GIS tool is Quantum GIS, also known as QGIS (http://www.qgis.org/en/site/) which is a freely downloadable desktop software tool similar to Esri's ArcMap used for data viewing, editing and map creation. QGIS provides interoperability in that it can

[6] http://gis.ny.gov/

access a multiple GIS database formats (e.g. Shapefiles, Esri Geodatabase, PostGIS, SpatialLite). Recently, the company Boundless announced that it would provide support services to QGIS and incorporate it into its open source geospatial stack. Both the Tug Hill Commission and St. Lawrence County have explored QGIS to a certain extent, although both still primarily use Esri for most daily GIS activities. An alternative like QGIS is not likely to eliminate the need for Esri software (particularly for GIS "power-users") but something like QGIS could be very beneficial for an occasional GIS user who needs to access data every so often on the desktop, but can't justify the cost of additional Esri licensing.

3 GOALS AND RECOMMENDATIONS

3.1 OBJECTIVE

The six partner agencies involved in this study rely on GIS to manage their infrastructure, relay important information out to the public, plan new development, and perform their day-to-day operations. These types of geospatial services improve efficiencies within the individual organizations by providing quicker access to the data that are necessary for internal and external customers.

The objective of this project is to identify opportunities for those entities already invested in GIS to share geospatial services in a manner that will improve efficiencies, reduce costs, and provide more comprehensive and functional GIS services.

3.2 STRATEGIC GOALS

The three overarching strategic goals presented below represent the high-level objectives for achieving a sustainable, shared services model for geospatial activity. Moving forward towards realizing these three goals - some of which are attitudinal and other of which are technological - will position the region to be able to more effectively and efficiently utilize their geospatial capabilities to serve their internal and external customers.

The overarching strategic goals are to:

1. Identify **GIS services and initiatives that can be shared** to increase efficiency and lower labor and/or direct costs across the region
2. **Foster communication and GIS collaboration** among the partner agencies and across the region by developing a broader understanding of each entity's GIS programs and opportunities for sharing
3. **Provide effective GIS services to both government entities and the public** that answer critical questions, thus increasing overall use of GIS as a community/public service, which in turn will maximize the benefits of GIS investments.

The recommendations in the sections below fall into two categories, and are listed in no particular order. The first three represent possible **new projects** that the partners could embark on together, potentially with additional grant-funding. The remaining three represent **ongoing possibilities** that the partners should consider as opportunities arise.

Each recommendation has the following sub-sections:

- **OVERVIEW -** A summary of the recommendation, its intended purpose and benefits.
- **WEIGHING PROS AND CONS -** Acknowledging that there are positive and negative aspects to each recommendation; a table laying out the Pros and Cons is included for each.
- **REQUIREMENTS** – Description of the administrative and operational needs of the partners
- **IMPLEMENTATION DETAILS** – A more detailed description of the technical aspects of implementing the recommendation.
- **COST TO IMPLEMENT** –Summary of *estimated* costs, both direct costs and labor costs.
- **ANTICIPATED BENEFITS**– A discussion of qualitative benefits of each recommendation. Quantitative benefits (Return on Investment) are contained in Appendix 4.

3.3 SHARED GIS RECOMMENDATIONS – POTENTIAL NEW PROJECTS

The diagram below lays out the relationship between the first three recommendations described in sections 3.3.1 through 3.3.3 below, which involve new projects that have the potential to be grant-funded.

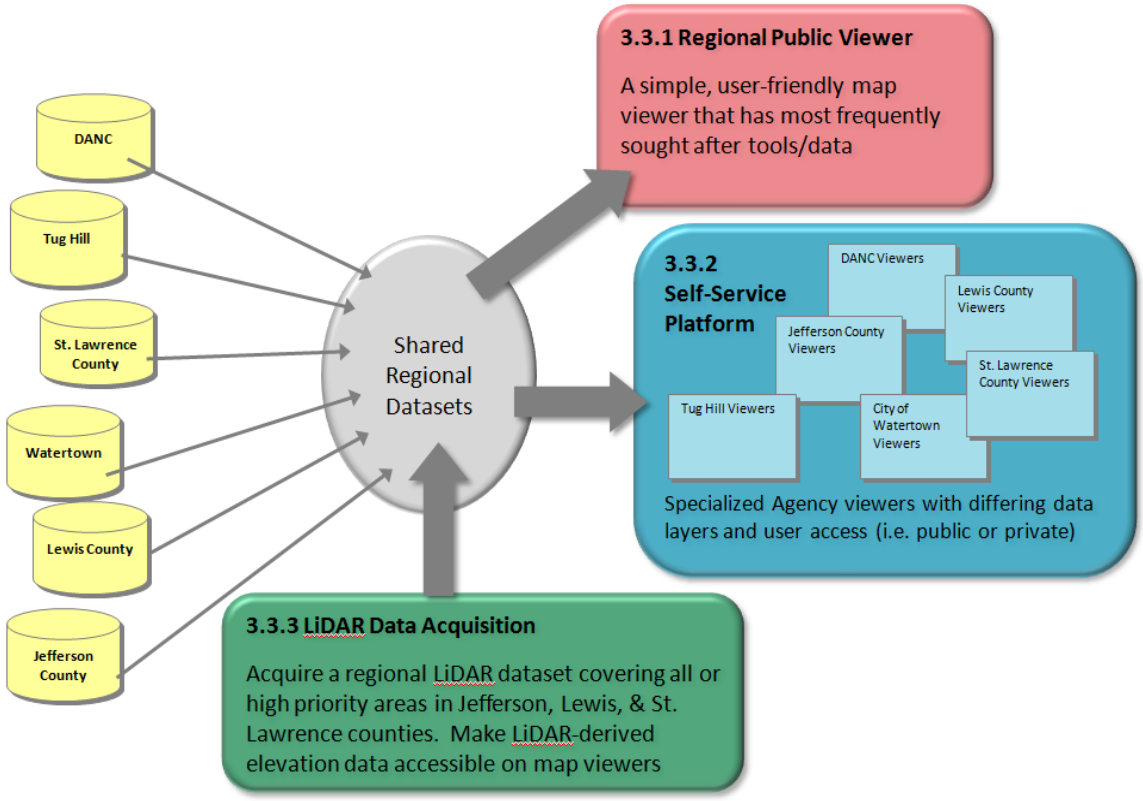


FIGURE 3: NEW PROJECT OVERVIEW DIAGRAM

The table below summarizes the potential users and use cases for the two map viewer recommendations (3.3.1 and 3.3.2). Color-coding on the table indicates intended level of use by each end-user group: High Use | Medium Use

Who / What	General Public *Typically little or no GIS knowledge*	Technical Public *Real Estate, Economic Development, Engineering and Environmental firms, Higher Education, etc.*	Partner Agency Internal Staff	Other Local Gov't staff (non-partner)
Regional Viewer **3.3.1**	Widely used for viewing data, answering general questions about a property and/or surrounding area	Used for quickly answering spatially-related questions, likely as a precursor to "digging deeper"	Used for quick/easy access to basic geospatial data	Used by non-technical staff for quick/easy access to basic geospatial data
Specialized Viewers (from self-service platform) **3.3.2**	Potential use of specialized public viewers (e.g. special events mapping, planned construction projects, etc)	Potential use of specialized public viewers (depending on applicability)	Highly used for specialized and/or secure department-specific viewers and project based work	In the case of DANC and Tug Hill, these specialized/secure viewers can support hosting of "customer" data

FIGURE 4: MAP VIEWER END USERS

The diagram below shows the basic linear relationship between overall ease of use and the anticipated relative number of users for each of the map viewer recommendations described below.

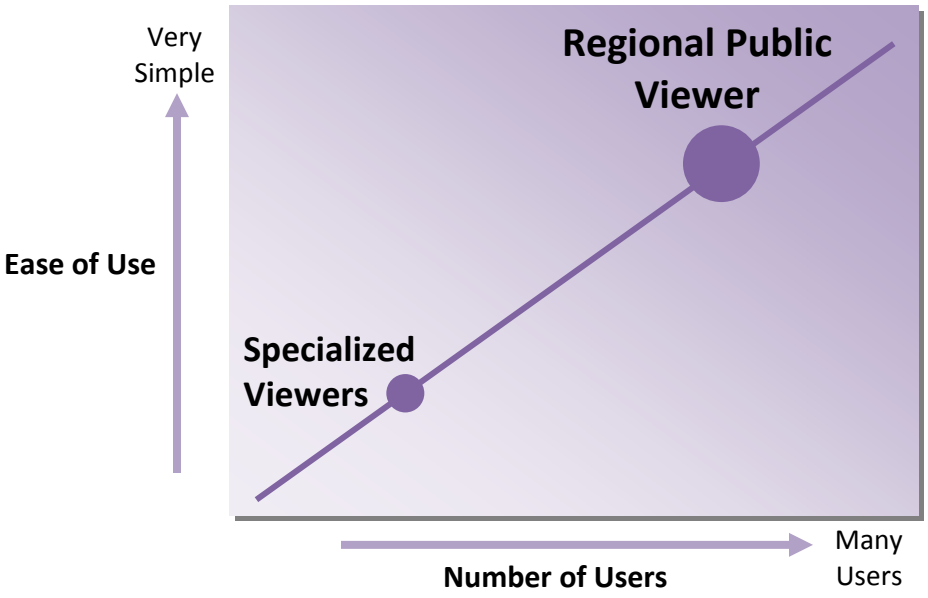
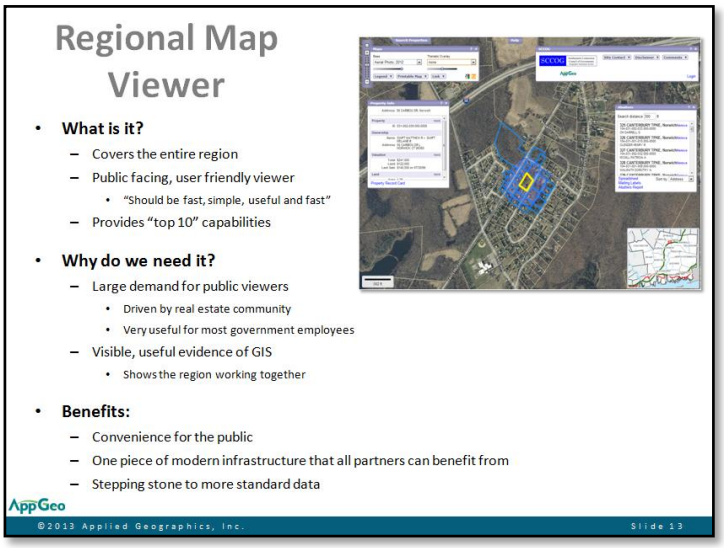


FIGURE 5: MAP VIEWERS – SIMPLICITY VS. NUMBER OF USERS

3.3.1 Regional Public Map Viewer

OVERVIEW



Description - A Map Viewer allows its users to see general information about a geographical area (such as a region, county or municipality) in an on-line, web-based electronic map. These viewers allow the public, the private sector and government agencies/departments to access various types of location-based information that they need to answer questions and conduct business without needing to use GIS software. The most important aspects of a viewer of this nature are to be user friendly, provide needed functionality and be fast. When implemented correctly, a map viewer can provide the public with important information on a self-service basis for data such as tourism sites, economic development, zoning, land parcels, voting places, service routes, highway maintenance, permitting, etc.

Current Status - As discussed in section 2.2, each of the partners have (to varying degrees) implemented public online mapping capabilities, using various technologies, platforms, and data storage options. These viewers, although meant for the general public, don't necessarily meet the "user friendly" and "fast" requirements that are necessary for the greatest success and the public is presented a wide variety of user interfaces as they move from jurisdiction to jurisdiction. Furthermore, the public has to figure out which viewer to use, which can be particularly complex when looking at areas that cross county boundaries.

Recommendation - Develop an extremely user-friendly, region-wide map viewer that is aimed specifically at the general public (although it can, and will also be used by government employees) and publishes the most commonly sought map-based information across the region (e.g., orthoimagery, parcels and roads). Users across the region - both public and governmental - will be exposed to, and get familiar with a common user interface.[7]

Benefits - A user friendly and high quality viewer would be useful and visible to a wide and potentially increasing pool of non-GIS users and would improve public access to important geospatial data.

