

**Contract Details**

SERVICE: PERSONAL SERVICES AGREEMENT

NIFS ID #: CFPW16000034 NIFS Entry Date: 6/30/16 Term: from 12-1-2015 to 9-30-2017

New <input type="checkbox"/> Renewal <input type="checkbox"/>	1) Mandated Program:	Yes <input type="checkbox"/> No <input type="checkbox"/>
Amendment <input type="checkbox"/>	2) Comptroller Approval Form Attached:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Time Extension <input type="checkbox"/>	3) CSEA Agmt. § 32 Compliance Attached:	Yes <input type="checkbox"/> No <input type="checkbox"/>
Addl. Funds <input type="checkbox"/>	4) Vendor Ownership & Mgmt. Disclosure Attached:	Yes <input type="checkbox"/> No <input type="checkbox"/>
Blanket Resolution <input type="checkbox"/>	5) Insurance Required	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
RES# _____		

**Agency Information**

Vendor		County Department	
Name U.S. DEPARTMENT OF INTERIOR, GEOLOGICAL SURVEY	Vendor ID# 140001849	Department Contact MICHAEL FLAHERTY	
Address 425 JORDAN ROAD TROY, NY 12180	Contact Person MS. TRACY BRISTOL	Address CEDAR CREEK WPCP - BUILDING "R" WANTAGH, NY 11793	
	Phone (518)285-5626	Phone (516)571-7527	

**Routing Slip**

DATE Rec'd.	DEPARTMENT	Internal Verification	DATE App'd & Fw'd.	SIGNATURE	Leg. Approval Required
	Department	NIFS Entry (Dept) <input type="checkbox"/> NIFS Appvl (Dept. Head) <input type="checkbox"/>	6/30/16	[Signature]	
	DPW (Capital Only)	CF Capital Fund Approval <input type="checkbox"/>	6/30/16	[Signature]	
	OMB	NIFS Approval <input type="checkbox"/>	7/13/16	[Signature]	Yes <input type="checkbox"/> No <input type="checkbox"/> Not required if Blanket Res
7/18	County Attorney	CA RE & Insurance Verification <input checked="" type="checkbox"/>	7/18	[Signature]	
7/18	County Attorney	CA Approval as to form <input checked="" type="checkbox"/>	7/18	[Signature]	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	Legislative Affairs	Fw'd Original Contract to CA <input type="checkbox"/>	7/18	[Signature]	
	Rules <input type="checkbox"/> / Leg. <input type="checkbox"/>	<input type="checkbox"/>			
	County Attorney	NIFS Approval <input type="checkbox"/>			
	Comptroller	NIFS Approval <input type="checkbox"/>			
	County Executive	Notarization Filed with Clerk of the Leg. <input type="checkbox"/>	7/18/16	[Signature]	

RECEIVED  
CLERK OF THE LEGISLATURE  
JUL 18 P 6 31



## Contract Summary

<b>Description:</b> COUNTYWIDE HYDROGEOLOGICAL DATA COLLECTION, MONITORING AND REPORTING
<b>Purpose:</b> TO CONTINUE TO OPERATE AND MAINTAIN A COOPERATIVE HYDROGEOLOGICAL DATA COLLECTION, MONITORING AND REPORTING PROGRAM WITH THE UNITED STATE GEOLOGICAL SURVEY (USGS) IN NASSAU COUNTY. THE PROGRAM WITH THE USGS IS A JOINT FUNDING AGREEMENT AND PROVIDES VALUABLE INFORMATION ON THE COUNTY'S GROUNDWATER SYSTEM WHICH IS NEEDED FOR WATER RESOURCES MANAGEMENT ON REGIONAL AND LOCAL LEVELS.
<b>Method of Procurement:</b> THE USGS IS THE SOLE PROVIDER OF THE SERVICES.
<b>Procurement History:</b> THE USGS IS THE SOLE PROVIDER OF THE SERVICES. THIS IS A CONTINUATION OF THE COOPERATIVE PROGRAM THAT HAS BEEN IN EXISTENCE BETWEEN THE COUNTY AND THE USGS SINCE THE 1930'S.
<b>Description of General Provisions:</b> PAYMENT FOR SERVICES AS FOLLOWS: \$217,770.00 PAID FOR SERVICES FROM DECEMBER 1, 2015 TO SEPTEMBER 30, 2016 \$224,070.00 PAID FOR SERVICES FROM OCTOBER 1, 2016 TO SEPTEMBER 30, 2017
<b>Impact on Funding / Price Analysis:</b> Funding for 12/1/2015 – 9/30/2016 will be as follows: General Fund \$150,000 and Capital Project 80042 (Groundwater Studies) - \$67,770.00 = \$217,770.00 Funding for 10/1/2016 – 9/30/2016 will be as follows: General Fund \$150,000 and Capital Project 80042 (Groundwater Studies) - \$74,300.00 = \$224,300.00
<b>Change in Contract from Prior Procurement:</b>  N/A
<b>Recommendation:</b> (approve as submitted)

## Advisement Information

BUDGET CODES	
Fund:	
Control:	
Resp:	
Object:	
Transaction:	

FUNDING SOURCE	AMOUNT
Revenue Contract <input type="checkbox"/>	XXXXXXXX
County	\$217,770
Federal	\$
State	\$
Capital	\$
Other	\$
<b>TOTAL</b>	<b>\$217,770</b>

LINE	INDEX/OBJECT CODE	AMOUNT
1	PW GEN 0120 / DE 500	\$150,000
2	PW CSW 80042	\$67,770
3		\$
4		\$
5		\$
6		\$
<b>TOTAL</b>		<b>\$217,770</b>

RENEWAL	
% Increase	
% Decrease	

Document Prepared By: \_\_\_\_\_

Date: \_\_\_\_\_

NIFS Certification	Comptroller Certification	County Executive Approval
I certify that this document was accepted into NIFS.	I certify that an unencumbered balance sufficient to cover this contract is present in the appropriation to be charged.	Name
Name	Name	Date
Date	Date	(For Office Use Only)
		<b>E #:</b>



## Nassau County Interim Finance Authority

### Contract Approval Request Form (As of January 1, 2015)

1. Vendor: U.S. DEPARTMENT OF INTERIOR - U.S.GEOLOGICAL SURVEY

2. Dollar amount requiring NIFA approval: \$ \$442,070

Amount to be encumbered: \$ \$442,070 *Mc/r*

This is a ☒ New Contract ☐ Advisement ☐ Amendment

If new contract - \$ amount should be full amount of contract

If advisement - NIFA only needs to review if it is increasing funds above the amount previously approved by NIFA

If amendment - \$ amount should be full amount of amendment only

3. Contract Term: 2 YEARS

Has work or services on this contract commenced? ☐ Yes ☒ No

If yes, please explain: CONTINUATION OF EXISTING COOPERATIVE PROGRAM

4. Funding Source:

☒ General Fund (GEN) ☐ Grant Fund (GRT) Federal % ☐  
☒ Capital Improvement Fund (CAP) State % ☐  
☐ Other County % ☐

Is the cash available for the full amount of the contract?

