WATER COMMITTEE
MARCH 28, 2007
MINUTES

MEMBERS PRESENT:	**Chuck Watkins, Chairman**
	Dr. George Patton, Vice Chairman
	Tony Parrott
	Chris Venice
	Pete Frisina
NON-VOTING MEMBERS:	**Bill McNally**
	David Jaeger
GUESTS:	**Jack Smith, Commission Chairman**
	Bill Murphy, Georgia EPD
STAFF:	**Russell Ray**

The meeting was called to order by Chairman Chuck Watkins at 8:00 A.M.

I. APPROVAL OF MINUTES FROM THE MEETING ON FEBRUARY 28, 2007

Vice Chairman Dr. George Patton made the motion and Tony Parrott seconded, to approve the minutes from the meeting on February 28, 2007. There was no opposition.

II. DISCUSSION OF DEPARTMENT OF NATURAL RESOURCES WEATHER MONITORING STATION.

Mr. Parrott commented that there has been some talk about the weather monitoring station at the Crosstown Treatment Plant in Peachtree City. He had thought one of the neighbors and golfers would be here for the meeting, but he isn't. He introduced Mr. Bill Murphy, with the Georgia Environmental Protection Division.

Mr. Murphy thanked Mr. Parrott for asking him to come. He explained this is called a sodar system. It stands for Sound Detection and Ranging. It is an instrument that runs at 1,000 hertz. It sends a signal up in the atmosphere. This signal bounces off of atmospheric discontinuity or turbulent areas. There is an antenna sitting on the ground and it measures the echo. Then, from that, the software in it calculates wind direction and wind speed. This instrument samples up to 2,000 meters above the surface. They can get wind information at about 100 meter intervals, up to 2,000 meters. They actually can go higher, but he only has it set for 2,000 meters. That covers the boundary layer, which is the lower part of the atmosphere. This is real important for his work as the Chief Meteorologist at Georgia EPD. He is in charge of the forecasting for metro Atlanta, Fayette County, Coweta County and other counties south of Atlanta, as far as the air quality goes. Ozone season is upcoming, and they try to put out the air quality forecast for Atlanta and surrounding areas. They are also doing Macon, Augusta, and soon will be doing the Columbus/Phoenix City area.

Mr. Murphy went on to say that the sodar system is a very useful tool for them to be able to keep a handle on what the upper level winds are doing. A lot of the pollution that is generated in Atlanta or even other cities is blown around. Ozone is generated and produced during the day time, but a lot of times the plumes will blow around different parts of the city. The sodar allows them to get a handle on the location that the plumes travel. The sodar is also an important tool used by the National Weather Service. They are interested in the data a lot of times, if we have severe weather outbreaks, as far as what the low level winds are doing, whether they are turning or veering or backing with height. You get wind sheer a lot of times during the spring when you have severe weather outbreaks. During the winter time, we have ice storm events occasionally. You hear the meteorologist on TV talk about the east coast wedge, or east coast damning that develops. We get easterly flow down the Appalachians that is a cold pocket of air that kind of sits over North Georgia a lot of times during the winter. Whenever we have gulf moisture that overruns it, we can get sleet, ice storms, even snow in the North Georgia Mountains. The sodar is sensitive enough to be able to capture and help forecast and understand what is going on at the low levels where the winds shift to the east.

Mr. Murphy stated they have been running the system since 2000 at the water plant. One of the important reasons they run it close to here is because the National Weather Service does a balloon sounding every day. They do two every day, one at 7:00 in the morning and one at 7:00 at night. This enables them to compare the data from the two sites to see if the sound in the radiuson winds agree with what the sodar is saying. Another good advantage of the sodar is they get hourly wind information, whereas the sounding that the National Weather Service has is only done twice a day and they are interested in the data in between 7:00 a.m. and 7:00 p.m. It was a very helpful tool recently when there was a smoke event in metro Atlanta on February 28. There was a big burning event in South Georgia, around Macon and areas like that. A lot of that smoke made it up to Atlanta. This was a real smoky, hazy day in Atlanta. People were concerned around Metro because PM2.5, that is small particles in the air, especially elderly people and small children have long term cardiopulmonary effects for high increases in PM2.5. The sodar captured the winds and showed that indeed this smoke plume was moving from the southeast. We had southeasterly winds through the day. His forecasting group presented the information in Macon to show that a lot of this area, when fires were burned, a lot of the smoke did move in our area. Right now there is a study going on to determine whether open burning will happen or not, and control burning. They are trying to understand how they are going to make that a better situation. The sodar captured this event and gave good information showing what the winds were doing, where the smoke was going and it did affect our area in Metro Atlanta.

