APPENDIX E. ADVISORY COMMITTEE MEETING MINUTES

Storm Water Technical Advisory Committee
Clean Stream Team Advisory Committee
MEETING SUMMARY:

The March 22\textsuperscript{nd} meeting marked the first gathering of the Storm Water Technical Advisory Committee for 2011. Although six (6) of the seven (7) members had RSVP’d to attend, only three (3) actually attended.

Ed Bukovac began the meeting with introductions and sharing that we are now called the “RebuildIndy Team.” He asked if there were any questions regarding the change. No questions were asked.

Each of the current projects, their status, details on problem areas and solutions for each were reviewed by Ed, John and Tim. The following additional conversations arose from TAC members:

Regarding Norwaldo Phase 2, Abe Swidan asked if the City had explored recycling existing pavement in order to lower the cost of the project. John Oakley addressed his comment to assure him that they City is and has explored many variations on this plan to maximize cost and green infrastructure.

Regarding Glenroy Village, Gary Whitmore had several questions/comments about the hybrid ditch system planned for this area. His questions were addressed by Ed and John.

Discussion was also had regarding Frog Hollow. Gary Whitmore raised the question as to whether the City has considered buying the homes in the area rather than fixing the drainage issues as a more cost-effective solution. John Oakley addressed his comment and assured him that this was a highly unlikely solution.

Next, Program Funding was reviewed and the TAC was asked for their input on a possible storm water rate increase. This sparked questions from Gary Whitmore and Abe Swidan regarding the source of storm water project funding and current interest rate on the bond, respectively. John addressed the funding source, but did not have the interest rate to share. Next, Ed Bukovac addressed information on NPDES Compliance and a potential audit. Terri Czajka asked who would be conducting the audit, but that is not known at this time.
Then, John Oakley reviewed new Storm Water Standards and scheduled internal and external training sessions.

Lastly, Ed led a brief discussion on future meetings including potentially rotating locations. The TAC generally seemed to be in favor of doing this for some future meetings.

Next meeting will likely be held in June.
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Storm Water Technical Advisory Meeting: July 12th, 2011
MEETING SUMMARY:

The July 12th meeting marked the second gathering of the Storm Water Technical Advisory Committee for 2011. Six (6) of the seven (7) members notified us that they were unable to attend.

Through feedback gathered during a member survey, we learned that SWTAC members were interested in “field trip” experiences around this city. In response to that commentary, this meeting was hosted at the Nature Conservancy and had a special focus on sustainability. John Hazlett, Director of the Office of Sustainability, began the meeting with a presentation on the work that his office is doing and green infrastructure being utilized throughout the city. He answered Gary Whitmore’s questions regarding rain gardens.

Following John Hazlett’s presentation, Ed Bukovac discussed Storm Water Program Funding, the IDDE brochure, the current status of projects and gave a brief update on the NPDES Permit.

Next, Ed introduced the Google Earth application to Gary Whitmore in an effort to solicit his feedback. He was shown examples of how the application works and a more in-depth conversation was had about the connection between complaints logged with the Mayor’s Action Center (MAC) and the Google Earth application. Ed and John Oakley both encouraged Gary Whitmore to share with his network of concerned citizens the importance of reporting their issues/complaints through the MAC.

Lastly, Travis from The Nature Conservancy led the group on a tour of the building and shared many of their BMPs with the group.

Next meeting will be held in the fall.
**Date:** February 3, 2011  
**Time:** 11:30 a.m. to 1:30 p.m.  
**Location:** Fall Creek/White River Conference Room  
**Meeting:** Clean Stream Team Advisory Committee Meeting  
**File Code:** OUTREACH\Sign-in sheet 2-03-11.doc\7000\7500\Clean Stream Team Advisory Committee

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Steve Nielsen welcomed Clean Stream Team Advisory Committee members and guests, and he gave a brief overview of the meeting agenda.

**Consent Decree Enhancement Plan**

Nielsen announced that the U. S. Environmental Protection Agency (EPA) and U.S. Department of Justice (DOJ) have fully executed Amendment 2 of the city’s Combined Sewer Overflow (CSO) Consent Decree. The Indianapolis Department of Public Works (DPW) has received verbal notification of the approval, but a signed document has not yet been provided. As part of Amendment 2, the city is required to construct a citywide tunnel system with a storage capacity of no less than 250 Million Gallons (MG).

The Belmont Advanced Wastewater Treatment (AWT) Plant will be upgraded to treat 300 MGD, while the Southport AWT Plant will have a treatment capacity of 250 MGD. Nielsen said the air and oxygen nitrification systems at the Belmont AWT Plant are under construction to expand capacity to 300 MGD. The ultraviolet (UV) disinfection and pre-ozonation project was recently bid, and the contractor’s bid came in $6 million below the engineer’s estimate. He said the engineer designed the project to the specifications of three (3) UV manufacturers’ products, which helped to keep bids competitive. Trojan will be the manufacturer for the UV units. Both the UV and pre-ozonation projects must be completed and in full operation by 2013 and notices to proceed with the construction has been issued.

Nielsen said the Deep Rock Tunnel Connector (DRTC) will be the first leg of the overall tunnel system for the ultimate storage of 250 MG of wastewater for treatment at the Southport AWT Plant. The project is to be bid in two (2) phases with the first phase being the tunnel and the second phase being the DRTC pump station with a capacity of 90 to 120 MGD. In the future, DPW will also construct new grit removal and screening facilities and upgrade the headworks facility at Southport along with primary clarifier enhancements and the addition of UV disinfection to provide for 250 MGD of treatment capacity. At Belmont AWT Plant, DPW is
moving forward with the installation of centrifuges and primary clarifier enhancements. A conversion of the air nitrification system to oxygen nitrification is also in progress. At both plants, DPW plans to eliminate the bio-roughing systems, which can be a major cause of odors.

The Deep Rock Tunnel Connector design is currently 90 percent complete. Nielsen said the project is the first phase of the citywide tunnel system, and it will provide approximately 58 million gallons of wastewater storage. The project will address CSOs 008, 117 and 118, as well as two other smaller outfall structures 112 and 113 in the future. Nielsen said DPW expects to begin to advertise for bids in early May 2011 and receive bids in July. A notice to proceed (NTP) will most likely follow in September, and the contractor must complete construction by December 31, 2017. Nielsen said the three shafts for launching of the tunnel boring machine, screening & grit removal and pump station, will be consolidated to two, and screening and grit removal will be incorporated into the tunnel system.

For the Fall Creek/White River Tunnel DPW has determined that the ending shaft will not be near Bush Stadium. Nielsen said many groups had expressed concern about construction noise in the area, so instead, the ending retrieval shaft for the White River tunnel and start of the Fall Creek tunnel will be located near West 21st and West Dr. Martin Luther King Jr. streets at the Citizens Energy Langsdale site. To accommodate this change, the White River Tunnel will be lengthened and the Fall Creek Tunnel will be shortened in the plans, he said. Nielsen said as part of the project, DPW is also working with Citizens Energy Group (CEG) on an agreement to haul away soil materials at an old Citizens Coke facility that use to be at the Langsdale site.

Bill Beranek asked how the site at Langsdale Avenue and West Dr. Martin Luther King Jr. Street will be impacted by the project.

Nielsen said the muck from tunnel construction will be removed at the site, and the tunnel team also will likely have construction staging there. He said if all is functioning as planned, the potential for an overflow into the White River will be reduced. Nielsen said DPW is updating its surge models to prevent negative impacts to the river and the canal.

