

Long Island Regional Planning Council
Summary Minutes

Meeting of December 6, 2018 Meeting
The Patchogue Theatre
71 East Main Street
Patchogue, NY 11772

LIPRC Members Present

John D. Cameron, Jr., Chair
Jeffrey Kraut, Treasurer
Michael White
Nancy Engelhardt
Barbara Donno
Laura Gillen
Jeff Guillot
Robert Kennedy
Ralph Scordino
Theresa Sanders, Secretary
Edward Wehrheim

Staff and Guests Present

Richard V. Guardino, Jr.
Elizabeth Cole
Missy Leder
Kyle Rabin
David Berg
Susan Rich
Ray Fell, Mayor of Bellport
Marian Russo, Village of Patchogue
Lori Devlin, Village of Patchogue
Brian Scripture, ESD.NYS
Kelly Morris, SCEDA
Kelley Coughlan Heck, Tritec
John Lombardo, SCCC
David Reese
Mike Gabel
Matthew Ambrosio, Terwilliger & Bartone
Valerie Smith, Suffolk County Attorney's Office
James Skidmore
Tatyana Golikora, NYSDOT
Tom McCarthy, Town of Smithtown
Thom Lupo, Comptroller's Staff
Steve Raciti, Hofstra university
Bob Holzmacher, J.R. Holzmacher RE, LLC
Jack Krieger, Village of Patchogue

Matt Cohen, LIA
Thomas Lohman, Town of Smithtown
Michael Hynes
Lisa Guerin, Total Technology
Robyn Silvestri, Village of Babylon
Patti Seal, Village of Patchogue
Joyce Novak, Peconic Estuary Program
Chuck Prochaska
Steven Lucas, Greater Patchogue Historical Society
August Ruckdeschel, SCEDP
Cara Longworth, NYSESD
Chris Weiss, H2M
George Hoag, Brick House
Don Wachsmuth, Patchogue Village CDA
Imran Aamed, NYSDOT/NYMTC
Jack O'Connor, Newmark
Anne Monte
Jim Morgo
Chris Kelly, Tritec
Councilman Neil Foley, Town of Babylon
Dennis French, United Rentals
Odalys Montperous, Tritec
Robert Calarco, Suffolk County Legislature
Joe Davenport, Town of Hempstead
Robert Kennedy, Village of Freeport
Ann Marie Jones
Greg Lavassen, H2M
Kevin Moran, L.G. Builders Institute
Scott Howell, LIRR
Charlie Barth, PW Grosser
Robert Kent, Tritec
Jan Taraskas, BID parks
Diana Garda, Elliman Douglas
Nick Esposito
Ryan McGarry
Dawn Turnbull, BNB Bank
Ron Krawczyk, Village of Patchogue Treasurer
George Hoffman, 3 Village Area
Debbie Capozzi, National Roofing
Toni Dean, Patchogue Village CDA Board
John Bogack, Citizens Campaign for Open Village Government
Dennis Logan, PM Schools Planning Board
William Garthe, St. James Chamber
Brian Egan, Patchogue Village
Louis Bekofsky, VHB
Nicole Fuentes, Long Island Advance

John Ashline
Robert Loscalzo, Tritec
Peter Sarich
Vanessa Cochel
Charles Renfroe
Ernie Fazie, LIMBA
Monica Martine, Legislator
Mike Wisnienski
Rachel Schnabl, Long Island Community Hospital
Don Ryan, Village of Hempstead
Brian Foley
Joanne Durovich, St. Joseph's College
Tom Ferb, VOP
Alan Kewnemer, LIBI
Elisabeth Muehlemann, Empire State Development
Blake Leibowitz
Dennis Smith
Trustee Mary Adams, Village of Babylon
Phyllis Riccai
Randy Dresner, Island Harvest
Danielle Paisley, Pat Med Library
Mohinder Taneja, SVAM Int.

Meeting Commenced:

- John D. Cameron, Jr., opened the meeting at approximately 10:15AM
- Pledge of Allegiance

Roll Call

We have a quorum.

John Cameron: Welcome. I want to thank Paul Pontieri, Mayor of Patchogue and former Member of the Council, and Gary Hygon, Executive Director of the Patchogue Theatre for hosting the meeting today. I would also like to recognize the presence of the public officials present.

State Senator Elect Monica Martinez
Suffolk County Legislator Robert Calarco
Mayor of Bellport, Ray Fell
Mayor of Hempstead, Don Ryan
And again the host of this morning, Mayor of the Village of Patchogue Paul Pontieri

I would also like to acknowledge the Suffolk Officials here today as well as representatives of the Suffolk County IDA.

Kelly Morris – Deputy Executive Director, Suffolk County IDA
Regina Zara – Executive Director, Suffolk County Economic Development Corp.
Theresa Ward – Deputy Executive, Commissioner, Economic Development and Planning

John Cameron: Adoption of the October 2, 2018 minutes. All in favor.

Motion to Accept: Nancy Englehardt
Seconded: Jeff Kraut
All in Favor: So moved.

Michael White and Ralph Scordino abstained.

John Cameron: Rich, please proceed with our first resolution authorizing an agreement for audits. This is resolution No. 2018-109 and will be taken out of order today.

Rich Guardino: This resolution authorizes an agreement with the C.P.A. firm Long Island Financial Management Services (LIFMS) for audits of the LIRPC for the years 2016, 2017, 2018.

The LIRPC offered a Solicitation of Competitive Proposals on August 20, 2018 inviting proposals. A Selection Committee of the Council reviewed the proposals, interviewed the respondents and recommends LIFMS to provide the services. The LIFMS is one of the few women owned (WBE certified) AICPA Peer Reviewed CPA firms in New York State working with public sector organizations. The cost for the three audits is not to exceed \$42,000 for a term of one year with an option to renew for two additional one-year periods at the sole discretion of the LIRPC.

John Cameron: The selection subcommittee was chaired by LIRPC Treasurer Jeff Kraut.

Jeff Kraut: We were very impressed by the qualifications of both the firms that provided us with proposals.

John Cameron: I think the one unique qualification that impressed us from LIFMS was the work they have done with public nonprofit governmental agencies. They had some specialized expertise which was appropriate for the Council.

Motion to Accept: Jeff Kraut
Seconded: Michael White
All in Favor: So Moved.

John Cameron: Next on the agenda we have the Presentation on the “Village of Patchogue Revitalization, Economic Impact Analysis.” To introduce the presentation, we invite Mayor Paul Pontieri who has quarterbacked this tremendous effort.

Paul Pontieri: Thank you. Good morning and welcome to the Patchogue Theater. It is appropriate that we are here at the theater. This is where it all began. In 1996, Steve Keegan was

elected Mayor on his promise to bring back Main Street by starting with the theatre we are sitting in right now. The theatre was built in 1923, in 1929 it became a full screen movie house. It remained that way for forty years. In 1980, it was converted to a “Multiplex” and much of the original interior was destroyed. Eventually the theater went out of business. In 1997, under the leadership of Mayor Keegan, the theater was purchased by the Patchogue Village Board and the interior was restored to its 1923 grandeur. The first performance was held in December 1998.

