

Veolia Water Milwaukee LLC
South Shore Water Reclamation Facility,
Gas Sphere Piping Replacement
Public Bid No.14022
Tuesday, January 24, 2012, 10:00 a.m.

Pre-bid Minutes

Attendees:

Barbara Brown, Veolia Water
Josh Pietryga, Veolia Water
Aaron Block, Grunau Co.
Jason Maller, Mechanical Inc.
Don Kostrzewa, Veolia Water

Scott Beiter, Doral Corp
Javier Sanchez, Sanchez Painting
Tim Sadowske, Grunau Co.
Doug Braden, Mechanical, Inc.

Barbara Brown:

Welcome to the pre-bid meeting for the Gas Sphere Piping Replacement at the South Shore Water Reclamation Facility. **This bid is due on Wednesday, February 1, 2012 no later than 2:00 p.m.** The bid opening will follow at 2:15 p.m. in the Maintenance Building, Bldg.280 located at the Jones Island Water Reclamation Facility, 700 East Jones Street, Milwaukee, WI 53207.

When the Veolia Water's receptionist receives the bid package, she will stamp the official date and time on the bid package. The official date and time stamped on the bid is one of the deciding factors that will determine whether or not the bid is acceptable to be viewed as a responsible bid.

Veolia Water reserves its rights to reject any and all Bids not conforming to the intent of the INVITATION FOR BIDS. Veolia Water also reserves its rights to postpone the award of the Contract for a period of time not exceeding 45 days from the bid opening date. At the time of postponement, the Bids shall remain firm and may not be withdrawn during this forty-five (45) day period.

In accordance with Wisconsin Statutes, the bidders will submit a list of proposed subcontractors with their Bid.

It is the policy of Veolia Water that the Minority, Women and Small Business Enterprises will have the maximum opportunity to participate and perform in this contract.

In the award of subcontracts, the Contractor agrees to use good faith efforts to carry out this policy and to achieve purchasing participation and contract performance with these businesses. The Contractor is required to submit documentation of good faith efforts to include SWBE's in the Bid Form

documentation provided. The requirements for “good faith efforts can be found at www.mmsd.com under the Procurement module (Policies and Procedures). If you do not submit good faith efforts with the bid package, the bid may be disqualified.

LUMP SUM pricing and breakdown by Labor, Material and Equipment is required for this bid. The total amount to be paid to the Contractor will be based on the lump sum price bid, and will be adjusted according to any changes in the work (plus or minus) approved by Veolia Water.

The Contractor cannot make any changes to the Bid Forms. Unless the Bid clearly indicates otherwise, the **amount stated in words shall govern** where words do not agree with the amount stated in figures, and in case of a discrepancy between prices and totals, unit prices will prevail.

The award will be announced within forty five (45) days or sooner after the opening of the bids, unless otherwise indicated in the INVITATION TO BID. The award of the Contract will be given to the lowest, responsible Bidder complying with the INVITATION TO BID, as determined by the criteria and procedures in this Bid.

The time for completion of the Contract shall be one hundred and ten (110) days from the date of Notice to Proceed.

PREVAILING WAGES

All projects of \$25,000 or more after January 1, 2010:

1. The Contractor must file certified payroll records with the Department of Workforce Development (DWD) on a monthly basis in a format that meets DWD reporting requirements. Certified payroll reports must be filed with DWD by the end of the first week following the month in which the work was conducted. Example: The January report would be due at DWD no later than February 7, 2010.
2. If DWD finds a Contractor violating the prevailing wage law, DWD will assess liquidated damages of 100% of the wages owed to employees.

For more information, visit the prevailing wage website:
http://dwd.wisconsin.gov/er/prevailing_wage_rate/default.htm.

The Prevailing Wage Determination for this project can be found on our website at www.veoliawatermilwaukee.com.

The bid is to be completed and mailed (**not faxed**) to

Terry Puhek-Sandberg, Buyer
Veolia Water Milwaukee LLC
700 East Jones Street

Milwaukee, WI 53207

The envelope must clearly state the name of the Bid, Bid No., and the due date of the bid.

Example: South Shore Operational Storage Pump #6 Replacement
Bid No. 5965
Due Date: March 15, 2010

ADDENDUM

If necessary, an addendum will be emailed or faxed after the pre-bid meeting.

