NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION
BROOKLYN-QUEENS AQUIFER FEASIBILITY STUDY

CITIZENS ADVISORY COMMITTEE MEETING: May 5, 2005

MINUTES

The 30th meeting of the Brooklyn-Queens Aquifer (BQA) Feasibility Study Citizens Advisory Committee (CAC) was held on Thursday, May 5, 2005 at the Hillside Manor Comprehensive Care Center. (See Attachment A for Attendance List.)

Helen Neuhaus, Helen Neuhaus & Associates (HNA), opened the meeting by asking for comments on the Minutes of the special March 17th CAC meeting. The Minutes were adopted unanimously. She then asked for comments on the Minutes of the April 7th CAC meeting, which were also adopted unanimously.

Ms. Neuhaus remarked that the project team has addressed all follow-up items from the April 7th meeting that were within its purview. These included distribution of documents, revision of the March 3rd CAC Minutes to include Debora Hunte's request that data from the current Soil Vapor Intrusion Study be compared to data from a similar study conducted several years ago, and confirmation that the data from the two studies will be compared. She then turned the meeting over to Dave Chiusano, New York State Department of Environmental Conservation (DEC) for a project update, including information on the Soil Vapor Intrusion Study follow-up items from the April 7th meeting.

Project Update

Soil Vapor Intrusion Study

Mr. Chiusano reported that 24 letters were sent to residents requesting permission to conduct outdoor vapor sampling (Phase 1) on their property. After obtaining permission, DEC began drilling borings and installing vapor monitoring points this week. Thirteen points are currently installed, including four at the New York City Department of Environmental Protection's (DEP) Station 24 facility, as requested by the CAC. The remaining points, which include additional CAC-requested sites at P.S. 116 and the new homes along 106th Road, will be installed by next Tuesday. After collecting vapor samples at each site (which is expected to be completed by Friday, May 13th), the process will involve laboratory analysis, validation of the data, and evaluation of results by DEC and the New York State Department of Health (DOH) to determine which sites, if any, will be recommended for indoor vapor sampling (Phase 2). Mr. Chiusano emphasized that preliminary data will be shared with the CAC and Scientific Review Panel (SRP).

He then introduced John Boyd, URS, who described the surveying and sampling point installation process that was performed during this past week. Mr. Boyd reported that point installation, which took approximately one hour for each site, began at 179th Place, near the Sayres Avenue triangle. Using a PowerPoint presentation, he explained the step-by-step process as follows:

- Surveyors from Naeva Geophysics visited each site, using ground penetrating radar and metal detectors to identify and mark subsurface utilities.
- Pieces of plywood were used to protect flower beds and lawns from damage that could be caused by drilling. Mr. Chiusano interjected that DEC is also being careful to avoid hitting utilities. He added that the agency is responsible for repairing any damage resulting from sampling.

- 2" diameter borings were drilled using a Geoprobe hammer mounted on a small tract rig, approximately the size of a golf cart.
- The displaced soil was collected for analysis. Mr. Boyd remarked that photoionization detector (PID) readings taken from soil samples thus far have not indicated the presence of volatile organic compounds (VOCs).
- A soil gas implant connected to tubing was inserted in each boring 8-9' below ground.
- The top of each boring was sealed with sand and bentonite. A capped roadbox was placed over the top, and concrete was used to seal the sampling point and protective roadbox to the surrounding soil. Mr. Boyd observed that sampling points are flush with the ground and barely noticeable. They are temporary installations that will be removed during the next heating season.

Mr. Boyd then explained that vapor collection, which will be performed during the coming week, will include the following steps:

- Connection of a stainless steel vessel, called a Summa canister, to each sampling point. The canister has been laboratory-prepared to provide suction to pull soil gas from underground.
- The canister is left open to collect the sample for a one-hour period, after which it is sealed. Mr. Boyd commented that sampling for more than one hour does not increase its effectiveness.
- Shipping of the canisters to a laboratory for analysis.