Today is about an administration, a Chamber of Commerce, a Business Improvement District, downtown businesses, a school district, a library and most of all a community of residents and families that have worked together to make the Village what it is today. Patchogue is a historical residential community with a vibrant downtown. Today, we will hear the story of where we were, where we are, and where we can be. It’s the sustainability of communities that is important and reports like this tell us what the story is about. John, I will hand it back to you.

John Cameron: I would like to recognize some business officials who were critical in the renaissance of downtown Patchogue, specifically the people at Tritec, who have been leaders in the Village of Patchogue. I thank you. Please welcome, our presenter, Todd Poole.

PRESENTATION:

Todd Poole, President and Managing Principal, 4ward Planning, Inc.
“Village of Patchogue Revitalization, Economic Impact Analysis”

Thank you, John.

While you are assembling, I am Todd Poole, President and Managing Principal, 4ward Planning, Inc. We are an economic analysis consultancy. I like to say that we get to play Sin City for real. We do real estate and economic analysis on behalf on of public and private sector clients nationally and certainly regionally. We do a lot of work in New York, New Jersey, Pennsylvania, and Connecticut. As of late, we are doing a lot of work on Long Island. We currently are doing work on transit development and market studies and we have done our fair share of economic and fiscal impact analysis.

First, I think it’s important to mention that these studies don’t happen without funding and it’s important to recognize that the Suffolk County Economic Development organization has been instrumental in making this process happen. We should give them nice round of applause.

We will talk about methods first. These analyses aren’t always just quantitative. In fact, you can’t do justice to a study like this without having the qualitative side of the study. What that involves is doing interviews with people on the ground; stakeholders, business persons, elected officials and civic leaders, to help to fill in the gaps that the data can’t show you. We are very grateful for all the interviews that were conducted and for the focus groups which helped round out this study.

In terms of the economic analysis, our initial charge was going back in time. Let me say this, I have been in this field for a long time, about 26 years, and this is the first time I have had a client ask to look backward rather than forward. It is commendable. I would recommend other groups

and communities do the same to see if their predictions or assumptions were correct and why or why not. Our charge was to examine how public subsidy, whether in the form of grants, loans, tax incentives, policy changes, really helps leverage or promote private investment. I think there is a nice story to be told here. As you will see, we not only analyze private construction, but also look at the economics from new non-local households. Now, why do we say that? In Economic Impact theory: if dollars are spent by a local family in the pizza parlor and a new bowling alley or restaurant comes in and those same dollars are now being spent at the new business, it is a shift and not a new impact as no new dollars entered that economy. We look at new non-local spending. This meant we looked at people coming in from outside of Suffolk County because of things happening here. We know that Patchogue has become a new draw. This is meaningful. We know that if you insert new dollars into an economy, it will grow. This story is about that as well. New business operations were analyzed. We also looked at prospective residential and commercial projects.

On the fiscal economic analysis, we examined in one part, what had been the likely impacts to the school district with respect to school age children being added by the large number of multi-family units being developed. We did the same thing more robustly on prospective new projects. Finally, we were not scoped to do a comparative analysis, but initially we were to look at real estate improvement value in Patchogue relative to other jurisdictions. We were not able to do more robust research on that, but in its place, as a proxy, we looked at these other categories of new business establishments, payrolls, sales receipts, revenues on a relative basis and how that helps tell the story of Patchogue's revitalization.

We have to know where we came from before we know where we are. Like many places around this county and certainly in more urbanized areas, Patchogue's early development comes from ship building and heavy industry in terms of the silk mill. With all the jobs that got created and money circulating, a downtown begins to percolate with shops and restaurant and ultimately arts and entertainment. Of course, here is where we find ourselves. Patchogue was a big draw back in the day in part because of this theater. It is a place where people went to see first vaudeville and ultimately cinema. It was known as Ward and Glynn's Theater. The downtown was busy. Things are rosy through the 1960's in terms of understanding the vacancy rate (usually a good proxy to the health of a downtown). In our field we consider 2-5% a natural vacancy rate. In the 1960's and 1970's we start to see an increase in vacancy rates. This phenomenon was not unique to Patchogue, principally people were moving out to suburban areas with big shopping areas. These shopping centers were the new shiny things that started to attract people away from downtowns. Add to it the civil racial unrest during this time and there was a recipe for people leaving or not coming to downtowns. By the late 1980's through the late 1990's, you see what we consider full blown distress in the vacancy (40-50% provided anecdotally). Anytime you see higher than 15%, you have a problem. This is where Patchogue and its officials found themselves at this point. The story then becomes, what happened next, which is the start of this study. People came together in this community. There are many aspects to this story. There is the visual where you see people outside of politics rally around a common cause and point the ship forward.

You cannot tell the story of Patchogue's revitalization without talking about infrastructure, most of which was buried under the ground. Having an open dialogue and partnership with

developers in a good thing. Developers are driven by profits and build most things you see on the highway and residential communities. They want to know what you want to achieve and how do I get from point A to point B. They want certainty more than incentives. It is critical that those partnerships were formed early on because it sent a signal to other developers who would be coming later as well as business interests.

There is pursuit of grant funding. I have not come across a community which has pursued grant funding and subsidies and loans and put it to use so effectively. This money was put to good use so it created more money. This goes to the vision that started with first Mayor Keegan and other business owners talking about what Patchogue wanted to be when it grew up again. There was a conscious decision that it would be an entertainment and dining district. That is important and came from a cooperative spirit from these parties. It is the reason you had restaurateurs come and participate in things like the creation of "Alive After Five". I don't have to tell anyone in this room that has been to an "Alive After Five" that these events are critical and have been influential in Patchogue's development in the last 15 plus years. It brings a lot of people and puts a lot of eyes on the street and that in turn attracts business owners who want to open businesses and shops. So that has been very successful. Ultimately, piggybacking on all of this is the arts and cultural scene starting with this theatre and morphing out into art space and other small art organizations, they too have received their own grant funding helping to expand the bubble of success here.

This is key. Every revitalization effort requires a champion that doesn't just show up in the first days or month and disappears but someone who is steadfast and stays with it. Great thanks is owed to many, but certainly to Mayor Pontieri who has been that champion and was acknowledged as such by many that we interviewed. He was recognized as someone who pulled things together when things may have fallen apart.