QUESTIONS

Please ask questions. All questions will be shared with the group through meeting minutes which will be distributed by fax/email to contractors/suppliers attending the pre-bid meeting.

WALK THROUGH

Hard Hats and Safety Glasses are required and available at the front desk for those Contractors that need them. The Contractor is responsible for any additional PPE for this walk through.

SAFETY

All Contractor and subcontractor employees shall obtain specific site plant safety training from Veolia Water prior to working on the site. Veolia Water will offer a total of two one-hour training sessions to the contractor and any subcontractors. The Contractor shall adhere to all Veolia Water safety policy and procedures.

Once the bid has been awarded, the Contractor must provide the safety information found in Schedule D – Contractor Safety Requirements to the VWM Procurement Department prior to the Notice to Proceed.

Josh Pietryga:

SCOPE OF WORK

The Contractor Scope of Work shall be as follows:

Existing Equipment Description

Digester gas, consisting primarily of methane and carbon dioxide, with numerous other gases in lesser concentrations, is stored in a digester gas system and it is utilized as a fuel source to produce energy for the facility's electrical needs. The digester gas storage system consists of two storage spheres, along with approximately 600 feet of 6" diameter digester gas header piping, approximately 375 feet of 3" diameter condensate drainage piping, and other associated equipment. The pipe lengths are approximate and shall be field verified by contractors bidding the work.

A.SCOPE OF WORK

The utilities in the immediate excavation areas will be marked by MMSD. The Contractor shall notify the VWM Engineer, at a minimum, three (3) days prior to starting the excavations. The excavated soil shall be stored onsite and will be reused as backfill. The VWM Engineer will coordinate the excavated soil storage area.

The Contractor shall:

Assessment of the 6" Digester Gas (DG) Header Pipe

- Purge the 6" DG header pipe with Nitrogen. The length of pipe to be purged shall start from inside the digester gallery (See reference Photo #1) and conclude at the utility tunnel (see reference Drawing S01-GC-2). The Contractor shall confirm the DG header pipe has been completely purged by monitoring the air flow with a multi-gas detector.
- Install a spectacle blind on the West gas sphere isolation valve directly below isolation valve after nitrogen purge (See reference Photo #2). The West gas sphere will remain charged with digester gas at approximately 40 psig.
- Excavate and expose the existing 6" pipe cross located between the gas spheres (approximately 9 feet below grade).
- Excavate and expose the 6" DG piping from the cross to the 45° pipe bend located on the digester gallery hill (approximately 12 feet below grade). Entirely remove the wrap on the exposed 6" pipe.
- Visually inspect the entire exterior circumference of the excavated and exposed 6" DG header pipe and the valves. The Contractor shall notify the VWM Engineer, at a minimum, three (3) days prior to the planned inspection. A VWM and MMSD representative will accompany the Contractor during the inspection. Photograph areas that are corroded on the exterior. In a written report, advise the VWM Engineer of the findings from the visual inspection including, but not limited to corrosion, material flaws, and joint flaws.
- Televise the interior of the 6" DG header pipe from the cross to the inside of the digester gallery (see reference Drawing S01-E-1).
- Wrap the 6" DG header piping and valves that are exposed during the assessment with new wrap in accordance with Ductile Iron Pipe Research Association (DIPRA) standards.

Abandon the Existing Condensate Pipes In-Place

- To include the existing 3" West condensate pipe, the 3" Main Header drain pipe, and the 3" East condensate pipe

Replacement of the Condensate Pipes

Replace the 3" West, 3" Main Header drain, and 3" East condensate pipes by means of directional drilling. The replacement piping shall be High Density Polyethylene (HDPE). To facilitate the installation, excavation adjacent to the utility tunnel will be required. New piping shall pass through the utility wall in the existing locations and terminate inside the utility tunnel. See reference Photos #3 and #4.