At the conclusion of the presentation, Mr. Chiusano commented that the level of cooperation from residents in granting property access for sampling was the highest he had ever experienced. He thanked Irving Hicks for his efforts in informing local residents about the study. Jeff Diggs praised members of the CAC, underscoring that the high degree of community cooperation attests to the CAC's reputation as an informed, interested and trustworthy group. Ms. Neuhaus thanked Mr. Boyd and his team for taking such good care to avoid damaging property.

Issues raised during the Soil Vapor Intrusion Study discussion included the following:

- In response to an inquiry from Peter Richards, Mr. Boyd noted that the Geoprobe units did not encounter any solid rock during drilling.
- In response to a question from Ms. Hunte, the project team indicated that measuring in parts per billion (ppb) rather than parts per million (ppm) increases sensitivity to the presence of VOCs.
- In response to an inquiry from Mr. Richards, Jon Sundquist, URS, noted that samples will be tested for over 40 VOCs, including perchloroethylene (PCE) and gasoline-related compounds.
- In response to a question from Sarah Hicks, Mr. Boyd confirmed that a separate Summa canister will be used to collect each sample.
- In response to an inquiry from Ms. Hunte, Mr. Boyd identified the laboratory selected to analyze the samples as Severn Trent, a New York State-certified laboratory that is located in Knoxville, Tennessee.
- To address concerns expressed by Mr. Richards, Mr. Boyd noted that in order to obtain samples that are representative of actual soil vapor levels, approximately one liter of stale or stagnant air is pumped from each sampling point before the point is connected to the Summa canister.

<u>West Side Corporation (WSC) Site Clean-Up</u>

Mr. Chiusano provided the following update on WSC clean-up:

- An indoor air treatment system has been installed at the Atlantic Express Bus Company building (at which prior air quality problems had been detected). This system will begin operating next week.

- Electrical lines for the Electrical Resistance Heating (ERH) system will be installed next week, and trench work will be completed during the next two weeks.
- Exploratory borings, as recommended by SRP member Dr. Alan Rabideau, State University of New York at Buffalo, will be drilled next week.
- Wells for the ERH system will be drilled next week.
- To date, air monitoring at the immediate work area has yielded low readings of VOCs, while monitoring at the fence line and outside the WSC property has detected no VOCs.
- Two previously unidentified underground storage tanks have been found on the WSC property. One storage tank is at the northwest corner, near the bus company lunchroom, and the other at the southwest corner of the building. In addition, a previously unidentified dry well has been found on the property. Mr. Chiusano noted that soil testing will be conducted and the tanks and dry well will be removed if the soils are found to be contaminated.
- A tour and presentation at the WSC site for the CAC and other interested members of the community will be scheduled once the ERH system is operating consistently and reliably. Mr. Chiusano anticipates a mid-to-late-Summer date for this event.

During a brief discussion concerning WSC project documents, it was reiterated that the Community Protection Plan (CPP) and Worker Health and Safety Plan (HASP) were finalized and approved prior to the start of intrusive work at the site. Ms. Neuhaus also explained that information pertaining to Atlantic Express Bus Company health and safety issues was removed from the HASP and provided as a separate question-and-answer document. As suggested by the SRP, this document was shared with bus company employees at an informational training session. (See Attachment B for Atlantic Express Bus Company Fact Sheet.)

Ms. Neuhaus also relayed the request of SRP member Dr. Len Lion, Cornell University, that the CAC be informed that although the SRP commented on previous drafts of the HASP, it did not review the final version before it was approved. She explained that SRP comments on several drafts of the HASP resulted in major substantive changes to the document. The panel's last round of comments provided largely procedural recommendations, including suggestions to reorganize the HASP to be more user-friendly (e.g., including emergency telephone numbers at the front of the document) and to remove cross-references to the CPP and replace them with the referenced information. Ms. Neuhaus indicated that copies of the HASP, which focuses on protection of workers at the site, are available for CAC members. Ms. Hunte requested a copy, which was provided to her at the meeting.

Mr. Chiusano noted that copies of the CPP, HASP and Soil Vapor Intrusion Study Work Plan will soon be available at DEC's WSC document repository (Queens Borough Public Library, 89-11 Merrick Boulevard – 2nd floor). HNA will also have copies of these documents. The CPP is already posted on the BQA website; the HASP is too large to post online.