Let's jump into the economic impact analysis. This is a slide showing public subsidies that are associated with what has been brought into Patchogue since 2001. Approximately, over \$60 million in public subsidies (grants, loans, tax incentives) have been brought in with \$37 million of that in grant dollars. This is significant money, particularly for a community of 12,000-13,000 people. That would be significant for a place with a population of 100,000. Notice also, the yellow bars represent what the Village of Patchogue was responsible for bringing in directly. It is admirable that this group took on the task of responsibly getting these grants, administering the grants and using them properly so that the grantors saw the success and were able grant more funds. This \$60.3M helps to lever almost \$250M in construction projects which is significant. For public officials in the room who represent a municipality. This is how you do it. You bring in somebody else's dollars and you utilize them effectively enough where you are leveraging the private dollars and in turn you are expanding the pie for everybody. So that almost \$250M, or specifically \$246, ultimately leads to almost \$80M in economic output, a little over \$90M in induced. We talk about temporary jobs which are primarily construction related jobs and associated jobs like service jobs and supplier jobs that are created. The direct is the dollars going to the construction projects. The indirect is that if something is built, there is a need for materials which are purchased from suppliers and those dollars go to employees etc. at those stores. They are the dollars going to Home Depot or Lowes for supplies and materials. Induced in economic terms, is when these new jobs (sometimes temporary) are created and an employee gets a

paycheck in the County, and that cash is spent at the grocery store, movies, maybe a restaurant. Those are dollars that are induced because of employment. Economic output is the value of all services and goods sold. It is the absolute dollar value. The takeaway is that for every dollar in directly invested construction activity, about \$0.70 of induced and indirect output took place. On the job side, for every 100 direct construction jobs, approximately 86 indirect or induced jobs were created. All of this was in Suffolk County. Over this period of time from 2017, 54 new businesses were established of which about 42 of these were stabilized, which means they were in business for over a year and are producing value. An estimated 408 direct new jobs in the downtown were created. These were mostly in the restaurant industry and some were in retail. An additional 128 indirect jobs were created in Suffolk County.

The categories of businesses that were established by type created were restaurants, food retail/trade, real estate rental, professional finance and science technological services and arts and entertainment. The biggest green bars represent businesses in the restaurant and bar industry. The lions share of business's created and certainly established were in those two industries. To a lesser extent the brown bars represent retail. There is a smattering of arts and cultural types of businesses and to a lesser extent other industry. The big story here is dining, retail and arts.

During this period, we had a lot of jobs created throughout the County. Just under 6,000 total jobs were created. Total direct economic output was large at over \$400M. Adding in indirect and the induced economic output gives us nearly \$700M throughout Suffolk County in economic output. What happened here in Patchogue had that kind of reverberation throughout the County which is significant. Five thousand nine hundred jobs spreading out, direct and indirect, is significant. Part of that economic output number also includes household spending. These are new households that came into the County and Patchogue specifically to reside in the housing that was built here.

We did fiscal impact analysis as part of our assignment. We focused in on seven residential development projects that had that potential for having children live in them. (Some of the new projects were built with age restrictions.) Seven projects were not age restricted which is a total of 714 dwelling units and approximately 1,465 total residents and an estimated 142 school age children. I will tell you and show you in a graph that number probably overestimates the number of public school age children that were generated by these residential projects. First, this is not unusual using multipliers from the year 2000 which are dated because the new residential multipliers have not come out yet. These multipliers were created at Rutgers University for every state to help demographers understand that when you build a certain type of housing, we have an idea based on bedroom count about how many people and kids would live there. The multipliers, if they were developed today, would show that there are fewer school age kids being produced because fertility rates are decreasing with few exceptions all over the country. Millennials are not having children as early and are having fewer children. So too are the younger Gen Y populations. Second, the nature of the units we are talking about (one and two bedroom rental apartments) generally do not have a large number of school age kids. Further, the Superintendent of Patchogue-Medford schools believes the number is well below the 142 that the multipliers give us based on the fact that since 2006-2018 the census at the school district has been steadily declining. This is not a phenomenon particular to Patchogue. We are seeing this at

many urban and first ranked suburban school districts. Because of this lower capacity, the impacts are not nearly what they would be if the schools were at full capacity. We looked at costs of educating a student and based on the existing capacity in the current district. Our estimate is about 1/6 of what it costs on average. The average is simply determined by X budget divided by X number of pupils. It is not necessarily a good indicator of what it costs to educate a kid. But, it is how everyone does it to make it simple. Based on our math and conversations, we believe that on average, it costs the district \$4,000 for a kid that shows up when the teachers and books are there and there is adequate space. Only if the student is a special needs student, might it cost more.

Taking this data, the total education service costs have been about \$3.5M since 2006. Looking at the tax levy against these particular properties, all of them with the exception of New Village which is under an agreement, were paying something to the school district. Based on our review of the tax levy data, we identified approximately \$6.6M over the 2006-2018 time frame on those same properties. Doing the math, we have \$6.6M in estimated tax levies over this period, about \$3.5M in estimated educational costs. What we are seeing in general, is that an estimated almost \$3.2M in surplus is probably the difference between the result of the properties being developed and taxed and the generated costs by the number of school age children associated with those projects. That's not a bad deal. But is it just a Patchogue thing?

We do fiscal analysis in other communities and see the same thing (extra capacity in a school system and you are building a new project). Another thing (and this barely gets discussed) is that people are up in arms about new multi-family projects being built and the number of school age kids being generated. But what gets left out of the discussion are the people in those new units that are spending dollars on Main Street. If there are apartments and depending on the occupants, there can be a lot of discretionary dollars per household compared to a single-family home generally. Apartment dwellers typically spend more than single residence home individuals. They are not house rich and cash poor. Usually the people that live in apartments are making their way onto Main Street and ringing registers at retail and restaurants. It is important to keep this in mind when we think about the issue of school age kids. This is significant and always something to keep in mind with the issue of school age kids.

We next looked at building a new hotel and a new 60-unit apartment building. If these two projects were built, we looked at economic impact, tax levies, associated service costs for school age kids. What we found related to those two projects, on net, is that we see a positive for both based on the same reasons we talked about. Hidden in the math here is the net impact to the village's operational costs by the number of added people. Local municipal officials state that the impact is relatively minimal given what their current capacities are to handle services. Also, understanding how a hotel would operate and what the needs would be from a public services perspective as well as an apartment complex is important. This emphasizes that you cannot do this type of economic analysis with numbers only. It is important to also look at the qualitative side and talk to people. There are instances where we go into a community and they are at capacity and what the developers are proposing will cause negative impacts. But, I would never know that based on the numbers alone. The interviews are important.

Here is the comparative analysis. Our charge was to look at how the overall (commercial and residential) real estate values in Patchogue have changed over time. Originally, we thought that given the revitalization success that everyone can obviously see here in Patchogue, we should be able to confirm that by looking at tax assessment data. When you are looking at this, the percentage change in real estate value since 2004 (the latest year we went back), is only 31% which relative to other geographies doesn't seem like a whole lot. The reason is that when these new restaurants came into Patchogue and pumped in millions of dollars creating nice places, it did not get picked up with assessor's annual assessment. Only if an entire reassessment is completed would you see the difference and pick up that added value. Although it seems that a property which has undergone internal and maybe external improvements should be seen as more valuable, the updates are not picked up by an assessor. So, these numbers do not help us look at the increased real estate values in Patchogue due to the revitalization.