Glenn Pratt said he and other Indianapolis citizens appreciate Director Sherman and the engineering staff reviewing the City’s CSO Long Term Control Plan to ensure it will provide the most benefit to the community.

Dick Van Frank requested more detail on the surge problem that was mentioned.

Nielsen explained that when wastewater travels 200 feet down into a deep rock tunnel while overflows are occurring downstream, friction can build up in the tunnel. The friction can then cause “belches” in the system, and the result can be a surge, much like a geyser, that is discharged above ground. He added that at a future meeting, DPW could review the hydraulic models with the committee to show gates, load on the system, etc.
Dan Considine said a video of a surge is posted on YouTube; he suggested sending it to the committee.

Pratt requested that the effectiveness of the disinfection process be addressed. He acknowledged that the City treatment plants have oxygen and ozonation systems but said they don’t work together. The oxygen system delivers \( \text{O}_2 \) at a higher pressure than is optimal for the ozonation system, he said. Pratt suggested installing valves to streamline the system. He also recommended using the chlorination/dechlorination for wet weather flow treatment and pre-ozone and UV disinfection for normal daily flows. He added that DPW should begin discussions with the regulatory agencies on the permit requirements to integrate ozonation into the treatment system. He added that if deadlines are not met, the EPA and IDEM may come inspect ammonia limits at the plant. The limits are currently at the maximum levels allowed, he added.

Pratt asked about the bio-roughing facilities and de-icing chemicals in place at the airport. He said the airport is considering allowing new de-icing chemicals that can increase ammonia. He asked what the City will do to address this.

Nielsen said he will look into the issue but believed the concern with the new chemicals would be a problem with soluble Biochemical Oxygen Demand (BOD). The current limit is 60,000 pounds per day for treatment at Southport, which the system can handle. He said the airport and DPW will be communicating with regard to soluble BOD concerns.

Pratt asked about the implementation of ozonation at the treatment plants. He said that downstream of the plants, male fish have eggs. He said he expects the EPA to require ozonation at some point, whether it’s in two or 10 years.

Nielsen said the City has an ozonation system in place that will pre-ozonate 2 to 3 milligrams per liter. He added that the technology is still being improved.

Pratt said Indianapolis is a pilot city for identifying endocrine disruptors, which can cause the problems with fish reproduction. He said a number of years ago, the EPA pulled samples from a number of cities, and Indianapolis participated.

Nielsen said down the road we’ll have an improved ozonation system. He said the technology needs to improve, so the City is not investing in something that treats some but not all harmful chemicals.

**Wastewater/Water Utilities Transfer Update**

Nielsen introduced those CEG staff in attendance: Dan Considine, Jamie Dillard, Jeffrey Harrison, Dave Kiesel and Ann McIver.
With respect to the water utility, Nielsen said the Indiana Utility Regulatory Commission (IURC) recently approved a 26 percent rate increase for drinking water customers. He noted that a 33 percent increase was the percentage that Indianapolis Water initially requested.

For the wastewater utility, DPW and CEG continue to develop plans for the transition and integration of staff. Beranek asked if DPW staff with the option to join CEG have been notified.

Nielsen said DPW staff members have been interviewed, but offers have not been extended.

Dick Van Frank said the transition of Septic Tank Elimination Program (STEP) to CEG seems to be a little in flux. He said that per the Consent Decree, CEG is committed to completing 7,000 septic tank eliminations, but there doesn’t seem to be much enthusiasm to continue the program.

Nielsen commented that STEP is not a requirement of the Consent Decree. Jamie Dillard said CEG intends to continue the program, but the pace and schedule are to be determined. He added that the IURC needs to indicate that it’s appropriate for sewer user fees to fund STEP. Following that decision, Dillard said the timing and project prioritization of STEP would be examined.

Nielsen said the question of future funding is challenging. Currently, the cost to complete septic tank elimination averages $22,000 to $25,000 per home. The City only collects a $2,500 connection fee per home from property owners, which partially funds the work. He said CEG needs to find out if the IURC will support the current funding structure of the program in order to plan for the future.

Beranek said traditionally, the IURC doesn’t support subsidizing the cost of new connections to utilities. He asked if in the CD, there’s language stating that a certain number of home conversions would be funded beyond the 7,000 connections.

Nielsen said not all STEP projects are part of the CD. In Indianapolis’ long-term plan through 2025, STEP comprises approximately $700 million. He said a few areas were required as part of the CD, and those projects have been completed. The 21,000 septic tanks remaining are prioritized as high, medium and low in the STEP Master Plan.

Beranek asked if a problem with regard to funding STEP after the utility transfer exists, would the City then consider funding the $700 million program.

Nielsen said if the utility transfer is approved by the IURC, then CEG would be responsible for implementing STEP.

Dillard said there’s not a legal obligation for CEG to complete the remaining $700 million in STEP projects.

Pratt said the City faced a lawsuit years ago because failing septic tanks and combined sewer overflows caused a significant health concern to Indianapolis citizens. He said the City committed
to converting 7,000 homes to city sewers from 2009 to 2013, which is great. With regard to the Consent Decree, Pratt said his understanding was that a certain amount of funding must be spent to achieve a specified level of control. He added that if the City comes in under budget on required CD projects, the remaining funds must be invested to address health issues, like failing septic tanks, since the level of control is already met. He said the National Association for the Advancement of Colored People (NAACP) recently made a statement before the IURC in support of continuing STEP.

Dan Considine said CEG has clearly stated that it plans to continue the STEP program.

Beranek reiterated that if the program can be financed, CEG has pledged to continue it; however, CEG is not legally required to continue the program.

Dillard said after the IURC rules on the utility transfer, CEG will then be able to more closely examine the program and develop plans for STEP.

Pratt suggested that perhaps the EPA needs to get more involved, so in 2013, after the 7,000 septic tank eliminations are completed, CEG will continue moving forward with STEP.

Beranek said both points were valid, and his hope is that the STEP issue can be resolved before anyone goes to court.

Van Frank asked if the City’s Financial Capability Analysis (FCA) for the CD has been resolved.

Nielsen said the City has requested discussions with the EPA related to the methodology and guidance for the FCA. He said the latest FCA was submitted in 2009, and updating the Use Attainability Analysis (UAA) is on hold.

Beranek requested an explanation of the UAA and FCA update process.

Nielsen said IDEM provides the guidance document to cities on the UAA for determination of financial affordability, while the EPA manages the FCA update process with respect to the consent decree. He added that the IDEM UAA guidance allows inclusion of cost of water and storm water along with other cost factors in the determination of residential burden which results in higher costs and burden than allowed by EPA in the FCA process. The City and EPA are arguing over what the FCA can include. EPA, Region 5 has requested that IDEM not approve the UAA until the City and EPA can resolve the FCA issues.

Indianapolis originally submitted its updated FCA in 2009 and has been working on a revised update subsequent to comments by EPA. The City used census data from 2010 instead of 2000, and the median household income from the original submittal was also updated. Nielsen said apartments also weren’t included in the original residential indicator update since the properties are considered commercial. DPW did not incorporated data from the excluded cities in the FCA, with which the EPA doesn’t agree. Nielsen said DPW would prefer to use the Engineering News
Record (ENR) construction cost index when estimating projects rather than the consumer price index (CPI), but the CPI is what EPA requested.

Nielsen said DPW and the EPA are at 85 percent agreement on the FCA, but the city would like feedback before the document is submitted. Currently the residential indicator numbers are above 2.4, and the EPA identifies 2.0 and above as “high burden” on residents.

Beranek asked if CEG would complete a new FCA if the utility transfer is approved.

Nielsen said CEG would most likely complete a new FCA; however, CEG will need some time for the transfer to reach a steady state and to learn about the sewer system first.

