

November 28, 2005
Adirondack Information Group, LLC

Proposal for

Village of Lake Placid and Town of North Elba
GIS Implementation – Year One

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Overview

In response to the November 17, 2005 Request for Quotes from the Village of Lake Placid/Town of North Elba for a GIS Implementation Consultant, **Adirondack Information Group, LLC (AIG)** is pleased to offer the following proposal for services.

In summary, the proposal is to implement the first year of a plan for GIS implementation in the municipalities that will address the needs of the localities. We understand that in addition to initiating **three applications**, AIG will serve the function of “**GIS Coordinator**” and as such will need to provide several distinct sets of skills and **comprehensive support** for the GIS software and hardware in use by the municipalities. This is a big job but will enable **successful GIS implementation** by the municipalities, which might not otherwise occur. As part of this process extensive institutional communications with other agencies will be completed on behalf of the municipalities. **Critical and urgently needed data layers** will be developed and the desktop systems to view and maintain them will be installed.

This process will be a learning experience for the communities. It will help to **build local capacity** - the knowledge base of potential users and build support for appropriate uses of the technology. In addition, it will foster communication and cooperation within the municipal governments.

AIG recently completed the GIS Needs Assessment of the Village of Lake Placid and Town of North Elba (November, 2005), which was immediately adopted by the municipalities. Our team is familiar with local circumstances and needs, knows the municipal department directors and many staff members, and devised a realistic and affordable GIS system design to be implemented. The proposed work will fulfill the requirements for the first year of the GIS Implementation Plan as specified by the New York Archives for the Local Government Records Management Improvement Fund. The guidelines are contained in the publication of the Archives “Local Government GIS Development Guidelines.”

AIG is prepared to provide the necessary services required to achieve the results identified in the Request for Quotes. In the following pages our proposal lays out the tasks and steps needed. Our experience points to success in using GIS for local planning, information management, and other uses in the context of broader information management and community consultation. This allows data technicians and analysts to provide decision-makers with a holistic view of community events, history, needs, and infrastructure. Thus we propose to help you implement GIS in a broader context.

Adirondack Information Group, is ideally positioned to perform the scope of services. We are a locally based business with many faces familiar to the community. Our experience in GIS and in government is unique in the Adirondacks. The personnel who shall work on this project offer in excess of 38 years collective experience with GIS and computer database management as well as comparable levels of experience in community development, government process and natural resource analysis.

Scope of the problem

The Village of Lake Placid is located in the Town of North Elba, which is entirely within New York's Adirondack Park. The Town has a population of 8,661, of whom 2,638 live inside the Village. Both municipalities provide services to not only their residents but to a large and growing number of tourism-based developments and second home owners.

The Village of Lake Placid, in cooperation with the Town of North Elba, is submitting a grant application to the NYS Local Government Records Management Improvement Fund at the NYS Archives to finance implementation of year one of a GIS System Design Plan.

Statement of the Project

With a comprehensive GIS Needs Assessment for the Village of Lake Placid and Town of North Elba completed, the Village and Town require support to implement the first year of a three-year GIS design and implementation plan. Implementation of these application priorities requires the coordinated introduction of software, hardware and consultant services, together with certain institutional arrangements. AIG, which conducted the original needs assessment and system design, will work closely with Angel Granger, coordinator of the project on behalf of the municipalities, the GIS Coordinating Committee, and other involved parties, as needed, to ensure the completion of all four Phases of Year One Implementation. These include project initiation, which focuses on establishment of relationships to other GIS data providers; desktop implementation and data development for wastewater and sewer infrastructure; and desktop implementation and application development for the Building Department. AIG will also assist the municipalities to establish best practices in maintenance, metadata development, system upkeep, data sharing, and data policy. AIG will strive to support the GIS efforts of the Village and Town.

Together these phases will lay the groundwork for Year Two implementation of the design plan. They will provide municipal officials with access to powerful and extensive data sets, new and existing; aid the zoning and planning functions of the municipalities; create "pilot" systems for testing and monitoring operational utility; and improve coordination between agencies.

Tasks in addition to those specifically requested in the RFQ have been added to this proposal. They include more detail under each of the phases, showing where additional work will be required to meet the desired goals of the Plan. In addition, an offer is made to support the municipalities in preparations for Year Two of the GIS implementation plan through development of specifications for the Municipality-Wide Mapping Service, development of a data policy and identification of a potential IMS Service Provider to locate available data layers. In addition, we offer to conduct an end-of-year review of the original needs assessment to determine what changes, if any, have occurred in regards to the needs, interests of municipal staff; and to identify improved data and/or technology assets on behalf of the municipalities.