So, we looked at several other ways to help see the increased value in Patchogue. Looking at several charts you can see this first one looks at businesses established as a percentage change since 2002-2012 (it stops at 2012 because we are using census bureau data collected in years that end in 2 and 7 and there is a lag). We can imagine that the information coming from 2017 will be even more convincing. Between 2012 and 2017 is really when you see a takeoff in Patchogue. What you see on the screen is the story I have been telling. Retail, arts and entertainment and a combination of services in Patchogue is very strong relative to other jurisdictions in terms of business established. That tells us that values have been increasing. Value of sales, receipts, and revenue change was also strong in retail and food services is strong. Arts and entertainment and recreation is missing because there were too few operators providing responses for the census to release that data. Looking at annual payroll percentage, Patchogue sits very strong relative to others (Brookhaven, Suffolk County, New York State) in the food service category. This is significant. Patchogue is a foodie town. Retail trade is also strong relative to these other places. It is important to look at this information on a relative basis. Again, they are not reporting arts and entertainment. Looking at food services and retail and healthcare, social and assistance (which is a broad category covering things including hospitals, dental offices, health care home aids), we see an increase. We saw a decrease in professional scientific and technical services (white collar professionals). I think this is because, at least for now, that probably reflects that people in those professions probably want to have better transit accessibility and larger concentration of folks like themselves. This is not to say that this will be the way it always is, but currently that is the story. I would suspect that as more people move here and transit service improves here, you will likely see the reversal of that.

Next, the study takeaways. This is key. There is a cost of doing nothing. I work with a lot of Mayors and Council People and Executive Directors. If you don't place the bet upfront, there is a cost, which is a loss of not having what you have in Patchogue. You need cooperation, champions who are in it for the long term, and ultimately you need construction. To use an anecdote, Sam Walton who developed Wal-Mart, talks in his book "Made in America" about flying over the country looking for roof tops and that is where he would build a new box. Rooftops matter. They mean dollars. They are walking wallets. You need rooftops to ultimately keep a village going and experience a vibrant economy. You need rooftops for workers to live. Housing is inextricably linked to economic development. They are not uncoupled, but need to be linked.

With that, I will take questions.

John Cameron: First, we thank you Todd. Any questions or comments from the Council?

Michael White: I just want to say that this is an absolutely terrific report because for years, even when Mayor Pontieri was on the Council, we always said, “We need to look at some of the success and promote those successes into what is going forward. I think this report does just that.”

Jeff Guillot: I have 2 questions. You were talking about all different places where one can get an apartment in the Village. Do we know what the median rental price of a unit is in the village? What the median renters age is?

Todd Poole: That was not part of the analysis, although it is easy to find what the median rental price is, but it is not easy to find the median age. You probably need a survey to get the age. Boomers are starting to represent the lions share of units because they are downsizing and want that urban experience. The age is probably higher than what you think.

John Cameron: I can speak personally on this one. I have gone from having a somewhat larger house in Rockville Center and living a mile from the train to living in a multi-family building one block from the train. My wife and I, as boomers, have downsized and are walking to restaurants and to downtown and candidly, we love it. On the other hand, what people are not looking at is when baby boomers sell their home and move into downtowns, they are freeing up housing for younger families to move in. This cycle is critical. These new multi-family projects not only grow our tax base, but also provide an exciting place for young people to live and offers an option for the boomers to move freeing up their homes for younger families.

Jim Morgo: Can this presentation be taken on the road to other Chambers?

John Cameron: I salute the Council for doing this work because it is representative of what needs to be done on Long Island. This is not a one off. We need to capitalize on infrastructure, whether it be rail or the wastewater treatment plants (sewers) in both Suffolk and Nassau County. I support Mayor Don Ryan for coming out here from the Village of Hempstead, the largest Village in the State of New York. We should talk about possibly bringing this presentation to multiple village associations and local communities across both counties.

Question: Eventually we are going to have to connect everyone together. Do you think that is the next step?

John Cameron: At our last meeting we had a presentation from Janno Lieber of the MTA talking about the state of local agency MTA’s investment in public infrastructure and in particular, transportation. There are millions of dollars being expended on East Side Access and Third Track. How do we capitalize on that? Additionally, we all know in the last month there has been the announcement of HQ2 going to Long Island City. How does Long Island capitalize on that? Collectively, we sit and bemoan high taxes here. I always say to that, we need to

expand the denominator because we know the numerator is going to continue to grow. We need to try to control costs but also to expand the denominator, which is our tax base. The way to do that is to capitalize on infrastructure whether its transportation, or as Paul and the Village of Patchogue recognized, wastewater treatment. We are not getting density. Long Island Supervisor Wehrheim here from Smithtown, who is all over this, recognizes that he is not going to be able to grow the downtown in his town, without capitalizing on infrastructure, which is sewers. Without the sewers, that is not going to happen. With sewers comes density, with density comes economic growth and affordability. We need to connect the dots through transportation and I think that is a key way to go.

Question: Is there data on the wage categories of the jobs created?

Todd Poole: We didn't break them down by wage category and I would agree that the majority of new jobs from a wage standpoint might come in at the lower end, but I will say, literally hundreds of jobs were created for bartenders and waitstaff. They are not low paying jobs. Having informal conversations, I was shocked by how much some of these folks make. So, while they might be in a low wage industry, they are not low wage. On the construction side, the average construction worker in this region makes \$50-60K/year. That number goes up on the nature of the job and skill level, but \$50,000 to maybe \$70,000 per year is a good annual salary.

John Cameron: I would like to add, that when you have a destination such as Patchogue, the surrounding areas will grow because people will want to live near a destination village. The same exists in Nassau County. You have these restaurant and entertainment areas where the surrounding areas actually grow and you get economic activity and have the potential for multi-family housing in those communities also. That is how we grow. Every community isn't going to be a restaurant or entertainment destination, but we need these in order to make it attractive for a future work force.

Question: Do we have any idea where the people that moved in came from?

Todd Poole: In the world of demography, 70% of moves made in this country are considered intra-county. In other words, moving within the County. The other 30% is usually because of a job or moving to take care of a loved one. The majority of people occupying those units that were built are from Suffolk County. We attributed a percentage to each of those projects for people who came from outside the County. We would be overstating economic impacts if we assumed everyone who moved in was from outside of Suffolk County. If we were on the border, we could make assumptions about people coming from Nassau County.

Question: Did the study look at comparisons between Patchogue and other villages? And, do you have estimates of the future growth of Patchogue Village?