A CSTAC member requested clarification on what is part of the savings from the utility transfer. He said the savings were estimated at $20 million when the transfer was first announced, but he had heard estimates of up to $60 million, if a 25 percent rate mitigation is achieved by 2025.

Dillard said the savings relate to all five regulated utilities: gas, steam, chilled water, drinking water and wastewater. With regard to the 25 percent rate mitigation, he said the estimate is based on rate projections for the water and wastewater user fees. He said, in the future, CEG believes that the water and wastewater rates will be 25 percent lower than they would have been if the utilities had remained with the City.

Beranek said that, initially, the savings were emphasized strongly, and now any mention of a specific percentage for savings seems to have disappeared. He said that if more savings are now expected to be achieved, it seems that rates should be mitigated more drastically.

McIver said Beranek’s point was valid, and Considine added that the estimate just hasn’t been recalculated to determine the new projected savings. He said the anticipated water/wastewater rate mitigation will be at least 25 percent, possibly more.

Pratt said there’s a huge backlog of work on the water system. He expressed concern with maintaining the competency of the operation, rather than savings down the road. He added that the City has a very complex system in place.

Beranek asked what the deadline to update the UAA and submit it to IDEM was.

Nielsen said the deadline is October 2011, and if the UAA is not approved, IDEM’s guidance documents state that Indianapolis can stop work on CD projects.

Beranek suggested that staff members be extremely cautious in their approach to the UAA and spending money on projects. He said that if CEG will also be completing a UAA, coordination of those efforts should be discussed to determine what parts of the program are feasible to complete.
Nielsen said the UAA must be submitted to the Water Review Board in order to keep projects on schedule.

Beranek said at some point Congressman Carson or Senator Lugar may need to be engaged in this, and he did not see an endpoint.

Nielsen said the agreement in Amendment 2 of the CD states that EPA, Region 5, will not interfere with UAA approval. DPW is currently trying to schedule a meeting with Region 5 to review the updated FCA. He said that no matter how the residential indicator is calculated, the financial burden to residents is higher than the initial FCA, and EPA’s consultants have confirmed that.

Beranek said with the estimated LTCP savings, perhaps EPA is expecting more money to be invested in additional system improvements.

McIver said CEG also has discussed the utility transfer savings with EPA. CEG has explained that the $60 million in anticipated savings extends across all the utilities and is an allocated savings to the community.

CEG expects that it will complete an FCA as well, McIver said, but staff would not complete one until CEG has at least one year experience operating the system. She said collecting system operations and maintenance (O & M) data is necessary in order to complete the FCA.

Beranek said if the EPA and IDEM would solidify the rules, there would be less spinning of wheels by DPW and CEG.

Nielsen said the October 2011 date to submit the UAA is real to DPW. He said projects need to continue, but if needed, staff will take a step back before spending millions of dollars. He said DPW, through NACWA, also is in discussions with EPA about the sewage sludge incinerator rules and EPA has been granted a one month extension by the courts for issuance of the rules.

Beranek said regardless of how CEG funds STEP, he has never heard that the program wouldn’t continue.

Pam Thevenow said she’s been with the Marion County Health Department (MCHD) for the terms of four or five Indianapolis mayors, and the cost to connect homes doesn’t get any cheaper. She said that waiting to complete projects creates a major problem for the homeowner with a failing septic tank. Some pay $200 or $300 per week to get a septic tank pumped because they have no other choice. Thevenow said Indianapolis needs to have sewers in neighborhoods.

Van Frank suggested that those present re-read the CD. He said septic systems are mentioned as part of the water quality problem, and they’re covered in the LTCP.
Beranek said the fundamental difficulty is how to fund STEP and who should pay for the program; it’s a difficult public policy issue.

Nielsen said even if the City was going to continue to continue managing the program, projects still would have to be completed on a specific schedule and at a pace that rate payers can afford.

Pratt handed out the NAACP statement on the STEP to the IURC. He said failing septic tanks can lead to encephalitis and mosquito breeding, and kids also play in water contaminated with sewage. He said there was an agreement in place with Bart Peterson to eliminate septic tanks, and it was supported by the City-County Council, the Indianapolis Star, and TV stations in the area. Pratt said we must move forward with a solution to the problem.

**White River Cleanup**

Kevin Hardie, executive director of Friends of the White River, introduced himself. He said the White River Cleanup was founded 25 years ago to engage residents in an effort to have a cleaner river, and the 2011 cleanup will take place Saturday, April 30. This year’s event will have a maximum of 200 volunteers, and it will conclude around noon. The Friends of the White River is working with DPW and United Water to plan the event.

The focus of the event was initially areas south of White River State Park where many dumping sites existed. He said many are gone, thanks to increased awareness in the community and the White River Cleanup. Hardie said volunteers include teens and adults, and over the years, multiple generations have begun to participate.

Thevenow said in the early years of the White River Cleanup, there was a focus on illegal dumping. In recent years, there are fewer abandoned cars, illegally dumped appliances and less litter. She added that the investment in green infrastructure and improvements in White River park create a sense of celebration for the event.

Hardie distributed a flyer to the group. Nielsen said the White River Cleanup was a great program, and Hardie thanked him for the City’s commitment. More information is available at [www.friendsofwhiteriver.org](http://www.friendsofwhiteriver.org).

**Marion County Soil and Water District (MCSWCD) Clean Water Presentations**

Ron Lauster, director of the Marion County Soil and Water Conservation District (MCSWCD), provided attendees with a news release on the clean water presentations being offered.

He referenced a recent article in the Indianapolis Star in which residents were interviewed. DPW has plans to complete a sewer separation project and install a bioswale near Pogues Run on the east side of Indianapolis, and he said neighbors were upset about the project because they didn’t understand the concept of a bioswale. He said this instance is just one example of an opportunity for MCSWCD to use clean water presentations as a community learning tool.
MCSWCD received a grant to fund the clean water presentations, and since mid-2010, staff have given 30 of the 50 presentations that are possible as part of the grant. Lauster said for 40 years, his staff worked with residents to drain farmland, and recently, there’s been a move to use more natural practices such as rain gardens and bioswales. He said the presentations are helping to educate the public on these more sustainable practices.

Beranek referenced the handout, and he asked if MCSWCD assists with erosion control plans at construction sites.

Lauster said that 80 percent of MCSWCD’s funding is provided by city-county government. As a result, MCSWCD and the City have a Memorandum of Understanding (MOU) for construction site inspection. Lauster’s staff members inspect county-sponsored construction sites and report on the effectiveness of the erosion control plans. He said MCSWCD staff members submit a report, and city-county government determines what, if any, additional action is needed.

Pratt mentioned House Bill (HB) 1425, which will be voted on in the current legislative session. He said the bill will have an impact on the levels of nutrients that are allowed in Indiana reservoirs and lakes. He said several local soil and water conservation districts have banned phosphorous in fertilizers. Sierra Club and the Indiana Wildlife Federation (IWF) also have worked with MCSWCD to stress the importance of phosphorous-free fertilizers. He said Representative Richard Dodge is aware that the issue has both environmental and economic impacts. Two years ago, the Indiana legislature passed a bill eliminating requiring phosphorous-free dishwasher detergents in Indiana.

Pratt encouraged those in attendance to support HB 1425. He said if it passes the House of Representatives; Senator Beverly Gard would carry the bill through the Senate. He said investing in phosphorous-free fertilizers would help the state to begin securing adequate funding for soil and water conservation districts statewide. He added that work must be done with the agricultural community to make progress.