☐ Yes ☒ No

If not, will it require a future borrowing?

☒ Yes ☐ No

Has the County Legislature approved the borrowing?

☒ Yes ☐ No ☐ N/A

Has NIFA approved the borrowing for this contract?

☐ Yes ☒ No ☐ N/A

5. Provide a brief description (4 to 5 sentences) of the item for which this approval is requested:

The Department of Public Works has been collecting valuable hydrological data pertaining to Nassau County's Water Resources cooperatively with the U.S. Geological Survey since the 1930's. This agreement allows for the continued collection of groundwater, surface water and salt intrusion information for interpretation and dissemination to the general public.

6. Has the item requested herein followed all proper procedures and thereby approved by the:

Nassau County Attorney as to form ☐ Yes ☐ No ☐ N/A  
Nassau County Committee and/or Legislature ☐ Yes ☐ No ☐ N/A

Date of approval(s) and citation to the resolution where approval for this item was provided:

7. Identify all contracts (with dollar amounts) with this or an affiliated party within the prior 12 months:

*none*

### AUTHORIZATION

To the best of my knowledge, I hereby certify that the information contained in this Contract Approval Request Form and any additional information submitted in connection with this request is true and accurate and that all expenditures that will be made in reliance on this authorization are in conformance with the Nassau County Approved Budget and not in conflict with the Nassau County Multi-Year Financial Plan. I understand that NIFA will rely upon this information in its official deliberations.

Roseann Dell 7/14/15  
Signature Title Date

\_\_\_\_\_  
Print Name

### COMPTROLLER'S OFFICE

To the best of my knowledge, I hereby certify that the information listed is true and accurate and is in conformance with the Nassau County Approved Budget and not in conflict with the Nassau County Multi-Year Financial Plan.

Regarding funding, please check the correct response:

\_\_\_\_\_ I certify that the funds are available to be encumbered pending NIFA approval of this contract.

If this is a capital project:

\_\_\_\_\_ I certify that the bonding for this contract has been approved by NIFA.

\_\_\_\_\_ Budget is available and funds have been encumbered but the project requires NIFA bonding authorization

\_\_\_\_\_  
Signature Title Date

\_\_\_\_\_  
Print Name

### NIFA

Amount being approved by NIFA: \_\_\_\_\_

\_\_\_\_\_  
Signature Title Date

\_\_\_\_\_  
Print Name

**NOTE: All contract submissions MUST include the County's own routing slip, current NIFS printouts for all relevant accounts and relevant Nassau County Legislature communication documents and relevant supplemental information pertaining to the item requested herein.**

**NIFA Contract Approval Request Form MUST be filled out in its entirety before being submitted to NIFA for review.**

**NIFA reserves the right to request additional information as needed.**

RULES RESOLUTION NO.    – 2016

A RESOLUTION AUTHORIZING THE COUNTY EXECUTIVE TO EXECUTE A PERSONAL SERVICES AGREEMENT BETWEEN THE COUNTY OF NASSAU, ACTING ON BEHALF OF THE NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS AND THE U.S. GEOLOGICAL SURVEY, UNITED STATES DEPARTMENT OF THE INTERIOR

WHEREAS, the County has negotiated a personal services agreement with the U.S. Geological Survey, United States Department of the Interior for the operation and maintenance of a Cooperative Hydrogeological Data Collection, Monitoring and Reporting Program, a copy of which is on file with the Clerk of the Legislature; now, therefore, be it

RESOLVED, that the Rules Committee of the Nassau County Legislature authorize the County Executive to execute the said agreement with the U.S. Geological Survey, United States Department of the Interior



OFFICE OF THE

COMPTROLLER

240 Old Country Road  
Mineola, New York 11501

## COMPTROLLER APPROVAL FORM FOR PERSONAL, PROFESSIONAL OR HUMAN SERVICES CONTRACTS

*Attach this form along with all personal, professional or human services contracts, contract renewals, extensions and amendments.*

CONTRACTOR NAME: U.S. DEPARTMENT OF INTERIOR – U.S. GEOLOGICAL SURVEY

CONTRACTOR ADDRESS: 425 JORDAN ROAD, TROY, NY 12180

FEDERAL TAX ID #: 140001849

**Instructions:** Please check the appropriate box ("☑") after one of the following roman numerals, and provide all the requested information.

**I. ☐ The contract was awarded to the lowest, responsible bidder after advertisement for sealed bids.** The contract was awarded after a request for sealed bids was published in \_\_\_\_\_ [newspaper] on \_\_\_\_\_ [date]. The sealed bids were publicly opened on \_\_\_\_\_ [date]. \_\_\_\_\_ [#] of sealed bids were received and opened.

**II. ☐ The contractor was selected pursuant to a Request for Proposals.**

The Contract was entered into after a written request for proposals was issued on \_\_\_\_\_ [date]. Potential proposers were made aware of the availability of the RFP by advertisement in \_\_\_\_\_ [newspaper], posting on industry websites, via email to interested parties and by publication on the County procurement website. Proposals were due on \_\_\_\_\_ [date]. \_\_\_\_\_ [state #] proposals were received and evaluated. The evaluation committee consisted of: \_\_\_\_\_

\_\_\_\_\_ (list # of persons on committee and their respective departments). The proposals were scored and ranked. As a result of the scoring and ranking, the highest-ranking proposer was selected.

**III. ☐ This is a renewal, extension or amendment of an existing contract.**

The contract was originally executed by Nassau County on \_\_\_\_\_ [date]. This is a renewal or extension pursuant to the contract, or an amendment within the scope of the contract or RFP (copies of the relevant pages are attached). The original contract was entered into after \_\_\_\_\_

\_\_\_\_\_[describe procurement method, i.e., RFP, three proposals evaluated, etc.] Attach a copy of the most recent evaluation of the contractor's performance for any contract to be renewed or extended. If the contractor has not received a satisfactory evaluation, the department must explain why the contractor should nevertheless be permitted to continue to contract with the county.

**IV. ☐ Pursuant to Executive Order No. 1 of 1993, as amended, at least three proposals were solicited and received. The attached memorandum from the department head describes the proposals received, along with the cost of each proposal.**

- ☐ A. The contract has been awarded to the proposer offering the lowest cost proposal; **OR:**
- ☐ B. The attached memorandum contains a detailed explanation as to the reason(s) why the contract was awarded to other than the lowest-cost proposer. The attachment includes a specific delineation of the unique skills and experience, the specific reasons why a proposal is deemed superior, and/or why the proposer has been judged to be able to perform more quickly than other proposers.