WEIGHING PROS AND CONS

Pros

- Presents the region as a unified whole
- Easy for users to consume information across the region with one look and feel, eliminates need to figure out multiple interfaces

Cons

- New initial costs to implement
- Some partners may have less control over final product
- Less flexibility in customization due to a regional approach

[7] A regional viewer could potentially be integrated with the an existing, regionally-focused website such as http://drumcountrybusiness.com/

- Convenience of one-stop shop for end users across region
- Drives the need to standardize datasets (parcels, roads, etc.) across jurisdictional boundaries
- Potential for regional data to be available on a mobile platform
- Longer turnaround time to implement changes
- Potential increased annual maintenance costs for some partners

REQUIREMENTS

The best and most highly utilized web viewers are those that answer the set of most commonly asked "map questions" with the fewest clicks possible, have the best cartography and the least user waiting time. Such solutions are highly customized to deliver clear answers to the "top 10" questions that both public employees and citizens have about their region. Just as tools like Google Maps answer questions about how to find things and navigate to them, regional viewers tend to answer questions about land records and land ownership and the various constraints that are placed on the land. The following presents a top 10 list of questions[8] that a simple, friendly viewer should be able to answer with no more than 3 mouse clicks/taps on a PC or tablet computer:

1. Can I locate a parcel by owner name/address/parcel ID?
2. Can I see my assessed value and other information from my assessment record (e.g., parcel area, bedrooms, prior sales, etc.)?
3. What is my neighbor's assessed value?
4. Can I zoom/pan around my area with ease and flexibility?
5. Can I see the aerial imagery and elevations for my area?
6. Can I see the development constraints for my areas (e.g., zoning/historic districts/protected lands, availability of water/sewer, etc.)?
7. Can I see the natural resources for my area (e.g., topography/flood plains/wetlands and water bodies)?
8. Can I see a list of the properties that abut a given property and produce a mailing list?
9. Can I print out the map on the screen as a "what-you-see-is-what-you-get" PDF file?
10. Can I email a link of the map I am looking at to a friend or government official?

In addition to the items above, the Regional Map Viewer should also be accessible from mobile devices to ensure the widest availability to end users. A table in the Appendix (5.1.2) compares this top 10 list to the current viewers available from each of the partners.

[8] Top 10 questions are based on AppGeo's 15 years of experience in building municipal GIS websites, and observing what features are most commonly sought and used. These top 10 are informed by regular inspection of web statistics that count the hits on each button/link/tool, to track the most frequently-used functionality.

IMPLEMENTATION DETAILS

For the highly user-friendly, public facing, "top 10" regional viewer, there are two principal choices for implementation. First, the region could pursue the development of a custom "top 10" viewer that was uniquely branded and could be highly tuned to the regional characteristics of the North Country. This would require one of the partners to take on the responsibility for hosting the regional viewer. The second option would be to subscribe to a commercial, high performance hosted solution that includes a friendly user interface for accessing "top 10" functionality. Subscription-based hosting and data management by a third party would free one of the partners from taking on these responsibilities and may provide a lower overall cost of ownership. Instead of buying/renting hardware and software and paying for custom development, a subscription solution would involve an initial setup fee, and then a fixed annual, or monthly subscription payment.

The main implementation path would involve the partnership making a decision on the two options presented above (i.e. custom or hosted solution), and then overseeing the development and deployment of the regional viewer. Please see Appendix 2 for further details on the technical options available for building the Regional Map Viewer. It is anticipated that a committee made up a representative from each participating partner would work together on the final planning and implementation phases (see section 4.3 for further discussion). In addition, it will be important that a person within one of the partner organizations is designated as the “manager/coordinator” of the Regional Map Viewer and can serve as a point of contact both for the partners, and the supplier of the technology.

In summary, as per Strategic Goal #3, ensuring the public and government have self-service, user-friendly, as-needed, 24-hour access to critical geospatial information is a critical goal of this project and will maximize public benefit of GIS investments. Providing a highly functional and friendly Regional Map Viewer that answers the "top 10" questions most people have in a fast and reliable way is a key in providing this critical public service.

COST TO IMPLEMENT

Because decisions will need to be made by the group of partners that ultimately agree to pursue implementation of a Regional Public Map Viewer, the various cost estimates provided below are for *preliminary* review, and will likely change as design/implementation proceeds. The table below includes estimated direct costs for the options described in the sections above. These costs estimates are based on current industry trends[9].

TABLE 1: REGIONAL PUBLIC MAP VIEWER DIRECT COST ESTIMATES

Regional Public Map Viewer Direct Cost Estimates	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Custom	$30,000	$7,500	$7,500	$7,500	$7,500	$60,000
Hosted Solution	$12,000	$7,500	$7,500	$7,500	$7,500	$42,000
AVERAGE of Regional Viewer Direct Costs	**$21,000**	**$7,500**	**$7,500**	**$7,500**	**$7,500**	**$51,000**

[9] Cost estimates for the regional viewer represent estimates based on AppGeo industry experience.

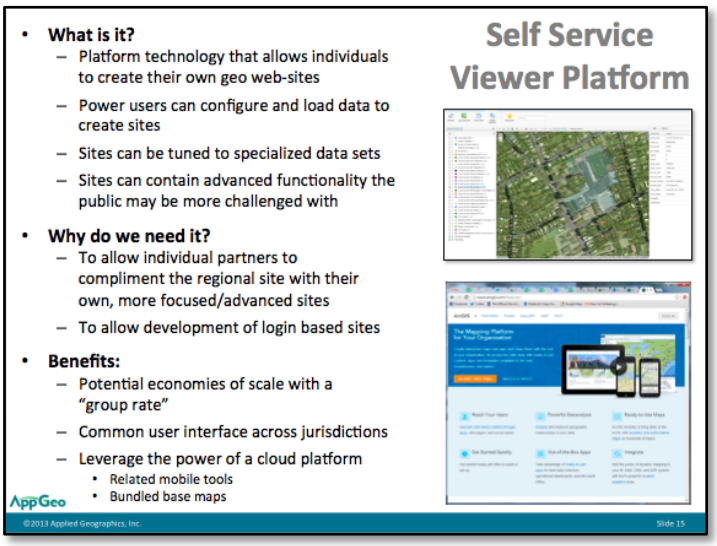
ANTICIPATED BENEFITS

Qualitative benefits of a regional public map viewer include:

- Improved public data access (via desktop and mobile devices) to important geospatial information across the region
- End-users no longer need to visit several different map viewers when looking for information across the region
- Cut down on “counter traffic” in local county/town/village offices by providing convenient access to those seeking data, and free up the staff time that would be spent servicing the counter.
- Facilitate regional economic development prospects by making it easier for developers to gain access to key datasets (e.g. parcels, ownership, existing infrastructure) that help determine suitability of land for different development purposes

3.3.2 Self-Service Map Viewer Platform

OVERVIEW



Description - In addition to the simpler, public oriented, Regional Viewer described above (section 3.3.1), map viewers can also be configured so that they provide very specific and potentially secure data access and functionality to answer the needs of certain users (e.g. a county/city department). This can be achieved through the use of a flexible and configurable Self-Service solution/platform that enables individual agencies and departments to have and create their own map viewers aimed at more specialized user groups.

Current Status – In terms of specialized and/or secure viewers, both DANC and the City of Watertown currently have specialized, secure viewers aimed at specific end-users or customers. However, given the opportunity, many other partners could also benefit from being able to deploy dedicated viewers for certain purposes and end users. In terms of a self-service platform, both Tug Hill and Lewis County are utilizing self-service platforms to deploy web viewers (see section 2.2 for details).

Recommendation - Choose a self-service "map viewer platform" that enables the development of many different map viewers that can support specific business activities and the individual needs of each of the partners. Viewers built with this platform may be limited to internal use by one department within a single partner, they could be aimed at the publication of less commonly accessed public information (e.g., snow plow routes for one jurisdiction), or used to deploy a highly focused public viewer (e.g. special events mapping, planned construction projects, etc).

Benefits - By developing a standardized approach for map viewers and eliminating the others, economies of scale may be achieved for hardware, software, data storage, maintenance, and application

development/subscription. This approach would also build a community of users who would all be working on the same technical platform and could share expertise.

WEIGHING PROS AND CONS

Pros

- One server/cloud licensing arrangement resulting in hardware and software/subscription savings
- Easy for users to consume information across the region with one look and feel, eliminates need to figure out multiple interfaces
- Reduces the need for expertise in maintaining the hardware and software
- Reduces the reliance on outside contractors for programming and updates

Cons

- New initial costs to implement
- Potential increased annual maintenance costs for some partners
- Partners may need to learn a new platform

REQUIREMENTS

As described previously, the public facing, Regional Map Viewer does not answer *all questions* that users have about their region and does not meet all map viewer requirements for all partners. Several agencies have a need to host dynamic, project-specific, and secure map viewers. For example, the Development Authority hosts map viewers for over 30 different municipal customers. The Tug Hill Commission has a need to publish private project-specific data to its member communities. The City of Watertown and the Development authority need access to real time utility data for their internal operations. The counties may want to publish department-specific viewers (i.e. a viewer that shows data geared towards Public Works or the Parks Department). Further, the ideal solution would allow the partners to deploy and maintain these viewers themselves without a need for specialized website programming/development[10] and administration skills. In summary, a configurable Self-Service solution needs to fulfill these main criteria:

- Allow for publishing of dynamic data and the configuration and deployment of specialized/secure map viewers (i.e., do-it-yourself viewer authoring)
- No need for programming/development skills to deploy/maintain

In addition to the operational needs described above, the following more advanced functional capabilities that may not be available in the regional viewer should be available in the configurable solution/platform. (see Appendix 5.1.1 for a comparison of these capabilities to current viewers)

- General
    - Cloud-hosted (to eliminate the need for hardware purchase/maintenance)
    - Viewable on mobile devices and tablets
- Layers

[10] Programming skills refers to, for example: Javascript programming; python scripting; web programming (e.g. .NET, nodeJS, ruby-on-rails; PHP).

    - Map Legend
    - Full Layer Control (i.e. being able to turn layers on/off)
    - Choice of basemaps (Google, Bing, NYS Orthos, etc.)
    - Layer Transparency
- Tools
    - Flexible search
    - Print to PDF
    - Document Hyperlinking
    - Bookmark tool
    - Markup/Annotate tools
    - Identify feature
    - Coordinate Tool (i.e., expose the X,Y coordinate of a location)
    - Measurement Tools (i.e., area and length)
    - Buffering and abutters Identification
    - Export results to Excel
    - Basic layer metadata (date, source, etc.)

Finally, partners may have additional needs/goals specific to their internal business rules and processes that will be taken into consideration when assessing options at time of implementation. This may be some external software that integrates with the GIS map viewer. For example, DANC and Watertown have goal of integrating their map viewers with document management systems (e.g. hyperlink a file to a feature on the map). This goal will need to be taken into account when the self-service platform implementation options are weighed.

IMPLEMENTATION DETAILS

It is strongly recommended that the partners choose a "cloud-based", hosted solution for the Self-Service platform. There are strong options in this market, some of which have already been worked with in the region (e.g., ArcGIS Online and GIS Cloud). There is an increasing emphasis on this kind of "Software as a Service" (SaaS) offering across the information technology landscape generally, and the geospatial landscape in particular. Indeed, Esri is putting enormous emphasis on ArcGIS Online to all its customers. The cost and complexity of building and hosting a custom toolset by one of the partners that approached the capabilities of what is currently available via a SaaS offering would be both risky and prohibitive.

The main implementation path would involve the partnership making a decision on which commercial offering to use, and then overseeing the roll-out, deployment and partner training for the platform. Please see Appendix 2 for further details on the technical options available for acquiring/building the Self-Service platform. In addition, it will be important that a person within one of the partner organizations is designated as the "manager/coordinator" of the Self-Service platform and can serve as a point of contact for both the partners, and the supplier of the technology.

COST TO IMPLEMENT

For the two configurable, self-service platforms, estimated costs are coming directly from the vendors (GIS Cloud and ArcGIS Online). Further detail on these vendor estimates can be found in Appendix 4.

TABLE 2: SELF-SERVICE VIEWER PLATFORM VENDOR COST ESTIMATES

Self-Service Platform Vendor Cost Estimates	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
GIS Cloud	$6,642	$13,482	$13,482	$13,482	$13,482	$60,570
ArcGIS Online	$22,500	$22,500	$22,500	$22,500	$22,500	$112,500
AVERAGE of Self-Service Vendor Costs	**$14,571**	**$17,991**	**$17,991**	**$17,991**	**$17,991**	**$86,535**

In addition to these estimated annual vendor costs, there are also anticipated year-1 startup costs for the self-service platform, which include loading data and configuring the initial viewers. Due to the fact that the partners may not have the staff capacity to devote to the initial setup effort in year 1, they may chose to use grant funding to complete the year 1 setup by hiring a consultant.

The table below provides estimates for these consultant costs: (note that some agencies are higher than others based on anticipated number of viewers to be deployed).

For consultant costs, the following rates are used:

GIS Technician hourly rate	$90
Project Manager hourly rate	$120

TABLE 3: SELF-SERVICE YEAR 1 SETUP CONSULTANT COST ESTIMATES

	GIS Tech		Project Manager		
Self-Service Year 1 Setup Consultant Costs Estimates	**Hours**	**Labor Cost**	**Hours**	**Labor Cost**	**Total Cost**
DANC	120	$10,800	8	$960	**$11,760**
Jefferson County	80	$7,200	8	$960	**$8,160**
Lewis County	80	$7,200	8	$960	**$8,160**
St. Lawrence County	80	$7,200	8	$960	**$8,160**
Tug Hill Commission	80	$7,200	8	$960	**$8,160**
City of Watertown	120	$10,800	8	$960	**$11,760**
Initial Year 1 Self-Service Viewer Setup Consultant Cost Estimate					**$56,160**

Combining the estimates in table 2 and table 3, below are the total estimated direct costs for implementing a self-service platform.