Nielsen said that in addition to erosion control inspection work and clean water education, the MCSWCD assists meeting residents with resolving drainage problems. He said drainage assistance offered by MCSWCD is a valuable service for homeowners, since DPW storm water projects can only be completed for public benefit. Thevenow agreed.

Other Business

Van Frank said he’d like to hear more about the sludge incineration rules being considered by EPA mentioned earlier in the meeting.

Nielsen said the City is moving ahead with rehabilitation of incinerators, which includes new scrubbers. He said the work will bring the City facilities within the range of reasonable permit
limits. He said discussions with EPA included differing opinions on how to clean up the sludge so it meets environmental requirements.

The City also looking at ways to capture energy from the sludge during incineration. Other concerns include how to treat chlorides and eliminate cyanides with the incinerators at a higher temperature. In addition, the City would like to identify ways to provide the ash to concrete contractors.

Van Frank suggested using the sludge to produce bricks.

Nielsen said they had examined that, and IDEM in the past would only allow the bricks to be used at the treatment plants. He said the City is currently conversing with some brick manufacturers.

Van Frank asked if the inclusion of ash could be incorporated into bid process for City projects.

Nielsen said the tunnel liner and concrete mix will be left up to the contractor.

The meeting was adjourned.
**Indianapolis**  
Gregory A. Ballard, Mayor  
**REBUILDINDY**  
Department of Public Works  
1200 S. MADISON AVE., SUITE 200  
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<tr>
<td>Location:</td>
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Bob Masbaum welcomed CSTAC members and guests, and introductions were made. He then invited Dan Considine of Citizens Energy Group to begin his presentation on the water and wastewater utility transfer.

**Utility Transfer Update**

Considine said the utility transfer process began for the City of Indianapolis and Citizens Energy Group in December 2009. Both groups have received lots of public input at more than 60 meetings, and the process has been very complicated. He reviewed key dates including:

- **July 2010** City-County Council approves transfer
- **May 2011**: Citizens reaches settlement agreement
- **July 2011**: Indiana Utility Regulatory Commission (IURC) approves utility transfer

(Citizens Energy Group PowerPoint, slides 1-3)

Highlights of the IURC Order were as follows:

- Utility transfer in the public interest
- Citizens has legal, financial & technical expertise: Considine said legal expertise would be taken care of through in-house staff or the acquisition of employees.
- Asset purchase agreement approved
- Current water & wastewater rates retained: Citizens Energy Group will continue assessing the current user fee rates that are in effect until the next rate case is presented to the IURC.
- **STEP approved through 2013**
  - Future STEP costs will be considered with next rate case
Citizens remains committed to future STEP projects
Citizens is optimistic STEP costs will be approved
Citizens will seek collaboration with community in presenting case for STEP: Considine said Citizens remains committed to long-term implementation of the STEP program. He added that during the rate case advisory groups like the CSTAC, neighborhood associations and residents all will be called on to support the STEP program during the first rate case.

- Approves Environmental Compliance Plan: Citizens will make an additional filing with regard to the plan.
  - Mechanism for recovering costs of LTCP
- Citizens will document and report savings: Considine said Citizens will report regularly to the IURC and publish an annual report to the community on its website. Citizens also will issue a report to the City-County Council. The report will cover savings as well as overall processes, synergies and opportunities for improvements.
- Citizens will engage advisory groups: Currently, Citizens interacts with the CSTAC, water technical advisory committee, an advisory committee for the advanced wastewater treatment (AWT) plants and the Citizens Advisory Group (CAG), which includes volunteers who represent the Indianapolis Water customer base. Considine said Citizens will eventually look into combining the technical groups to more efficiently gather input. He added that Citizens already has begun conversations with the CAG facilitator about calling on this the group for input on all Citizens utilities.
- Water conservation and drought response plans will be submitted
  (Citizens Energy Group PowerPoint, slides 4-5)

When Citizens completes the acquisition of the water and wastewater utilities, it will assume $1.5 billion in debt from the City of Indianapolis. Citizens also will pay $262.6 million for the purchase price of the utilities. Payment in Lieu of Taxes (PILOT) will also be monetized for the wastewater system at an estimated cost of $140 million. The total proceeds to the City will be approximately $425 million. (Citizens Energy Group PowerPoint, slide 6)

Currently, Citizens staff members are focused on executing a smooth transition. Their goal is to continue providing excellent service and reliability to its customers, Considine said. Virtually all Indianapolis Water employees will be retained, as well as the United Water contract to operate the wastewater collection system. Citizens
will also welcome employees from the Department of Public Works (DPW) and Department of Waterworks (DOW). (Citizens Energy Group PowerPoint, slide 7)

Considine said the transition is going pretty well overall, but it will not be completed without some chaos as employees move to new and temporary locations, and adopt new phone numbers and emails.

As the utility transfer approaches the closing date, Considine said Citizens is thankful that the debt ceiling has been raised by the U.S. Congress. If the debt ceiling wasn’t raised, the bond market would have been unstable, and the next steps of the transition may have been put on hold, he added.

In mid-August, Citizens will sell bonds to finance the purchase price of the utility, and a water bill insert will update customers on the transition. Citizens anticipates a closing date in late August, and on Day One, 400 new employees will join Citizens. (Citizens Energy Group PowerPoint, slide 8)

On the water side, employees will report to work like normal. Operations employees also will primarily report to the same locations. Wastewater utility staff, on the other hand, will report to the Langsdale facility.

Citizens will make the following commitments to its water and wastewater customers:

- Safe, high-quality water & wastewater service
- Cleaner area rivers and streams:
  - Invest $3.5 billion to reduce Combined Sewer Overflows (CSOs)
  - Continue Septic Tank Elimination Program – 7,000 by 2013
- Capital investments to ensure safety and reliability
- Achieve $60 million in annual savings: The savings will be achieved after a three-year integration period.
- Reduce rate increases 25 percent by year 2025

(Citizens Energy Group PowerPoint, slide 9)

Considine said continuing to offer quality service for all of its utilities is a priority. Citizens will assume the City’s current role of meeting CSO Consent Decree compliance and, as a result, will be very focused on making smart decisions with regard to capital investments. The gas system is rated as one of best maintained in the United States, and Citizens looks forward to achieving the same reliability with the water and wastewater utilities.
After the closing date, customers will see a new Citizens Water Authority logo at the top of their water/wastewater bill. The entries on the bill will look exactly the same, and phone numbers will not change. Citizens will still distribute a water/wastewater bill separate from the gas bill. In 12 to 18 months, he said Citizens plans to create and distribute a combined bill for all three utilities to customers in Marion County. On roughly the same timeline, call centers also will be consolidated.

To manage customer expectations, Citizens also will launch www.CitizensWater.com immediately upon the completion of the utility transfer. This website will include information on the new water/wastewater utility, as well as content from the DOW and DPW websites. (Citizens Energy Group PowerPoint, slide 10)

Considine closed his presentation by emphasizing Citizens’ focus on quality. For the past 20 years, Citizens has employed a quality process based on the Malcolm Baldrige Quality Program, and the leadership plans to continue using that process. Expectations for quality are high, and Citizens has the following goals:

- Industry leading customer service
- Combined meter reading for consistency & efficiency
- Improved website functionality
- Enhanced public outreach
(Citizens Energy Group PowerPoint, slide 11)

Citizens heard complaints about water meter reading and bill estimation during the utility transfer public meetings, so meter reading will be combined in conjunction with utility bill and operations consolidation.

Considine said the bill estimation procedure also will be addressed within the first year in an effort to estimate closer to normal consumption. He explained that water meters are below ground, so there will be times when meters are not read because there’s snow on the ground.