Our general approach will be to provide a support team to the Village and Town, with coordinated expertise in institutional communications, natural resources, data use and applications, GIS data development and equipment acquisition, installation, maintenance, and use.

AIG is a locally owned information firm based in Wilmington, NY. Our team consists of the following:

- Raymond Curran – Project Manager – institutional communications and management, software support.
- Sam Wear – Waste Water Infrastructure Data layer design, best practices for data development, metadata and maintenance procedures.
- John Barge – Building Department applications design, best practices for data development, metadata and maintenance procedures.
- Steve Halasz – Hardware, software implementation, application support

- Jennifer Carlo – Waste Water Infrastructure Data layer design and data entry, Building Department data entry
- Kara Page – data policy development, report writing, interviews, documentation

Work Plan

Implementation of these application priorities requires the coordinated introduction of software, hardware and consultant services, together with certain institutional arrangements. Many of these actions need to take place simultaneously; such tasks are grouped into the same phases. Following is a suggested schedule for implementation.

Phase 1. Project Initiation (August 1 - October 31, 2006)

Please note that all timing is based on awarding of a grant in June of 2006 with subsequent completion of contract approvals by August 1, 2006. Changes in the timing of these approvals may change the timing of product deliverables. We understand that the prices offered in this proposal must remain valid for a minimum of one year.

Management Team

A municipal GIS coordinating committee is already in place and will continue to provide oversight as the management team. With the involvement of the Village mayor, Town supervisor, planning coordinator, and building department director, the team has both institutional and hands-on implementation experience to ensure that the consultant and municipal staff have the support they need.

This team will oversee the other functional roles for GIS personnel identified in this plan.

Assist Municipalities to Establish Relationship with other Agencies/ Departments

There are several important relationships that need to be established by the municipalities, as described below. Additionally, AIG will support the municipalities to establish procedures to be followed for coordination with agencies.

- Essex County GIS

This implementation plan suggests continued use of the Essex County Real Property Parcel data as a data layer within the municipal GIS, development of other data layers with the County (e.g., E911) and coordination of development of new Village and Town data layers for eventual support by the County GIS. The GIS consultant should communicate with the County GIS director to establish an understanding on all of these matters.

- New York State Adirondack Park Agency

The APA has a database of project sites and supporting information on building permits, all coded to real property parcels. The BG2 application contemplates use of these data. The APA would like a formal arrangement to be able to provide these data. The GIS consultant, on behalf of the Village of Lake Placid and Town of North Elba, should pursue a "letter of understanding" regarding what data will be provided, how often it will be updated and in which format it will be provided. With that in hand, the database design will be more certain. Please note that in compliance with State law Mr. Curran will not have contact with APA during the statutory two year period ending October 1, 2006.

- User Groups

The Village of Lake Placid and Town of North Elba will consider joining the NYS GIS cooperative, the Adirondack GIS User and Essex County's GIS user group. The GIS Coordinator should be the contact person for these groups during Year One Implementation.

Phase 2. Desktop Implementation for WW1 (Sewer Infrastructure Data Layer)(October 1, 2006 – March 30, 2007)

This application is a very high priority for development based on the need to comply with a State-mandated remediation plan. This application will serve as a "pilot project" to help the municipalities begin the transition to "enterprise-wide" use of a GIS. See the Appendix for further detail on tasks involved with and specifications for the Sewer Infrastructure Data Layer application (WW1).

This data layer will also help with the management of an ongoing inspection and maintenance program and will assist the Joint Planning Commission in evaluating future growth in the Village of Lake Placid and Town of North Elba.

To help implement this application – the sewer infrastructure data layer – a new desktop system should be established in the water department. The GIS consultant, with the oversight of the GIS Coordinating Committee will perform the following:

- 1) Establish a physical location.
- 2) Designate an existing staff person as operator (to be trained as a GIS technician) who will also be the end user of the system. For this staff person, any salary, supplies, off-site training or travel expenses are not included in this proposal.
- 3) Assist the municipalities to procure equipment and software.
 - a. ArcGIS 9.x
 - b. Computer workstation
 - c. Color printer (ledger sized)
 - d. UPS and backup device
 - e. Sub-foot accuracy GPS
- 4) Equipment – Install, setup and configure (including six months of support).
- 5) Secure training for the GIS technician (ESRI – one week introductory program).