Todd Poole: We felt that Patchogue is far and away a village that would blow away the other villages because of what has been done, so it wouldn't have been a productive comparative study. We tried to look at fairer comparisons. We looked at robust villages, like Brookhaven and then the County and the State because they are fair comparisons. Looking forward, we have estimates of how Patchogue will grow and I think it will continue to grow slowly, not more than

1% per annum which is considered moderate growth. Save for an industry collapse, we can see this continuing for the foreseeable future.

John Cameron: I want to point out that the rationale for this study is that the retrospective look has not been done on Long Island. There are many reports out there trying to look at whether or not different investments have paid dividends. It's a good question. I support and salute the EDC for answering to the taxpayers the question regarding the worth of this investment. Personally, I believe it has been productive and I think this study has been highly worthwhile. I would like to thank the taxpayers who have funded this work. I would like to thank Todd for an excellent presentation on behalf of the Council.

Next on our agenda, we have a presentation by Hofstra University and the Town of Hempstead. By way of a little background, many of you may recall from our last meeting, we had a presentation from Suffolk Deputy County Executive Peter Scully on the County's proposal pursuing the creation of a Countywide Water Quality Improvement District. This Council, with State funding, has appropriated \$500,000 for that study. As a result, (and recognizing that we are a bi-County agency), we are focused on Water Quality in both Nassau and Suffolk. Many of you may be aware that Nassau County's largest wastewater treatment facility is Bay Park Wastewater Treatment Plant. Bay Park is undergoing a feasibility study now to divert its discharge from the waters of the South Shore Estuary in Hempstead Bay. As a Council, we want to assess what kind of impact that will have on water quality. Many of you may be aware that the Council is actively involved in the management of the Long Island Nitrogen Action Plan. Bay Park discharge in Nassau County is one of the largest discharges of nitrogen on Long Island. In order to assess the water quality pre and post removal, and also to look at non-point source impacts of water quality, the Council did a Request for Proposal to assess water quality and evaluate water quality in the South Shore Bays in Nassau County. As a result, the selection committee of the Council is recommending Hofstra University and the Town of Hempstead for the project. In anticipation of the vote, we would like to have a presentation from Dr. Stephen Raciti, Professor from Hofstra University as well as Dr. James Brown, Conservation Biologist, Town of Hempstead.

PRESENTATION:

Larry Levy, Executive Dean of the National Center of Suburban Studies at Hofstra University, Steve Raciti, Hofstra University Professor and James Browne, Town of Hempstead Conservation Biologist

Larry Levy: Good afternoon, I am Larry Levy, the Executive Dean of the National Center of Urban Studies at Hofstra University. When I was a kid, we could go into the Bay and into a shallow area and roll up our pants and walk out in the mud and feel around with our feet for clams. We would fill a bucket for catching striped bass and another to bring home to eat. Today there is no bucket to bring home to Mom to eat. This project is very personal to many of us. For Hofstra, it is very exciting. We have an enormous amount of scientific engineering and other technological capacity that you will be treated to. This is also a historic reconnection of a relationship between Hofstra University scientists and the Town of Hempstead which has an iconic testing facility which was unfortunately shut down. This is a way of bringing it back and also dealing with a very critical issue. There is a very delicate balance between the environment and the economy that is dealt with at the REDC where I work on the writer's group. Solving this

problem is critical to the quality of life, to the economy and to, of course, preserving the environment. If we don't deal with these things now, the price tag will be astronomical as you will see in the presentation. Thank you.

Steve Raciti: Thank you all for coming today. Thank you to the Council for having us present today. We are excited to tell you about this proposal which discusses a plan for integrated nutrient monitoring analysis and reporting for the Western Bays of the South Shore Estuary Reserve. Many of you might know these water bodies as Hempstead Bay.

This is a brief overview of where we will be going today. We are going to start with an overview of nitrogen as a pollutant. We are going to talk about water quality challenges on Long Island's South Shore Estuary Reserve. At that point, I am going to turn it over to my colleague Dr. Brown of the Town of Hempstead Department of Conservation of Waterways. He will talk about the 50-year history of water quality monitoring in the region which has recently come to an end, but which we would like to restart. We will then talk about the Long Island Nitrogen Action Plan, its mission and this request for proposals that has led to the project that I will describe today. Finally, I will wrap up with the nuts and bolts of that proposal for water quality monitoring and data analysis. All of this is in preparation for the huge changes that are coming to Hempstead Bay in terms of water quality and infrastructure improvements.

Before I jump into that, I want to introduce our project team. Not everyone could be here today, but all have great expertise in this area. I am the first one listed on the slide and my expertise is nutrient pollution in urban and suburban water sheds. My colleague James Brown is a conservational biologist with more than 40 years of experience studying environmental quality right here on Long Island and especially water quality problems. I also have colleagues who are biological engineers, environmental chemists, experts in sediments and changes over time as a result of climate. We have experts here in data analysis using things like geospatial statistics, big data processing algorithms and artificial intelligence. In less fancy terms, these people have all sorts of ways to take very complex data sets and finding meaningful conclusions that we can use to inform the next environmental policy decisions that will improve water quality here in this area.

First, I will talk about our protagonist of this story which is nitrogen. Nitrogen as an element is the most important limiting nutrient in most terrestrial and aquatic ecosystems. Nitrogen is a nutrient limiting element in terms of growth plex and algae. When I talk about nitrogen today, I am mostly talking about reactive forms of nitrogen, which are nitrate and ammonia. Reactive nitrogen are the forms that cause potential problems in our environment. This is as opposed to nitrogen gas which makes up 78% of our atmosphere. Most of this nitrogen gas is largely inert and harmless. It is this portion of the nitrogen budget we are concerned about. Now, some nitrogen is important in our natural ecosystems and the main natural source of this is inputs from river systems, atmospheric nitrogen deposition (various forms of nitrogen falling down on the watershed and landing in run off or landing upon our waterways). Other natural sources include nitrogen fixation from lightning strikes or specialized bacteria and there are nutrients that enter our system from coastal upwelling from deeper waters. There are also a number of natural sinks for nitrogen which are ways in which nitrogen is removed from the water. These are the processes of denitrification and annamox which is to say processes that take reactive forms here

and convert them back into nitrogen gas. There are also a number of organisms that take up nitrogen and remove it from the water and finally sedimentation of particular organism matter. So those are the natural cycles of nitrogen.

The problem is that humans have drastically disrupted this natural cycle leading to what we call nitrogen pollution. It turns out that nitrogen, which is an essential element to life on this planet, can also become a pollutant when we have too much of a good thing. This can lead to problems like acid rain, smog and drinking water contamination right here on Long Island. There are lots of urban and suburban contributions to this pollution, such as storm water runoff, wastewater treatment plant discharges, septic systems, lawn and garden fertilizer. Though people don't think about this on a daily basis, every time a car is turned on, new atmospheric nitrogen pollution is being created which can land in our water sheds and water bodies causing harm. Every time we turn on a light switch and a fossil fuel power plant creates energy to fuel our electricity use, we are contributing in some way to this nitrogen pollution problem.