- The East condensate pipe shall be replaced from the isolation valve on the East sphere to the utility tunnel. The new pipe shall terminate in the tunnel with a flanged connection to the existing 3" ductile iron (DI) 90-degree elbow. The Contractor shall replace the existing 6" valve with a new 6" plug valve and provide a 6" mechanical joint by 3" fused HDPE reducer.
- The West condensate pipe shall be replaced from the isolation valve on the West sphere to the utility tunnel. The new pipe shall terminate in the tunnel with a flanged connection to the existing 3" DI 90-degree elbow. The contractor shall replace the existing 6" valve with a new 6" plug valve and provide a 6" mechanical joint by 3" fused HDPE reducer.
- The main header condensate pipe shall be replaced from the cross to the utility tunnel. The new pipe shall terminate in the tunnel with a flanged connection to the existing 3" DI 90-degree elbow. The Contractor shall provide a new 3" plug valve in the existing 3" DI pipe where no such valve exists now, and a 3" mechanical joint by 3" fused transition to HDPE.
- The new pipes shall be continuous, with no fittings and minimum fused joints, from the gas spheres into the utility tunnel, except as noted in the following.
- The general recommended procedure for installing the three new pipes is as follows, but determination of the actual final procedure to be used is the responsibility of the Contractor, and subject to the approval of the VWM Engineer:
 1. Excavate outside the tunnel to completely expose the three existing 3" DI pipes.
 2. Cut out a portion of each of the three 3" DI pipes within the excavation.
 3. Remove and save the three 3" DI 90-degree elbows in the tunnel.
 4. Remove and dispose of three sections of 3" DI pipe.

5. Clean out the three existing holes in the wall of the utility tunnel, which were slightly over-sized for 3" pipe.
 6. Butt fuse a section of 3" HDPE pipe to a 3" HDPE flange, and feed it through the hole from the inside of the tunnel, for each of three pipes.
 7. Re-install the three 3" DI 90-degree elbows in the tunnel, connecting them to the new 3" HDPE flanges. The Contractor shall provide the necessary Van Stone flanges or equivalent, hardware, and pipe gaskets required to connect the new HDPE pipes to the existing flanges.
 8. Directional drill the three new 3" HDPE pipes into the excavation adjacent to the tunnel, and butt fuse them to the three new HDP pipe spools coming out of the tunnel. **Note:** If it is feasible, the new HDPE pipes shall be fused to the flanges inside the tunnel.
 9. Touch up the red paint on the DI piping inside the tunnel that will be damaged by this procedure. Surface preparation shall be SP 10. Apply one coat of Organic Rich Primer, 3.0 MDFT, and two coats of Polyurethane Enamel, 6.0 MDFT.
 10. The existing flange hardware items that are removed during this project shall be replaced with new hardware (bolts, nuts, and washers) of Type 304 stainless steel. Anti-seize shall be applied to them.
- The Contractor shall re-install the heat trace wires and insulation on the vertical sections of the East and West condensate pipes.
 - The Contractor shall warranty the installation of the 3" West condensate pipe, the 3" Main Header drain, and the 3" East condensate pipes for a period of one (1) year after acceptance of the work by VWM.

Valve Replacements

- Install a new plug valve on the 3" header drain pipe. The valve shall be operable from grade.
- Replace the two (2) 6" valves at the cross for the East and West gas spheres with new 6" plug valves. The valves shall be operable from grade.

Hydro Testing

- The Contractor shall install ½" plugged vent valves on the 3" Main Header drain, the 3" West condensate pipe, and the 3" East condensate pipe, at the cross in the new HDPE pipes, to facilitate the hydro testing. After the successful completion of the hydro test, the valves shall be removed and capped.
- The 3" West condensate pipe, the 3" Main Header drain, and the 3" East condensate pipe shall be hydro tested to 75 psig, which is approximately

150% of the maximum working pressure, prior to placing them into service. The Contractor shall supply all required pipe fittings, hoses, pressure gauge, and pump (if needed) to perform the hydro test using W3 non-potable water from a source in the utility tunnel, and draining it back out to drains within the tunnel.

- Inside the digester gallery and the utility tunnel, the Contractor shall provide touch-up painting for all existing piping whose finish is damaged or marred by the work, matching the existing red color. Surface preparation shall be SP 10. Apply one coat of Organic Rich Primer, 3.0 MDFT, and two coats of Polyurethane Enamel, 6.0 MDFT.

Site Restoration

- Compaction testing shall be provided throughout the backfilling by the Contractor's Engineer.
- Backfilling the excavations and grass restoration.
- Additional backfill shall be provided by the Contractor.