Pratt said that IURC mandates yearly average estimates, but they can be inaccurate in January. He said the sooner the estimation procedure is changed, the better.

Considine said Citizens is focused on getting meter reading process in place as quickly as possible. For the gas utility, less than 1 percent of meter reads are estimated, and when an estimate does occur, normal consumption of gas for that
particular month is considered. For example, an estimated bill in December 2011 would be based, in part, on the consumption during the previous December or January.

Considine said enhancing public outreach also is a priority after the closing. Water and wastewater utilities differ greatly from gas in terms of their impact on citizens. He added that they touch people’s lives in a more personal way because they are used for home consumption, recreation, and they also present environmental factors. All of this will be examined as public outreach planning continues, he added.

Considine said Citizens is very excited about the utility transfer, although it is a hectic time. He added that this is biggest change in the organization’s history since it was formed 124 years ago, and it presents a huge opportunity to better serve the community.

Questions
Roper asked if other cities have completed similar utility transactions.

Considine said that in 1997 or 1998 in Jacksonville, Florida, a municipal electric system took over the water and wastewater system, and Citizens has studied that acquisition closely. Citizens interviewed municipal staff members that were involved with the acquisition, and a former chief executive officer of the utilities worked with Citizens on a consulting basis.

The Jacksonville example is somewhat different since the electric utility made the acquisition, Considine explained. He said the gas, water and wastewater combination actually can offer more synergies since all three utilities are underground.

Considine concluded that because Citizens is the only public charitable trust operating utilities in the United States, the transaction is fairly unusual. Citizens has had lots of interest from associations and other cities during the utility transfer.

Pratt said another Indiana community combined its gas, water and wastewater utilities but it didn’t work out. He said he hoped this one would.

Considine said there are a number of successful combination utilities including Colorado utilities, which have gas, water and wastewater utilities plus electric. Memphis also has combined light, gas and water. He says these are somewhat unusual, but they are in operation.
Van Frank asked how the utilities will be listed in the phone book. He said traditionally, people don’t like to think about sewer and water being together.

Considine said the Citizens Gas number will still be listed in the phone book, and initially, on the water and sewer side, customers will be instructed to call the water company phone number. As the utilities are integrated in the next year or two, call centers and phone numbers will be consolidated. Considine said having one phone number and web address will make customer service more effective.

Van Frank said Citizens Water makes him think of drinking water.

Considine reminded CSTAC members that the water/sewer bill is currently combined, so consolidating other communications should be easy.

Glenn Lange said he hoped outreach would be very prominent because there is some confusion about what agency to contact. He said the Marion County Soil & Water Conservation District (MCSWCD) receives dozens of calls every day about water service. He added that directory assistance doesn’t have a clear understanding of the service provided by each agency, and the problem has been difficult to resolve.

Considine said he had a good point, and the issue can be addressed if Citizens Water creates a strong web identity. He said getting the Citizens Water website to the top of a search list through search engine optimization will direct customers to the appropriate phone number. Considine added that the communication staff's first action will be to make fire and police departments aware of Citizens Water’s responsibilities.

Citizens also is coordinating with the Mayor’s Action Center. All water-related calls, including flooding and drainage, will be directed to the water company phone number. They will then be rerouted to the appropriate agency. Considine said the City and Citizens agreed that to the public “water is water” whether it’s a flood or a sewer backup, and a resident should only have to place one phone call.

Lange and Thevenow acknowledged that both MCSWCD and the health department receive sewer backup calls.

Considine said resolving the confusion on what agency to call will be achieved through repetition with many communications tools including the water/sewer bill, monthly bill inserts and on the website.
Paul Berebitsky asked if the debt Citizens will assume is related to the Deep Rock Tunnel Connector.

Considine said it was not. Citizens will assume $900 million in debt from DOW and about $500,000 from DPW. He said the debt is from operations and capital investments that have already been made in the systems.

Jamie Dillard added that Citizens will be responsible for all bonds moving forward including the Deep Rock Tunnel Connector.

Pratt said he hoped Citizens was considering how it would fund the services provided by MCSWCD, as well as issues related to the development taking place near Geist Reservoir. He said these and other watershed impacts should be considered.

Considine said Citizens likes the soil and water conservation district.

Roper asked when the Day One will be.

Considine said the closing is currently scheduled for the last week of August, and Citizens could adjust if necessary to implement the transition in a responsible way.

Dillard said there are lots of working pieces and the sale of the bonds could put a snag in the closing. He added that interest rates are very good right now, and Citizens is pleased with that.

Masbaum asked if there were any other comments or questions.

Van Frank requested an update on the City's pilot program to implement storm water control using wetlands, rain gardens, etc. He said the program was previously presented to the committee, and it sounded good but expensive up front. Van Frank said he later learned results from the Fall Creek pilot project weren’t measured because it was working too well. He suggested that the pilot program should be pursued further to improve water quality and save money, long-term.

Masbaum said an update on this would be considered as a potential agenda item in the future.

Pratt said the green development goes hand in hand with CSOs and really should be considered. He also announced that the Environmental Council meeting at the statehouse would be starting at 1 p.m. and encouraged those present to attend.
Roper asked when the Deep Rock Tunnel Connector would bid.

Masbaum said the bid date was August 11, and he adjourned the meeting.
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Clean Stream Team Advisory Committee  
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Clean Stream Team Advisory Committee
November 4, 2010
Steve Nielsen thanked members of the Clean Stream Team Advisory Committee for attending and gave an overview of the agenda. He said the meeting was timely since the U.S. Environmental Protection Agency (EPA) signed off on the second Consent Decree (CD) amendment the day prior (November 3). He said he expects that the amendment to the CD will be published in the Federal Register in the next few weeks, and a 30 day comment period will follow. In early 2011, the city should have final approval and will move forward with implementation.

Inflow/Infiltration (I/I) Program Update: Database Development and Tracking

Bill Grout said he would give an update on the progress of the program since his last presentation to the CSTAC in February.

In 2010, the Department of Public Works (DPW) has begun developing a database to track I/I complaints and monitor progress with regard to correcting illegal connections. Grout said the database structure should be completed in the next couple of months, and testing will follow. He said staff will be able to plug an address into the database and see I/I related problems in a given area and the tasks/actions associated with those problems.

Grout said members of the I/I team include DPW engineering and operations staff, environmental services staff and United Water. He added that Correct Connect, the most visible piece of the program, is being handled by the environmental services division of DPW.

I/I complaints are numerous and come from multiple sources. Grout said if a back up or manhole overflow is reported, those become “priority” projects.

The I/I team meets once a month, and tasks are assigned based on recent complaints. Grout said I/I is difficult to identify and correct, and once a leak or crack is plugged, another is likely to open up. As a result, he said DPW is focusing its attention on the larger I/I sources. Christina Bowers is the team coordinator.
Grout said I/I problems in a mainline sewer are considered a public issue, and I/I related to a sump pump or downspout connection is considered a private issue. Homeowners are responsible for the cost and work required to correct private I/I issues; Grout said that makes private I/I issues more challenging.

A recessed loading dock that is connected to the sewer would be considered a private problem. He said this problem is not an easy fix and would require pumps to get the water out.

Grout said DPW is currently completing house inspections to identify sump pump connections. Smoke testing is also being used to identify private defects and get them offline. At Stop 11 and Madison Avenue, several private and public defects have been identified in the Winchester Village neighborhood.

I/I successes include disconnecting a parking lot on the north side of Indianapolis. Once it was offline, Grout said the Belmont North Interceptor stopped overflowing as often.