TABLE 4: SELF-SERVICE PLATFORM DIRECT COST ESTIMATES

Self-Service Platform Direct Cost Estimates	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Estimated Average Annual Direct Costs	**$14,571**	**$17,991**	**$17,991**	**$17,991**	**$17,991**	**$86,535**
Year 1 Startup Consulting Costs	$56,160					
TOTAL Estimated Self-Service Direct Costs	**$70,731**	**$17,991**	**$17,991**	**$17,991**	**$17,991**	**$142,695**

ANTICIPATED BENEFITS

Qualitative benefits of a regional public map viewer include:

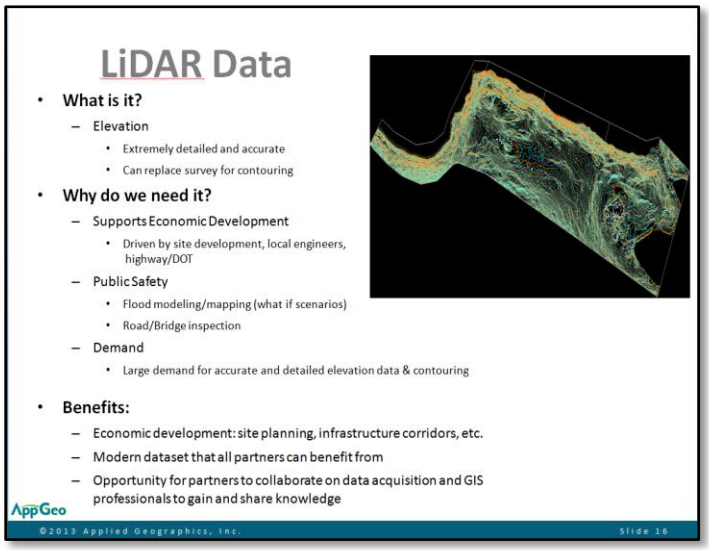
- Management Benefits

- Partners can deploy, manage and update viewers as needed without application development/programming skills or vendor support
- Partners have flexibility to deploy specialized viewers that meet their specific needs (e.g. layers, tools, permissions)

- End-User Benefits
  - Consistent user interface and toolset across the region
  - A community of users working on the same technical platform could share expertise

3.3.3 LiDAR Data Acquisition

OVERVIEW



Description – LiDAR stands for Light Detection and Ranging which is a process for collecting very detailed and highly accurate information pertaining to the earth's surface (elevations, tree cover/canopy, etc.). In recent years, LiDAR data have become a *de facto* standard in GIS. In many established GIS programs, LiDAR-derived data are as important as imagery and parcel information. In fact, in Tompkins County, NY, requests for LiDAR data have exceeded requests for parcels. Examples of LiDAR derived data include: topographic contours, view sheds, flood zones, geomorphological analysis, storm water management, species habitat identification/modeling, archaeological investigations, wetlands mapping, etc.).

Current Status - About 50% of New York State's land area has been imaged with LiDAR. This includes a 400 mi^2 area along the Black River floodplain in Lewis and Jefferson counties. The Black River LiDAR data was acquired in 2011 by the United State Department of Agriculture and did include the City of Watertown. Although LiDAR data do exist in the North Country, the extent only covers 3% of the region (defined as the combined extent of Jefferson, Lewis, and St. Lawrence counties). The City of Watertown and Lewis County are the only partners who have used the Black River LiDAR data, albeit in limited capacities. Lewis County has used the data as an aid for soil identification, whereas the City of Watertown's use for LiDAR data has included mapping of storm water drainage to meet Municipal Separate Storm Sewer System (MS4) requirements.

Aside from the restricted extent of the Black River LiDAR data, other reasons for its limited usage include:

- Limited processing of the raw LiDAR data into useful products
- No training provided to GIS professionals to derive useful data products and manage data
- Limited knowledge of some of the partners and the public as to the existence of the data
- Restricted availability of the LiDAR dataset (i.e. it is not available on a map viewer and only a few technical users have access)

Recommendation – Acquire a regional LiDAR datasets covering all or high priority areas in Jefferson, Lewis, and St. Lawrence counties. In addition to acquiring the data, ensure GIS professionals receive adequate training to derive useful data products. Make LiDAR-derived datasets (e.g. contours) publically available on the Regional Public Map Viewer to increase public awareness. Hold regional seminars/informational meetings with target interest groups (public officials, local engineering firms, etc.) to increase awareness of the availability of LiDAR-derived data products.

Benefits – The benefits of LiDAR-derived products are great and ever expanding as new uses are identified by the scientific community. Some specific benefits discussed by the partners include:

- Large potential for significant cost savings on economic development projects for using LiDAR derived elevation data over hiring a surveyor to perform site visits
- Reduces trips to the field to document/verify 'lay of the land'
- Aids in municipal and regional infrastructure planning
- Provides a key input for storm water management planning; there are several communities in the region who could benefit from LiDAR to meet MS4 requirements

WEIGHING PROS AND CONS

Pros

- Reduces reliance of the partners and local governments on surveyors to perform topographic elevation surveys
- Provides more information for and encourages economic development
- Provides a key input to Regional Map Viewer
- Meets a large public demand for detailed and accurate elevation data
- aligns region with state efforts to collect regional LiDAR data

Cons

- cost of data acquisition
- training for GIS professionals necessary to manage data
- large size of raw dataset requires hardware resources to manage

REQUIREMENTS

There are two key requirements that the partners need to account for when acquiring LiDAR data. They are: 1) the extent of the data collection effort, and 2) the quality of the raw data collected. The limiting factor for both of these requirements is cost.

IMPLEMENTATION DETAILS

With regard to the extent of the data collection effort, the partners should develop a map of the region with areas ranked in terms of priority. Since it is assumed that the partners will be constrained by a budget for data collection (even in the event of grant funding), this priority map will serve as a tool to scale-back the data collection effort to derive the most benefit should there not be enough money to acquire data for the entire region.

The quality requirements of the LiDAR data pertain to the positional accuracy, geodetic control, how the data are collected, documentation of metadata, and whether any optional data-derived products are supplied with the raw LiDAR data. Options available for LiDAR data quality are immense and discussion of all the different options is beyond the scope of this report. It is recommended that at a minimum, the partners should consult and adopt existing LiDAR standards from federal and state agencies; some examples are referenced below:

- Federal Emergency Management Agency (FEMA): http://www.fema.gov/media-library/assets/documents/19742?id=4345
- United States Geological Survey (USGS): http://pubs.usgs.gov/tm/11b4/
- American Society for Photogrammetry and Remote Sensing (ASPRS): http://www.asprs.org/a/society/committees/standards/Vertical_Accuracy_Reporting_for_Lidar_Data.pdf and http://www.asprs.org/a/society/committees/standards/Horizontal_Accuracy_Reporting_for_Lidar_Data.pdf

The partners should follow the recommendations contained in Section 3.4.1 concerning shared vendor acquisition to select a vendor to perform LiDAR data acquisition. When drafting the scope of work (as recommended in Section 3.4.1), the partners should seek consultation from the NYS GIS Association and the NYS Information Technology Services GIS Program Office. These agencies can assist in preparing the scope of work to ensure LiDAR data quality requirements meet or exceed existing LiDAR data acquired in the state. Additionally, these agencies will provide recommendations and guidance on how to scope out requirements for optional services such as training for GIS staff and LiDAR derived data products.

COST TO IMPLEMENT

In 2012, AppGeo conducted an Enhanced Elevation Business Plan for the State of Tennessee. The scope of this project was to develop a plan for acquiring LiDAR-derived high resolution elevation data for the entire State of Tennessee. This project had an estimated cost of $10.4M which included LiDAR data acquisition and development of a state-wide contour dataset. The extent of LiDAR data collection in the State of Tennessee's case was 42,180 mi^2. Using the 2012 estimated cost and size of the State of Tennessee effort as a basis, the cost of collecting LiDAR data for the North Country region (again this refers to the extent of Jefferson, Lewis, and St. Lawrence counties) would be $1.47M based on a the combined area of Jefferson, Lewis, and St. Lawrence counties of 5,968 mi^2.

Recognizing that there have been advances in LiDAR technology since 2012, AppGeo and the partners consulted the opinion of GroundPoint Technologies, LLC (GroundPoint) to provide high-level information pertaining to the cost and return on investment (ROI) of LiDAR data acquisition. GroundPoint has affiliations with the NYS GIS Association and experience in LiDAR data acquisition for federal, state and municipal projects. In response to the partners' request for information, GroundPoint supplied Appendix B outlining metrics for cost and ROI for LiDAR data acquisition.

GroundPoint estimated that the cost of LiDAR data acquisition for the region would range anywhere from $100 - $300 per mi^2 based on recommended quality requirements and the size of the data acquisition area. Given this range, **a rough order of magnitude estimate for LiDAR data acquisition for the region is: $596,800 - $1,790,400**. The upper end of this estimate does include optional LiDAR products/services as discussed in Appendix B.

Following suit of the Regional Map Viewer and Self-Service Map Viewer, the 5-year costs for LiDAR data are presented in Table 5 below. Note that after acquiring the data and training for GIS professionals, there are no on-going maintenance costs associated with the LiDAR data acquisition. On-going LiDAR data training for GIS professionals would be covered under existing staff training appropriations by the partners. It is AppGeo's professional opinion that LiDAR data are useful for 10-20 years depending on the level of development in the area. This estimated life range was corroborated by GroundPoint. Cost for Year 1 in Table 5 use the average estimated cost of LiDAR data acquisition.

TABLE 5: LIDAR DATA ACQUISITION COST ESTIMATES OVER FIVE YEARS

Estimated Costs over 5 years	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
LiDAR Data Acquisition	$1,193,600	$0	$0	$0	$0	$1,193,600

3.4 SHARED GIS RECOMMENDATIONS – ONGOING POSSIBILITIES

The three recommendations below represent possibilities that the partners should consider as opportunities arise, on a case-by-case basis.

3.4.1 Shared Vendor Acquisition

OVERVIEW

Description - There are a number of areas that require the services or products from the private sector including, for example; hardware, software, data collection, contract labor, or application development services. A prime example is the LiDAR Data Acquisition recommendation discussed in Section 3.3.3. Depending on the product or service being acquired, individual contracts must be put in place. This can require the development of an RFP, advertising for bidders, review and analysis of the bids, award of a contract and management of that contract.

Current Status - Typically, these types of services are procured individually by each agency. This can lead to duplicate efforts and does not take advantage of economies of scale.

Recommendation – Partners should collaborate on vendor acquisition efforts and projects as opportunities arise. By jointly prioritizing needs, agreeing on procurement processes and scheduling anticipated near term acquisitions, the partners could coordinate "joint" procurements. If the timing of a procurement by a partner doesn't meet another partner's needs, they can also take advantage of the partner's procurement by "piggybacking" [11] off the procurement and, thereby, avoid the development of an RFP, its advertising and bidding.

This concept of shared acquisition also pertains to software/hardware purchasing. When the useful life of the existing hardware (e.g. GPS units) begins to run out, it would be worthwhile to consider some cost sharing when buying new hardware. Distance will need to be a consideration in sharing (i.e. two partners that are very far apart may have a difficult time sharing if the unit is needed on short notice).

[11] http://www.osc.state.ny.us/localgov/pubs/piggybackinglaw.pdf

Maintaining an on-line inventory of the units and planned schedule of usage would help to coordinate and manage the availability of the units.

Benefits – Shared acquisition will provide cost savings not only on the project itself through economies of scale, but also saves on the front-end work (RFP development, vendor selection, project scope, management, etc). In addition, when it comes to items like data collection, shared acquisition can lead to more consistent data. If the partners are using the same or similar platforms, additional vendor savings can be accrued.

WEIGHING PROS AND CONS

Pros

- economy of scale reduces project cost
- single RFP/vendor selection process reduces labor involved
- consistent data product across the region
- cost-sharing for new hardware
- shared training and troubleshooting when shared solutions/software/data are utilized

Cons

- timing of acquisition may not work across multiple partners with varying budgets
- some effort required to coordinate and align project specs

REQUIREMENTS

For any type of shared vendor acquisition project, the participating agencies will require full understanding of the project and all aspects of it before entering into a sharing agreement. It will be critical to the success of any shared vendor acquisition project that all participating partners go into it with full knowledge and understanding of project expectations.

All participants in a shared vendor acquisition project should ensure that they understand:

- Risks and benefits of sharing vs. solo vendor acquisition
- Scope of the project (both what is included, and what is not included)
- How costs will be shared (equally or proportionally)
- Anticipated timeline and deliverables
- Review/testing procedure and acceptance criteria
- Level of flexibility - which items/components may be able to be customized for a given partner, and which items/components will be required to be consistent across all partners
- Long-term maintenance plan following the final project deliverable(s)

IMPLEMENTATION DETAILS

The following outlines the steps needed to execute a shared vendor acquisition project. These steps will vary depending on nature of the project, but the same basic tasks will need to be completed regardless of the project specifics to ensure all participating agencies have

- Project Procurement

    - Write and execute a Memorandum of Understanding (MOU) between participating partners to indicate intent to participate
    - Chose a project lead (or leads) to keep the project on track through all phases
    - Determine a clear scope of work (i.e. what the project tasks and deliverables will be)
    - Establish a cost sharing plan (i.e. equal cost sharing may be preferable for software development, while proportional cost sharing would be ideal for data acquisition)
    - Develop the written RFP (Request for Proposal)
    - Vendor Selection – Answer RFP questions, review proposals, perform interviews, etc
- Project Start-up
    - Execute formal contract with chosen vendor
    - Establish Project schedule and deliverables
    - Determine communication plan between participating partner project lead(s) and vendor
    - Develop review and acceptance criteria
- Project Execution (*these will vary depending on the nature of the project*)
    - As-needed and ongoing project status review
    - Perform appropriate testing based on acceptance criteria
    - Team meetings (as needed)
    - Other as-needed project-specific tasks
- Project Close-Out
    - Confirm deliverables meet scope and expectations
    - Discuss long term maintenance plan

Any shared vendor acquisition project (whether it be data collection or software development), will benefit from a long-term maintenance plan. Participants should continue collaboration after the final deliverables have been accepted to ensure the product does not become stale. Thus, as part of project closeout, participants should discuss and agree to a long-term maintenance plan (i.e. data maintenance/upkeep or as-needed software enhancements).