Ms. Neuhaus announced that the next two WSC progress meetings will be held on May 11th at 9:00 a.m. and May 25th at 10:30 a.m. (tentative date and time that were subsequently confirmed). Following a discussion among CAC members, it was decided that Mr. Diggs will attend the May 11th meeting, and Mr. Richards will attend the May 25th meeting.

Station 24

Don Cohen, Malcolm Pirnie, noted that the final draft for design of Station 24 was sent to DEP, DEC, URS and the New York City Law Department for review prior to bidding. Mr. Chiusano reported that a

draft agreement for DEC to assume financial responsibility for both the WSC clean-up and Station 24 has been sent to DEP. It is expected that it will take several months for DEC and DEP attorneys to work out the legal details.

Station 6

Mr. Cohen announced that the project team received the final Value Engineering (VE) Report for design of the new Station 6 plant. The VE Report was prepared by Lewis & Zimmerman Associates, an engineering consulting firm, on behalf of the New York City Office of Management and Budget. Mr. Cohen noted that the report was similar to the draft report and provided a number of recommendations regarding engineering and architectural details that will be considered for incorporation into the final design. However, Mr. Cohen noted that the VE team also suggested several changes that will not be accepted, including separation of the administrative and groundwater treatment facilities into two buildings, and a proposal to build the lower and middle levels of the plant underground, so that only the upper level would be visible from the street. The project team is preparing a response document to indicate which ideas will be accepted in whole, accepted in part, or rejected. Changes will be reviewed with the CAC. After submittal of the document, in approximately one month, and reconciliation of issues at a follow-up VE meeting, the project team will resume working on design of the new plant.

On a celebratory note, Mr. Cohen displayed the American Academy of Environmental Engineers Trophy (a national award) for the BQA Study, which was accepted by the project team at an awards ceremony in Washington, D.C. several weeks ago. Mr. Cohen thanked the CAC for its contribution to the project, which he acknowledged as a major factor in the team's receipt of the award. The group then joined in a round of applause.

Mr. Chiusano announced that Tom Festa, DEC, has taken over responsibility for investigating methyl tertiary-butyl ether (MTBE) contamination near Station 6. He added that DEC has received reports on the Citgo and Atlas gas stations, which were forwarded to DEP and Malcolm Pirnie. Copies of these reports, as well as DEC comments, will be provided to the CAC. While additional exploration will likely be required, Mr. Chiusano anticipates that remediation of both sites will be underway or completed by the end of the year.

Judging from preliminary findings in the Citgo report, Mr. Cohen remarked that although there is evidence of contamination at the Citgo gas station, it does not seem to be the primary cause of MTBE contamination near Station 6. He added that the owner of the Citgo gas station has been very cooperative throughout the investigation.

The following issues were raised during this discussion:

- Mr. Hicks remarked that a strong odor has been emanating from the Citgo gas station during the drilling investigation. Mr. Cohen commented that investigative drilling is usually done in areas likely to be contaminated and that odor is an indication of contamination. Mr. Chiusano replied that he will ask Mr. Festa look into the situation. In a follow-up question, Richard Hellenbrecht asked whether the odor may be explosive. Mr. Chiusano noted that this is unlikely, since the gasoline vapors are in the open air and not confined to a restricted space where vapor concentrations could reach the threshold level for ignition.
- Manny Caughman reported that the soil around a DEP monitoring well near 109-56 172nd Street is sinking. Noting that he has observed the same situation, Mr. Cohen speculated that the wellhead may have been damaged by a snowplow hitting the adjacent curb. DEP agreed to reset the well.

- In response to Mr. Diggs' question regarding overall monitoring of local gas stations, Mr. Chiusano noted that the New York State Bureau of Weights and Measures is responsible for ensuring the quality and quantity of gasoline, while DEC is responsible for issues relating to gasoline spills.