**V. ☒ Pursuant to Executive Order No. 1 of 1993 as amended, the attached memorandum from the department head explains why the department did not obtain at least three proposals.**

- ☒ A. There are only one or two providers of the services sought or less than three providers submitted proposals. The memorandum describes how the contractor was determined to be the sole source provider of the personal service needed or explains why only two proposals could be obtained. If two proposals were obtained, the memorandum explains that the contract was awarded to the lowest cost proposer, or why the selected proposer offered the higher quality proposal, the proposer's unique and special experience, skill, or expertise, or its availability to perform in the most immediate and timely manner.
- ☐ B. The memorandum explains that the contractor's selection was dictated by the terms of a federal or New York State grant, by legislation or by a court order. (Copies of the relevant documents are attached).
- ☐ C. Pursuant to General Municipal Law Section 104, the department is purchasing the services required through a New York State Office of General Services contract no. \_\_\_\_\_, and the attached memorandum explains how the purchase is within the scope of the terms of that contract.
- ☐ D. Pursuant to General Municipal Law Section 119-o, the department is purchasing the services required through an inter-municipal agreement.

**VI. ☐ This is a human services contract with a not-for-profit agency for which a competitive process has not been initiated.** Attached is a memorandum that explains the reasons for entering into this contract without conducting a competitive process, and details when the department intends to initiate a competitive process for the future award of these services. For any such contract, where the vendor has previously provided services to the county, attach a copy of the most recent evaluation of the vendor's performance. If the contractor has not received a satisfactory evaluation, the department must explain why the contractor should nevertheless be permitted to contract with the county.

In certain limited circumstances, conducting a competitive process and/or completing performance evaluations may not be possible because of the nature of the human services program, or because of a compelling need to continue services through the same provider. In those circumstances, attach an explanation of why a competitive process and/or performance evaluation is inapplicable.

**VII. ☐ This is a public works contract for the provision of architectural, engineering or surveying services.** The attached memorandum provides details of the department's compliance with Board of Supervisors' Resolution No. 928 of 1993, including its receipt and evaluation of annual Statements of Qualifications & Performance Data, and its negotiations with the most highly qualified firms.

**Instructions with respect to Sections VIII, IX and X:** All Departments must check the box for VIII. Then, check the box for either IX or X, as applicable.

**VIII. ☒ Participation of Minority Group Members and Women in Nassau County Contracts.** The selected contractor has agreed that it has an obligation to utilize best efforts to hire MWBE sub-contractors. Proof of the contractual utilization of best efforts as outlined in Exhibit "EE" may be requested at any time, from time to time, by the Comptroller's Office prior to the approval of claim vouchers.

**IX. ☐ Department MWBE responsibilities.** To ensure compliance with MWBE requirements as outlined in Exhibit "EE", Department will require vendor to submit list of sub-contractor requirements prior to submission of the first claim voucher, for services under this contract being submitted to the Comptroller.

**X. ☒ Vendor will not require any sub-contractors.**

**In addition, if this is a contract with an individual or with an entity that has only one or two employees:** ☐ a review of the criteria set forth by the Internal Revenue Service, *Revenue Ruling No. 87-41, 1987-1 C.B. 296*, attached as Appendix A to the Comptroller's Memorandum, dated February 13, 2004, concerning independent contractors and employees indicates that the contractor would not be considered an employee for federal tax purposes.

  
\_\_\_\_\_  
Department Head Signature

  
\_\_\_\_\_  
Date

**NOTE:** Any information requested above, or in the exhibit below, may be included in the county's "staff summary" form in lieu of a separate memorandum.

Compt. form Pers./Prof. Services Contracts: Rev. 03/16



**COUNTY OF NASSAU**  
**DEPARTMENT OF PUBLIC WORKS**  
**Inter-Departmental Memo**

**TO:** Office of the County Executive  
Att: Richard R Walker, Chief Deputy County Executive

**FROM:** Department of Public Works

**DATE:** May 27, 2016

**SUBJECT:** Agreement with United States Geological Survey (USGS)

The Department proposes, through an agreement with the USGS, to continue the cooperative hydrologic data collection and monitoring program in Nassau County. This joint funding program between Nassau County and the USGS dates back to the late 1930s.


For well over 100 years, the USGS has been the national scientific agency responsible for water resources monitoring, and as such, the USGS is the sole provider of these services; therefore, no RFP was issued.

Hydrologic information collected by the USGS under the cooperative agreement is not collected by the County, or any other agency, and will supplement the Department's groundwater program. It is important that the cooperative program continue in Nassau County so that a complete hydrological picture of the entire Long Island region is available for water resources planning on both the regional and local levels.

The cooperative agreement specifically provides that such information be published on the regional and national databases maintained by the USGS. As part of a bi-county effort, Suffolk County also participates with the USGS for water resources data collection, monitoring, and interpretation of findings.

Terms of the cooperative agreement are for two (2) years at a total cost to the County of approximately \$422,070.00, with the USGS contributing approximately \$189,460.00 in matching funds during the same time period. The first year county contribution is expected to be \$217,770.00, with \$150,000.00 coming from the General Fund and \$ 67,770.00 coming from capital funds (funding code # 80042 – Groundwater Studies). The second year contribution will be \$224,300.00, again with \$150,000.00 being taken from General Funds and \$74,300.00 taken from Groundwater Studies.

If you approve or disapprove of the above, please signify by signing below and returning a copy of this memo.


  
Shila Shah-Gavnoudias  
Commissioner of Public Works

SSG:KGA:JLD:cs

Attachment

c: Kenneth G. Arnold, Assistant to Commissioner  
Brian J. Schneider, Assistant to Deputy Commissioner  
Joseph L. Davenport, Unit Head, Water/Wastewater Engineering Unit  
Michael Flaherty, Hydrogeologist III  
Loretta V. Dionisio, Hydrogeologist II

APPROVED:

  
\_\_\_\_\_  
Richard R Walker  
Chief Deputy County Executive

\_\_\_\_\_  
Date

DISAPPROVED:

\_\_\_\_\_  
Richard R Walker  
Chief Deputy County Executive

\_\_\_\_\_  
Date





## United States Department of the Interior

U.S. GEOLOGICAL SURVEY  
New York Water Science Center  
425 Jordan Road  
Troy, New York 12180

(518) 285-5626

New York Water Science Center

November 30, 2015

Mr. Michael Flaherty  
Nassau County Department of Public Works  
Water/Wastewater Engineering Unit  
Cedar Creek Water Pollution Control Plant  
Building "R" 3<sup>rd</sup> Floor  
3340 Merrick Road  
Wantagh, New York 11793

Dear Mr. Flaherty:

Enclosed are three copies of the Joint Funding Agreement between the U.S. Geological Survey and the Nassau County Department of Public Works. This agreement is in the amount of \$631,530.00 of which \$442,070.00 will be contributed by Nassau County Department of Public Works, and \$189,460.00 will be contributed by the U.S. Geological Survey. This agreement is for the hydrologic data collection and analysis program in Nassau County, New York. This agreement is for the period December 1, 2015, to September 30, 2017.