COST TO IMPLEMENT

The project costs of a shared vendor acquisition project will obviously vary widely depending on the nature and the scope of the project.

During the course of writing this plan and performing the ROI analysis, the project team attempted to gather cost information for some example data acquisition projects, including TransMap (i.e. infrastructure and roadway inventory*)* and Pictometry (i.e., oblique aerial imagery). TransMap estimated that by partnering together, agencies could potentially get a 10% discount on a future data collection effort. Pictometry was looking for a more firm commitment to provide cost information (which cannot be given at this point), so no cost estimates from Pictometry were gathered to use in this analysis.

ANTICIPATED BENEFITS

Qualitative benefits of shared vendor acquisition include:

- Consistent product (i.e. data collected, services provided, hardware purchased) across the region
- Increased knowledge sharing and collaboration stemming from shared services/products (i.e. if two agencies were to share a GPS unit there would be built in support and sharing of best practices between the agencies)
- Reduced duplication of effort through single RFP/Procurement process

3.4.2 Mobile Application Implementation

OVERVIEW

Description - The use of mobile applications for smartphones and tablets continues to grow rapidly, both for data collection and viewing. Government agencies can use them for highway maintenance, asset management, field data collection and verification, etc. The public can use them to have more open access to government and the services that they provide.

Current Status - During the partner interviews, several of the agencies expressed interest in mobile application development/implementation. Many of the needs for mobile applications are likely similar among partners. In some cases, agencies are using mobile data collection applications such as ArcPad[12], but there is a need for the applications to be more user-friendly and widely distributable on smartphones/tables.

Recommendation - Share the mobile application requirements analysis, project administration, application development/implementation costs, hardware costs, and ongoing maintenance costs across interested partners.

Benefits - Like the shared vendor acquisitions noted above, savings in labor and direct cost can be achieved by collaboration among the partners. In addition, there is the potential to share mobile hardware device purchases (GPS devices, tablets, tough books, etc). If the partners are using the same or similar platforms, additional efficiencies can be gained by all and data will be collected in a more consistent manner.

[12] http://www.esri.com/software/arcgis/arcpad DANC, Jefferson County and Tug Hill have Esri ArcPad licenses and use them to differing degrees.

WEIGHING PROS AND CONS

Pros

- shared cost for hardware and software purchases
- shared cost for development and implementation
- shared cost for training
- consistent product across the region, partners can assist each other when needed

Cons

- less flexibility for customization
- longer turnaround time to implement changes
- some effort required to coordinate project scope

REQUIREMENTS

Mobile mapping application requirements can be broken down into two main categories: data viewing and data collecting. In many cases, a mobile application will do both, depending on the end user needs. In the context of this project, mobile data viewing is accomplished through the implementation of an appropriate map viewer. Both GIS Cloud and ArcGIS Online viewers are accessible from mobile devices (tablets and smart phones), and, if the group chooses to have a custom app built for the regional viewer, one of the requirements will certainly be mobile data access, thus the 'data viewing' requirement is fulfilled. The second type of mobile mapping application, field data collection, is the main focus of this section.

Much like the shared vendor acquisition (section 3.4.1), any successful shared mobile data collection application development project will depend on clearly defining the application requirements at the outset (must haves and wants as specified by the participating partners' design team). However, unlike the map viewer requirements that were clearly defined by partners because they all have viewers and know what they need, requirements for a mobile data collection application are less clear at this point. Determining specific requirements will be the first step of implementation, as outlined below.

IMPLEMENTATION DETAILS

Given the complexities and relative newness of mobile applications in the region, the recommendation is to first do a requirements analysis to determine what each partner is looking to accomplish in the field, determine where there is overlap and assess potential for sharing, collaborate on the development/implementation, and share in the ongoing maintenance and hardware costs.

The following key requirements will need to be defined before a shared application development cost can begin.

- Platform – determine the type of device(s) (i.e. tablets/smartphones) and operating system(s) (i.e. iOS/Droid) that the application will need to be compatible with. The requirement may specify explicit devices/operating systems, or it may be that a given solution needs to work on all modern platforms. The best practice when building mobile applications is to develop browser-based applications that run independent of device or operation system. Regardless, the expectation needs to be made clear at the outset of the project.
- Functionality – the participants will need to clearly define the expected functionality. For example, functionality of a mobile app might include (but is not limited to) such items as:

- Basic Functionality
  - 'Zoom to my location' feature using device GPS
  - Choose basemap (i.e. street map vs. aerial photo view)
  - Identify features
  - Toggle layers
- Data Collection Functionality
  - Take a picture and link to feature (e.g. a fire hydrant, a manhole, a street sign)
  - Verify/update feature attributes (e.g. size, material, condition, etc)
  - Report maintenance status of a feature (e.g. needs replacement)
  - Collect real property and/or permit information (e.g. for inspections)
- Data Analysis Functionality
  - Utility Network Analysis (i.e. up/downstream trace, valve isolation)
  - Buffer/Distance Analysis (i.e. find nearest, find within a certain distance)

Once requirements have been agreed upon by participating partners, the group will then need to determine whether an existing solution meets their needs, or whether a custom application will need to be developed. Both GIS Cloud and ArcGIS Online (self-service platforms) have mobile application components to allow users to configure and deploy mobile data collection applications. Another option that should be considered is *Fulcrum* (http://fulcrumapp.com) which allows users to create, deploy and manage cloud-based field data collection apps that run on tablets and/or smartphones. Once a solution is chosen, the group will follow a similar project implementation workflow to what is outlined in section 3.4.1 (i.e. procurement, start-up, implementation, close-out and long term planning).

In terms of mobile hardware, the options typically fall into two main categories: expensive ruggedized devices (e.g. Panasonic Toughbook) and lower-cost standard "off the shelf" mobile devices (e.g. Apple iPad or Samsung Galaxy Tab). Ruggedized units are built to withstand field use (e.g. they are built to withstand weather and prevent breakage). However, the cost of a single ruggedized tablet may be equivalent to two or three standard tablet devices. Technology changes so fast, it can be more effective to purchase a standard tablet that can be replaced at a fairly low cost if damaged, than to buy an expensive rugged tablet that in three years might be outdated.

COST TO IMPLEMENT

Due to the unknowns associated with developing a mobile data collection application, this section provides ballpark estimates. Costs will be broken down into the following categories:

- **Requirements Analysis** – labor estimate per agency prior to project start-up to assess and determine application functional requirements. This cost only shows up in year one.
- **Procurement and PM Labor Costs** – this is the same as in the previous section (shared vendor acquisition) and includes the labor associated with RFP writing, vendor review/selection, and project management labor for project administration and execution. These costs only show up in year 1.
- **Direct Costs** – the final three costs are the Application Development/Implementation (year one), Annual Application Maintenance (annual), and Training (higher year 1 and then reduced by 50% each subsequent year). For Application Implementation, the estimated range is $20,000 – $50,000 where the low-end of this range might represent a more "out of the box" solution and

the high-end might represent a more custom solution (these options will be weighed during the design/implementation phases). For the purposes of this planning study the average estimated cost of $35,000 will be used. Additionally, an estimate of $7,500 for annual maintenance has been used. For Training, using the average one-day cost of an instructor-led training ($3,375) the assumptions are that two of these will be needed in year 1, with one training session needed in subsequent years.

A detailed breakdown of each of these cost categories can be found in the ROI section (Appendix 4). The table below shows the total estimated project costs over a five-year timeframe:

TABLE 6: MOBILE APP IMPLEMENTATION COST ESTIMATES

Project Cost Estimates, Single Agency						
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**TOTAL**
Requirements Analysis Labor	$2,600	$0	$0	$0	$0	$2,600
Procurement/PM Labor	$7,440	$0	$0	$0	$0	$7,440
Application Implementation	$35,000	$0	$0	$0	$0	$35,000
Annual Application Maintenance	$7,500	$7,500	$7,500	$7,500	$7,500	$37,500
Training	$6,750	$3,375	$3,375	$3,375	$3,375	$20,250
Subtotal Project Costs, Single Agency	$56,690	$10,875	$10,875	$10,875	$10,875	$100,190

ANTICIPATED BENEFITS

Qualitative benefits of shared Mobile Application Implementation include:

- Eliminate duplication of effort in designing and implementing a mobile data collection application
- Sharing a single application platform will allow partners to share best practices and assist each other with troubleshooting issues
- This type of collaboration will lead to more consistent and higher quality data across the region

3.4.3 Training and Knowledge Sharing

OVERVIEW

Description - Keeping up with the rapid changes in GIS technology can be time consuming and costly. Yet, the downside of not keeping current is that staff may miss significant opportunities to provide better services or save costs. There are many varying training options out there for GIS, at varying skill levels and cost.

Current Status – Other than the collaboration that has occurred as a result of this project, there has been very little in the way of knowledge sharing between the partners. In terms of formal training, the partners have varying budgets and resources for training. Some have the capacity to provide training and support to external entities, and some are simply end-users in need of training. But the fact remains that all partners have a need for some sort of professional development. In addition,

knowledge sharing is happening in an informal way to a certain extent, but could be improved upon throughout the course of implementation of this project's recommendations. Recently, the Tug Hill Commission and the NYS GIS Association have led an initiative called the Geospatial Technology Institute which aims to provide opportunities for sharing information about various GIS technologies and implementations among participants. The Institute is establishing a training curriculum and has held its initial offering in the North Country. Use of these types of programs can reduce overall training costs and facilitate knowledge sharing.

Recommendation - There are many options for implementing Training and Knowledge Sharing programs, and the ideal solution will likely make use of several of these options. For example, shared formal (paid for) training, informal knowledge sharing between partners, attendance at conferences, making use of free training opportunities, etc.

Benefits - Because of the relatively widespread use of GIS by all the partners and the potential for shared technology applications/platforms, developing a program to share training and other information learned by the partners with each other provides great potential for time, cost and administrative savings. Also, there is a knowledge sharing benefit attained from having additional direct contact among the partners' staffs during training sessions.

WEIGHING PROS AND CONS

Pros

- economy of scale can bring affordable top quality instruction to the region, eliminating time lost to travel and spreading cost over all partners
- commitment to group training forces all partners to recognize and prioritize training requirements, improving skills across region
- management commitment to group training shows staff and GIS skills are valued
- training in a group environment fosters peer to peer learning
- combined efforts to define and prioritize training will help those less experienced set professional goals

Cons

- differing skill levels could make determining universally useful topics challenging
- schedule conflicts: date(s) of training may not work for all participants

REQUIREMENTS

The professional development needs of each staff member within the partner agencies will vary widely based on skill level and job requirements. However, common to all agencies is the ongoing need for professional development. Based on discussions with partners, professional development can fall into two main categories (with some overlap):

- Training – more formal, often instructor-led classes/meetings with a specific software or technique being taught to participants.
- Knowledge Sharing – informal information sharing on new technologies, best practices, troubleshooting, etc.

IMPLEMENTATION DETAILS

Ultimately, it will be up to the interested partners to determine the ideal methods and practices for implementing knowledge sharing and training initiatives that will work for the group. Below is guidance for implementing efficient, shared professional development for the partner agencies. Both Training and Knowledge Sharing would provide perfect opportunities for furthering Strategic Goal #2: foster communication and GIS collaboration among the partner agencies and across the region.

Training - The key to a successful training program is to determine appropriate and useful training topics, ensuring that the training material is germane to the needs of the participants. To determine the topics, members should brainstorm and collaborate on items that they each (a) want to learn more about and (b) have expertise on and could provide some training to the group. Ideally, there will be some overlap between the training needs and the existing expertise within the group. For training topics beyond the expertise of any of the partners, outside training options can be explored (e.g. paying for a vendor/instructor), and cost shared among participants. An example of a potential shared training topic might be Spillman dispatch software (as it is used by several partners).

Knowledge Sharing - To some degree, mainly through this project, knowledge sharing is happening between partners. This needs to be taken advantage of to the greatest extent possible, as there is no cost and it can be very valuable to the mutual success of GIS programs. Communication between the partners needs to be open and collaborative. Partners should be sharing best practices, helping each other solve GIS problems and troubleshoot issues. A skills survey might be a good step to foster knowledge sharing by allowing the group to see what skills others have. When one partner wishes to expand or needs help solving a problem that another may have experience in, knowledge sharing could be initiated.

COST TO IMPLEMENT

Costs of training are categorized in two main ways. For self-led classes (i.e. someone in the group leads the training), cost is a function of labor. For instructor-led classes, there are direct costs.