Overall Project Schedule

Nicole Brown-Williams, Malcolm Pirnie, announced that updated copies of the macro-scale and micro-scale schedules, which delineate individual timeframes and the interface between the Station 6, Station 24, WSC and relief sewer projects, have been prepared. (See Attachment C for copies of the schedules.) She explained that although the CPP and HASP approval process contributed to delay in the start of WSC remediation, the overall BQA project is still on track. Specifically, ERH operation is slated to begin in July and conclude by mid-December, prior to the start of groundwater clean-up at Station 24; construction of the Soil Vapor Extraction (SVE) system will begin in early 2006, with an anticipated May 2006 date for operation of the SVE system; construction of the relief sewer will begin in 2006; and construction of Station 6 will begin no earlier than 2007.

In response to an inquiry from Mr. Diggs, Ms. Brown-Williams explained that although DEP's proposed relief sewer is needed to dispose of process waste from the new Station 6 plant, this project will also benefit the surrounding community by improving its current sewer infrastructure. Mr. Cohen clarified that this relief sewer is not related to sewer construction currently taking place in Springfield Gardens.

Station 6 Art Subcommittee

Ms. Neuhaus reminded the group that a CAC subcommittee charged with discussing and providing recommendations to the CAC on Station 6 art issues was formed at the April meeting. Subcommittee members are Tracey Bowes, Linda Hazel, Mr. Hellenbrecht, Ms. Hunte, Yvonne Reddick, Mr. Richards and Fred Simmons.

Ms. Neuhaus then referenced open subcommittee items, beginning with the participatory role of non-CAC members. After citing the BQA CAC Operational Guidelines, which state that only CAC members can serve on a subcommittee, she noted that at the April meeting, Ms. Hazel and New York City Councilman Leroy Comrie recommended several non-CAC members for participation in the subcommittee. Noting the importance of community-wide input on the project, CAC members endorsed the idea of involving recommended individuals as non-voting consultants to the subcommittee. It was also agreed that, similar to CAC meetings, subcommittee meetings should be open to the public. Ms. Brown-Williams suggested that any non-voting participant who has strong feelings about the project could apply for CAC membership.

Following a brief discussion among subcommittee members present at the meeting, it was decided that the initial subcommittee meeting will be held at Hillside Manor immediately preceding the June 2nd CAC meeting. HNA will contact all subcommittee members to inform them of the meeting time. Proposed discussion items for the initial meeting, to be facilitated by HNA, include operational guidelines and future meeting times and facilitators.

New Business

Ms. Neuhaus announced that Ms. Hunte's daughter recently won a national award for high school students, which she will receive during a ceremony at the House of Representatives in Washington, D.C. The group celebrated with a round of applause.

In response to Kenneth Gill's question concerning the scheduling of CAC meetings during the summer, Ms. Neuhaus suggested that the Committee discuss the possibility of adjourning until September at the June CAC meeting. This would not preclude scheduling a meeting if warranted by project events or scheduling the WSC site tour and presentation.

The next CAC meeting will be held on **Thursday, June 2, 2005 at 7:00 p.m.** at the Hillside Manor Comprehensive Care Center, 188-11 Hillside Avenue, Jamaica Estates.

Follow-Up List

1. Notify Art Subcommittee members of initial meeting (Thursday, June 2nd, 6:00 p.m. at Hillside Manor Comprehensive Care Center). Responsibility: HNA.
2. Reset monitoring well installed at 109-56 172nd Street (Manny Caughman). Responsibility: DEP, Malcolm Pirnie.
3. Provide update and distribute copies of investigative reports for Citgo and Atlas gas stations at next CAC meeting. Share DEC comments on reports following agency review of documents. Responsibility: Dave Chiusano, DEC; HNA.
4. Notify Tom Festa, Project Manager, DEC, about strong odor emanating from Citgo Gas Station. Responsibility: Dave Chiusano, DEC.
5. Coordinate CAC representation at May 11th (Jeff Diggs) and May 25th (Peter Richards) WSC progress meetings. Responsibility: HNA.
6. Include updated micro- and macro-scale schedules with May CAC Minutes. Responsibility: Nicole Brown-Williams, Malcolm Pirnie; HNA.
7. Schedule WSC presentation and site visit site once clean-up is underway. Responsibility: DEP, DEC, Malcolm Pirnie, HNA, Irving Hicks, Thermal Remediation Services.
8. Provide HNA with copy of final HASP. Responsibility: URS.
9. Deliver copies of final CPP, HASP and Soil Vapor Intrusion Study work plan to WSC repository (Queens Borough Public Library). Responsibility: URS.
10. Present preliminary data from Phase 1 of Soil Vapor Intrusion Study to CAC and SRP when available. Responsibility: Dave Chiusano, DEC; DOH.