B. SPECIFICATIONS AND MATERIALS

The Contractor shall furnish all materials required to complete the assessment and condensate pipe replacement in these specifications, except where identified as being furnished by others. Where materials are not specifically identified, they shall be new and of first class, appropriate for the installation.

Environmental Protection

Contractor shall place silt fence between all drilling and excavating operations and any drainage, wetland, waterway or other area designated for such protection by contract documents, state, federal and local regulations. Additional environmental protection necessary to contain any hydraulic or drilling fluid spills shall be put in place, including berms, liners, turbidity curtains and other measures. Contractor shall adhere to all applicable federal and state environmental regulations.

Shoring and Bracing

All sheathing, shoring, and bracing of excavations shall conform to the requirements of the Wisconsin Administrative Code - COMM and OSHA. Sheathing, shoring, and bracing systems shall be selected and placed in such a manner as to control the inflow of groundwater and infiltration of fines, to prevent bottom heave, and to preserve the in situ strength of soils in the bottom of the trench. Sheathing, shoring, and bracing systems shall be modified as necessary during the course of the work, to suit all soil and groundwater conditions encountered. Increase excavation width accordingly by the thickness of the sheathing. If the Contractor anticipates the excavation will extend beyond the

identified location or to a depth of 20' or greater, they shall stop work and notify the VWM Engineer. For trenching 20' or greater, the Contractor shall have a safety plan developed and stamped by their Professional Engineer at no additional cost to VWM.

Delivery, Storage, and Handling of HDPE Pipe

The Contractor shall take precautions to protect the pipe while being handled. Chain, end hooks, or cables slings shall not be used to handle pipe. Pipe shall be stored on clean, level ground to prevent undue scratching or gouging of the pipe. Care shall be taken to protect the pipe from scarring, gouging, or excessive abrasion. Pipe with gouges greater than 10% of the minimum wall thickness will be rejected. If pipe is stacked, stacking height shall not exceed the manufacturer's recommendations. The Contractor shall comply with the Manufacturer's storage and handling requirements.

Abandonment of Condensate Piping

The exposed condensate pipes to be abandoned in-place shall be plugged with a concrete plug to prevent water and soil infiltration into the pipes at the cut ends. The concrete plug shall be at least 1 foot long or 6 inches longer than the diameter of the pipe, whichever is greater and shall fill the entire inner diameters of the pipes.

HDPE Pipe and Fittings

High Density Polyethylene (HDPE) Gas Pipe and Fittings shall be DRISCOPIPE as manufactured by Chevron Phillips Chemical Company; SCLAIRPIPE as manufactured by Dupont of Canada; JM Eagle; or VWM Engineer approved equivalent.

All HDPE pipe and fittings shall be from a single manufacturer, who is fully experienced, reputable and qualified in the manufacture of the HDPE pipe to be furnished. The pipe supplied under this specification shall be high performance, high molecular weight, high density HDPE pipe. Minimum cell classification values of the pipe material shall be PE445574C and PE445576C as referenced in ASTM D 3350. The pipe shall be maximum Dimension Ration (DR) 11 (minimum wall thickness 0.318 inch). The 3" pipe shall be 3" Iron Pipe Size (IPS) with a nominal outside diameter of 3.500 inches. The fittings supplied under this specification shall be molded from a polyethylene compound having a cell classification equal to or exceeding the cell classification of the pipe supplied under this specification. Pipe shall meet the applicable requirements of ASTM F714 Polyethylene (PE) Plastic Pipe (SDR-PR) based on Outside Diameter or ASTM D3350. Pipe shall be made of virgin materials. The pipe shall contain no recycled compound except that generated in the manufacturer's own plant for resin of the same specification from the same raw material pipe.

Pipe lengths shall be assembled in the field with butt-fused joints in accordance with ASTM D 2657 and the pipe manufacturer's written instructions shall apply.

As previously noted, field fusion joints shall kept to a minimum. Joint strength shall be equal to or greater than the tensile strength of the pipe and shall indicate a ductile rather than brittle fracture when tested.