As stated above, it will be up to the participating partners to determine the optimal mix of formal training and informal knowledge sharing that will have a beneficial impact. One option might be for the partners to meet 4 times per year (quarterly) for formal training sessions, and also engage in ongoing, informal knowledge sharing. To save costs on the 4 training sessions, perhaps 2 of these sessions could be led by members of the team, and 2 could be run by an outside contractor but held onsite at one of the partner locations, with direct costs shared across the partners. This cost scenario is laid out in the table below (details and assumptions leading to these estimates are in Appendix 4):

TABLE 7: EXAMPLE TRAINING SCENARIO COST ESTIMATES

Example Training Scenario across all partners	Cost per class	Number of classes Annually	Total Cost
Team-Led (*Labor Costs*)	$840	2	$1,680
Instructor-Led (*Direct Costs*)	$3,375	2	$6,750
		TOTAL	**$8,430**

Defining costs for knowledge sharing is much harder, but in many ways knowledge sharing could be more beneficial as the costs can be very low (it doesn't take much to share an idea via email), but benefits can be very high (not needing to re-learn the best practices or recreate the wheel, if a colleague already has experience).

ANTICIPATED BENEFITS

Qualitative benefits of Training and Knowledge Sharing include:

- Increased collaboration among partners
- Improved GIS skills and services through the sharing of best practices (at little/no cost)

3.5 OTHER RECOMMENDATIONS CONSIDERED

Over the course of this planning study, several potential recommendations were considered that did not ultimately make it into the plan as they were not considered to be beneficial or feasible at this time. Although the partners do not at this time feel these recommendations are a priority, the group wanted to make sure that they were adequately documented. Section 3 of the Appendix documents these recommendations as well as the reasons why the partners decided not to pursue them at this time. These other recommendations considered were:

Regional Geoportal - A geoportal is a type of website used to find and access geographic information and data, and includes the ability to view and download this data. A geoportal is an effective means of disseminating the GIS data to the end user. In the context of this project, the potential benefits of the geoportal were not enough to justify the cost of implementation, especially considering the New York State GIS Clearinghouse is a free resource that can meet this need (and several partners have data loaded onto it).

Consistent Parcel Datasets - Parcels are a core dataset for almost all GIS analysis. Inconsistencies currently exist between the spatial location and naming conventions used by the City of Watertown and counties' parcel datasets. This creates a roadblock to efficient regional analysis. Each County and the City of Watertown has their own unique parcel database, and some are currently maintaining their parcel data in CAD as opposed to GIS format. Parcel data is shared between partners on an as-needed basis. Parcel data from different jurisdictions could to be standardized to meet the needs of regional/cross-county projects, and standardization is a time consuming process that needs to be repeated whenever a new parcel dataset is incorporated.

Labor Sharing - This can be as simple as allocating tasks informally among participants to best utilize available skills, or, it can be a formalized agreement between entities whereby each entity funds and receives a certain percentage of a staff role. This possibility was considered and discussed at length between the partners, but ultimately the administrative barriers made it an unlikely candidate for any type of implementation, and it was removed from the plan.

4 IMPLEMENTATION OVERVIEW

4.1 SUMMARIZED POTENTIAL BENEFITS

Benefits can be categorized in two main ways: quantitative (i.e. based on numbers) and qualitative (i.e. based on subjective characteristics). The ROI summary (Appendix A) looks at quantitative measures for each recommendation. Due to the nature of many of the recommendations, and the fact that in some cases the cost/benefit analysis was based on hypothetical scenarios, the table below is only summarizing the first three potential "new project" recommendations as they are the most concrete in nature.

TABLE 8: SUMMARY OF ESTIMATED SAVINGS

Summary of Estimated Savings	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
1. Regional Top 10 Web Viewer	$0	$13,500	$13,500	$13,500	$13,500	$54,000
2. Self-Service Viewer Platform	($40,539)	$12,201	$12,201	$12,201	$12,201	$8,267
3. LiDAR Data Acquisition	($593,600)	$600,000	$600,000	$600,000	$600,000	$1,806,400
TOTAL Annual Estimated Savings	($634,139)	$625,701	$625,701	$625,701	$625,701	
Cumulative Annual Estimated Savings	**($634,139)**	**($8,438)**	**$617,263**	**$1,242,964**	**$1,868,665**	

As can been seen in the estimated cumulative savings, the payback begins in year 3 and drastically increases each subsequent year.

Qualitative benefits are more anecdotal but have the potential to have a greater impact as they reach beyond the scope of the partner agencies. Below are just a few examples of these types of benefits (again for the first three recommendations):

1. Regional Top 10 Web Viewer
    - Improved public data access (via desktop and mobile devices) to important geospatial information across the region
    - End-users no longer need to visit several different map viewers when looking for information across the region
    - Cut down on "counter traffic" in local county/town/village offices by providing convenient access to those seeking data, and free up the staff time that would be spent servicing the counter.
    - Facilitate regional economic development prospects by making it easier for developers to gain access to key datasets (e.g. parcels, elevation , existing infrastructure) that help determine suitability of land for different development purposes
2. Shared Self-Service Viewer Platform
    - Consistent, standardized user interface and toolset across the region
    - Partners can deploy, manage and update viewers as needed without application development/programming skills or vendor support
    - Partners have flexibility to deploy specialized viewers that meet their specific needs (e.g. layers, tools, permissions)
    - A community of users working on the same technical platform could share expertise

LiDAR Data Acquisition

- Significant cost savings on economic development projects for using LiDAR derived elevation data over hiring a surveyor to perform site visits
- Reduces trips to the field to document/verify 'lay of the land'
- Aids in municipal and regional infrastructure planning
- Provides a key input for storm water management planning; there are several communities in that could benefit from LiDAR to meet MS4 requirements

In summary, the technologies described above all support the free flow of geospatial data across the region. When the data flow more freely and easily the best data become more available and accessible to support a variety of important planning and decision-making functions across government. While difficult to quantify, the better and more informed planning and decision-making that follows indirectly leads to and supports qualitative benefits such as enhanced environmental quality, improved public safety and higher levels of economic development.

4.2 POTENTIAL RISKS

There are risks associated with any shared endeavor, particularly when there are several varying agencies involved as there are in this project. Below is a summary of the potential risks to this project as observed by the project team, and these risks should be kept in mind as the partners begin to implement the recommendations.

- Organizational Commitment - Management of the partner agencies need to come to consensus and commit to the program, realizing that changes will not happen immediately, but progress will happen over time.
- Communication and Collaboration - Fostering trust among partners through communication will be critical to success. A lack of communication, collaboration and trust will make implementing the recommendations very difficult. All those involved (analysts/technicians and management) need to be working together toward the shared goals.
- Staff Skills and Stability – Currently, a small number of key people hold crucial organizational roles in the various GIS programs. Staffing changes could lead to setbacks.

While these risks are real and need to be considered, they are certainly not insurmountable and the rewards of success (e.g. greater efficiency, lower costs, improved GIS services) far outweigh these potential risks.

4.3 NEXT STEPS

As this planning study is finalized, the partners are looking ahead towards the next steps, which are briefly described below. These actions may not necessarily happen in this order, and may be ongoing and in parallel to each other, depending on the recommendation(s) being implemented.

- Partners determine which recommendations they would like to proceed with, and garner internal support for those recommendations

- Partners should consider establishing some written acknowledgement of the partnership and the intention of the shared services to be implemented
- As appropriate, the partners will apply for grant funding for any capital expenditures
- Design and Implementation teams (made up of representatives from participating partners) should be established to continue work on the chosen recommendations

DETERMINE INITIAL RECOMMENDATIONS TO BE IMPLEMENTED

When assessing recommendations, in addition to analyzing cost vs. benefit, partners should also consider the relative risk vs. reward of each recommendation. The chart below portrays this concept and indicates that the high-value, low-risk recommendations are likely the obvious choice for initial implementation. Needless to say, this risk vs. reward assessment will likely vary from one partner to another for a given recommendation. As such, each partner will need to make this determination on their own and decide which recommendations to participate in.

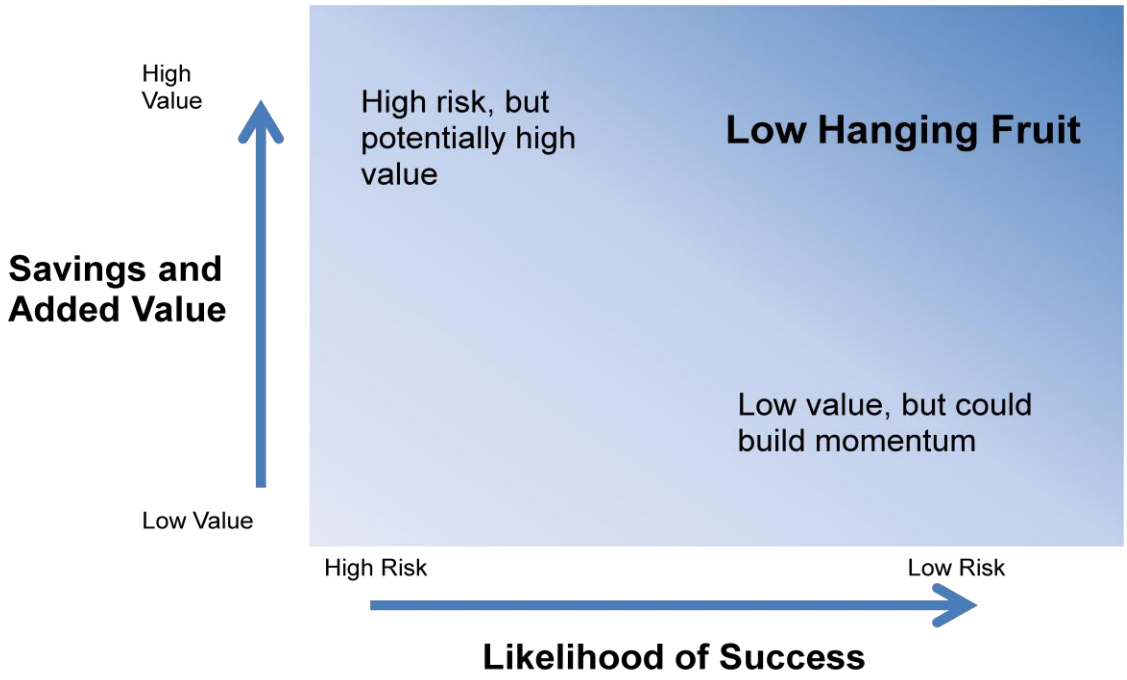


FIGURE 6: WEIGHING RISK VS. REWARD

This process of determining which recommendations to move forward with has already begun. The table below is a brief summary of the discussions between partners regarding their initial level of interest for each of the recommendations with either: positive (Y), negative (N), neutral ,or unknown (?) responses. A positive response means that the partner will actively participate in the recommendation and there are direct benefits. A negative response means that participation could be detrimental to a partner (for example the City indicated that the downsides of changing from an existing "Self Service Map Viewer" platform outweigh the positives). A neutral response indicates that while the partner may not directly benefit from pursuing the recommendation, if implementing the recommendation provides benefits to the region, then the partner would provide indirect support. **This table is simply capturing the initial reactions of the partner representatives and does not indicate any final decisions to**

participate. A final decision to participate in pursuing a recommendation will require board approval from each of the partners.

	DANC	Jefferson	Lewis	Lawrence	Watertown	Tug Hill
Regional Public Map Viewer	Y	Y	?	Y	Neutral	Neutral
Self-Serve Map Viewer Platform	Y	Y	?	Y	N	Y
LiDAR Data Acquisition	Y	Y	Y	Y	Y	Y
Training/Knowledge Sharing	Y	Y	Y	Y	Y	Y
Shared Vendor Acquisition	Y	Y	Y	Y	Y	Y
Mobile App Development	Y	Y	Y	Y	Y	Y

TABLE 9: INITIAL PARTNER INTEREST IN RECOMMENDATIONS

ESTABLISH WRITTEN AGREEMENTS

As appropriate, the participating partners may choose to compile written and signed documentation making clear the expectations and scope of the partnership and proposed shared services. This could be done in the form of a Memorandum of Understanding (MOU) or Intermunicipal Agreement (IMA[13]). These documents will ensure that all partners are clear on the terms of the sharing and understand the scope of the project, timeframe, and any associated costs.

APPLY FOR GRANT FUNDING

For the recommendations that could be supported by grant funding (e.g. there is some initial capital expense), the partners will need to work together to apply for and justify this funding. This report will provide the initial groundwork needed for the grant application process.

Further details about LGE grant funding are provided below:

- New York State's FYE 2015 budget includes a proposed appropriate of $4M for the Department of State's (DOS) LGE program
- The proposed funding limit for implementation project grants is $200,000 per participant with a funding cap of $1M. The Development Authority has confirmed with DOS that the maximum project award that the partners could receive for implementation (assuming all partners participate) is $1M, comprising a $0.9M grant and $0.1M local co-share
- Based on the recommendations contained in Section 3.3 in this report, the partners should apply for the maximum project amount of $1M to ensure sufficient funds to implement the

[13] See appendix for IMA example between Erie and Niagara counties.

three potential new projects: 1) Regional Public Map Viewer, 2) Self Service Map Viewer, and 3) LiDAR Data Acquisition.