Phase 3. Data Development for WW1 (Sewer Infrastructure)(October 1, 2006 – March 30, 2007)

Development of the Sewer Infrastructure GIS layer (Application WW1) will begin next. AIG will develop this layer, with the support of staff assigned from the water department. See Appendix for further detail on specifications for WW1.

The development of this layer includes the following tasks:

- 1) Application design
- 2) Digitizing of selected features (specific assumptions about the extent of features are included in the appendix description)
- 3) Staff training and six months of support during implementation

Phase 4. Data Development – Building Department (January 1, 2007 – March 30, 2007)

Once implemented Phase 4 will allow the Building and Waste Water Departments to easily view and query GIS data. Application BG1 will help to bridge the physical separation between buildings of the municipality by permitting "network" printing by the two department on the large format plotter that will be maintained by the Building Department in the Town Hall.

This application will effectively make available the powerful and extensive existing data sets. Introduction of other custom data layers will directly aid the zoning and planning functions of the municipalities. Application BG2 will also serve as a facility to record building permit actions, including the placement of special conditions by the actions of the zoning board or codes enforcement officer. By integrating permit data from the Adirondack Park Agency, it will also improve coordination between agencies.

The applications BG1 and BG2 will be developed together.

Application BG1

Application BG1 involves the "Display and Query" of GIS data layers. Following are the tasks of the GIS Consultant, in consultation with the GIS Coordinating Committee:

- 1) Establish a physical location.
- 2) Designate an existing staff member as operator (a GIS technician) who will also be the end user of the system. For this staff person, any salary, supplies, off-site training or travel expenses are not included in this proposal.
- 3) Assist the municipalities to procure equipment and software.
 - a) ArcGIS 9.x
 - b) Computer workstation
 - c) Color printer (ledger sized)
 - d) Network Color printer (E-size plotter) and router
 - e) Virtual private Network Hardware
 - f) UPS and backup device
 - g) Projector
- 4) Equipment – Install, setup and configure (including six months of support).
- 5) Secure training for the GIS technician (ESRI – one week introductory program, two people).
- 6) Application design and programming
- 7) Digitizing of selected features
- 8) Staff training, setup network printing on VPN, support for six months

Application BG2

Application BG2 involves development of the "Permit Documents" data layer and associated programming. Following are the tasks of the GIS Consultant, in consultation with the GIS Coordinating Committee:

- 1) Specification of equipment and purchase (including sub-foot accuracy GPS to locate permit conditions and infrastructure in the field)
- 2) Secure off site training for Staff (ESRI – one week, two people)
- 3) Application design and programming
- 4) Digitizing of selected features

Support Services

AIG is aware that a primary task during year one will be to have AIG serve the function of "GIS Coordinator" and as such will need to provide several distinct sets of skills and comprehensive support for the GIS software and hardware in use by the municipalities. In this proposal we have identified the need for support in the following areas:

- Desktop system support for the Waste Water Department
- Mobile GPS and database support for the Waste Water department
- Desktop system support for the Building Department
- Mobile GPS and database support for the Building Department
- Support for hardware, including the virtual private network.

We have proposed a reasonable amount of time (approximately 240 hours, 6 ½ weeks) and total cost for this support. Time expended in excess of the budgeted amount will require further contract arrangement and approval by all parties.

Preparation for Year 2 (January 1- March 30, 2007)

As part of the support and GIS coordinator duties we are also proposing that preparation for year 2 work be undertaken by AIG. This work was not specifically requested in the RFP, but we view it as necessary, so an additional item is included in this proposal for that work. The Village and Town should consider adding those tasks to the scope of services request of AIG.

The tasks described below are optional steps that are recommended to be undertaken, but that were not proposed in the Request for Quotes from the Village of Lake Placid, Town of North Elba.

Data Policy

What are data policies: Data policies are statements that document principles and guidance for the management and sharing of data. They are instituted by individual programs, whole agencies, and/or entire governments depending on the specific need. They address issues ranging from promotion of open access to information, to intellectual property protection, to data collection standards and procedures. Data policies provide a mutually agreeable platform for data collection and use and facilitate efficiencies in sharing data sets.