It is essential for you to sign the agreement and return two copies to us as quickly as possible. Work performed with funds from this agreement will be conducted on a fixed-price basis. You will be billed for the agreement on a quarterly basis. Results of all work performed under this agreement will be available for publication by the U.S. Geological Survey. The agreement will terminate on September 30, 2017, but may be amended at any time by mutual consent of the parties. Any party may terminate this agreement by providing 60 day's written notice to the other party.

If this meets with your approval, please sign all copies and return two to this office. You may contact Tracy Bristol, Administrative Officer at (518) 285-5626 if you have any questions or need additional information.

Thank you.

Sincerely,

Ward O. Freeman  
Director

Enclosures

Form 9-1366  
(April 2015)

**U.S. DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY**

**JOINT FUNDING AGREEMENT**

Customer #: 6000000279  
Agreement #: 16ENNY24570028  
Project #: Multiple Accts ZA  
TIN #: 116000463  
Fixed Cost Agreement YES

FOR

Water Resources Investigations

**THIS AGREEMENT is entered into as of the, 30 day of November, 2015 by the U.S. GEOLOGICAL SURVEY, UNITED STATES DEPARTMENT OF THE INTERIOR, party of the first part, and the Nassau County Department of Public Works, party of the second part.**

1. The parties hereto agree that subject to availability of appropriations and in accordance with their respective authorities there shall be maintained in cooperation for the hydrologic data collection and analysis program in Nassau County, New York herein called the program. The USGS legal authority is 43 USC 36C; 43 USC 50; and 43 USC 50b.
2. The following amounts shall be contributed to cover all of the cost of the necessary field and analytical work directly related to this program. 2(b) includes In-Kind Services in the amount of \$0.00
  - (a) by the party of the first part during the period
 

Amount	Date	to	Date
\$189,460.00	December 1, 2015		September 30, 2017
  - (b) by the party of the second part during the period
 

Amount	Date	to	Date
\$442,070.00	December 1, 2015		September 30, 2017
  - (c) Contributions are provided by the party of the first part through other USGS regional or national programs, in the amount of:  
  
Description of the USGS regional/national program:
  - (d) Additional or reduced amounts by each party during the above period or succeeding periods as may be determined by mutual agreement and set forth in an exchange of letters between the parties.
  - (e) The performance period may be changed by mutual agreement and set forth in an exchange of letters between the parties.
3. The costs of this program may be paid by either party in conformity with the laws and regulations respectively governing each party.
4. The field and analytical work pertaining to this program shall be under the direction of or subject to periodic review by an authorized representative of the party of the first part.

5. The areas to be included in the program shall be determined by mutual agreement between the parties hereto or their authorized representatives. The methods employed in the field and office shall be those adopted by the part of the first part to insure the required standards of accuracy subject to modification by mutual agreement.
6. During the course of this program, all field and analytical work of either party pertaining to this program shall be open to the inspection of the other party, and if the work is not being carried on in a mutually satisfactory manner either party may terminate this agreement upon 60 days written notice to the other party.

**9-1366 (Continuation)**

Customer #:

6000000279

Agreement #:

16ENNY24570028

7. The original records resulting from this program will be deposited in the office of origin of those records. Upon request, copies of the original records will be provided to the office of the other party.
8. The maps, records, or reports resulting from this program shall be made available to the public as promptly as possible. The maps, records, or reports normally will be published by the party of the first part. However, the party of the second part reserves the right to publish the results of this program and, if already published by the party of the first part shall, upon request, be furnished by the party of the first part, at costs, impressions suitable for purposes of reproduction similar to that for which the original copy was prepared. The maps, records, or reports published by either party shall contain a statement the cooperative relations between the parties.
9. USGS will issue billings utilizing Department of the Interior Bill for Collection (form DI-1040). Billing documents are to be rendered quarterly. Payments of bills are due within 60 days after the billing date. If not paid by the due date, interest will be charged at the current Treasury rate for each 30 day period, or portion thereof, that the payment is delayed beyond the due date. (31 USC 3717; Comptroller General File B-212222, August 23, 1983).

**U.S. Geological Survey  
United States  
Department of the Interior  
USGS Point of Contact**

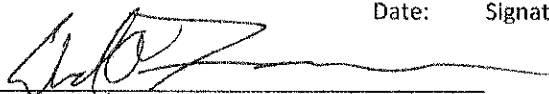
Name: Tracy Bristol  
Address: 425 Jordan Road  
Troy, NY 12180  
  
Telephone: 518-285-5626  
Email: tbristol@usgs.gov

**Nassau County  
Department of Public Works**

**Customer Point of Contact**

Name: Michael Flaherty  
Address: Water/Wastewater Engineering Unit  
Cedar Creek Water Pollution Control Plant  
Building "R" – 3rd Floor  
3340 Merrick Road  
Wantagh, NY 11793  
  
Telephone: 516-571-7527  
Email: mflaherty@nassaucountyny.gov

**Signatures and Date**

Signature: 

Date:

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name: Ward O. Freeman 11/30/2015

Name: \_\_\_\_\_

Title: Director

Title: \_\_\_\_\_



## **Operation of a Cooperative Hydrologic-Monitoring Program in Nassau County, New York**

by Ronald Busciolano

**U.S. DEPARTMENT OF THE INTERIOR – U.S. GEOLOGICAL SURVEY**

**Project Proposal – October 2015**

**Cooperator: Nassau County Department of Public Works**

### **Summary**

The Nassau County Department of Public Works (NCDPW) will provide the U.S. Geological Survey (USGS) with funding to operate and maintain a hydrologic data-collection program in Nassau County, New York. Funding will be provided for the measurement of 15 continuous-recording observation wells (13 with real-time telemetry), 50 monthly observation wells, 65 annual-synoptic observation and 15 water-supply wells, 6 real-time continuous-recording streamflow stations (5 streams), 12 bi-annual partial-record streamflow stations, annual determination of start-of-flow positions at 6 key streams, saltwater-intrusion monitoring at up to 5 saltwater-outpost wells, and annual scientific research by the USGS on 2 select topics (saltwater intrusion and the state of the Long Island aquifer system) related to the Nassau County water supply.