Bill Beranek asked if the I/I problems are related to old or new development, in particular.

Grout said the problems are related to both old and new development. Some property owners have yard drains that were not permitted when they were installed. Also some neighborhoods that were developed in the 1980s and 1990s have illegal sump pump and downspout connections. Recently, a condominium complex with illegal downspout connections was approached. The owner wasn’t aware that the connection was illegal, and it was corrected.

The most common defect that is being found is a cleanout cap connected to the sewer. Grout said DPW does send any property owner with this defect a letter, and inspections are completed following the letter, as time allows.

Grout said when the I/I database is completed, the enforcement process will go more smoothly. He said DPW is taking small steps to reduce clear water connections to the sewer. He added that Richard Wise is overseeing the Correct Connect portion of the program.

Dick Van Frank asked if Correct Connect will become the responsibility of Citizens Energy Group (CEG) if the transfer is approved.

Nielsen said yes; the program would be CEG’s responsibility. He said CEG recognizes that I/I reduction is critical since it may help minimize the need for additional relief sewers.

Grout said a draft plan with recommendations with regard to the future of program has been developed. At a later date, the plan may be something that is shared with CSTAC members.

In the past, United Water and DPW were basically working independently of each other on the I/I program. There was some overlap in certain areas, but now the groups are collaborating on this
effort, Grout explained. Representatives from all organizations on the I/I team attend progress meetings.

Al Polin asked if there’s a priority list for I/I defects. He said there is a serious problem in the Fall Creek Parkway area.

Nielsen said that Fall Creek Parkway is in the combined sewer area, and the amount of clear water in the system is being examined. He said DPW is currently developing a list and then ranking needs to ensure the greatest progress. He said DPW is also looking at sealing manholes off in the city’s low lying areas.

Bob Masbaum suggested that Polin remind his neighbors to call the Mayor’s Action Center when they have basement backups or manhole overflows.

Polin said that overflows and backups are occurring in the 3700 and 3800 blocks of Fall Creek Parkway; water comes out of the manholes after heavy rain.

Grout added that the flow monitoring process is also being updated, which will help to more accurately identify the amount clear water entering the sewer system.

Nielsen said another area that’s being examined is the downtown combined sewer area. He said some buildings such as the City-County Building have two or three floors underground. DPW is looking at what buildings are pumping clear water into the sewer system and the Pogue’s Run box. He said the clear water capture in the downtown area may be a good subject for a future meeting. He added that CEG also is aware of these investigations.

**Deep Rock Tunnel Connector and Pump Station: Implementation of Value Engineering Initiatives**

John Morgan said one of the biggest mantras of U.S. Army Corps of Engineers (USACE) is...“Value engineering: It pays.” He said he agrees with that statement because project managers that are working on a project everyday can get tunnel vision. He added that having someone else review the work can offer a fresh perspective on any project.

Morgan said he would cover value engineering during advanced facility planning and 30 percent design of the Deep Rock Tunnel Connector, as well as 30 percent design of the pump station. The pump station associated with the DRTC project will be installed about 250 feet below ground surface, and it will pump high volumes of flow to Southport Advanced Wastewater Treatment (AWT) Plant. (DRTC, slide 2)
During value engineering, the team participated in a process that involves advanced preparation, a workshop and post-workshop effort. Morgan said this process was used for the tunnel and the pump station. He said pump station value engineering lasted about six weeks, and five staff from the design team and four on the owner side participated. In addition, a certified value engineering coordinator facilitated the event. Morgan said the workshop for the $100 million pump station took about two days. (DRTC, slide 3)

**DRTC Value Engineering: Advanced Facility Planning (AFP)**

The value engineering team generated 23 ideas, and six were accepted as part of the design. The potential savings is expected to be more than $73 million. The six ideas that were accepted include:

- Pump station reconfiguration (two suggestions): $29.16 million
- Design for one bar screen instead of two: $2.34 million
- Eliminate intermediate work shaft: $5.93 million
- Eliminate CIP tunnel liner: $32.6 million
- Bid pump station sooner: $3.04 million

(DRTC, slide 5)

Morgan said the Deep Rock Tunnel Connector will be the first deep tunnel to be bid and built in Marion County. He said the cost estimates were developed based on market value for other deep tunnels in the Midwest. He also said that the pump station will be bid about one year early, and the savings for that portion will be driven by cash flow. The configuration of the pump station includes four 30 million gallon per day (MGD) pumps and a wet shaft, he explained. (DRTC, slide 6)

**DRTC Value Engineering: 30 Percent Design**

The value engineering team generated 14 ideas, and six were accepted for a potential savings of approximately $46 million. The six ideas that were accepted include:

- Eliminate Pleasant Run working shaft: $21 million
- Change CIP lining productivity assumptions in schedule: $6 million
- Allow precast liner option: $0 savings, possible schedule reduction
- Revise depth of slurry walls to only go to top of shale: $4 million
- Construct separate shaft for grit and screenings equipment: Additional cost of $8 million
- Change shaft type at CSOs 117 and 118 to vortex drop: $23 million

(DRTC, slide 9)

Morgan said that an “adit” is the pipe that will connect the Deep Rock Tunnel Connector to the Pleasant Run tunnel. He said the adit will be included in the project, but the working shaft will not, which will result in the $21 million savings.
Additionally, the design team is considering two options for liner installation. Morgan said a “one pass” approach involves installing a precast liner immediately behind the tunnel boring machine. A “two pass” method involves boring the entire length of the tunnel and then coming back at a later time to install the liner. Morgan said the rock stratum in Indianapolis is very similar to Chicago. He said the tunneling contractors in Chicago are likely to bid on the job, and allowing them to determine the method of liner installation will most likely improve bids and allow for a smoother construction period.

The type of drop structure in the pump station also has a significant cost impact, Morgan said. Initially, the project team incorporated a baffle drop structure at 30 percent design and then a vortex drop structure was discussed in value engineering.

A vortex drop structure would be eight feet in diameter, while a baffle drop structure would be 30 feet in diameter. A vortex slows the flow down by circulating it (like a commode) as it drops to reduce the energy in it. The vortex drop would not erode the structure or add air to the flow, which could take up volume. A baffle drop, on the other hand, slows the flow down and reduces the amount of energy in the water by sending it downward across a series of ledges about 8 feet apart. The value engineering team determined that a baffle drop would be about three times as expensive as a vortex drop to construct, and it would also have a much larger footprint. (DRTC, slide 11)

Van Frank asked how many drop shafts will be needed to construct the deep rock tunnel.

Morgan said three will be necessary to install the Deep Rock Tunnel Connector, and for the Fall Creek/White River tunnel 10 or 11 drop shafts will be necessary. Citywide—with the other planned tunnels included—between 30 and 40 will be needed. Morgan said the project team is doing everything possible to eliminate drop shafts, but they are necessary to maintain the tunneling equipment.

**Pump Station Value Engineering: 30 Percent Design**

At the start of pump station value engineering, the project team had the following concerns:

- Two foot liner in pump cavern
- Reduce cover over pump cavern
- Stainless steel (SST) 316 vs. 304
- Process piping materials
- Variable Frequency Drive (VFD) configuration
- Cost reduction and “better” way

(DRTC, slide 13)

Nielsen asked what the horsepower on the pumps would be.
Morgan said he wasn’t sure, but the pumps at the Southport AWT Plant pump station were around 400 horsepower per motor.

Nielsen said he believed the pumps for the total horsepower for Deep Rock Tunnel Connector pump station would be more than 5,000.

Ralph Roper said with that amount of power, cooling the motors would most likely a challenge. He asked how it will be done.