To give you a sense of the scale of this nitrogen pollution problem, I wanted to compare it to a pollution problem that you might be more familiar with. For the past 110 years, we have increased the amount of carbon dioxide in the atmosphere by 40%. This is a profound change that was unthinkable in the past and yet pales in comparison to the disruption that humans have caused in the nitrogen cycle. Global nitrogen fixation, that is the movement of inert nitrogen gas into reactive forms that causes problems in our natural environment, has more than doubled over the past 210 years and continues to increase over time leading to huge environmental consequences. I will talk about those consequences in the Hempstead Bay and South Shore Estuary Reserve.

Those consequences include surface water impairments that keep us from going out and enjoying the water, shell fishing and other activities. High bacteria loads have closed shell fishing areas. Algal blooms from too much nitrogen in the water has led to problems of eutrophication. What that means is that we fuel huge algal blooms from the excess nitrogen. That algae dies and decomposers break it down. The decomposers use oxygen, in turn causing low oxygen dead zones leading to fish kills and other problems. In total, this excess nitrogen pollution leads to degradation or loss of wetlands, sea grass beds, and bottom water communities which are vital to the health of our ecosystems and critical to the health of our communities.

An important point that people fail to recognize is that there is a huge cost to inaction. It makes good economic sense to address the nitrogen pollution problem. The cost of nitrogen pollution across the United States is estimated to be at least \$200 billion a year. We know in the Chesapeake Bay around the D.C. area, the cost of nitrogen pollution is \$40 billion. This nitrogen pollution leads to all sorts of problems such as declines in property values, declines in tourism, quality of life, loss of economic vitality of coastal communities which make places like Long Island unique spots to live. There is a cost of inaction. With that, I would like to turn it over to my colleague Jim.

Jim Brown: Thank you very much for letting us give this presentation. We have been working on this for a very long time. You can see that this report was done in 1968 which is when we started working with Hofstra. The lab was set up in a trailer and I was a Hofstra student. I ended

up finding out about a job in this department and started out as summer help and that was my start. We were doing a drinking water analysis for a long time. It was decided about 3 years ago, that the budget was being cut which had been supporting a lot of our environmental work and our lab was closed. We are the ones who have been looking at the Estuary Reserve in Nassau County. No one else is doing it. The Suffolk County Health Department does the Suffolk County part of the watershed, but we are the only agency really looking at the western part. It is our data that many people have been using in Stony Brook and other places. When the budget was cut, we had to stop and lots of data was lost. We are hoping to reopen the lab in April 2019. Right now, it is being refurbished and we are moving instruments out and we are going to fix a lot of the problems and try to recertify it. The DEC recommended starting with the EPA and then moving to the New York State Health Department e-lab for the funds we still need.

Since 1968, we have a couple of papers, we do science and put out a publication that looks at the changes in the water quality for that time period up until 2012. We were collecting a lot of data before the lab was shut down. We have some data that leads into the Jamaica Bay watershed. The bulk of this area is within the South Shore Estuary Reserve. Suffolk County starts over here. The yellow spots are where we have 35 locations where we are dealing with full assessments every month at the surface about 1 meter down testing for a lot of the nutrients plus oxygen and some things that were collected in the field. We have also been doing these x's which are done with an instrument I will show you. This is a \$12,000 instrument. We usually have a 100 foot cable and lower it down and look at salinity, oxygen, chlorophyll, toxicity, and other parameters. We look vertically. It can be used for hydrology monitoring. These green stars represent where we were looking at a lot of nutrients that were coming in from the land. As far as clamming is concerned, a lot of bacteria come in off the land and that is very important. We also manage the clamming. We spend lots of money and time on shellfish. These triangles represent the locations that the NYS DEC requires to certify water for clamming. Much of this area has been certified for a while. As of yesterday, we have a conditional area in this part of the Bay that has been reopened for clamming in the winter if and when it doesn't rain.

Steve Raciti: Another important nitrogen input to our water shed, which is also another source of impairment to our water quality, is nitrogen atmospheric deposition. This has been identified over and over in the South Shore Estuary Reserve as a key area of uncertainty in terms of nitrogen pollution. To give you a sense of scale of the atmospheric contribution to nitrogen pollution, it is estimated in the Great South Bay that 42% of the total nitrogen loading to that area causing water problems comes directly from atmospheric nitrogen deposition or indirectly from atmospheric nitrogen deposition. That is to say that the deposition on the land ends up in our waterways. In the Eastern bays, it has been estimated that 33% or 1/3 of total nitrogen inputs come from atmospheric deposition nitrogen sources. The problem with these estimates is that they are based on the data from the national atmospheric deposition program which is a national network. But, there is only one national atmospheric deposition site here on Long Island which measures wet deposition of nitrogen pollution (pollution via rain). Think about this, there is only one site on Long Island which is over 100 miles long. It is a rural site, out on the North Fork. It is not exactly representative of Nassau County. There are exactly zero cast net sites where we measure dry deposition (as particular matter). Instead, we are using rural sites from the Catskills or the northern corner of Connecticut or the western portion of central New Jersey. None of these sites represent Nassau County and its highly developed landscape. This is a potential

problem because these national scale data networks were never designed to measure nitrogen deposition to urban and suburban areas. These networks were designed to measure continental scale patterns of acidic deposition. We can study problems such as pollution from Midwest power plants landing on Northeastern forest and causing ecological problems. Their goal in setting up these networks was to avoid areas like the ones we live in which cause local nitrogen pollution. But those sources are potentially the most important sources for areas such as the South Shore Estuary. These include sources in things such as emissions from vehicles, heating systems, industrial sources, volatilization of ammonia from fertilizer on lawns. If you look at this map of national atmospheric deposition sites you can see that it is a very sparse network. Again, one site in all of Long Island and it is a rural location.

Well, how much does that matter? How much of this nitrogen input which causes these problems are we missing? Before coming to Hofstra, I was a researcher at Boston University. We wanted to look at this problem in the Boston metropolitan area. We put together a network of atmospheric nitrogen monitoring data stations, so we could understand how nitrogen pollution varies across gradients across urban areas and near suburbs to rural areas. We wanted to understand just how much of this pattern we might be missing. In order to be able to set up a network on dense station at a cost that would be manageable, we were using a new technology, these ion resin columns. What makes this technology useful for our purposes is that instead of taking daily measurements that cost a large amount of money, we can once a month go out there and replace the anion exchange resin columns and have an integrated measurement of all the nitrogen deposition that has happened over that one month time period. This allowed us to have in this case, 27 collectors over a small area as opposed to 100 collectors over the entire continental United States.