Joint with Fusion Equipment: The fusion machine shall have hydraulic pressure control for fusing two pipe ends together and shall be equipped with gauges to monitor fusion pressures. The machine shall be equipped with an electric or gasoline engine powered facing unit to square and trim the pipe ends smooth and provide full surface contact with the heating plate. The heating plate on the fusion machine shall be electrically heated and thermostatically controlled with a temperature gauge and be capable of maintaining 500°F with a tolerance of 10°F. Fusion temperature shall be as recommended by the pipe manufacturer. The heater plate shall be equipped with suitable means to measure the temperature of plate surfaces and to assure uniform heating such as thermometers or pyrometers.

Valves

All valves shall be complete with all necessary valve boxes, extension stems, operating nuts, and T-handle wrenches which are required for the proper completion of the work included under this Section. Renewable parts including discs, packing, and seats shall be of types recommended by valve manufacturer for intended service. All units shall have the name of the manufacturer and the size of the valve cast on the body or bonnet or shown on a permanently attached plate in raised letters. For the purpose of designating the type and grade of valve desired, a manufacturer's name and list or figure number is given in the following specifications. Valves of equal quality by other manufacturers will be considered.

Plug valves 3 inch and larger for buried digester gas service shall be 150 pound with ductile iron body, BUNA coated stainless steel plug for gaseous service, TFE sleeve and seal, mechanical joint ends, and 2" square operating nut. Buried valves shall be coated with epoxy paint in the manufacturer's standard color. Valves shall be as manufactured by Dezurik, Milliken, Mueller, or VWM Engineer approved equal.

Valve boxes for buried valves shall be Buffalo two-piece sliding type, cast iron, with 5-1/4-inch shaft of appropriate length for the installation. The word GAS shall be cast into the top of the lid. Extension pieces, if required, shall be the manufacturer's standard type. Units shall be Mueller H-10364, Clow Corporation F-2452, or equal. All units shall be complete with all necessary bases and accessories.

Where the depth of the valve is such that its centerline is more than 4 feet below grade, operating extension stems shall be provided to bring the operating nut to a point 6 inches below the surface of the ground and/or box cover. Extension stems shall be constructed of steel and shall be complete with 2-inch square operating nuts top and bottom.

Provide one T-handle operating wrench for each new valve.

Pipe Transitions

Where connecting new HDPE pipe to existing flanged ductile iron, the HDPE pipe shall have a thermal fused transition to flanged. The Contractor is responsible for assuring that the new HDPE flanges match the existing DI flanges. Gaskets shall be MMSD standard for digester gas service, 1/16 inch thick, cloth-inserted rubber conforming to ANSI B16.21. Bolts, washers and nuts shall be Type 304 stainless steel. Anti-seize shall be used on the SS flange bolts. When connecting new HDPE pipe to existing mechanical joint ductile iron, the HDPE pipe shall have a thermal fused transition to mechanical joint.

Pipe Wrap

Corrosion protection shall be provided by the use of polyethylene wrap. Before installing the polyethylene wrap the exterior of the pipe shall be free of foreign material. The polyethylene wrap shall be cut approximately 2 feet longer than that of the pipe section. After assembling the pipe joint, the polyethylene shall be overlapped approximately 1 foot and sealed at all joints with approved adhesive tape. Additional taping shall be used at 3 foot intervals along the pipe. Any rips, punctures or other damage to the polyethylene shall be repaired immediately with adhesive tape. When fittings cannot be wrapped practically in a tube, a flat sheet or split tube shall be used. All seams shall be securely taped. The bedding and cover material shall be placed with care so as to prevent damage to the polyethylene wrap.

Backfilling

Place approved fill material in maximum 12-inch lifts and compact each lift to 90 percent of maximum density at optimum water content as determined by ASTM D1557. Make proper allowance for subbase materials and topsoil where required. All materials not meeting the compaction standards shall be disposed of by the Contractor.

The Contractor's Engineer shall determine in-place density and moisture content by any one combination of the following methods: AASHTO T 191, 204, 205, 214, or 238. The Contractor shall be responsible for leveling small test areas.