Attachment A

Brooklyn-Queens Aquifer Feasibility Study
Citizens Advisory Committee
Thursday, May 5, 2005

Attendance List

CAC Members/Alternates

Manuel Caughman
Community Board #12/Office of
New York State Assemblyman
William Scarborough

Jeff Diggs
Office of New York City Councilman
Leroy Comrie

Kenneth Gill
Addisleigh Park Civic Association

Linda Caleb Hazel
A Better Day Inc./St. Benedict The Moor/
St. Bonaventure

Richard Hellenbrecht
Community Board #13

Irving Hicks
Brinkerhoff Action Association

Sarah Hicks
Brinkerhoff Action Association

Debora Hunte
Brinkerhoff Action Association

Peter Richards
Community Board #13

Fred Simmons
Residential People for Improvement

Guests

Edwin E. Mills
South Queens Park Association

Andy Rousseau
Resident/New York City Department of
Environmental Protection

Florence Simmons
Residential People for Improvement

Project Team

John Boyd
URS Corporation

Nicole Brown-Williams
Malcolm Pirnie, Inc.

David Chiusano
New York State Department of
Environmental Conservation

Don Cohen
Malcolm Pirnie, Inc.

Natasha Harper
New York City Department of
Environmental Protection

Helen Neuhaus
Helen Neuhaus & Associates Inc.

Jon Sundquist
URS Corporation

Andrea Wong
Helen Neuhaus & Associates Inc.

Anita Wright
Helen Neuhaus & Associates Inc.

Bill Yulinsky
New York City Department
of Environmental Protection

Attachment B

FACT SHEET FOR ATLANTIC EXPRESS CORPORATION
Final

March 28, 2005

Remedial Construction/Operation Activities
Atlantic Express Corporation (Former West Side Corporation)
Site No. OU1

Jamaica, Queens County, New York

INTRODUCTION

What is happening?

Contractors will be doing construction activities/drilling activities in the parking area and driveway of the Bus Company property. Once the construction activities are completed, a remediation system will be installed and operated by the contractor.

Who is doing the work?

Clayton Group Services of Edison, New Jersey is doing the work.

Who hired the contractor?

The New York State Department of Environmental Conservation has hired Clayton to conduct the work.

Why is this work happening?

Prior to the property being a bus garage, it belonged to a company that distributed dry cleaning chemicals throughout the City of New York. The company brought the dry cleaning chemicals to the property by rail car, and offloaded the chemicals to trucks. Most of the offloading occurred in the area near the last service bay of the garage.

During that time, the dry cleaning chemicals spilled into the ground, and eventually soaked into the groundwater. Groundwater in the area used to be pumped from the ground, treated, and then delivered via pipe to nearby residences and homes. Once it was discovered that the groundwater had been contaminated ("impacted") with the dry cleaning fluid, which cannot be treated by conventional water treatment methods, the pumps were shut down, and this groundwater is not used to supply water to residences and businesses in the area.

How long will the work take?

The project will occur in two phases: construction and remediation. The construction work will take approximately 5 months. After that, it is estimated that the actual cleanup operation ("remediation"), will take 1 to 1 1/2 years to complete.

CONSTRUCTION PHASE

Exactly what kind of construction type work will be done?

Trenching, well drilling, installation of fencing, construction of remediation systems.

Will traffic on the property be affected? Can I still park on the property?

During the construction work, bus traffic and parking will be affected. Clayton has prepared a Traffic Plan, which provides a depiction of how traffic will flow during the construction work. Traffic will be one way, with entrance to the property on the north, and exit from the property on the south. Traffic cones and signs will be used to assist drivers around the property.

It is important that all bus drivers follow the traffic pattern, so that everyone can conduct their work safely and effectively.