- As far as timing of award is concerned, no funds would likely be received until calendar year 2015.

ESTABLISH IMPLEMENTATION/DESIGN TEAMS

For each recommendation to be pursued a team/committee that has representatives from each of the partner entities should be established to continue to work out details of design and implementation. The format and size of these groups will be determined by the participating partners. It is likely that several overlapping teams will be formed to address the various recommendations, potentially one team for each recommendation. However, when the group of participating partners is the same across multiple recommendations, these could feasibly be grouped together for related recommendations (i.e. if it turns out that the same partners want to pursue the two map viewer recommendations, a single team/committee could feasibly be formed to move forward). These teams will in all likelihood carry the projects from the design phase through implementation and continue on into the maintenance/upkeep phases. In addition to the teams for each recommendation, it is also anticipated that the larger LGE group will continue to collaborate and track the progress of the various implemented recommendations and continue to look for ways to expand and improve sharing.

4.4 PHASED IMPLEMENTATION TIMELINE

In order to be successful at a shared service model, it will be key to build the program methodically and in phases. By using this approach, it will allow the participants to build communication and collaboration best practices, gather momentum, and show efficiency gains.

The table below shows a potential plan for this type of phased approach with the more visible and critical items (e.g. LiDAR Data Acquisition, Training/Knowledge Sharing, Map Viewers) addressed first. Then, as collaboration is established and as needs arise (i.e. for vendor acquisition and mobile applications) the other recommendations can be implemented.

Color codes in the table below are as follows:

Planning and Design	Implementation	Continuation and Maintenance

FIGURE 7: PHASED IMPLEMENTATION TIMELINE

Example Phased Implementation Timeline	**2014**				**2015**			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
New Projects *(potentially supported by grant funding)*								
1. Regional Map Viewer								
2. Self-Service Viewer Platform								
3. LiDAR Data Acquisition								
Ongoing Possibilities								

Example Phased Implementation Timeline	**2014**				**2015**			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
4. Shared Vendor Acquisition	*As Opportunities Arise*							
5. Mobile Application Development								
6. Training/Knowledge Sharing								

4.5 CONCLUSION

Leveraging the existing GIS knowledge and resources in the region and implementing the programmatic sharing recommendations laid out in this plan will allow the agencies to gain efficiencies, reduce costs, and provide more comprehensive and functional GIS services throughout the region. This will lead to both quantitative benefits derived from improved efficiency and joint investment as well as important qualitative benefits that will be derived from better access to geospatial data and capabilities that can help drive smarter planning and more informed decision-making.

Referring back to the overarching strategic goals, upon completion of an implementation of this plan the partners can reasonably expect that:

1. By identifying **GIS services and initiatives that can be shared** *there will be increased geospatial efficiencies and lower geospatial labor and direct costs to the partners*
2. By **fostering communication and GIS collaboration** among the partner agencies across the region, *all partners will benefit by seizing opportunities for joint investment and sharing that will lead to lower costs and stronger GIS skills and knowledge.*
3. By **providing effective GIS services to both government entities and the public,** *critical geospatial questions will be more easily answered by the public and there will be increased use of GIS in the region, which in turn will* ***maximize the benefits of GIS investments.***

	MEMORANDUM	E.P. Hayes
		Superintendent
	Dept. Public Works	Date: 02-19-14
		Ref: PW 016-14
To:	Sharon Addison, City Manager	
Subject:	Palmer Street Extension	

This memorandum is in response to your request for information on the condition and/or future use or continuance of Palmer Street.

In a quick review of my file it appears that this subject has come before council on a number of occasions following the construction of the Palmer Street Apartments in 1986/87.

From a legal description, Palmer Street begins at Arsenal Street and runs approximately 966 feet northerly toward the Emmet Street intersection. It actually ends approximately 463 feet short of the Emmett Street intersection. Hence that portion of Palmer Street that this report addresses is what is commonly referred to as Palmer Street Extension.

In my June 9, 1997 memorandum to City Manager Hiller I made the recommendation that "at a minimum the widening of the right-of-way and the complete reconstruction of the street should be considered with optional work to include sidewalks, curbs and the installation of a formal storm drainage system." Authorization-funding for this work was never approved due to legal questions concerning the ownership of the right-of-way as well as determining who was responsible for the project cost.

In June, 2005 Interim City Engineer Pilon provided a report on the "history" of Palmer Street concluding that "now would appear to be an appropriate time for a decision to be made on the status of the street acceptance for this roadway…". This report was followed one year later in the June 8, 2006 report by City Manager Corriveau providing both a traffic count summary which had been prepared by the City Engineering Department and a letter from the City's attorney "detailing the progress to date on determining ownership of the lands which constitute Palmer Street and Palmer Street Extension, and requesting direction for the City Council on the next steps."

On November 30, 2011 City Engineer Hauk submitted a memorandum to City Manager Corriveau providing a Pre-Design Estimate to perform the reconstruction of Palmer Street from Emmett Street to Wealtha Avenue intersection as requested by the City Council. At that

time the preliminary job cost estimate was 1.17 million dollars.

All of these reports are attached to this memorandum. The short version, which is easy to understand but complicated to execute is as follows:

Palmer Street Extension is not an accepted/city owned Street and therefore the City is prohibited from spending public funds on its maintenance and repair other than the minimal effort to keep the road in condition adequate to allow the passage of emergency response vehicles. Examples of similar streets that have been discussed over the years and which fall under this label are: Gaffney Drive, Meriline Avenue, Eddy Street and the former Barben Greene Development. These are all residential streets within recognized residential neighborhoods which are used daily by the public. However because the City does not own the right-of-way and/or the street is not up to a specific standard they are all considered private and the city is by definition, restricted in what maintenance services can be provided.

Relative to Palmer Street Extension, I stand by my recommendation of 17 years ago; it needs to be completely reconstructed. In order to do that the City needs to take ownership. The taking of property for the public good is allowed under state law. Unfortunately, the procedure to implement this taking is complicated and costly and since the initial construction of the Palmer Street Apartments in 1986, there has been contention over the ownership, condition and maintenance of this street section. Nevertheless, to paraphrase the words of former City Engineer Pilon, the City needs to proceed with the taking and reconstruction of Palmer Street Extension.

In the meantime, the Department of Public Works will continue to plow the roadway and fill the potholes as our schedule allows while keeping within the guidelines and restrictions pertaining to private streets.

Should you have any questions concerning this recommendation, please do not hesitate to contact me at your convenience.

Gene

cc: Kurt Hauk, City Engineer
Jim Mills, City Comptroller
Ken Mix, Planning and Community Development Coordinator
Mike Sligar, Water Superintendent
DPW File: Palmer Street Extension

1869

CITY OF WATERTOWN
ENGINEERING DEPARTMENT
MEMORANDUM

30 November, 2011

TO: Mary Corriveau, City Manager

FROM: Kurt Hauk, City Engineer

SUBJECT: Palmer Street Reconstruction Pre – Design Estimate

Enclosed is the Pre-Design Estimate to perform the reconstruction of Palmer Street from the Emmett Street to Wealtha Avenue intersections as requested by the City Council. The total estimated cost for construction is approximately $1,173,000. This does not include any costs for ROW acquisition.

The enclosed spreadsheet details the anticipated lengths for the various construction items. This cost can be compared to the actual reconstruction cost of Breen Avenue which was $978,710, and also the anticipated cost of the Clinton Street Reconstruction Project scheduled to start in 2012 which is approximately $2,635,000.

The following traffic counts are listed to give context to the traffic volumes recorded on Palmer Street. Values are in Average Annual Daily Traffic (AADT)

Palmer at Emmett (north):	520
Palmer at Emmett (south):	965
Breen at Arsenal:	681
Breen at Emmett (south):	701
Breen at Emmett (north):	1,131
Breen at Coffeen:	1,031
Clinton at Holcomb:	3,048
Clinton at Sherman (east):	4,832
Clinton at Sherman (west):	3,347
Clinton at Washington:	6,490
Flower Ave W. at Holcomb:	978
Flower Ave W. at Ives:	833
Paddock at Holcomb (east):	4,982
Paddock at Holcomb (west):	1,474

The estimated costs assume an in-house design with a contractor bid for construction, as well as hiring out for construction inspection.

Cc. Ken Mix, Planning and Community Development Coordinator
Gary Pilon, Water Superintendent
Jim Mills, City Comptroller

PROJECT: Palmer Street DATE: 30-Nov-11

FROM: Emmett TO: Wealtha

	LF	COST	TOTAL	
Sidewalk Installation	1300	$ 89.00	**$ 115,700.00**	
Storm Sewer Installation	1300	$ 144.00	**$ 187,200.00**	
Street Installation (28')	1300	$ 268.00	$ 348,400.00	
Water Main Installation	960	$ 180.00	**$ 172,800.00**	
San. Sewer Main Installation	500	$ 154.00	**$ 77,000.00**	
			$ 901,100.00	SUBTOTAL
	LS			
M&PT	1	4% OF ST	$ 36,044.00	
Survey & Stakeout	1	5% OF ST	$ 45,055.00	
Mobilization	1	5% OF ST	$ 45,055.00	
Construction Inspection	1	10% OF ST	$ 90,110.00	
			$ 1,117,364.00	PROJECT CONSTRUCTION COST
	LS			
Project Survey & Design	0	10% **(Note 1)**	$ -	
Contingency	1	5% All Costs	$ 55,868.20	
			$ 1,173,232.20	TOTAL COST

NOTE 1: Includes all costs less Construction Inspection

Palmer Street Undedicated Portion

November 8, 2011

To: The Honorable Mayor and City Council

From: Mary M. Corriveau, City Manager

Subject: Palmer Street

At the September 6, 2011 City Council meeting during a discussion on Palmer Street, Staff was asked to draft a resolution which would allow for the construction of this street to City standards and would involve the use of eminent domain. During a recent meeting with City Attorney Robert J. Slye, Staff decided that we prepare maps of Palmer Street and Palmer Street Extension to discuss this matter more thoroughly with the City Council, so that the proposed legislation is in keeping with the City Council wishes regarding this street. Staff has maps prepared for Council review and discussion during the Work Session.

CITY COUNCIL MEETING
CITY OF WATERTOWN
September 6, 2011 (Excerpt)
7:00 P.M.

MAYOR JEFFREY E. GRAHAM PRESIDING

PRESENT: COUNCIL MEMBER ROXANNE M. BURNS
COUNCIL MEMBER JOSEPH M. BUTLER JR.
COUNCIL MEMBER TERESA R. MACALUSO
COUNCIL MEMBER JEFFREY M. SMITH
MAYOR GRAHAM

ALSO PRESENT: MARY M. CORRIVEAU, CITY MANAGER
CITY ATTORNEY ROBERT J. SLYE

City staff present: Kurt Hauk, Elliott Nelson, Ken Mix, Jim Mills, Amy Pastuf, Gary Pilon, Chief Herman

Palmer Street

Mayor Graham stated that this should become a City street.

Council Member Burns stated that she would like to see the City move forward with it. She commented that this is a beautiful part of the City and there is new development down there. Unfortunately, the downside is the condition of the road. She also commented that she doesn't believe repairing the road would mean an increase in traffic. She also mentioned that the average citizen thinks that Palmer Street is a City street and as a community we need to make the streets that are in the worst conditions at least passable. We have ignored it long enough.

Council Member Smith referred to Attorney Slye's memo of 2006 as to the fact that the street was never identified as being deeded to the City and we need to look for the heirs of A. Palmer Smith and Timothy A. Smith.

Attorney Slye advised that they would identify who they can and then publish notices as prescribed by law. He also advised that the City has the research that was done by Brownell.

Mrs. Corriveau advised that staff is looking for direction from the Council.

Attorney Slye commented that if it is the will of the Council to direct staff to move forward with this, he would ask that staff be allowed to draft a resolution which would allow for the construction of the street to City standards and would involve the use of eminent domain.

Mayor Graham asked that a resolution be drawn for the next meeting.

Council Member Butler asked if the ultimate goal was to rebuild the street.

Council Member Smith responded that it is to have a dedicated City street.

September 1, 2011

To: The Honorable Mayor and City Council

From: Mary M. Corriveau, City Manager

Subject: Palmer Street

At the August 8, 2011 City Council Work Session, the Council discussed moving forward with accepting Palmer Street as a dedicated City Street. At that time, I indicated that the issue had been discussed by the City Council in the past and that I would pull my file on the subject. Attached are copies of the minutes for the meetings where Palmer Street has been discussed, dating back to June 2005, along with reports from Attorney Robert J. Slye, Michael Yonkovig, Brownell Abstract Corporation, and then City Engineer Gary E. Pilon. As you can see for the reports shared with the City Council, the matter of "taking" this street and dedicating it is not a simple one.

Staff is prepared to discuss this matter at the September 6th meeting and take whatever action the City Council deems appropriate.