Disposal of Excess Excavation Soils

Excess excavated material not required or suitable for backfill and other waste material must be disposed of in accordance with NR 600, and, if applicable, NR 605 of the Wisconsin Administrative Code in licensed landfills or at any other site for which Department of Natural Resources (DNR) approval is obtained. Unacceptable disposal sites, as stipulated in NR 600 include, but are not limited to, sites within a wetland or critical habitat and sites where disposal will have a detrimental effect on surface water or groundwater quality.

The Contractor shall provide watertight conveyance for any liquid, semi-liquid, or saturated solids which tend to bleed during transport. No liquid loss from transported materials will be permitted whether being delivered to the construction site or being hauled away for disposal. Fluid materials hauled for disposal must be specifically acceptable at the selected disposal site.

Pipe Bedding

Bedding and cover material for ductile iron pipe with polyethylene wrap shall be sand ranging in size from fine to course. Reject concrete sand will generally be acceptable. The presences of fine clay or loam particles are desirable but not to exceed 6 percent. Clay or loam lumps are not permitted. The maximum moisture content shall not exceed 10 percent. Material shall conform substantially to the gradation listed below.

<u>Sieve Size</u>	<u>Percent Passing by Weight</u>
3/8 inch	100
No. 4	95 - 100
No. 8	80 - 100
No. 16	50 - 85
No. 30	25 - 60
No. 50	10 - 30
No. 200	2 - 10

Grass Restoration

Following drilling, excavating and backfill operations, Contractor will demobilize equipment and restore the worksite to original condition. The grass restoration areas shall have any non-topsoil material removed to a depth of 4 inches and backfilled with imported topsoil. The area shall be raked or dragged until the surface is thoroughly settled with a smooth firm surface. Sod shall be placed on the prepared areas and consist of a dense, well-rooted growth of permanent and desirable grasses, indigenous to the general locality where it is to be used, and shall be practically free from weeds. At the time the sod is cut, the grass on the sod shall have a length of approximately two inches and the sod shall be raked free from debris.

Sod provided shall be lush, thick, vital, uniform green, pure, weed-free 25% Fescue/75% Kentucky Blue Grass shade/sun blend grass sod. Water sodded areas immediately after installation. Water in sufficient amounts to saturate the sod and upper 4 inches of bedding soil. After sod and soil have dried sufficiently to prevent damage, roll sodded areas to ensure good bond between sod and soil and to remove minor depressions and irregularities. Use rolling equipment weighing a minimum of 150 lbs. and a maximum of 250 lbs.

C. WORKMANSHIP

The Contractor shall complete the project in a workmanlike manner and use craftsmen skilled in their trade. The Contractor shall be responsible for coordinating the work with VWM. The Contractor, at all times, shall keep the work area free from the accumulation of waste materials or rubbish caused by its operations. All Contractor and subcontractor employees shall obtain specific site plant safety training from Veolia Water prior to working on the site. Veolia Water will offer a total of two one-hour training sessions to the Contractor and any subcontractors. Contractor and subcontractor employees shall attend one (1) of the training sessions. The Contractor and subcontractor shall adhere to all Veolia Water safety policies and procedures.

Directional Drilling Contractor Qualifications

Directional drilling Contractor shall have actively engaged in the installation of pipe using on-grade boring for a minimum of three (3) years. Evidence of qualification shall be submitted with Bid.

Field supervisory personnel employed by the directional drilling Contractor shall have at least three (3) years experience in the performance of the work. Qualifications shall be submitted with Bid.

Installation of HDPE Pipes

It is the sole responsibility of the Contractor to select the appropriate type of equipment, work methods, and procedures to meet the project requirements. The pipe is to convey condensate by gravity; therefore, it is essential that minimal to no changes in pipe slope occur and that a downward slope be maintained throughout the entire length of pipe. The installation of the condensate pipes into the bore holes shall be on the same day that the bores are completed to ensure the necessary support exists.

The VWM Engineer reserves the right to reject pipes installed not meeting the tolerance requirements specified herein. It will be the responsibility of the Contractor to replace rejected work with pipe meeting these requirements. No additional compensation shall be provided to the Contractor for replacement of pipe not meeting tolerance requirements.

It is the responsibility of the Contractor to implement means and procedures compatible with anticipated ground conditions. The Contractor shall have a representative who is thoroughly knowledgeable of the equipment and horizontal directional drilling procedures present at the job site during the entire installation and available to address immediate concerns and emergency operations.