Mr. Murphy stated that Mr. Parrott has been very nice in letting him run the instrument on this site and it has helped a lot as far as forecasting for Atlanta. It has helped monitor the air quality for high ozone episode events, and he will be using it again this year. It is real time data; they can actually look at it and see what the winds are doing at the time they are making their forecast for the next day. He knows it puts out noise; he is a golfer, too. He loves to play golf. He can relate. But, he thinks the value of the instrument, and as long as

long as they have been running it, makes it a useful tool for Atlanta, Georgia, Fayette County and for the State as far as understanding what the low level winds are doing. He knows the Weather Service is interested in the data also.

Mr. Parrott explained that Mr. Young was going to come to the meeting this morning. He lives in Muirfield subdivision. He complained that he could hear it at his house. We made an effort to find out how much noise there is on the other side of the railroad tracks.

Mr. Murphy stated that now they run it from 7:00 to 7:00, just during the daytime. He was running it at night and there were a few complaints. He got this from the Airfield Manager. He talks to them a lot. He tries to keep in touch with everybody in that area, including the people that work at the water treatment facility. They have been real nice. If there was a special need, or severe weather breakout and the Weather Service wanted to see some wind data during the night time, he would want to run it then, but, not on a regular basis. If the winds are right and on a clear day, depending what the wind directions are doing, somebody far away, in a distance, in a subdivision could possibly hear it. You can sometimes hear it a little further away, but sometimes you really have to listen for it, if you are going to hear it from a long distance. Even, close by, a lot of times, during the air traffic and other things, trains coming by, there are some pumps going out there sometimes, it just kind of blends in with the other noise around. You can't even hear it sometimes, with the jets coming over. The jets really swamp it out a lot of times.

Mr. Murphy said the sound is a high frequency, repetitive, 1,000 hertz beep, and the sodar is used strictly for meteorological measurements, for wind. The monitors for measuring ozone and nitrous oxide and PM2.5, those are just instruments that sit in a shelter that sample in air. There is no other sodar system running in the State. The advantage of this one is it is close to where they do the sounding by the Weather Service. Even though this unit is in Peachtree City, it still captures the boundary layer, the low levels real good. This helps them forecast others like Columbus, Phoenix City and Macon. The unit will beep up to 2,000 meters and then it quits for a few minutes. Then it comes back and starts probing again, up to 2,000 meters. This allows them to get the hourly wind information (hourly averages).

Mr. Parrott stated that he asked the plant operators and they did not know what schedule it was on, it is just white noise to them.

The unit measures the wind speed, wind direction, vertical wind speed if there is any (as far as lifting goes) if we are unstable and we might have afternoon thundershowers or convection. That is a good indicator. It measures the mixing height which is the layer that traps all the pollutants within the City. It measures other parameters that are real important in meteorology to determine whether or not it is stagnant air, or whether we might have a severe weather episode. The Weather Service wants to look and see what the winds are doing as they are turning, with height. That tells you about wind sheer.

Mr. Jaeger asked if the airport is using any of the information for landing conditions. Mr.

Murphy replied that they have used it before, but they haven't used it with this system yet, because he still needs to get the poling software to work at EPD. It will be on the web page, and then anybody can pull up the web page and look at the data.

Chairman Watkins thanked Mr. Murphy for his presentation. He stated that we realize how valuable this piece of equipment is to him and his service. It has been there for several years. We moved it from one site to our property. Unless we have a better site on the future reservoir that is more remote and will enhance his ability to use it, and get it away from the golf course a little bit, he does not see moving it. It is a nuisance, if you are golfer over a putt on the fourth and fifth hole. You get used to it and you time when it goes off, and then you putt if you are that conscious of noises and interruptions while playing golf. When you get back up to the clubhouse, you very rarely can hear it. Muirfield is a mile and a half away. With just one written complaint to the Marshal's office, he thinks it is beneficial and he does not think we ought to move it. He agreed that it is louder than he at first thought it was, and it is a very unusual sound.

The committee agreed to leave the instrument where it is.

Mr. Murphy thanked the committee for hearing him, and said he would be glad to give updates any time.