The need for a data policy for Lake Placid and North Elba: Increasingly resource planners and municipal managers have struggled to bring into balance the need for solid data and mapped illustrations of infrastructure and growth trends with dwindling funding resources for data collection and monitoring. They have tried to take advantage of new opportunities that exist for data sharing provided by technological advances and improved internet access in remote locations, and often been stymied by disparities in the kinds and quality of data collected or the cost of purchasing an existing dataset. At the same time, awareness of the costs of not sharing such data and more broadly, knowledge and information about resource issues, is rapidly rising. This is true especially for small municipalities with tight budgets. Additionally, the utility of data policy in potentially lowering costs through joint data layer development initiatives (e.g. cost sharing with Essex County or others) and typical approaches to pricing, data access for private and public stakeholders, metadata maintenance, ownership and purchasing, citation, and protection from liability are all important.

The staff members of AIG committed to enhancing efficiencies in the realm of data and information for municipal management and sustainable development.

Municipality-wide Mapping Service-Acquire Available Data Layers

The mapping service is scheduled for implementation in Year 2, yet preparation is required to achieve that schedule. Sequentially it is most important to have the Municipality-wide Mapping Service (MWMS) available to deliver to all the departments of the municipalities the Waste Water Data Layer (WW1) and the Building Department data layers that are developed during Year 1 (BG1 And BG2). AIG will identify possible vendors for the "IMS Service Provider" to set-up and program a web-based service – the "Municipality-wide Mapping Service" (MWMS) off-site.

As part of this process the IMS Service Provider will acquire the existing available data and format it for the municipalities. Formatting options include the extent of the coverages to be displayed (e.g., all of Essex County or just the North Elba portion) and the look of the interface that the end user sees. Simple applications like the "abutters analysis" may also be possible. In addition, comparison of North Elba data to other areas of the County might be of interest to local planners and would be essential in any trend analysis to be conducted.

Needs Assessment Review

A final phase of work under this effort will include a review of the original inventory and needs assessment (in October – November 2005) to assess:

- how and why needs and data availability and technology may have changed
- to apply those updates to the original design plan for years 2 and 3, and
- to assist the Town and Village to draft text for new proposal submission to the state for year 2 implementation

Management Summary

Please see the table below for a detailed schedule of activities and timeline for the period August 1, 2006 to April 1, 2007.

Task Description, Phasing and Timing					
No.	Phase 1		Aug	Sep	Oct
1.1	Agency Relations	Negotiate and secure relationships with other agencies. Establish procedures to be followed in the municipalities for coordination with agencies	X	X	X
1.2	Budget	Develop budget and supporting information for year one implementation			X
	Phase 2		Oct/Nov	Dec/Jan	Feb/Mar
2.1	Desktop	Specify, Install, Set up, Configure	X		
2.2		Six months of support	X	X	X
	Phase 3				
3.01	Application design	Attribute table design	X		
3.02		Secure general location information from Village Staff	X		
3.03	Data development/digitizing	Selected feature digitization (trunk lines and feeder lines to ALIS road center line file),	X	X	X
3.04		Pump stations (16)	X	X	X
3.05		Manholes	X	X	X
3.06	Programming	GPS specification and purchase	X		
3.07		GPS programming for field attribute collection	X	X	X
3.08		Develop and implement post-processing (Office) GPS procedures	X	X	
3.09	Support	Train tech in software use	X	X	X
3.10		Six months of support	X	X	X
3.11		Establish procedures for documenting amendments to data layers for routine incorporation into metadata	X	X	X
3.12		Develop reporting capability to satisfy DEC requirements	X		
		Total Phase 3	X		
	Phase 4		Jan	Feb	Mar
	BG1				
4.01	Desktop System	Specify, Install, Configure	X		
4.02		Six months of support	X	X	X
4.03	Application design	A project template (in ArcMap 9x) will be developed with appropriate spatial layers installed and symbology established. Page layouts will be set up to accommodate various display sizes and purposes. The default layout will include a map view, title, legend, scale, logo and other descriptive map elements.	X		
4.04		Specify and secure development of Virtual Private Network for Deployment of BG1 and BG2	X	X	X
4.05		Establish procedures for documenting amendments to data layers for routine	X		