Hydrologic data from this and other cooperative programs across the region will be used by the USGS and others to (1) monitor long-term conditions and changes in the underlying aquifer system, (2) provide the data needed for the production of island-wide USGS water-level and depth-to-water maps, (3) assist in the calibration of groundwater-flow models, and (4) provide the baseline information needed for other hydrologic studies and research used to properly manage the region's water resources.

### **Problem Statement**

There has been a lack of consistent, long-term hydrologic monitoring in Nassau County over the past decade. Budget shortfalls from partner agencies have caused frequent and prolonged disruptions in data collection that have degraded the completeness and usefulness of the historical hydrologic record. There is a critical need for long-term hydrologic monitoring in the County that will provide an uninterrupted, comprehensive hydrologic dataset needed to properly manage the regions water resources.

These data will be used by many scientists and water managers to address water-management issues such as: saltwater intrusion, subterranean flooding, nutrient loading to estuaries, effects of hazardous chemical spills, and long- and short-term changes in the aquifer system related to fluctuations in climate (drought), increased pumpage, sea-level rise, or other factors. Data collected from this program are not only critical for long-term monitoring of the water resources of Nassau County, but are also a comprehensive part of a larger USGS monitoring program that encompasses all of southeastern New York State. These data are critical for the production of regional water-level and depth-to-water maps, and will provide the data needed to calibrate groundwater-flow models used to evaluate local and regional flow patterns and saltwater-intrusion concerns.

Over the past several decades, observation wells located in areas of Nassau County where saltwater

intrusion is a concern have been logged by the USGS using electromagnetic-induction equipment. Past analysis of data has shown that saltwater intrusion continues to increase throughout the County; therefore there is a critical need to continue monitoring for saltwater in the County. Additionally, in recent years, more and more people have become concerned about the sustainability of Long Island's supply of freshwater. To provide up to date information related to the Island's water supply the USGS will continue to keep current the recently developed "State of the Long Island Aquifer System" webpage (<http://ny.water.usgs.gov/projects/SOTA>).

For the USGS's groundwater and saltwater-intrusion monitoring programs to be successful, it is imperative that the wells owned by Nassau County, and which are part of the USGS cooperative-monitoring program, be adequately maintained by the County so that accurate data can be collected. The County network, which consists of over 500 wells, is an integral part of the Island's regional network, and was developed with great forethought and expense over many years. This network provides the infrastructure that scientists need to evaluate changing conditions and sustainability of the County's aquifer system, and needs to be adequately preserved for future use. Recent funding cuts within the County have greatly reduced the number of personnel available to maintain this network, thus putting its long term viability in jeopardy.

## **Objectives and Scope**

The primary objective is to provide a database of long-term, nationally consistent hydrologic information needed to properly manage the water resources in Nassau County by operating and maintaining a cooperative groundwater-, streamflow-, and saltwater-monitoring network, and providing relevant analysis of these data to support current and future water-management decisions.

The USGS will also continue collection, compilation, and analysis of electromagnetic-induction logs to provide water managers with insight into long-term changes in saltwater intrusion for the County. Additionally, the USGS will continue to update a webpage that was recently developed by the USGS that compiles published data from the hydrologic-surveillance program and various other USGS sources, supplements this information with more recent seasonal and annual hydrologic data, and produces an easy to understand web-based document that provides a snapshot of the state of Nassau County's aquifer system. It is hoped that both these products will provide the information needed on the current state of the aquifer so that sound water-management decisions can be made.

## **Relevance and Benefits**

Operation of a cooperative hydrologic-data-collection program in Nassau County will: (1) provide scientists and water managers with a seamless, island-wide data set of representative hydrologic conditions using nationally consistent data-collection techniques; (2) promote the timely exchange of scientific information and research between the USGS, State, County, local agencies, and local water suppliers and managers; (3) allow for the production and revision of island-wide water-level, depth-to-water, and hydrogeologic maps by the USGS; (4) provide the data needed for regional and National hydrologic studies; (5) allow for the prompt dissemination of USGS collected data online on the USGS National Water Information System: Web Interface (NWISWeb) and other related outlets; and (6) in times of drought, provide the data needed to properly manage the withdrawal of water from the underlying aquifer system.

In addition to the benefits to local stakeholders, this program will provide relevance to the USGS mission by (1) advancing the knowledge of the regional hydrologic system, (2) furnishing hydrologic data that contributes to the protection of life and property, and (3) providing standardized, quality-assured data to national data bases available to the public and used to advance the understanding of regional and temporal variations in hydrologic conditions and processes. These continuous historical datasets would also be available for statistical analyses to improve our knowledge and understanding of the long- and short-

term changes that occur in the hydrologic system when various natural and man-induced stresses are applied, and are essential for assessing future management and development scenarios for the region's water resources.

## **Background**

The USGS is a science organization that provides impartial information on the health of our ecosystems and environment, the natural hazards that threaten us, the natural resources we rely on, the impacts of climate and land-use change, and the core science systems that help us provide timely, relevant, and useable information. To understand the Nation's water resources, the USGS collects and disseminates reliable and timely hydrologic information, and promotes its use by decision makers to (1) minimize loss of life and property as a result of water-related natural hazards, such as floods, droughts, and land movement, (2) effectively manage groundwater- and surface-water resources for domestic, agricultural, commercial, industrial, recreational, and ecological uses, (3) protect and enhance water resources for human health, aquatic health, and environmental quality, and (4) contribute to the wise physical and economic development of our Nation's resources for the benefit of present and future generations.

USGS hydrologic surveillance and research is primarily funded through the Cooperative Water Program (CWP), which is the USGS's "bottom-up, on-the-ground" program designed to bring local and State water-science needs and decision making together with USGS national capabilities. The CWP provides the foundation for the USGS's strong and robust water-monitoring networks (quantity and quality), and supports interpretative studies that cover a wide range of issues that are important to the USGS water mission, and that inform local and State water decisions. The significant tie to local and State concerns, through cooperator interaction, allows the CWP to respond to emerging water issues on a local level, while concurrently raising those issues to regional and National visibility.

Because USGS data and analyses adhere to strict national protocols, findings are directly comparable across local, state, regional, and national boundaries; water issues in a specific watershed, municipality, or state can be compared to those in other geographic regions and at different periods of time; and large-scale syntheses and problem-solving in different regions and across the Nation are possible. Additional information on the mission of the USGS and the CWP can be found at <http://www.usgs.gov/aboutusgs> or <http://water.usgs.gov/coop>.

In southeastern New York State, the USGS has operated and maintained a cooperative hydrologic-surveillance program since the early 1900's. This program, funded through the CWP with other Federal, State, County, and local partners, provides the seamless, long-term data needed to properly manage the region's water resources. Hydrologic data are collected by the USGS using nationally consistent standards and techniques to provide the information needed to evaluate water availability, saltwater intrusion, drought and flood susceptibility, and other local and regional hydrologic concerns.