III. PARKING AT LAKE HORTON.

David Jaeger commented that at the last meeting we discussed options for adding additional parking at the park at Lake Horton. At that meeting the committee decided that we need to look into it a little bit farther to see if additional storm drainage is necessary as a result of the proposed parking. He and Mr. Parrott visited the site and looked at it. The area is near a high point in the drive. As you come south on Antioch Road, enter the park, and get down by the pump house, you cross over a causeway where the lake is close on both sides. Then you rise up to a high point, which is about where the parking would begin on the left side of the road. Then it goes back down toward the cul-de-sac. The answer is, there is not a lot of accumulated storm water runoff in this area because you are very close to a high point. There is actually no drainage area upstream of this area because it is at a high point. The existing parking on the right side of the road does not have any drainage piping. It is not necessary. There is a ditch line on the left side where the proposed parking would be. However, in building the parking he thinks that ditch line could be filled in to a flush level with the road, similar to what is on the right side. The water that is generated as surface run off could just be handled along the surface of the drive and the parking. It eventually would work its way down to the cul-de-sac and into the lake. The parking could be constructed without the need for additional storm piping. The cost estimates that we talked about last, he thinks are still valid without additional cost for storm piping.

Pete Frisina stated that Chief Collins reported at the staff meeting yesterday that last Sunday, the park was over run with people. They were parking outside of the park on the

road. This park is getting a lot of use. These 26 spaces are going to maybe alleviate the problem somewhat, but he does not know how we can ever put enough parking down there if the park keeps getting more and more people coming to it. There is not enough room, unless you want to build a huge parking lot somewhere. This will help, but it seems like the numbers are increasing.

Mr. Parrott stated we have a problem with this being down at the pavilion and tot lot. Even without the parking problem, there are not enough parking spaces at that location for that pavilion.

Chris Venice expressed concern about accident potential with two straight in parking areas. Mr. Frisina commented that as long as you have 24 feet between them that is all that is required by Engineering. It is the same dimensions as a parking lot. Two parallel parking spaces have to have 24 feet between them.

Further discussion pertained to the size of the area and changing the road to loop around with parking on both sides. There is not much room available. Many people drive in, turn around and leave. The parking lot for the boats stays full.

Mrs. Venice commented that there is a bigger issue with people parking outside the gate. We may begin to get complaints from neighboring home owners. If people park on both sides the travel lane is narrower which causes problems. This park was meant to be a passive park, not a destination active park. The more parking we provide, the more people we will attract. At some point we need to say what we want the park to be. It has already gone beyond what the Board originally anticipated with the large pavilion and the playground.

Chairman Watkins suggested asking the Board of Commissioners if they want to look at what usage we want this area with the pavilion to have? Should we revisit the use of the park?

Mrs. Venice commented at this point, it would be difficult to remove activities. We stopped reserving the pavilion, because that was an activity destination and caused massive groups to show up. She stated that she thought the original idea was to have tented picnic areas scattered around the site rather than concentrated at that one area.

Mr. McNally commented that we have three different types of people using that one narrow point for parking. We have the people fishing off the shore, then the people who want to use the pavilion and then the folks who come in to let their kids play on the tot lot. We have three attractions on this one narrow point.

Commissioner Smith asked if the pavilion is movable. Mr. Jaeger replied yes.

Chairman Watkins suggested doing a more in depth study of this area to avoid creating a bigger problem. Decide if the pavilion needs moving. Do we need to go back to the original

intent of the park as passive? Conduct an hour by hour traffic study. Mr. Parrot pointed out that if we move the pavilion, restroom facilities were built at a cost of $86,000.00.

Mrs. Venice, Mr. Parrott and Mr. Frisina agreed to meet and look at the overall park and see if there are other long term changes or recommendations they could suggest.

IV. UPDATE ON HOLDING POND AT CROSSTOWN WATER PLANT.

Mr. Jaeger commented on the seepage question at the Crosstown Water Plant at the holding lagoon. He looked into options for controlling potential seepage out of the lagoon other than having a liner in the lagoon. He discussed with geotechnical consultants two options that would be alternate options to a liner. The first option would be to have a curtain drain or a vertical deep trench of gravel that would intercept at flow and allow it to be pumped back down into the lagoon or away from the area that impacts the airport. There are two issues about that. One is, in order to build a system like that; you have to work completely in dry ground. We are assuming the subgrade is saturated because we know we have high groundwater as well as the presence of the water in the lagoon. In order to build something like that you would have to completely drain the lagoon and install some sort of subsurface dewatering mechanism to draw down the water table so that you have a stable trench to put the gravel in. It would be deep. It creates construction issues that aren't insurmountable, but they are significant. If you could accomplish that from a construction standpoint, then you have the issue of being able to say you have contained any seepage that may want to go under this system, or around the ends of it. Again, this opens up more questions and potential for not saying we have completely contained any potential seepage out of the lagoon.