INTER-OFFICE MEMORANDUM

DATE: June 13, 2005

TO: Mary Corriveau, City Manager

FROM: Gary E. Pilon, Interim City Engineer

SUBJECT: Palmer Street

History:

Palmer Street, as it is known, runs from the northerly margin of Arsenal Street, 966 feet northerly to a point approximately opposite the center of PN 808103, 177 Palmer Street. The roadway continues on past Emmett Street (a dedicated city street) to a point approximately 233 feet northerly from the northerly margin of Emmett Street. The first section (966 ' from Arsenal Street) was accepted and dedicated as a street by the Common Council in 1879 and is, therefore, considered dedicated city street. The latter section, approximately 745 feet in length, was thought by most to be a dedicated city street until a few years ago when it was discovered that there is no available record of acceptance of this portion of the street in our Engineering Department files. The end of the first section and the entire second section appear on the attached Map "A"

Also shown on Map "A" is a triangular piece of property at the SE corner of Palmer Street and Emmett Street that was deeded to the City of Watertown on November 27, 1995 for street purposes. It is a corner cutback for that intersection. References in the deed tie this property to the "easterly margin of Palmer Street". Although the assessment maps show this triangle as part of the street, there is no record of street acceptance by the City Council for this piece of property.

The roadway continues beyond the end of the aforementioned second section of "Palmer Street" across private property occupied by the Palmer Street Apartments. This area is shown as the "Travled sp. Way" on the attached Map "B". The roadway then continues on a westerly course across the City owned parcel of land identified as PN 814119, through which also runs the Western Outfall Trunk Sewer. It should be noted that, during the site plan approval process for construction of the Palmer Street Apartments, in 1985, the developers had agreed to dedicate a 50' strip of land on the westerly side of the property to the City for street purposes. The existing roadway on that property is commonly referred to as Palmer Street Extension. The Planning Board recommended that the City Council accept the property, but the Council chose NOT to accept it at that time.

In order to satisfy HUD requirements, the developers agreed to improve the roadway from Wealtha Avenue to the entrance of the Palmer Street Apartments and install a public water main along that roadway on the City owned parcel, PN 814119, in exchange for legal right of reasonable access across that property. The City Council granted and released unto the public, a continued right of access across the parcel by "Declaration of Easement", dated May 1, 1986, which was recorded on 9/19/1986 in book 1039, page 252 in the County Clerk's office. The City further agreed to maintain this portion of roadway after the developers had improved it.

In 1997, City Manager Hiller was contacted by Mark Purcell, one of the developers, to have the portion of roadway across the Palmer Street Apartments property upgraded and improved by the City. The developers were in default of their loan re-payment and the Manager told Mr. Purcell, if the developers would come current on the loan, that money might be used to improve the roadway. At that time (March 1997), the estimate of cost to improve the road, without any water or sewer work, was $288,000 according to former City Engineer, Robert Upson.

Additional Research:

I had our resident surveyor, Thomas Storino CE II, research the deeds to properties fronting on the aforementioned second section of "Palmer Street", as shown on Map "A" to make sure that the property deed descriptions did not include any portion of the existing "street" or road. All of the deeds researched referenced either the easterly margin of Palmer Street, or the westerly margin of Palmer Street when describing the street frontage of the respective properties. In other words, the abutting property owners do not own, nor do they pay taxes on any portion of the "street" shown on Map "A". The current owners of the Palmer Street Apartments are the only parties who actually own and pay taxes on the property upon which the roadway lies.

I must point out, that there are property owners on the westerly side of the roadway that runs across the Palmer Street Apartment property. Their only street access is via the extension of Palmer Street.

Conclusions:

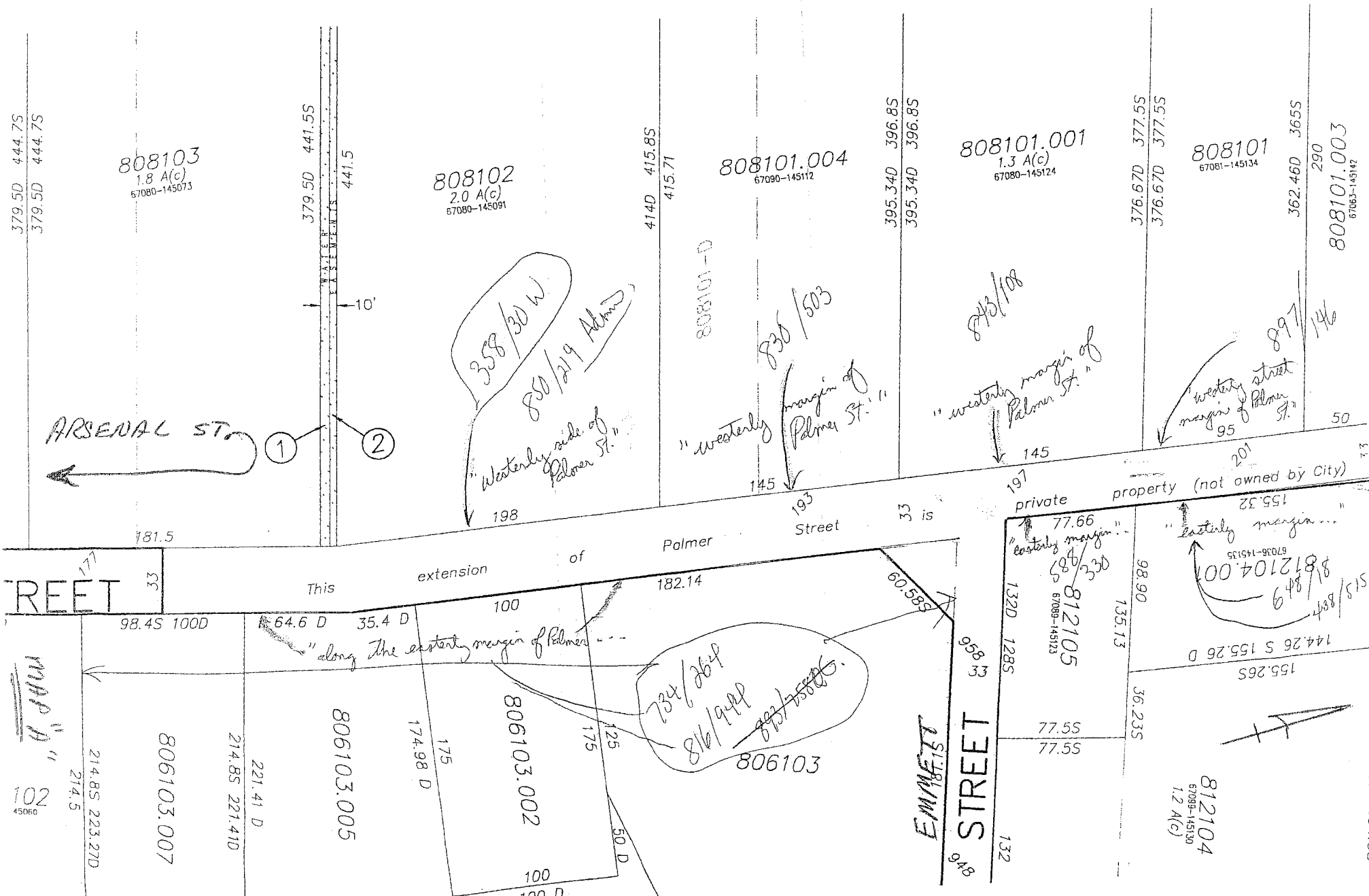
- It can be concluded that the City has perhaps accepted portions of this roadway as a street through long use. That is a question for the legal eagles.
- The City has accepted the portion of the roadway across PN 814119 as a public right of way.
- It appears that the portion of the roadway lying between the dedicated portion of Palmer Street and the Palmer Street Apartments property, shown

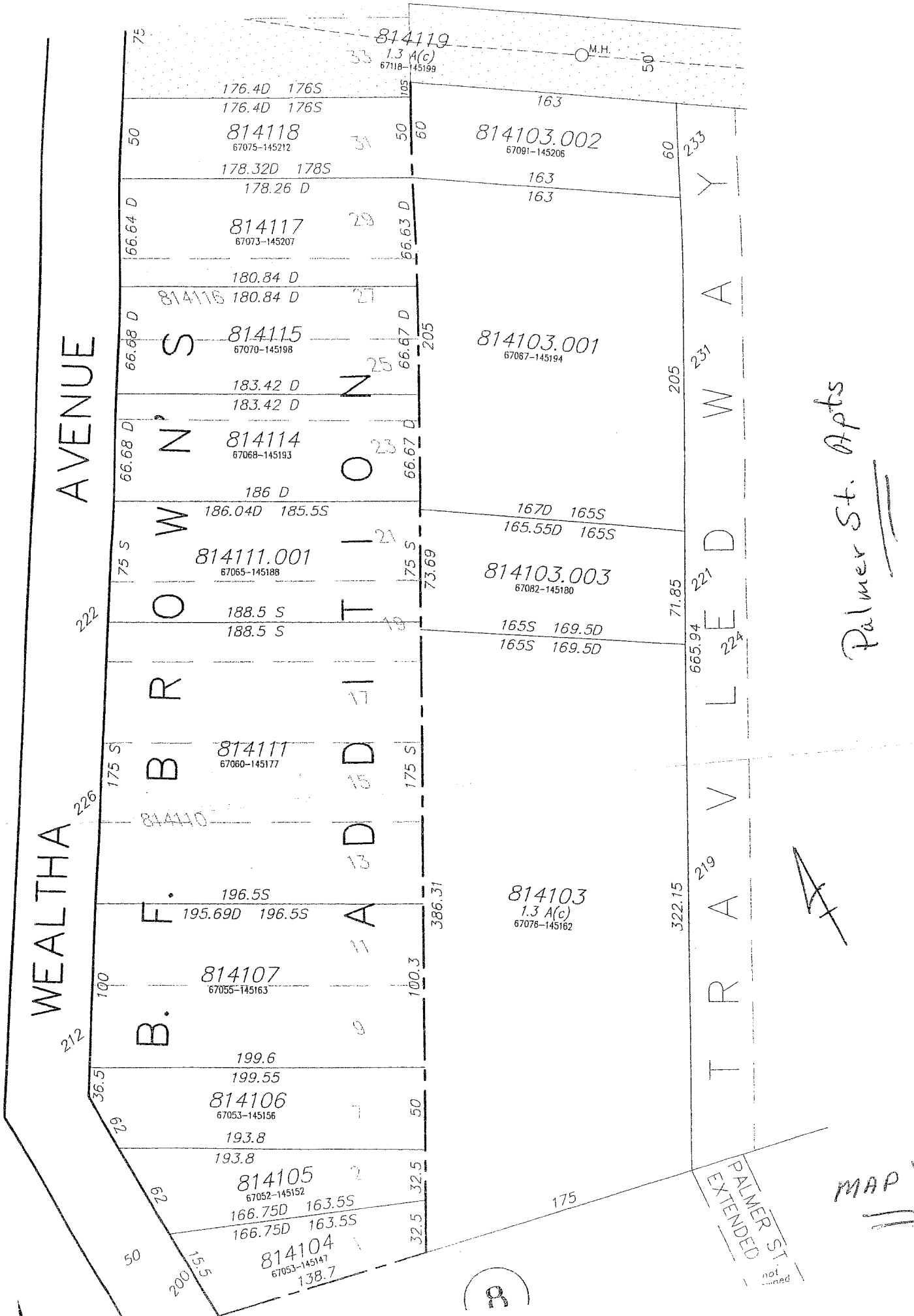
on the maps as private property, has not appeared on the assessment rolls for many years and no one has paid taxes on that property.

- The City has plowed the entire roadway for several years, for public safety reasons, if for no other reason.
- Now would appear to be an appropriate time for a decision to be made on the status of street acceptance for this roadway, which is used by the public on a daily basis.

Please contact me if you have any further questions in this matter

cc: Eugene Hayes, Supt. of Public Works
Ken Mix, Planning and Community Development Coordinator
Robert Slye, Corporation Counsel


808103
1.8 A(c)
67080-145073
808102
2.0 A(c)
67080-145091
808101.004
67090-145112
808101.001
1.3 A(c)
67080-145124
808101
67081-145134
808101.003
67063-145142
WATER EASEMENTS
10'
ARSENAL ST.
1
2
This extension of Palmer Street 33 is private property (not owned by City)
"Westerly side of Palmer St."
"westerly margin of Palmer St."
"westerly margin of Palmer St."
"westerly street margin of Palmer St."
"along the easterly margin of Palmer ..."
"easterly margin ..."
"easterly margin"
812105
67089-145123
812104.001
67036-145135
812104
67099-145130
1.2 A(c)
806103
806103.002
806103.005
806103.007
EMMETT STREET
STREET
102
45060


WEALTHA AVENUE
B. F. BROWN'S ADDITIONS
TRAVELLED WAY
PALMER ST EXTENDED
814119
1.3 A(c)
67118-145199
M.H.
814118
67075-145212
814103.002
67091-145206
814117
67073-145207
814116
814115
67070-145198
814103.001
67067-145194
814114
67068-145193
814111.001
67065-145188
814103.003
67082-145180
814111
67060-145177
814110
814103
1.3 A(c)
67076-145162
814107
67055-145163
814106
67053-145156
814105
67052-145152
814104
67053-145147
Palmer St. Apts
MAP "B"

REGULAR COUNCIL MEETING
CITY OF WATERTOWN
June 20, 2005
Excerpt

MAYOR JEFFREY E. GRAHAM PRESIDING

PRESENT: COUNCILMAN STEPHEN J. BRADLEY
COUNCILWOMAN ROXANNE M. BURNS
COUNCILMAN PETER L. CLOUGH
COUNCILMAN TIMOTHY R. LABOUF
MAYOR GRAHAM

ALSO PRESENT: CITY MANAGER MARY M. CORRIVEAU
ATTORNEY ROBERT J. SLYE

Palmer Street

Council reviewed to Mr. Pilon's report.