What hours of the day will the contractors be working?

The work will be done between 7:30 AM – 4:30 PM Monday – Friday.

During construction, will there be any holes or trenches that may be an issue for bus drivers?

No. We will only be doing trenching in small (approximately 30-40 foot) segments each day. Each day, we will excavate this segment, place PVC pipe in the trench, and backfill up to grade. We will not leave any open trenches overnight.

We will only drill a well if we feel we can complete it that same day. We will not leave any open well holes in the parking or driveway areas.

What kind of equipment will be used? Will they take up a lot of space?

We will bring backhoes, drill rigs, support vehicles for the drill rigs, and other typical construction equipment to the site. They will take up space, but since we will not start work until after most of the busses have started their school routes, we do not anticipate taking up a lot of space that is necessary to park the busses.

Is there a danger to employees during construction?

No. All work areas will be marked with orange safety fence and/or cones and safety tape. Atlantic Express employees will be required to avoid these areas. By avoiding these areas, the employees of Atlantic Express will not be in any danger during the construction.

Will there be a lot of dust and odor issues while construction is going on?

Like most construction activities, dust is an issue. However, we do not feel that there will be a significant amount of dust generated, but we will use a water spray to keep dust to a minimum.

Clayton will also be monitoring for vapors during the construction work. We will monitor the immediate work areas (trenching area, drilling area, etc.). If vapors are encountered above action limits, Clayton will take action to suppress the vapors and/or instruct Atlantic Express employees to move further from the construction area.

What if something goes wrong during Construction? How will we be protected?

We feel that there will be little chance that anything can go wrong during construction. However, Clayton will have people monitoring all phases of construction. Should an issue arise that will require the notification of the Atlantic Express company, Clayton will direct the employees away from the work areas, and to safe places on the property. There have been a number of activities that have been done on the property up to this date, including monitoring well installation, soil borings, and other construction work, and there has not been a concern.

REMEDIATION PHASE

What is the kind of remediation that will be done?

Two kinds of remediation will be performed, one after the other. These are Electrical Resistance Heating (ERH) and Soil Vapor Extraction (SVE).

Clayton will be installing an Electrical Resistance Heating (ERH) system that will use electricity to convert the contamination into a gas. The ERH system will remove the contaminant vapors from the ground by a vacuum. The ERH system is connected to a catalytic oxidation treatment system, similar to a catalytic converter. The catalytic oxidation system treats the vapors, before they are discharged to the atmosphere.

After three to four months of operation with the ERH system, a Soil Vapor Extraction (SVE) System will be installed that will continue to vacuum impacted vapors from the ground, but from a wider area than treated with ERH. Unlike ERH, SVE will not use electricity to vaporize contaminations, but will only remove contaminant vapors already present in the ground. The SVE system will deliver the extracted contamination into the catalytic oxidation treatment system, where it will be treated before being discharged to the atmosphere.

Is there any danger to employees during the remediation?

No. All remediation will be done underground. The electrical components of the remediation system will be located behind a locked security fence and will be inaccessible.

How does the contractor monitor the remediation equipment? Do they have people onsite all the time?

The remediation system will have a telemetry system incorporated with it. The telemetry system consists of sensors that are located at various points of the remediation system. These sensors monitor the performance of the system. Should there be any sensor that identifies an issue with a specific component of the system, Clayton will be notified via cell phone. We can identify where the problem is, and "call in" via computer, to the remediation system and identify what the issue is. We can also remotely turn off the remediation system, if we feel that it is necessary.

When we turn off the system, we will mobilize to the site within 60 minutes to visually identify the problem. At that time, we will also conduct monitoring for vapors around the Atlantic Express property, to make sure that no vapors are in the area.

Is there a chance that the remediation equipment could be physically damaged and cause a problem?

Once the remediation system is installed, a fence will be constructed around it, to keep people and vehicles from damaging it.

What if something goes wrong during remediation? How will we be protected?