The VWM Engineer must be notified immediately if any condition is encountered that stops the forward progress of drilling operations. When it is determined that it is impossible to continue drilling operations, the Contractor shall determine the best course of action. The Contractor may be allowed to abandon the completed portion in place and start a new hole as directed by the VWM Engineer at no additional cost to VWM.

Permits

The Contractor is responsible for obtaining all necessary permits. Copies of each permit shall be available to the Engineer at the work site.

D. SUBMITTALS

All submittals to the VWM Engineer shall be addressed to:

Attn. Josh Pietryga, Sr. Project Engineer
Veolia Water Milwaukee, LLC
700 East Jones Street
Milwaukee, WI 53207

The Contractor shall provide the following:

Plug Valves

- Shop drawings to be reviewed and approved shall be submitted within five (5) days from the receipt of the NTP.

HDPE Pipe and Fittings

- Shop drawings to be reviewed and approved shall be submitted within five (5) days from the receipt of the NTP.

Hydro Testing Procedure

- Detailed procedure to be submitted for review and approval seven (7) days prior to the planned test.

Assessment of the 6" Digester Gas (DG) Header Pipe

- The findings shall be laid out in a draft assessment report. Photos of the suspect areas, both interior and exterior, shall be included. The draft assessment report shall be sent to the VWM Engineer within three (3) days from the completion of the 6" DG header pipe assessment. The VWM Engineer and MMSD will review and comment on the draft report. The Contractor shall incorporate the VWM and MMSD comments into the draft assessment report. Four (4) hard copies and two (2) electronic copies of the final report shall be provided to the VWM Engineer within five (5) days from receiving the VWM Engineer's comments.

- The Contractor shall provide to the VWM Engineer two (2) digital copies of the complete televising of the 6” DG header pipe in an agreed upon format. The digital copies shall be provided no later than five (5) days from the date the pipe was televised.
- The report shall be modeled after PACP requirements and shall document the following conditions:
 - Cracks – radial and longitudinal, hairline or open;
 - Corrosion – iron stains, flaking metal.
 - Offsets/sags – 1-inch, 2-inch, 4-inch, etc.
 - Roots – light, moderate, heavy, or matted roots;
 - Infiltration – water stains, dripping water, or stream of water;
 - Holes or breaks in pipe.
- The camera operator shall provide a verbal description of what he is photographing and have control of the movement of the television camera at all times. Photographs shall be in color.

Condensate Pipes

- As-built drawings, including pipe coordinates, pipe elevations, and horizontal alignments shall be provided for the 3” West condensate pipe, the 3” Main Header drain pipe, and the 3” East condensate pipe. The contractor is responsible for providing accurate markups of the actual route of each pipe that was installed by directional drilling.

Valve Replacements - Two (2) 6” and One (1) 3”

- Three (3) electronic copies and three (3) hard copies of the O & M manuals for each of the new valves shall be provided to the VWM Engineer.

Questions and Comments

1.) Will the Contractor be required to have the existing piping around the East and West gas spheres marked?

No, the piping around spheres will be marked by VWM/MMSD prior to the Contractor starting the project.

2.) What type of soil conditions can be expected around the gas spheres?

It is anticipated that gravel surfacing on soft clay will be found around the gas spheres. It is anticipated there will be some ground water infiltration into the excavation pits.

3.) Is there a spot identified on the Digester Gas Header Pipe to purge from?

The Contractor shall determine the appropriate purging location(s). VWM recommends using an existing flange or flow monitoring port. See reference Photo #5.

- 4.) Can the Digester Gas Header Pipe be cut to accommodate the televising?
At a minimum, the Contractor shall televise the Digester Gas Header pipe 275' starting from inside of the digester gallery to the cross and 275' starting from the cross to the digester gallery.

Additional excavations and cutting into the Digester Gas Header pipe to accommodate the televising should be approved by the VWM Engineer. The Contractor would be responsible for repairing the cut pipe to accommodate the televising.

- 5.) Can the new HDPE pipes enter the utility tunnel at a different location?
VWM does not recommend this but the Contractor shall be responsible for connecting the new HDPE pipes to the existing pipes inside the utility tunnel. The Contractor would be responsible for abandoning the old pipe penetrations.