		incorporation into metadata			
4.06		Establish procedures for data back-up and initiate	X	X	X
4.07		GPS programming for field attribute collection	X	X	X
4.08		Develop and implement post processing (Office) GPS procedures	X		
4.09		Train tech in software use	X		
4.10		Six months of support	X	X	X
4.11	Data development	Secure Data (County Data CD) and Format for Town; adapt GIS data to local conditions	X	X	X
4.12	Hardware Support	Install 4 new pieces of hardware in Building Office	X		
4.13		Support for 6 months	X	X	X
	BG2				
4.14	BG2 application design	Set up procedures to correlate parcel geographic data with related attribute tables containing hyperlinks to office documents such as scanned permits and photos. Unique parcel ID numbers or permit numbers will be used to link spatial data with tables containing pointers to document folders. A list of available documents will be presented for a queried parcel or permit location. Retrieved documents may be opened in their native office application for viewing and printing. Procedures to reference new permit documents will be provided.	X	X	X
4.15	Data Development	Secure copies of 640 past permits from Town/Village	X	X	X
4.16		Scan copies	X	X	
4.17		Attribute documents based on RPS Parcel ID in document or readily available records	X	X	
4.18		Secure data base from APA	X	X	X

Additional Work

Preparation for Year 2		Jan	Feb	Mar
Data Policy	Develop data policy and procedures for municipal GIS operation and data sharing with other agencies		X	
Needs Assessment Review	Secure data, update data availability and technology assessment			X
	Update and review interviews with municipal officials			X
	Analysis and Reporting			X

Costs

Task Number Hours by Rate Category			
Task	Rate 1	Rate 2	Rate 3
Phase 1			
1.1	0	20	0
1.2	0	8	0
	0	28	0
Phase 2			
2.1	0	20	0
2.2	0	80	0
	0	100	0
Phase 3			
	0	0	0
3.01	4	0	0
3.02	0	8	0
3.03	0	0	80
3.04	0	0	40
3.05	0	0	40
3.06	0	4	0
3.07	0	32	0
3.08	0	8	0
3.09	0	8	0
3.10	0	40	0
3.11	8	4	0
3.12	0	6	0
	12	110	160
Phase 4			
4.01	0	18	0
4.02	0	80	0
4.03	25	0	0
4.04	0	16	0
4.05	6	0	0
4.06	0	1	0
4.07	0	8	0
4.08	0	4	0
4.09	0	5	0
4.10	0	40	0
4.11	0	4	0
4.12	0	2	0
4.13	0	20	0
4.14	25	2	0
4.15	0	8	0
4.16	0	40	0
4.17	0	0	40
4.18	0	8	0
	56	256	40

Cost Summary by Phases	
Computed on the basis of:	
Rate 1: Tasks include application and system design, best practices description, graphics and data entry quality control.	\$65/hour
Rate 2: Tasks include system and hardware support, routine software development, application adaptation, project oversight.	\$55/hour
Rate 3: Tasks include data entry, report writing, and project administration	\$45/hour
Rates are cost plus, including overhead and administration	
Phase 1	\$1,540
Phase 2	\$5,500
Phase 3	\$14,030
Phase 4	\$19,520
Total	\$40,590

Preparation for Year 2		Hours
Data Policy	Develop data policy and procedures for municipal GIS operation and data sharing with other agencies	20
Needs Assessment Review	Secure data, update data availability and technology assessment	5
	Update and review interviews with municipal officials	25
	Analysis and Reporting	40

Cost Summary for Additional Work to Update Needs Assessment	
Computed on the basis of:	
Tasks include research, report writing, and project administration	\$48/hour
Rates are cost plus, including overhead and administration	
Total	\$4,320

List of the Products (deliverables)

- Three applications, including data layers (WW1 and BG1 and BG2)
- Two desktop systems installed (water/sewer and building) including associated hardware components
- Training for staff members
- On-site and telephone hardware and software support
- Coordination for data acquisition and sharing
- Institutional support - Updated needs assessment and supporting information in preparation for Year 2 implementation (this is an optional task)

Prior Experience With Municipality Implementation of GIS

AIG is a locally owned information firm based in Wilmington, NY. Our team and their areas of responsibility consist of the following:

- Raymond Curran – Project Manager – institutional communications and management, data entry support, software support.
- Sam Wear – Waste Water Infrastructure Data Layer design, best practices for data development, metadata and maintenance procedures.
- John Barge – Building Department applications design (BG1 And BG2), best practices for data development, metadata and maintenance procedures.
- Steve Halasz – Hardware, software implementation, application support
- Jennifer Carlo – Waste Water Infrastructure Data layer design and data entry, Building Department data entry
- Kara Page – data policy development, report writing, interviews, documentation

This team, as can be seen in the detailed biographical information for each, has specific experience with municipal implementation of GIS.