Morgan said with that much power, water induction will be used to cool the pumps.

Morgan explained that the pump station in the original CD was 150 MGD, but with CD Amendment 2 signed, the pump station would be 90 MGD firm. The pump station will include three 30 million gallon pumps and an additional 30 million gallon pump to be used as a spare. He said each of the pumps will be exercised on a regular basis.

Beranek asked if the pumps will heat the water as it flows through them. He said the water may not heat that quickly, but heating, if it occurs, would be beneficial when the flow gets to the Southport AWT Plant in the winter.

Morgan said the pumps would not have a significant impact on the temperature of the flow.

Roper said a separate engineering project would be required to heat wastewater that rapidly.

The current design has the pump station located below grade at the downstream end of the Deep Rock Tunnel Connector, while the pump station building will be above grade. The purpose of the pump station will be to dewater the tunnel system and transport flow to the Southport treatment facility. The design team’s operational philosophy is to turn the pumps on as soon as enough flow is available to safely operate the pumps. (DRTC, slides 14-15)

The pump station will have four shafts. Two shafts will be bid with the pump station, and the remaining two will be bid with the deep rock tunnel. Per the CD, the city must issue a Notice To Proceed for some portion of the project by Dec. 31, 2011. (DRTC, slide 16)

Morgan described the cost allocation for the pump station. He said that direct costs are approximately $70.6 million. The access and discharge shafts as well as the caverns are expected to be the majority of the pump station cost. Time spent on the project will be a factor that may also increase the cost. Morgan said the entire project must be completed by 2017. (DRTC, slides 17-19)

During 30 percent design of the pump station, the value engineering team generated 69 ideas, and 35 were accepted for a potential savings of more than $18 million. Ideas were sorted into the following categories:

- A: Most likely to be developed = 21 ideas
The 35 ideas that were accepted are listed below. Morgan said an additional five ideas will be evaluated at 60 percent design.

- 1: Combine access and discharge shafts and include a possible safe room to address a single egress point.
- 4: Replace screen and grit building with open air canopy structure, and eliminate mechanical room.
- 12: Reduce diameters of access and discharge shafts.
- 13: Review need for structural liner and membrane in pump room.
- 14: Revise overhead crane support if liner is eliminated.
- 15: Reduce the width of pump room and overhead crane.
- 16: Reduce the pump room length.
- 20: Move mag-meters upstairs in the pump station building to reduce pump room height.
- 21: Remove mag-meters or use alternative flow measuring.
- 22: Reduce discharge pipe diameter from 42” to increase velocities that will transport finer grit.
- 25: Move pump station building away from access shaft and eliminate caissons.
- 26: Use steel frame panel clad building instead of reinforced concrete panels.
- 27: Replace deep foundations with spread footings or mat between shafts.
- 28: Eliminate second floor of pump station building.
- 29: Raise pump cavern up to 10 feet.
- 31: Confirm screen spacing with solid sizes that can pass through pumps.
- 34: Reduce size of emergency dewatering pumps (EDPs).
- 36: Replace pump station building overhead crane with jib crane.
- 37: Revise pump station building to house only electrical and mechanical gear. Provide canopy over access shaft.
- 40: Eliminate pump station control room and use panel view interfaces.
- 41: Install double doors for electrical room.
- 43: Move pump station building HVAC to first floor or roof and eliminate second floor.
- 47: Reduce 9.5 foot freeboard in discharge chamber.
- 50: Replace asphalt paving with porous pavers or gravel. Eliminate pump station building drive through and reduce paving.
- 51: Review hydraulics at screen in screen and grit shaft.
- 52: Analyze surge velocities at the screen to determine if additional protection/support is needed.
56: Review substation sizing with 700 horse power (HP) emergency dewatering pumps fed at 460 volt (V). Consider 5 kilovolt (kv) pumps, if available.
58: Provide space at 5kV panel for future breakers.
59: Eliminate cable vault in pump station building.
60: Reduce pump room width by installing platform over discharge pipes.
61: Reduce pump room arch and lower ceiling.
63: Support suction piping and discharge headers with saddles and frames connected to the floor.
64: Reduce pump room hydrostatic loading criteria (TM-11 – pages 10/11) to reducing lining requirements.
65: Replace discharge structure caisson foundation with spread footings.
67: Use carbon steel or ductile iron instead of stainless steel piping.
69: Eliminate pump room liner.

(DRTC, slides 21-25)

Morgan said at both the Deep Rock Tunnel Connector and pump station value engineering workshops, everyone had similar ideas for the pump station.

He explained that Idea 25, to move the pump station building away from the access shaft and eliminate caissons, will create two distinct areas for the deep rock tunnel and pump station contractors to work. He said the design modification is expected to reduce project costs by approximately $1.4 million.

Idea 26, to construct a steel frame panel clad building instead of using reinforced concrete panels, will reduce construction costs. Morgan said the building will be an open air concept rather than an enclosed building. Many of the structures currently at the plant are open air, and that type of structure will be sufficient to house the pump station. The savings is expected to be approximately $1.4 million. (DRTC, slides 31)

Idea 40, to eliminate the pump station control room and use panel view interfaces, involves consolidation of the Supervisory Control And Data Acquisition (SCADA) equipment. Morgan said eliminating the pump station control room will also reduce the likelihood of equipment failure. Eliminating the control room is expected to save approximately $100,000.

Roper asked if floatables have been considered in the pump station design.

Morgan said a clam shell bucket will be used in the grit shaft to reduce floatables, and Nielsen added that the team plans to follow Milwaukee’s example. Staff will inspect the floatables, and when they reach a specified quantity, the floatables will be removed.
In value engineering, the team also downsized the pump station. The original design included five 30 MGD pumps, but with space limitations, the revised design now includes three 30 MGD pumps plus a spare fourth pump.

Morgan described the site development, which includes a pump station building and a separate screen and grit building. The main tunnel will connect to the shaft at the screen and grit building, which will help to reduce the amount of clear water coming into the plant. (DRTC, slide 26)

Idea 4 involves replacing the enclosed grit and screen building with an open air building with a solid roof. Using a steel frame instead of panels is expected to generate a savings of approximately $2.4 million. The mechanical room also will be eliminated. (DRTC, slides 29-30)

Morgan summarized the potential savings that have been identified as part of the value engineering process for Deep Rock Tunnel Connector and pump station. He said the total savings listed for each workshop are independent of each other. The value engineering summary is as follows:

<table>
<thead>
<tr>
<th>Project Phase</th>
<th>VE Ideas Generated</th>
<th>VE Ideas Accepted</th>
<th>Potential Cost Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRTC (Advanced Facility Planning)</td>
<td>23</td>
<td>6</td>
<td>$73 million</td>
</tr>
<tr>
<td>DRTC (30 Percent Design)</td>
<td>14</td>
<td>6</td>
<td>$46 million</td>
</tr>
<tr>
<td>DRTC Pump Station (30 Percent Design)</td>
<td>69</td>
<td>35</td>
<td>$18 million</td>
</tr>
</tbody>
</table>

(DRTC, slide 32)

Van Frank asked if during heavy rain, the treatment plants and storage tunnels all reach full capacity, what would happen.

Nielsen said the pump station would immediately begin pumping wastewater to the treatment plant when capacity is available. If the tunnels are full and the plant can’t accept the wastewater, he said a sewer overflow may occur upstream of the tunnel, possibly through the gating structures on the White River.

Van Frank said his preference would be for the overflows to occur in the White River instead of Fall Creek.