The other option he discussed with them is a similar construction, but it is an opposite function. Instead of having a drain where you capture seepage and then move it somewhere else, you would put in a deep trench with material in it that is impervious. It is Bentonite slurry. They use these underneath dams to prevent seepage from moving under a dam. The problem with that is very similar to the curtain drain in that you have stability issues trying to create this Bentonite slurry trench in a wet environment. Then, when you are done, you back fill it with a material that is not as dense as the soil you removed. Then you have stability issues under the levy, or next to the levy where this Bentonite slurry can be compressed and cause further stability issues of the existing levy structure, as well as the issue of having blocked the flow from under or around it. Each of those avenues of discussion leads back to the best way to say we have completely contained any seepage is to go back to a liner scenario where you have contained it within the lagoon, completely without the opportunity for it to go under or around your system. While you do have some construction issues, you would have to drain the lagoon. You would be working in a known environment, not subsurface environment.

He went on to say what he is getting back from the geotechnical people as the best solution is the liner as far as long term assuring us that we have contained any potential seepage.

Chairman Watkins asked how you know the seepage that is in the southwest corner is coming out of the lagoon. How do you know it is not coming out from under it? Mr. Jaeger replied that is the idea behind the plan to do monitoring. Try to connect water levels in the lagoon with what is going on in the water table.

Mr. Jaeger commented that the last correspondence he received back from the airport manager said that they were open to the idea of sharing the cost. They did not nail down how much they would participate, but he thinks that could be nailed down. He believes the monitoring will give us better information to determine what impact, if any, the water in the lagoon has on the existing water table.

Further discussion pertained to different ways to determine any loss, if there were any, from the lagoon and that the expense for monitoring should be shared. According to topography maps the property appears to be a natural drainage area.

Mr. McNally clarified the issue to be that we offered to share the cost of monitoring to see if the Crosstown lagoon is the problem, and if it is, then we pay for the monitoring. If not, then the airport pays for it. They said they would make that decision after we do the monitoring. Mr. Jaeger commented that the airport said they are willing to discuss cost sharing depending on what the results show, not agreeing up front that they would share it. The borings that were done before the water plant construction originally in the 1980s showed high groundwater along that property line. He does not think anybody disputes that. It is just a matter of whether the presence of that lagoon and the water that is in it, which is raised up above the existing ground level is making it worse. Does it keep these wet areas wetter than they would have been without the lagoon?

Mr. Jaeger explained that the idea is to put the monitoring wells on the airport property down slope of the lagoon. Then, lower the level of the water in the lagoon and hold it at this lower level. See if the monitoring well reacts to that. Raise the lagoon back up. See if the monitoring well reacts to that. Create a relationship between those things on a repetitive basis over months to definitely say that the water level in the lagoon is impacting the hydraulic characteristics of the groundwater and raising the water table downstream based on what the lagoon level is at. If there is no correlation, then we say to the airport that we are not doing anything.

Mr. Jaeger stated his recommendation is to try to get the airport to commit up front to what they are willing to share in the way of the cost of the monitoring program. If they are not willing to do that then tell them to do it. Having them say they are willing to discuss it based on what happens is not good enough. That is not what we propose. We propose that we have a quote to do the monitoring, it was somewhere around $12,000.00, and if the monitoring shows that the County is creating the problem, the County will pay for the monitoring, and then deal with the problem. If it shows that there is no relationship, then the airport pays for the monitoring. And, if there is some inconclusive middle ground, it is shared 50/50. That is what was proposed. Their response was worded in a way that it was non committal. He thinks that needs to be firmed up. If they are not willing to firm that

up, then at that point we say, we offered what we were willing to offer.

Mr. Parrott commented that his choice would be to just wait.

Chairman Watkins commented that we need to take Mr. Jaeger's advice. We need to correspond back with them, but first make a recommendation to the Board of Commissioners and see what they want to do.

Vice Chairman Dr. George Patton made a motion to recommend to the Board of Commissioners an agreement with Peachtree City Airport Authority to monitor the holding pond at Crosstown Water Plant and if the study shows that the County is creating a problem, the County will pay for the monitoring, and correct the problem. If the study shows there is no relationship, then the airport will pay for the monitoring, and if the study is inconclusive, the cost will be shared 50/50. Chris Venice seconded and there was no opposition.

There being no further business, Chairman Chuck Watkins adjourned the meeting at 9:05 A.M.

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Chuck Watkins

The foregoing minutes were approved at the regular Water Committee meeting on the 9th day of May, 2007.

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Lisa Quick