Mr. Sam Wear has spent a career in Westchester County working at the local government level in GIS implementation. He is the manager of the County GIS program and has extensive experience with working with municipalities on delivering GIS applications. Jennifer Carlo has provided direct GIS data base support to the departments of the Village of Lake Placid through her work with the Mirror Lake Watershed Association. John Barge has also had direct contact with municipalities, having developed a GIS application used by the Town of Day, Saratoga County to prepare enhancements to their municipal does. Raymond Curran and Kara Page have had extensive contact with the Village and Tow in developing the current GIS Needs Assessment.

The personnel are very familiar with local community development and environmental issues and the broader range of Adirondack Park issues, as well as the availability of important resources at the regional, county and watershed levels.

More importantly, AIG is comprised of information management and use experts, with current practical application and design experience from around the region and the world. Information

tools, including GIS, are key components of the options available to local decision-makers, planners, and community members. Appropriate use of the technology will help empower involved parties to make better decisions. Involvement of community members in the process of assessment for information and GIS needs will help engage their support and interest from the start.

Lastly, AIG is committed to the success of this project because we know the communities and know the benefits that will be forthcoming from the use of this technology. AIG congratulates the Village/Town for its vision in putting forward this critical project, which will lead the communities of the Adirondacks in the uses of 21st century options and tools for the future of the region.

Qualifications of Personnel

Raymond P. Curran

Raymond P. Curran is the principal and founder of Adirondack Information Group. He has over 24 years of experience with GIS - as a government employee, academic and professional consultant.

He is a member of the Adjunct Faculty of the Center for Earth and Environmental Studies at SUNY Plattsburgh and has instructed college level GIS courses. He is also a member of the adjunct faculty of Skidmore College, University Without Walls. He graduated with a Masters of Science in Plant Ecology from the SUNY College of Environmental Science and Forestry and with a Masters of Science (Forestry) from Syracuse University. His primary tasks in the GIS Implementation Project will be as project manager, to assist in application design and software support.

Sam Wear

Sam has served as GIS Manager for Westchester County (<http://giswww.westchestergov.com>) for the past 19 years. In this capacity he has been responsible for all components of the county's GIS program including database and application development, software and hardware procurement, contract management, staffing, and has contributed directly to the development and design of city, town and village GIS programs in the county. He is currently a member of the New York State GIS Coordinating Body, serves on the Board of Directors for the Northeast ARC/INFO Users Group, co-founder of the New York State GIS Association (www.nysgis.org) and contributes to other regional, state, and federal GIS initiatives. He currently serves as the local government representative to the Geospatial One Stop (www.geodata.gov). He received his B.S. from the University of Idaho and M.S. from the University of Vermont in Natural Resources Planning. His primary tasks in the GIS Implementation Project will be with respect to design and creation of the waste Water Department data layer.

John W. Barge

John W. Barge is a Geographic Information Analyst for NYS Adirondack Park Agency. He manages and runs the Agency GIS; His duties also include database design and quality control; establishing data editing, distribution, procurement and data documentation procedures; design and programming of user applications; custom cartographic production; image analysis and classification; spatial analysis of permit review, real property, demographic and natural resources; website design and programming. He has also provided GIS privately through his GIS consulting business. He has a B.A. in Geography and Psychology from SUNY Potsdam. His

primary tasks in the GIS Implementation Project will be with respect to design and creation of the Building Department data layers.

Steven K. Halasz

Steven K. Halasz primary area of expertise is with data management and with hardware and software tools for Adirondack communities and businesses.

Steve helped to found the Adirondack GIS User group and was responsible for designing and creating their website (WWW.ADKGIS.ORG), a valuable resource. He also contributed in a major way to "Quantum GIS," a free software project to create an extensible Geographic Information System written in C++ and Qt.

He is a graduate of Cornell University with a Bachelor of Science degree in Mechanical Engineering. His primary tasks in the GIS Implementation Project will be for hardware and software support, application design and data base oversight.