The next question is what did we find? Does it matter whether we measure atmospheric nitrogen deposition locally or rely on these estimates from the national deposition network? And it does. These National networks dramatically underpredicts nitrogen deposition to urban areas. Looking at measured nitrogen inputs at all types of sites, you can see that there is a large range of atmospheric nitrogen deposition from 2 kg of nitrogen per hectare (low) up to 15 – 18 milligrams of nitrogen per hectare in urban and dense suburban areas. It turns out that dense suburban areas outside of Boston had the highest levels of nitrogen deposition. If we look at our model inputs, from the national monitoring networks there is almost no variation predicted here. Our network predicts almost 7 kg of nitrogen per hectare of deposition for all of these sites. This not taking into account all those local urban and suburban non-point sources that are so important for areas like Long Island. In total, this means that we were underestimating emissions the Boston metropolitan area and its suburbs by a factor of 2. That is to say, actual emissions were 2 times higher than our estimates. This leads us to question how much are we actually missing out on.

The Long Island Nitrogen Action Plan is a plan that was funded by New York State in the 2015-2016 fiscal year with a number of noble goals. The first of these goals was to improve our understanding of nitrogen pollution in Long Island's surface water and ground water so that we can do something about this problem. We hoped to determine strategies to eliminate this problem, to determine feasible targets for restoring our ecosystems and to provide a plan so we can enact sensible policies for reducing this harm to our ecosystems, our communities and the local economy. As part of that much larger effort, there was a request for proposals in June 2018.

My colleagues at the Town of Hempstead Department of Conservation Waterways and Hofstra University answered with a proposal to put together a comprehensive monitoring plan for the South Shore Estuary Reserve and Nassau County.

The reason for this effort is that there are major changes coming to Hempstead Bay over the next few years. There is an urgent need for monitoring. All the large-scale monitoring that was previously occurring stopped 18 months ago. There has been a one-and-a-half-year gap already, leaving an irretrievable gap and loss in environmental monitoring data just when we need it the most; just before large scale upgrades to that Bay Park wastewater treatment plant will allow biological nitrogen treatment to be introduced and is expected to decrease nitrogen levels. To what extent are our goals being reached? How can we know what the improvements are and compare the current conditions and future conditions after the upgrades take place? There may be even larger potential upgrades to this area in the near future. Possibly the entire movement of that wastewater treatment plant from Hempstead Bay out to the Atlantic Ocean. You can bet that these and other upgrades will have large impacts. We need to understand if these large expenditures of money for water quality improvement are actually doing what they are designed to do. We need to know if we are meeting our goals and to what extent. So, at a time when we need this monitoring, we are not doing the work.

That brings us to our proposal for integrated nutrient monitoring and analysis program for Hempstead Bay, or the western portion of the South Shore Estuary Reserve. This proposal has a number of goals. First, we are going to analyze historical water quality data for trends, gaps in our knowledge and key nitrogen source areas so we can locate our new monitoring network sites in those places that are going to give us the most useful information for understanding this study system. Second, we are going to measure baseline water quality conditions before the changes come into place. We are also going to work with the Long Island Nitrogen Action Plan's bio-extraction coordinator. Bio-extraction is the process by which we remove nitrogen from water ways by either removing algae (which itself contains nitrogen) or conducting other operations such as commercial shell fishing with organisms which will remove the nitrogen from the water. We can work with the nitrogen coordinator to find locations which are potentially suitable for this work and see if it is actually effective. We also plan to provide a cost-effective means of monitoring atmospheric nitrogen deposition across this watershed so this giant question mark around this very large nitrogen input can finally be put to rest and we can finally have a real accurate assessment of what that input is. Finally, as part of this effort, over time, we plan to continually provide timely data analysis and reporting of the water quality data and what it means, so that scientists and municipalities and our political partners in the area can come together and make decisions that will help improve water quality over time.

What you are looking at is a map of historical water sampling in the western portion of the South Shore Estuary Reserve and you will notice that the large majority of points are magenta and they all represent effort by the Town of Hempstead to collect water quality data. All of these stations are not active any more. You can see there is a huge hole in our understanding of the entire area at present. Similarly, if we look at our current nitrogen deposition monitoring efforts, all we really have is this national scale network. We do not have what we need to really understand what is going on here with just the one site across Long Island as a whole.

That brings us to the scope of work for this proposal. We are going to focus here on bay and tributary water samplings as well as atmospheric nitrogen deposition. We will start with an analysis of existing water quality data so we can understand where the best places to monitor are. We are going to set up water sampling stations at 46 sites in the bays of Hempstead for monthly monitoring. We will have tributary sites as well. That is all various river and streams that feed this water body and there will even be 3 stations where there will be continuous automated monitoring which my colleague Dr. James Brown can talk about. One of these will be in East Bay, the other in Middle Bay, and the final in West Bay so we can understand conditions as they change on 15-minute cycles rather than just monthly monitoring. Finally, we will have our network of 15 atmospheric nitrogen deposition monitoring sites.

Jim Brown: This is a look at some of the perimeters in a little more detail. The ones that we collect near the surface usually 30 sites and 16 up the tributaries. These need to be brought to a lab to analyze. We don't have instruments that measure these at the moment. There are a couple of instruments that could be attained but they are very expensive and could only be used at one location. We also collect these with both the instrument that I showed you and we also have some of these instruments for longer deployment and they are left out for several months saving our labor costs. These are for wetlands. This is a high-grade instrument and was collecting data for several months. You can see it has a lot of growth; it has a cable in here and this one was in Bay Park and working in collaboration with Stony Brook. The data is sent in real time to Stony Brook. We swap them out. Some of the other physical measurements can also be collected with these instruments. We look at macro algae and eel grass.

So, this is what we are proposing to do. There are fewer points here than on the first map, but this is what we can do with the current budget. There are some lakes and we will look at what is coming from those areas. This will be looking at the results of the atmospheric deposition that is getting down into the Bay. How much is getting into the Bay and how much of it is actually controlled by that source. Meanwhile, one of our stations is here and it represents the outfall for the Bay Park treatment plant. That is normal outfall when it is functioning correctly. This is the Long Beach one and then during Hurricane Sandy we used an emergency outfall over here which is also a tributary sampling station. We are also trying to keep some of our vertical profile data and deeper data going looking at oxygen levels and seasonal patterns. We do this 12 months a year. Additionally, we still collect data that we bring to the DEC as part of our shellfish program. These red triangles represent locations where the (Seabird) WQM will be installed.