This USGS data-collection network in southeastern New York State varies in extent and data-collection frequency including: (1) annual-synoptic, which provides data needed for baseline statistical studies and groundwater-model calibration; (2) monthly, which in addition to the above, provides data needed for water-availability and saltwater-intrusion studies, groundwater/surface-water-interaction studies, seasonal-trend analysis, and drought and flood monitoring; and (3) continuous recording or real time, which provides additional data needed for short-term trend analysis, recharge and tidal-variation studies, local groundwater-withdrawal monitoring, and real-time drought and flood monitoring.

Groundwater data are the primary focus of the USGS data-collection program in the region; however, because most streams, ponds, and lakes are hydraulically connected to the shallow groundwater system, the USGS monitors stream discharges (streamflow) and lake levels as part of its hydrologic-surveillance network. Groundwater-level, lake-level, and streamflow data are all needed to accurately assess seasonal fluctuations and long-term trends in groundwater storage.

## Approach

### A. *Hydrologic-Data Collection:*

As part of the cooperative program with the NCDPW, the USGS will collect continuous-record water-level elevations at 15 observation wells throughout Nassau County. Thirteen of the stations will be equipped with real-time cellular telemetry transmitting data every hour; data from the remaining 2 stand-alone stations will be manually downloaded on a monthly basis. In addition, tape-down measurements will be collected monthly by USGS personnel at 50 observation wells, and annually at an additional 65 observation wells and 15 water-supply wells. All observation well measurements during the spring will coincide with the USGS island-wide groundwater synoptic conducted annually on Long Island. This USGS synoptic entails the measurement of over 500 wells, streams, and lakes across southeastern New York primarily during a one- to two-week period in late April or early May. This annual data-collection effort provides a "snapshot" of hydrologic conditions that the USGS uses to assess regional changes in aquifer storage and to update its island-wide water-level and depth-to-water maps. Additional information and resources on the cooperative program and other regional cooperative-monitoring networks is available at [http://ny.water.usgs.gov/projects/LI\\_PRJ](http://ny.water.usgs.gov/projects/LI_PRJ).

Continuous-stream discharge will be collected by the USGS and transmitted hourly by satellite telemetry at five streams in Nassau County – Mill Neck Creek at Mill Neck, Massapequa Creek at Massapequa, Bellmore Creek at Bellmore (2 gages), East Meadow Brook at Freeport, and Valley Stream at Valley Stream. Bi-annual partial-record streamflow will be measured at twelve additional streams in the County – Roslyn Brook at Roslyn, Glen Cove Creek at Glen Cove, Carman Creek at Amityville, Seaford Creek at Seaford, Seamans Creek at Seaford, Newbridge Creek at Merrick, Cedar Swamp Creek at Merrick, East Meadow Pond Outlet at Freeport, Freeport Creek at Freeport, Milburn Creek at Baldwin, South Pond Outlet at Rockville Centre, and Pines Brook at Malverne – during the spring and fall of each year. Stream start-of-flow positions will be determined at 6 locations (a subset of the stations listed above) by the USGS during the annual synoptic.

### B. *Real-Time and Continuous-Recording Gage Operations:*

Real-time-monitoring stations are visited about once every eight weeks and stand-alone continuous-recording stations once every four to six weeks in order to service the instrumentation and to make check measurements. Check measurements at groundwater stations are used to verify submersible-transducer data and to correct for transducer drift. For surface-water stations, discharge measurements are collected and used to develop and maintain a stage-discharge relation. It is this stage-discharge relation that makes it possible to calculate streamflow from stage data. Groundwater-level and stream-stage data are referenced to the gage datum, which is tied to mean sea level. Levels of the gage are checked on a regular basis to verify datum accuracy.

Under the cooperative agreement, real-time and/or continuous-recording gages are instrumented with a water-level sensor (pressure transducer, shaft encoder, bubbler, etc.), an electronic-data recorder (records data from the sensor every 15-minutes), and a satellite, telephone, or cellular transmitter (real-time stations only). Real-time data are transmitted to USGS computers, which download and process data on average once every hour. Through this telemetry network, data are available in near-real time on the USGS NWISWeb system (<http://waterdata.usgs.gov>) and through the USGS New York Water Science Center (NYWSC) web page at <http://ny.usgs.gov>. Data from stand-alone continuous-recording stations are downloaded manually during each visit and uploaded to NWIS within a few days of collection.

Equipment and site maintenance are included as part of the cooperative agreement, including instrument repairs and upgrades. In addition to the near-real-time and continuous-recording data available on the web, daily water-level and streamflow values are calculated, evaluated in comparison to neighboring sites, reviewed, finalized throughout the year, and published online.

Continuous data availability on NWISWeb cannot be guaranteed, but some methods that the USGS uses to minimize missing or erroneous data are presented in table 4. While it is impossible to foresee all



possible system failures, the USGS NYWSC works diligently to make data available in a dependable and timely manner. Because real-time sites are routinely visited every eight weeks, it is possible that a small inaccuracy in the data may occur during that period and may not be identified until the next planned site visit. Data will be revised based on the best available information as to when changes occurred. Non-real-time continuous-recording stations have the added potential for data loss between monthly visits, due to equipment failure or vandalism. The USGS will make every effort to minimize data gaps and provide the most complete and accurate record possible.

*C. Quality Assurance and Database Management:*

The USGS collects hydrologic data following strict National and NYWSC policies and guidelines, which allow the USGS to provide the Nation with consistent and highly accurate hydrologic data. Information on USGS data-collection and quality-assurance policies can be found at <http://water.usgs.gov/ogw> (groundwater), <http://water.usgs.gov/nsip> (surface water), and <http://water.usgs.gov/owq> (water quality), or are available upon request from the USGS NYWSC. Once a station is added to the USGS network, the data are verified for accuracy and stored as a part of NWIS.

*D. Network Evaluation and Improvement:*

Groundwater and surface-water network sites will be evaluated by the USGS on an annual basis to determine the need for additional or replacement sites to improve the long-term monitoring networks. Up to five new shallow groundwater-observation wells will be installed by the USGS in Nassau County each year (included in budget) to replace destroyed or problematic wells in the entire cooperative network. Wells will be installed to a maximum depth of 150 feet using the USGS's auger drill rig. Exact well depths will be determined by the hydrogeology defined at the site from well cuttings, split-spoon cores, and/or geophysical logs. Well installation will be performed by the driller, and will entail the placement of a 2-inch by 5 foot PVC casing sump, followed by a 2-inch by 5 foot PVC screen, and finished with 2-inch PVC casing to land surface. The annular space around the well will be grouted, if necessary, to prevent seepage of unwanted water or contaminants to the screen from the surrounding material. The wells will be finished at land surface with a locking curb box. Measuring-point elevations will be surveyed by the USGS in reference to National Geodetic Vertical Datum, and the wells developed such that accurate water-level measurements and water-quality samples of the aquifer can be obtained.