Jennifer Carlo

Ms. Carlo is currently employed by Paul Smith's College, in the Division of Forestry as an Adjunct Professor /Lecturer teaching "Introduction to Geographic Information Systems." This instruction deals with the concepts of Arc GIS 9, along with different Global Positioning System Units techniques and ways to down load collected information into their GIS.

Jennifer Carlo has provided direct GIS data base support to the departments of the Village of Lake Placid through her work with the Mirror Lake Watershed Association.

She also works for the New York State Adirondack Park Agency as a Regulatory Programs project assistant. In this position she digitizes polygons of project sites and creates attribute information for the addition to the staff look-up system database. During her five-years at the Agency she has had the opportunity to work on various mapping projects; some examples of these have included working with and edited the Accident Location Information System (ALIS) Data, and creating Adirondack Park Town Maps for the addition to our website.

Her primary tasks in the GIS Implementation Project will be in implementing the waste water data layer and the permits documents data layer. She will enter data as well as maintain quality control.

Kara D. Page

Kara D. Page, a resident of Wilmington, NY, has over 16 years of experience in working with non-governmental organizations, government and the private sector in community conservation, development, and natural resources management. She was a significant contributor to AIG's work on the Lake Placid / North Elba GIS Needs Assessment in October and November 2005.

She has extensive experience in institutional development, research and writing, communications, and information technology. She has a background in GIS and data policy development. Ms. Page also brings solid skills in project management, fundraising, socioeconomic and community-based environmental planning and assessment, partnership development, organizational evaluation, and participatory appraisal.

Ms. Page is the Vice President for Community Issues of Adirondack Sustainable Communities Inc. (ASCI), where she works on community development and conservation issues, and an adjunct

member of the faculty of Paul Smiths College, Natural Resources Division. She has a Masters of Arts degree in Community Development from the American University, School of International Service and a BA from the University of Michigan. Her primary roles in the GIS Implementation project for Lake Placid and North Elba will be development of a municipal data policy, report writing, interviews, reviews of the assessment after one year of implementation, and other institutional issues.

References for Municipal Work

With respect to municipal GIS work, please feel free to contact the following for recommendations and endorsement of performance:

Mr. Jamie Rogers
Mayor, Village of Lake Placid
Lake Placid, NY 12946
V: (518) 523-2584

Ms. Jeanne Ashworth
Supervisor Town Of Wilmington
Wilmington, New York 12997
7 Brandy Brook Avenue, Suite 204
Saranac Lake, NY 12983
V: (518) 946-7179

Mrs. Shirley Seney
Supervisor, Town of North Elba
Lake Placid, NY 12946
V: (518) 523-2584

Additional references of work and experience of Sam Wear:

Mr. Mark Russell (Assessor)
City of Yonkers
mark.russell@cityofyonkers.com
914-377-6204

Mr. Jason Molino (Assistant Village Manager)
Village of Port Chester
JMolino@villageofportchester-ny.com
914- 939- 5327

Ms. Kathy Cory (Clerk)
Town of Lewisboro
townclerk@lewisborogov.com
914-763-3511

Mr. Raj Metha (City Engineer)
City of New Rochelle
rmehta@ci.new-rochelle.ny.us

Appendix

WW1 Application Description: Development / Maintenance of Sewer Infrastructure Layer

Objective:

To develop and maintain GIS layers representing the elements of the Village's waste water sewer infrastructure. Elements include the following:

- Sewer:
 - o Sanitary Sewer lines
 - o Flow direction
 - o Size, depth, material
 - o Date of construction
 - o Date of maintenance
 - o Condition, Date of inspection
- Sanitary sewer manholes:
 - o Size, material
 - o No. of inverts
 - o Size of connection, depth
 - o Date of construction
 - o Date of maintenance
 - o Condition, Date of inspection
- Sanitary sewer pump stations

Existing engineering drawings and maps of the infrastructure are piecemeal and in hard copy only. This layer is proposed to be developed under contract with close supervision and input by Department staff. This supervision will serve to increase the accuracy of the layers, ensure that are usable by the staff after delivery of the data, ensure engagement of staff, and will train staff in the skills needed to maintain and up date the layer.