Steve Raciti: I will take over here and talk about network nitrogen atmospheric deposition monitoring sites. We will have 15 locations within the western portion of the South Shore Estuary Reserve where will be measuring atmospheric nitrogen deposition. At each of these locations, we will have 3 of these collectors on hand and they will be spatially distributed over the area to capture trends that are related to emissions from on-road sources, from point sources such as power plants, sources related to land use and land cover. We want to see if there are depositions related to land proximity to New York City so that we can understand the complete picture of nitrogen deposition and just how large of an input that is to our water shed here and how large that impact might be to our water quality. We will be able to estimate landfall deposition which is the amount of nitrogen that falls to the watershed and surface water inputs,

how much nitrogen pollution from atmospheric sources directly falls upon Hempstead Bay and contributes to our water quality problems.

In conclusion, we have put together a comprehensive plan to reestablish water quality monitoring in the Nassau County portion of the South Shore Estuary Reserve. If you recall, it has been 18 months since we have had a network on monitoring sites. This plan will let us bring many of our previous monitoring efforts back online and in better form in many ways for the analysis we are going to be doing to locate those new monitoring sites. We will analyze the historic water quality data for trends, gaps in our knowledge, likely high nitrogen source areas to hopefully find the optimal locations for our future monitoring sites. We are going to use these data and our analysis to help us locate locations for potential bio-extraction sites and then collect baseline water quality data for the entire area so we can understand what are the conditions now and how do these major infrastructure upgrades or bio-extraction projects influence the Hempstead Bay and understand whether our investments are having the impact that we hope they will have. As part of this effort, we are going to have cost effective network of atmospheric nitrogen deposition monitoring stations, so we can understand that very large and poorly quantified nitrogen input. Our goal is long term. We want to understand the impacts of infrastructure upgrades on water quality. We want to understand how future policy changes are going to alter the environment in our region and how future severe storm events will impact water quality. We hope to find how developments in Nassau County and in this watershed will impact patterns of nitrogen input and in our watershed and how climate change and sea level rise will influence water quality and quality of life here on Long Island.

Thank you for having us today and we are happy to take any questions.

John Cameron: Thank you. Excellent presentation. Are there any questions from the Council?

Michael White: I know you are going to create a data set which is really exciting, but can you give us an idea of the comparison in magnitude of the potential impact that you feel nitrogen atmospheric deposition has versus the traditional sources that we hear most about, for example, runoff and point sources of wastewater treatment plants or underflow from unsewered areas?

Steve Raciti: We have estimates now but they are based on the very poor information from those national networks. The current estimates suggest that atmospheric nitrogen deposition is a very large component, but I would suggest that we are underestimating it. I can't tell you if it is 30% or 40% or less than that. One of the things that is different about Hempstead Bay is that we have one of our largest wastewater treatment plants on Long Island that makes for a very large input itself. Because the input is so large, the contribution of atmospheric sources may be relatively smaller.

John Cameron: That being said Michael, the Council is focused on this because once we remove the Bay Park discharge from Hempstead Bay then you have to look at the other sources, not just non-point sources. Adjacent to Hempstead Bay is one of the largest Power Plants on Long Island. This Council made a statement on LIPA's integrated resource plant. They are allowing 50 to 60 year old technology to spew nitrogen (NOX) gases right above Hempstead Bay. When you have a rain event, you have direct deposition right into Hempstead Bay becoming a

major source of nitrogen in the Bay. This is why we want the monitoring here and you will notice that one of the stations is located right at that point source. It is something we will focus on. We are very excited to get accurate data rather than trying to extrapolate data that is being collected in Southold.

Mayor Kennedy: What are your estimates on timing?

John Cameron: It is my understanding that the County is ready to start their design phase now and I think it is probably still going to take a few years to get that done. They have been doing the environmental work. As I'm sure you are aware, they will be diverting treated wastewater from East Rockaway, from Bay Park up into Sunrise Highway and inserting a forced main pipe inside an aqueduct along Sunrise all the way to Wantagh and then tying into the Cedar Creek outfall to put that discharge into the Atlantic Ocean. It is a few years out, but I am pleased that the County it is moving forward.

Michael White: This is a great cause and I feel it is productive to get all these numbers in a very important location. I was also trying to tie into the idea that if I am trying to connect unsewered areas to sewers, do I need to know what I may need to do to control the nitrogen sources that may be related or other algal blooms from other atmospheric deposition.

John Cameron: That is something we are doing as part of the Long Island Nitrogen Action Plan. We are looking at the relative sources from non-point sources. Kyle and David are here. In Suffolk County they have identified the principal source as being septic tank discharges into ground water. Once we get into Nassau which is about 80% sewerred, we still do have the unincorporated area in Nassau County, Point Lookout which is unsewered, as well as a small area of Lawrence that is unsewered and those areas are going to be looked at.

I have to recognize Supervisor Laura Gillen, not just a member of our Council, but also because frankly, without her and her administration reactivating the Conservation and Waterways Marine Laboratory in Point Lookout, this team would not be able to be doing this work. Apparently, the prior administration didn't think this was an important issue. I salute Supervisor Gillen for recognizing this as a priority for Long Island and for putting financial resources behind it. It has allowed this team to come forth and produce this quality proposal. I thank you Supervisor.

Thank you Steve, Jim and Larry.

We have a proposed resolution to retain Hofstra University and the Town of Hempstead to do Water Quality Monitoring, Analysis and Reporting on Nassau County's South Shore. Rich can you take us through that.

Rich Guardino: This next resolution authorizes an agreement between the Long Island Regional Planning Council (LIRPC) and Hofstra University in partnership with the Town of Hempstead to provide monitoring, analysis and reporting of water quality within the surface waters of Nassau County's south shore.

We did go through a procurement process. The LIRPC offered a Request for Qualifications on June 18, 2018. A Selection Committee of the Council reviewed the proposals received, interviewed the respondents and are recommending the team of Hofstra University in partnership with the Town of Hempstead for the project.

Both institutions have a long-term interest in the health of Long Island and its communities and are committed to supporting research that helps to monitor and improve the environment of Long Island. The scope of the work includes 46 water sampling stations (30 in the bays, 16 in the tributaries), 20 vertical profile stations and 3 continuous monitoring stations. The team will conduct a review of historic water quality data which will determine the final locations of water sampling sites.

The cost of the project is not to exceed \$240,000.

Motion to Accept: Michael White

Seconded: Theresa Sanders

All in Favor: So moved.

Laura Gillen Abstained.

Laura Gillen: I would like to thank my colleagues here on behalf of the Town of Hempstead. We are very proud to be reversing the course of the prior administration's action. This is a critical project for all of Long Island. We rely so much on the water that is all around us. I look forward to working together collaboratively.

Executive Director's Report

Rich Guardino: I would like to congratulate and recognize both John Cameron and Theresa Sanders who have both been inducted into the Long Island Business Hall of Fame. We should give them a round of applause.

I would also like to thank all of the members of this Council. It is an extraordinarily talented group and we appreciate your support. Some people don't realize you are all volunteers on the Council spending a lot of time dedicated to the work that we are doing here. I thank you and wish you all a happy holiday season and a happy new year.

Adjournment