Mayor Graham remarked that this is clearly a street.

Mr. Pilon explained the history of the area regarding right of way, sewer and water laterals and showed a map of the area to Council.

Mayor Graham remarked that if we are encouraging development in that area, we should also have the services available in the area.

Councilwoman Burns commented that the City would be foolish to expect development if the City isn't going to provide these services.

Discussion was held concerning wells or City water in the area. Residents that were present indicated that some of the properties do have wells.

Mrs. Corriveau advised that the City does not own the property now.

Attorney Slye explained that before any money can be spent on the road, it has to be a dedicated City street. This would have to be referred to the Planning Board and a public hearing would have to be held. He explained that condemnation might be the appropriate course of action. However, he would like to do research on this first. He also commented that Town Law doesn't apply to cities. Therefore, plowing or filling in holes doesn't make it the City's. It has to be on an official City map to be considered a dedicated street.

Mrs. Corriveau advised that if the City takes it, they would have to be ready to improve it as well. She asked the Council to consider the decision. She explained that there are other areas in the City that have streets drawn on maps and they are not used. However, if development occurs in those areas, they would be used. She also referred to Spindle Lane, which is off Loomis Drive.

She questioned if the City would put in water and sewer on the lane if development occurred there.

Mayor Graham commented that if the City wants development to come in, we should make sure that the utilities are available. In referring to Spindle Lane, Mayor Graham remarked that Palmer and Gaffney are different situations than Spindle Lane is.

Mrs. Corriveau responded that the City puts signs up and plows other non-city streets.

Mayor Graham commented that it is a bad policy to be building houses without municipal infrastructure being available.
Attorney Slye remarked that he is concerned that Council not paint the streets with a broad brush, as it should be done with a drafting pencil with each street being considered separately.

Mayor Graham remarked that the City should be begin the process as Attorney Slye indicated.

Councilman Bradley commented that the developer built the road, not the City.

Mr. Pilon explained that there was a road there before, however the developer just improved it.

Councilwoman Burns remarked that she supports the Mayor. She commented that Spindle Lane is not a good comparison to Palmer Street and Gaffney Drive. Both of those streets are used to get to City streets on both ends of them.

Councilman Bradley commented that we need to look at each street separately.

Attorney Slye also advised that relative to Gaffney Drive, he has attempted to contact the estate and no response has been received at this point.

Councilman Clough remarked that residents on Merline Avenue had the same problem. He stated that he thought Council has asked for a report on all of these streets.

Mr. Pilon explained that the residents on Merline Avenue had installed their own services as they had been previously advised to do. He also explained that there has not been enough time to prepare the requested report.

Mrs. Corriveau explained that discussions had also been held concerning paper streets and a list is being put together. Each one is a different situation and requires research.

Council concurred to move forward and requested a report on how to obtain title relative to Palmer Street.

9 June, 1997

INTER-OFFICE NOTE

Re: Palmer Street Extension Rehab Project

Jerry:

In response to your request for the job cost associated with the road work to the Palmer Street extension I would offer the following:

Existing Conditions:

- ROW: Unknown
- Road Width: 20 feet
- Road Length: 1,250 feet
- Shoulders: none
- Drainage: natural, problems in the spring,
- Top Course: asphalt, condition: poor
- Base: little to none, condition: poor

Recommended Minimum Scope of Work:

- Grade and re-shape shoulders of roadway

to provide drainage and uniform width.

- Remove existing base, replace with geo-fabric, and 12 inches of stone.

- Place 3 inches of binder-NYS Type 3

- Place 1.5 inches of top course-NYS Type 6

- Sign intersections and curve.

Estimated Cost: $ 50,000 (½ materials and outside equipment, ½ force account labor and departmental equipment charges.)

Time: 3 to 4 weeks (20% of construction season)

Optional Work to be Considered:

- Sidewalks---Issue orders to adjacent property owners to install sidewalks along the north and easterly sides of the roadway. (For the City to contract out the installation of the walk would run approximately $ 20,000.)

- Curbs---slip form curbing could be installed at a cost of approximately $ 30,000.

- Storm Drainage---if curbs were installed then we would need to install catch

basins. While we can drain into the culverts along the east side of the street we would need to tie into the Western Outfall storm sewer. As such the collection system could run an additional $6 to $8,000.

Hence this project as scoped can be expected to run anywhere from $ 50 to $ 100,000 depending upon the scope of the work.

Concerns:

- Minimum roadway width
- 90 degree turn
- No sidewalks
- Minimal traffic
- Low priority, private street
- Limited construction window

Should the Council determine it to be in the City's best interest to assume ownership of this roadway then I would recommend that we proceed with the initial minimum scope of work. I would further recommend against curbing installation but I would favor the new sidewalk along the northerly and easterly side of the roadway along its entire length.

In looking at the walks, the City can either contract this work out or the property owners can be ordered to do this work. If we opt to place the responsibility onto the property owners then it should be noted that the lower section of the road (that section that goes around the corner and cuts into Wealtha Avenue), is actual within the City's Western Outfall Sewer Main ROW, hence we are the property owner. As such if it is decided to go this route then we should require that the sidewalk in this section (approx. 450 ft.)is included in the original construction cost which bumps up the price an additional $ 8,000.

As such, factoring these numbers into the total cost will yield a total job cost estimate of $58,000 of which $ 33,000 is for materials, outside equipment rental and contracted services and the remaining $ 25,000 is for force account labor and departmental equipment hire.

Should you have any questions concerning either the scope or cost of the work detailed please do not hesitate to contact me at your convenience.

cc: Peter Monaco, Assistant Superintendent of Public Works
Patrick Keenan, Senior Engineer Technician-DPW
DPW files:
Palmer Street Extension

INTEROFFICE MEMO

CITY OF WATERTOWN, NEW YORK

DATE: MARCH 24, 1997

DEPT. OF PUBLIC WORKS RECEIVED MAR 26 1997 WATERTOWN, NEW YORK

TO: JERRY C. HILLER, CITY MANAGER

FROM: ROBERT G. UPSON, CITY ENGINEER

SUBJECT: PALMER STREET DEDICATION

At your request I contacted Mark Purcell about the requirements to dedicate Palmer Street. I advised Mark of the following items:

1. Requires Planning Board review as a subdivision.
2. A 60 foot right-of-way would be required and a minimum of 28 foot pavement width, curb to curb.
3. I would expect, and probably at a minimum the Planning Board would require, a sidewalk on the east side of the street.
4. The street would have to be rebuilt with 24 inch gravel base, 3 inch asphalt binder and 1-1/2 inch top course.
5. Mark asked, and I agreed, the work would be done by the owner with City specifications.

The discussion resulted in how the transition would be done on each end of his property to Wealtha and Emmett Streets. I responded that it should be a City project. Storm drainage would also have to be addressed on the City project to the north. Depending on grades, there may be no need for storm drainage in his scope of work, too early to tell.

Mark will do an estimate and get back to me. No immediate concerns with the requirements.

RGU:vz

Watertown Sunday Softball League, Est. 1970

March 12, 2014

Watertown City Board
Attn: Mayor Jeffrey E. Graham
245 Washington St, Rm 302A
Watertown, NY 13601

Mr. Mayor, & Ladies and Gentlemen of the Board:

Please let me introduce myself, my name is Tonino Alteri. I am the current acting President of the Watertown Sunday Softball League. Our League is currently celebrating our 44th year in existence. We are members of the Amateur Softball Association of America, and operate by an elected Board of Officers. We supply our own schedules, balls, officials, as well as provide the field owner with Insurance protection. We play every Sunday starting from 9AM-3PM, usually beginning the first Sunday after mother's day and ending in August (5/20 – 8/20). We play at the four local softball fields in Watertown to include: Kostyk Field, North Junior, and Fairgrounds #1 & #2. Our league consists of about 14-16 teams every year, with anywhere from 15-20 members per team from all the surrounding counties. Every Sunday we bring together 200-300 people that bring business to our local stores and vendors.

It has been brought to our Board's attention that the Watertown City Recreation Dept. is raising our league fees, which calculate to over 500%!! This raise is very unrealistic for a Not-for-profit league, such as the WSSL.

We are now in jeopardy of having to move our league to a new venue, due to the increase. We are currently in negotiations for this venue; however, we truly would like to stay in our own town of Watertown. In reviewing my leagues financial reports we have paid the city a flat fee agreement anywhere from $1,000 - $1,300 every year for the last ten years. This year our fee was changed from a flat fee agreement to a per field/per game charge. At $30.00 per game, this raise equates to over $7,000 for our league, which is mainly comprised of Watertown tax paying residents.

I would hope to discuss this issue with you further, in hopes that we can come to an understanding/agreement to move forward in Watertown as we have the last 44 years!!!

Thank you for your time and consideration, as I look forward to your response.

Regards,

Tonino Alteri, President
Phone: 315-408-8276
Email: Talteri24@hotmail.com

NEW YORK
state department of
HEALTH

Nirav R. Shah, M.D., M.P.H.
Commissioner

Sue Kelly
Executive Deputy Commissioner

February 26, 2014

OFFICE OF CITY MANAGER
MAR 03 2014
WATERTOWN, NEW YORK

Mr. Brian D. Gaffney
Chief Water Operator
Watertown Filtration Plant
1707 Huntington Street
Watertown, NY 13601

Dear Mr. Gaffney:

The New York State Department of Health (Department) applauds your commitment to providing optimally fluoridated water to the community and efforts to help improve oral health by reducing tooth decay.

The Department has been informed that the City of Watertown has been awarded a 2012 Fifty-Year Fluoridation Award from the Association of State and Territorial Dental Directors, American Dental Association and the U.S. Centers for Disease Control and Prevention (CDC). The award recognizes those water systems that reached fifty years of continuous water fluoridation in 2012. Your water system was one of only three systems that qualified for this award in New York State this year. The Department recognizes the hard work and dedication of your water system's operators.

Community water fluoridation has been recognized by CDC as one of ten great public health achievements of the 20th Century. Nearly three-quarters (73.9 percent) of the nation's population, or 204 million people, served by community water systems have access to optimally fluoridated tap water. CDC recommends water fluoridation as safe, effective and inexpensive method of preventing tooth decay. In large systems, every $1 invested in fluoridation saves at least $38 in cost for dental treatment.

Thank you for your commitment to the oral health of your residents. If you would like additional information about oral health programs in New York State, please feel free to contact Ms. Erin Knoerl at 518-474-1961 or exk08@health.ny.gov.

Sincerely,

Jayanth Kumar, D.D.S, M.P.H
Director
Bureau of Dental Health

Roger C. Sokol, Ph.D.
Director
Bureau of Water Supply Protection

cc: Hon. Graham
Ms. Hall

SPRING DROP OFF

Saturday, May 31, 2014

FOR CITY OF WATERTOWN RESIDENTS

The City of Watertown will once again offer a bulk drop off program to City residents. This is an opportunity to dispose of bulk items such as furniture, appliances, cabinets, fencing, yard furniture, and SMALL quantities of construction and demolition materials such as siding, steps, scrap lumber, windows, doors and floor coverings.

HAZARDOUS WASTE PRODUCTS
OR ELECTRONICS WILL NOT BE ACCEPTED

Coffeen Street
Fairgrounds Arena
Parking Lot
9:00 AM - 4:00 PM

QUESTIONS?
Call The
Department of
Public Works at
785-7770 or 785-7842

FEE STRUCTURE	
Automobiles / SUV's (1/2 cubic yard)	$10
Mini Van/Compact Pick-up Truck	$20
Pick-up Truck (no rack/extended sides)	$25
Pick-up Truck (with side racks)	$45
Utility Trailer (variable sizes)	$25- $45
White Goods (large metal appliances)	FREE
Tires (auto/van/pick-up only)	$5.00 Each
Batteries (car, truck, boat)	$5.00 Each

REQUIREMENTS: Residency Verification (valid driver's license or other appropriate ID).
FEES: To be paid in cash or check prior to unloading.

UNLOADING OF VEHICLES and placing of the bulk items into containers is the responsibility of customer.
FEE STRUCTURE is based on size of vehicle used as shown above. Excess loads will be subject to additional charges, depending upon estimated volumes and/or average weights of material brought in for disposal.

RESTRICTIONS

- **NO HOUSEHOLD WASTE** - Pesticides, herbicides, driveway sealers, paint, thinners, etc. are prohibited.
- **NO LIQUID WASTE OF ANY KIND**
- **NO YARD WASTE** - Brush, limbs, grass clippings, garden waste are prohibited.
- **NO REFUSE** - Items that normally would be picked up by your regular weekly trash collection are prohibited.
- **NO DUMP TRUCKS** - Only cars, vans, pick-up trucks, and utility trailers will be allowed on site.

VISIT www.watertown-ny.gov
Obtain further information on City services, including an updated list of allowed bi-weekly recyclables, as designated by Jefferson County.

2014