Sanitary Sewer Lines: This layer can be created using the on-the-ground knowledge of the Department staff about the general location of the lines, together with the parcel boundary layer, the roads layer (road center lines), and the orthophotography layer. A "heads-up" digitizing technique will be used to generally locate the lines and begin the basic attribution of the data layer (with information that is readily available, like material, diameter, flow direction). Later the accuracy of the layer will be improved with actual field observations, as the layer is used by the staff. During later maintenance and development of this layer each sanitary sewer manhole can be accurately located and will serve as critical "turning points" to accurately locate the lines that connect there. The length of lines is unknown, but we are assuming that there are 42 miles of lines.

Manholes: As noted above, the manholes will serve as critical "turning points" to accurately locate the lines; that data may be collected by using accurate GPS units. The number of manholes is unknown. AIG will digitize and attribute up to 50 man holes and train municipal staff to enter new manhole information. Attributes that can be collected and recorded for this element include size, material, Number of inverts, size of each connection, depth; date of construction; date of maintenance, condition at date of inspection. An attribute table allowing input of this information will be created and tested before delivery of the application to the Department.

Sanitary Sewer Pump Stations: There are about sixteen pump stations and these will identified and located in the field using the GPS. Size and position of the pump station will be noted.

A procedure will be developed to ensure regular maintenance and up-date of the data. It is important that the GIS layers be easily accessible and be used by the Department staff to ensure the continued commitment to their maintenance.

Finally, a report generating capability will be provided for ease in gathering data for submission to NYS DEC for the required periodic reports. This feature will be developed in consultation with DEC to ensure optimization of the information developed from the GIS.

BG1 Application Description: Display and Query of GIS Data Layers

Objective:

Using existing or newly created GIS data layers provide capacity to display, query and print at an appropriate scale and format.

For illustration, elements include the following:

Essex County Data

- Real Property Parcel Boundaries and Attribute Information
- E911 Road Names

Adirondack Park Data

- Park Plan Map
- Mesosoils
- Wetlands

New York State Data

- Orthophotography
- Hydrography
- Topography

New or Proposed Data

- E911 addresses and correlation tables
- Sewer Infrastructure
- Water Infrastructure
- Highway Infrastructure
- Permit Documents
- Demographic Information
- North Elba interpretive themes

Description:

A project template (in ArcMap 9x) will be developed with appropriate spatial layers installed and symbology established. Page layouts will be set up to accommodate various display sizes and purposes. The default layout will include a map view, title, legend, scale, logo and other descriptive map elements.

Because of the need to develop many new data bases locally, in the short term delivery of these data layers to the municipal departments will be through a local area network, that allows write as well as read access, is most likely the preferable choice (Virtual Private Network). This application is proposed to be developed with close supervision and input by Department staff. This supervision will serve to increase the accuracy of the layers, ensure that are usable by

the staff after delivery of the application, ensure engagement of staff, and will train staff in the skills needed to maintain and up date the layer.

Note:

The following hardware capabilities are needed:

- A large format plotter for printing tax map sized prints.
- An 11 X 17 inch color printer for routine map printing.
- A portable projector for public presentations and Review Board meetings
- A field grade GPS unit to sub meter accuracy is needed.

BG2 Application Description: Development of a Permit Documents Layer

Objective:

Provide easy and reliable access to permit, documents such as permit, variances, **photos** and plans that relate to certain parcels of land.

Description:

Application development: Set up procedures to correlate parcel geographic data with related attribute tables containing hyperlinks to office documents such as scanned permits and photos. Unique parcel ID numbers or permit numbers will be used to link spatial data with tables containing pointers to document folders. A list of available documents will be presented for a queried parcel or permit location. Retrieved documents may be opened in their native office application for viewing and printing. Procedures to reference new permit documents will be provided.

Frequently, relevant documents are lost or overlooked because of difficulty in accessing them or loss of "institutional memory" about their existence. This application will digitize the most recent set of documents reflecting permit actions and correlate them to parcels of land. A procedure or program will be developed that allows both for easy display and printing of these documents and also establishes a procedure for future addition of new documents to the system. It is our understanding that the following permits are available digitally and can be readily scanned for incorporation into the application.

Town and Village Permit Activity

Year	Town	Village	Total
2002	75	121	196
2003	68	138	206
2004	143	95	238
			640

We also believe that the permits have information with them that indicates the RPS parcel ID number for correlation to the Tax Map data layer. An effort must also be made to obtain permits and variances from the Adirondack Park Agency that impact development in the municipalities. These will also be correlated with parcels of land.

This application is proposed to be developed under contract with close supervision and input by Department staff.