*E. Saltwater-Intrusion Monitoring and Analysis:*

The USGS will collect electromagnetic-induction logs from up to 5 wells each year (wells greater than 600 ft in depth will generally be considered 2 wells – subject to discussion between the USGS and NCDPW) in areas where saltwater intrusion is a concern. Wells to be logged will be determined by consultation between the USGS and NCDPW each spring, so that a list of wells to log is available by May of each year. Wells will be logged after USGS personnel have purged the wells and collected water-quality samples for chloride analysis. Recent electromagnetic-induction-log data collected by the USGS will be analyzed and compared with past data-collection efforts (both electromagnetic-induction logs and NCDPW water-quality-sample results for chlorides). The USGS will compile and analyze these data to determine if saltwater intrusion is occurring or has changed over time at key locations along the northern and southern shores of Nassau County. All electromagnetic-induction logs and interpretations will be delivered to the NCDPW, local water suppliers, and other water managers through a formal presentation of findings at the end of each water year.

*F. State of the Aquifer Reporting:*

The USGS has recently developed a webpage that compiles published data from the hydrologic-surveillance program and various other USGS sources, and supplements this information with more recent seasonal and annual hydrologic data. The webpage collectively includes the following content: (1)

introduction and hydrogeology generalizing the hydrogeologic framework, hydrologic cycle, and general groundwater-flow information, (2) population and land use showing the extent of urbanization through maps and figures using current land use/land cover and census data, (3) precipitation and recharge analyzing annual precipitation and departure from long-term means represented as figures and tables and describing aquifer-recharge zones, (4) groundwater withdrawals showing density of supply wells, estimates of withdrawals, location of sewer districts, and the effects of withdrawals and sewerage on the aquifer system, (5) water quality and some general water-chemistry information represented as figures and/or graphs and possibly discussing emerging contaminants in groundwater and/or areas of saltwater movement. Using maps to show locations of wastewater treatment plants that discharge to groundwater and areas served by residential septic systems, the webpage also presents (6) the groundwater system represented as figures and tables showing seasonal and annual changes using selected groundwater and streamflow monitoring stations, (7) a summary and references, and (8) an appendix of hydrographs and data tables. The USGS will continue to update these data to current (prior calendar year), and provide the option to create an annual conditions "snapshot" as a one- or two-page digital document of the "State of the Long Island Aquifer System" focused on Nassau County. This information will help summarize the complex interactions of intense groundwater pumpage, sewerage, and contaminant movement in the County and how climate change, sea-level rise, and changing demographics may affect the resource in the future.

## **Products**

USGS data collected for the cooperative program will be checked, reviewed, and approved into the USGS NWIS database, and made available for display and retrieval from NWISWeb at <http://waterdata.usgs.gov/nwis>. Additionally, USGS groundwater, streamflow, and water-quality data are available through the USGS Groundwater Watch (<http://groundwaterwatch.usgs.gov>), USGS WaterWatch (<http://waterwatch.usgs.gov>), and USGS Water Quality Watch (<http://waterwatch.usgs.gov/wqwatch>) websites. Hydrologic-conditions data for streamflow and groundwater levels in New York State are updated monthly and available from <http://ny.water.usgs.gov/infodata/conditions.html>, and resources for local and regional droughts and floods are available from <http://ny.water.usgs.gov/projects/duration> and <http://ny.water.usgs.gov/flood>.

Collected data will also be disseminated by the USGS in a variety of published formats, including digital web-based products and online published data reports and water-level maps. Data are published online by the USGS, every few years in a series of water-level and depth-to-water maps for Long Island, and intermittently in other USGS technical and data reports all available from the New York Water Science Center homepage at <http://ny.water.usgs.gov>. Results of the saltwater-intrusion analysis will be provided through a formal presentation of findings each year, and the State of the Aquifer reporting will be available online as a printable webpage. The USGS will also attend and present findings from the program at meetings held with local water suppliers and agencies.

## **Funding Summary**

The proposed cooperative program entails groundwater-level monitoring needed for the proper surveillance and management of the water resources underlying Nassau County. Funding for the cooperative program is used by the USGS for salaries of personnel needed to collect, analyze, review, and publish hydrologic data, for rental and replacement costs of field equipment and supplies, and for other costs directly associated with monitoring and analysis of the resource. In addition, part of the costs associated with the program fund the continued improvement and operation of the USGS NWIS database, other national and local databases, software programs and web sites, satellite and redundant-telemetry systems, development and testing of new and advanced data-collection tools and techniques, and various

quality-control programs. All these resources allow the USGS to provide the cooperator with the most accurate, relevant information needed to address today's complex water-management issues.

This program is also part of a larger regional program of Federal, State, County, and local cooperators, who partner with the USGS to fund vital resource monitoring and research throughout the region. This shared funding model allows the USGS to most efficiently monitor and evaluate the regions hydrologic resources without putting an undue burden on any one cooperator. In addition, this model brings added value to the cooperative program by allowing the USGS to leverage other nationally funded research to provide at no cost to the cooperator additional resources and expertise useful for describing and evaluating complex resource-related problems and emerging issues.

Estimated costs for the cooperative data-collection program are shown in table 1. All costs are estimates and assume a USGS matching contribution of 30% (based on availability of funds when the agreement is signed), and a 3% annual inflationary increase. During the course of the agreement, internal adjustments may be made to the funding levels assigned to each work item upon mutual agreement between the USGS and the NCDPW. If matching funds are not available, or are available at a reduced level, the funding and extent of effort devoted to each work item will be evaluated and revised in consultation with the cooperator(s).