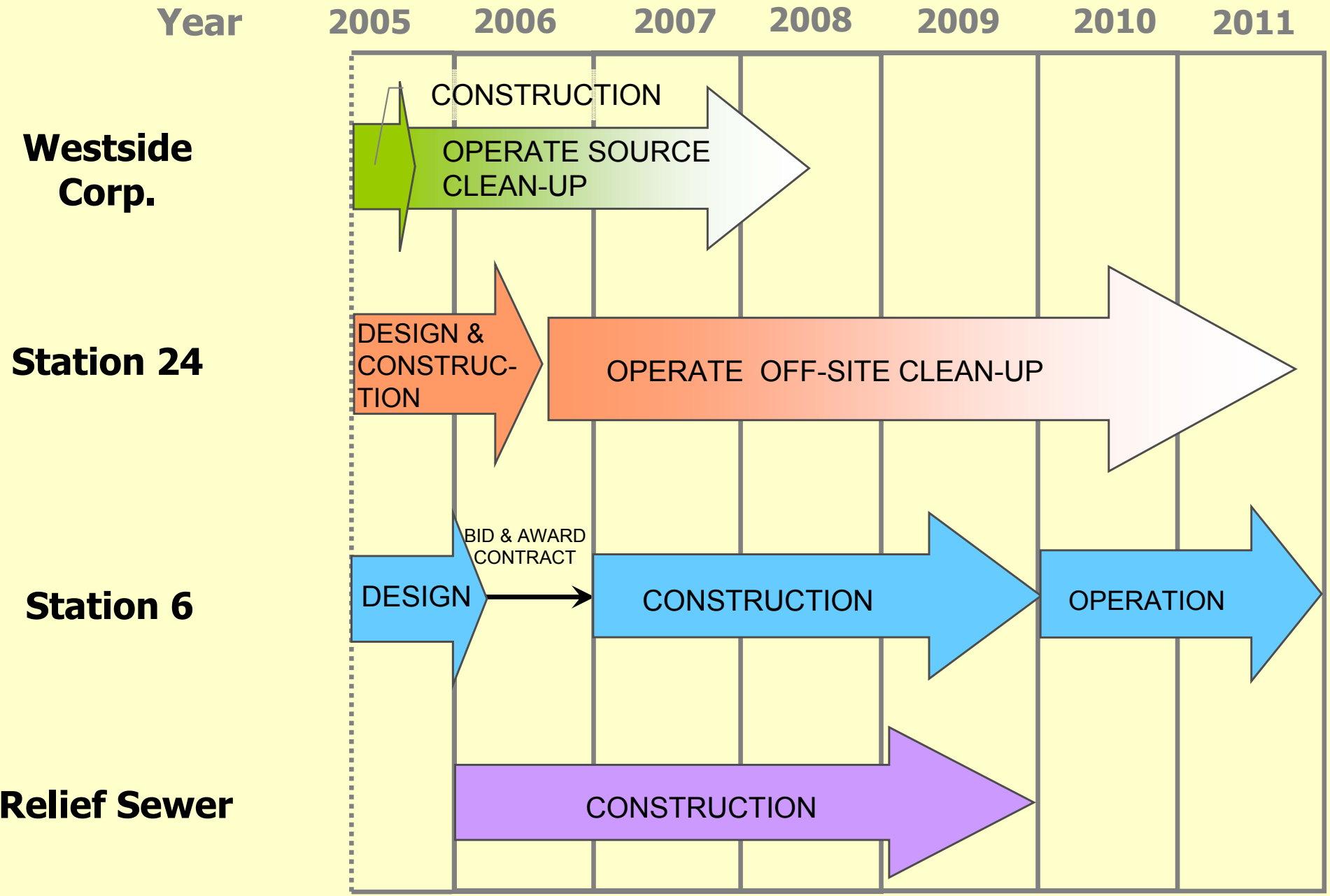
We feel that there will be little chance that anything can go wrong during remediation. If the telemetry system indicates that the system is not operating correctly, Clayton will arrive at the site within 60 minutes to verify that safe conditions exist.

To whom do I speak if I have more questions?

Clayton has been working with Tony LaMarca during the planning stages of this project. If any employee has a question, please contact Tony, and he will be in contact with us.

Station 6 /Station 24/ Westside Project Schedule

Attachment C



BQA Project Schedule
1 Year Projection