**Table 1: Estimated funding for the proposed cooperative program by Federal fiscal year.**

Item	FY 2016	FY 2017
<b>Network-Monitoring Costs:</b>		
<i>(number in parenthesis are stations monitored per year)</i>		
Continuous-recording groundwater-observation wells	(15) \$62,770	(15) \$64,650
Monthly groundwater-observation wells	(50) \$71,040	(50) \$73,170
Annual-synoptic groundwater-observation wells	(80) \$28,070	(80) \$28,910
Real-time continuous-recording streamflow stations	(6) \$90,850	(6) \$93,570
Partial-record streamflow (12 stations, twice per year)	(12) \$16,590	(24) \$17,090
Annual start-of-flow sites	(6) \$2,760	(6) \$2,850
Network monitoring sub-total:	\$272,080	\$280,240
USGS matching sub-total:	\$81,620	\$84,070
<b>Cooperator sub-total:</b>	<b>\$190,460</b>	<b>\$196,170</b>
<b>Saltwater-Intrusion Monitoring and State of the Aquifer Reporting Costs:</b>		
Saltwater-intrusion monitoring, analysis, and reporting (up to 5 stations per year)	\$27,180	\$28,000
State of the aquifer reporting	\$11,840	\$12,190
Saltwater intrusion and state of the aquifer sub-total:	\$39,020	\$40,190
USGS matching sub-total:	\$11,710	\$12,060
<b>Cooperator sub-total:</b>	<b>\$27,310</b>	<b>\$28,130</b>
Program total:	\$311,100	\$320,430
USGS matching total:	\$93,330	\$96,130
<b>Cooperator total:</b>	<b>\$217,770</b>	<b>\$224,300</b>
<b>Summary of Nassau County Program Partners:</b>		
Nassau County Department of Public Works:	\$217,770	\$224,300
N.Y.S. Department of Environmental Conservation:	\$2,910	\$3,000
North Shore Water Suppliers:*	\$29,840	\$30,740
Town of North Hempstead:*	\$5,000	\$5,000
U.S. Geological Survey:	\$102,230	\$105,300
<b>Nassau County Program Total:</b>	<b>\$357,750</b>	<b>\$368,340</b>

\*Estimated amount; exact dollar amount not yet finalized with contributor.

## Timeline

Project tasks in table 2 are organized into two broad categories — data-collection tasks and data-dissemination tasks.

**Table 2: Task timeline for the proposed cooperative program by Federal fiscal year.**

Task	Timeline																							
	FY 2016												FY 2017											
	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S
<b>Data-Collection Tasks</b>																								
Data collection (continuous and monthly)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Data collection (annual synoptic)							X	X											X	X				
Saltwater-intrusion monitoring							X	X	X	X										X	X	X	X	
<b>Data-Dissemination Tasks</b>																								
NWISWeb data distribution and publication	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Saltwater-intrusion analysis and reporting							X	X	X	X	X	X							X	X	X	X	X	X
State of the aquifer webpage update							X	X	X	X									X	X	X	X		

## Communication Plan

Meetings between the USGS and the NCDPW can be scheduled as needed. At a minimum, at least one project update meeting will be held each year to update the County on the progress of the proposed work and to provide findings for the current year's monitoring. The meeting may also be used to discuss other ongoing and future projects within the USGS that are pertinent to the cooperators' needs. Table 3 lists the milestones to be met for the proposed study.

**Table 3: Milestones to be met for the proposed cooperative program by Federal fiscal year.**

Milestone	FY 2016	FY 2017
Project webpage summary complete	Nov. 2015	
Project update meeting	Aug. 2016	Aug. 2017

**Table 4: Methods used by the USGS to minimize missing or erroneous data on NWISWeb.**

The following list shows many of the methods the USGS uses to ensure that data from NWISWeb is served to the public in a dependable, timely, and accurate manner.

- Review of online data for each site at least once every workday to make sure transmissions are working and that displayed data are accurate;
- Use of automated paging systems to identify delays in data transmission and/or other computer problems;
- If necessary, some stations include both satellite telemetry and telephone access so that data can be obtained through a voice simulator;
- Data from some stations can be downloaded to a personal computer via telephone access if satellite transmission fails – this currently requires extensive manual intervention;
- Backup instruments are maintained by the NYWSC that can be quickly swapped for instruments that fail;
- Satellite Local Readout Ground Station (LRGS) software is designed to automatically recognize a problem and fail-over to a backup LRGS in another State;
- NWISWeb computer servers are replicated and mirrored across the country at three locations, and internet demands are load averaged over these three systems so that network failure in any one location should not limit access to the data;
- Should the NYWSC server or network fail, a duplicate site for satellite download NWIS-RT can be turned on manually by the NYWSC staff;
- Should a long-term failure or catastrophic event affect the NYWSC computers or network, a “buddy” site has been established where all NWIS operations can be brought up within a matter of hours in another State – once operational this should be transparent to the end user;
- The National NWISWeb and NWIS-RT systems are manned 24/7;
- While the NYWSC does not have staff on-call 24/7, IT personnel are generally just a phone call away and always willing to assist even after hours or on weekends if they are available;
- If severe weather is forecast, hydrographers are often ready to go out to the field to make high-flow measurements and to verify if equipment is operational. During these events real-time data are more frequently reviewed;
- The NYWSC maintains an emergency after-hours messaging system so that anyone can get in touch with USGS NYWSC personnel at any time.

**COUNTY OF NASSAU**  
**DEPARTMENT OF PUBLIC WORKS**  
**Inter-Departmental Memo**

**TO:** Civil Service Employees Association, Nassau Local 830 (fax 742-3801)  
Att: Ronald Gurrieri, Executive Vice President

**FROM:** Department of Public Works (fax 571-9657)

**DATE:** June 10, 2016

**SUBJECT:** CSEA Notification of a Personal Services Agreements  
DPW Contract No. - **TBD**

The following notification is to comply with the spirit and intent of Section 32 of the County/CSEA contract. It should not be implied that the proposed DPW contract/agreement is for the work which has "historically and exclusively been performed by bargaining unit members".

1. The following notification is to comply with the spirit and intent of Section 32 of the county/CSEA contract. It should not be implied that the proposed DPW contract/agreement is for work which has "historically and exclusively been performed by bargaining unit members."

1. DPW plans to recommend an agreement for the following services:

Countywide hydrogeological data collection, monitoring and reporting of findings needed to augment the County's groundwater program with the scientific expertise and specialized services available only through the U.S. Geological Survey (USGS).

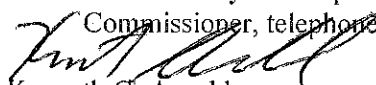
2. The work involves the following:

Scope of Work: Water resources data collection, subsurface geophysical logging, interpretation of water resources and reporting on the state of the County's groundwater resource. The program is a joint effort between County personnel from the Water/Wastewater Engineering Unit and personnel from the USGS; The program will be partially funded by the federal government.

3. An estimate of the cost is: \$442,070

4. An estimate of the duration is: Two (2) year

Should you wish to propose an alternative to the proposed contract/agreement, please respond within 10 days to: Department of Public Works, Att: Kenneth G. Arnold, Assistant to Commissioner, telephone 1-9607, fax 1-9657.

  
Kenneth G. Arnold  
Assistant to Commissioner

KGA:BJS:jm

c: Christopher Fusco, Director, Office of Labor Relations  
Keith Cromwell, Office of Labor Relations  
William S. Nimmo, Deputy Commissioner  
Kenneth G. Arnold, Assistant to Commissioner  
Brian J. Schneider, Assistant to Deputy Commissioner  
Patricia Kivo, Unit Head, Human Resources Unit  
Loretta Dionisio, Hydrogeologist II



We are transmitting one (1) sheet. If there were problems with this transmission, call 571-9604.