Morgan said if the rain is really heavy, an overflow may occur on Fall Creek if the White River can’t accommodate additional overflows. Nielsen added that once the CD is fulfilled, the city will still be allowed to have four overflows per year on the White River and two overflows per year on Fall Creek.

Van Frank said the upstream end of the tunnel is near Fall Creek. He asked if an overflow occurs, why the pumps couldn’t be turned on to divert it to the White River.
Nielsen said the tunnel will address CSOs 008 and 017, and the city also would prefer that any overflows that occur go into White River. However, new overflow points cannot be created. Nielsen said DPW is looking at what existing overflow locations could be used for overflows. He said the overflow locations would be a future point of discussion.

Beranek requested clarification on how savings will be achieved with regard to the tunnel liner. He stated that if the liner is completely removed from the design, infiltration may increase, and the savings may actually be used to reduce the infiltration of clear water.

Nielsen said a partial liner is being considered for the bottom of the tunnel. He said achieving “zero” inflow/infiltration (I/I) would be too expensive. Another consideration would be to install a half liner and grout inside the tunnel as needed. He said about 170,000 gallons of water will be coming into the tunnels every day. Nielsen said he expects that the design will include a full lining for the system to reduce I/I and lower the risk on the contractor, but a liner with steel is not necessary. The contractor will also have the option to determine if installation is completed with a “one pass” or “two pass” method.

Beranek said it appears that DPW is considering both the short- and long-term expenditures, which is a good way to approach the project.

Roper asked where the cuttings will be disposed of during construction. Morgan said cuttings and muck will belong to the contractor, and he will be responsible to obtain a permit and properly dispose of the cuttings. If DPW were to dispose of the cuttings, Morgan said that activity would fall under miner's regulations, which does not fit with the city’s goals.

Nielsen said that DPW is recommending locations for dumping such as the Southside landfill, but DPW will not dictate the location.

Morgan said the Deep Rock Tunnel Connector project will be bid in June or July 2011. The tunnel is at 60 percent design currently, and value engineering has only extended the schedule by 60 days at the most.

Nielsen said many qualified contractors are aware of the project and are interested in bidding. He added that once the Notice To Proceed is issued, construction will last 16 to 18 months.

Morgan said the volume of cuttings and muck being hauled away from the construction site will fill 20 to 25 tri-axel trucks per hour. If hauling is limited to 12 hours instead of 24 hours per day, the number of trucks hauling waste away will double to 40 to 50 per hour.
RebuildIndy Overview

Larry Jones gave an overview of the transportation program; he said there is approximately $1.5 billion in need across Marion County. The program includes:

- 7,302 lane miles of thoroughfares and residential streets
- 15,840,000 feet of existing sidewalks
- DPW identifies street segments recommended for the program.

(RebuildIndy, slide 2)

Jones said a variety of factors are considered when selecting RebuildIndy projects. He said projects should be identified in areas that are the most difficult to maintain by DPW Operations. Selection factors include:

- Mayor’s Action Center (MAC) referrals
- Administration/operations input
- Staff input
- Condition assessment
- Average daily traffic (ADT)
- Neighborhood organization/councilor input
- Funding breakdown:
  - 75 percent for thoroughfare projects
  - 25 percent for residential projects (less traveled areas)

(RebuildIndy, slide 3)

The condition assessment includes scoring of street conditions according to the following scale:

- 0-10: Failing
- 11-25: Very Poor
- 25-40: Poor

(RebuildIndy, slide 4)

Curb and sidewalk selection factors include age, economic development/other commitments, high pedestrian areas, workload distribution and neighborhood organization/councilor input. DPW also has a separate voluntary compliance agreement to install approximately, 1,500 ramps per year and meet requirements of the Americans with Disabilities Act (ADA); this is also considered when selecting projects. (RebuildIndy, slide 6)

Jones said that Present Serviceability Rating (PSR) projects with a score ranging from 0 to 2 will be addressed as part of the RebuildIndy program. Curbs and sidewalks with a score ranging from 3 to 5 will not be rehabilitated or replaced. Mayor Greg Ballard also has indicated that constructing new sidewalks in areas where they are missing is a priority. Installing these sidewalks will provide
connectivity throughout the county. However, in many cases when a sidewalk is missing there is virtually no right of way and minimal drainage. Jones said a roadside ditch is the area that would most likely accommodate a new sidewalk, so installing new sidewalks and correcting the drainage can be very expensive. Jones said areas on the west, east and south sides of Indianapolis have missing sidewalks. (RebuildIndy, slides 7-9)

Jones said that out of the $1.5 billion in need, the RebuildIndy program will be successful if $0.3 billion in projects are funded. He said the program manager, American Structurepoint, continues to work with DPW to prioritize projects and determine the best funding sources.

Jones described a chart of needs and how they would be prioritized if $1 million was available to fund them. The top priorities were bike lanes, residential resurfacing and alley rehabilitation. Thoroughfare resurfacing, sidewalk rehabilitation and construction, and greenways were other priorities. (RebuildIndy, slide 10)

Craig Parks, a program manager for the RebuildIndy program, said the challenge DPW is facing is determining how best to spread $1.5 billion over multiple areas. He said bike lanes are less expensive if an existing asphalt section can be restriped, so they rank as a high priority. Parks said DPW is working to leverage the funding it has currently to secure additional funding. An example of leverage would be using $1 million as collateral to secure an additional $3 million from a federal funding source. Types of funding include:

- Congestion Mitigation and Air Quality Improvement (CMAQ) Program
- Highway Safety Improvement Program (HSIP)
- Transportation Enhancements (TE)
- Department Of Energy (DOE)
- Earmarks (legislation-related)

PILOT (Payment In Lieu Of Taxes) funds from the utility transfer agreement generated $155 million in funding for the RebuildIndy program. Parks said $55 million in projects have already bid and will be constructed by the end of 2011. DPW is working aggressively to select and design projects that will comprise the remaining $100 million. (RebuildIndy, slide 11)

Parks reiterated that tapping into federal funding is key to the RebuildIndy program. He said that 15 years ago the Indianapolis Metropolitan Planning Organization (MPO) received about 80 percent of the federal funds that were available. Today, MPO receives about 50 percent of the federal funding that’s available. He said with development outside Marion County increasing, securing 80 percent of the funds may not be available but the goal is to get closer to that percentage.

The program management team has identified low cost, high impact projects that they can move forward with quickly and aggressively. Parks said projects that add travel lanes are being prioritized based on need and geographic location. He explained that securing funding is crucial to
design and build projects, so one staff member is dedicated to identifying and pursuing federal funds. (RebuildIndy, slide 12)

In 2011 and 2012, high impact projects that require limited or no right-of-way will be completed with federal funds. Parks added that the projects are spread throughout Marion County, and more difficult projects with lots of required land will have a later completion date.

Parks said meeting Minority-, Woman-, and Veteran-owned Business Enterprise (M/W/VBE) goals are difficult to meet when completing transportation projects. To accomplish those goals, RebuildIndy has created an oversight committee that will educate the industry on how to register as a minority firm and bid on city projects. The oversight committee also is identifying tools that will be used to measure progress. Components of the oversight committee include: public relations, industry connectivity, mentoring/training, tracking and project makeup. (RebuildIndy, slide 13)

Because there is overlap between the transportation, sanitary and storm water programs, quarterly meetings with each division have been established. Parks said these meetings will allow staff to identify when minor storm water improvements and green initiatives can be incorporated into resurfacing projects. (RebuildIndy, slide 14)

Bill Beranek said that in the past Indianapolis Water and Department of Public Works coordination was lacking. He said storm water currently drains into the Central Canal, which is a drinking water source. He asked if drainage could be examined on future projects so the problem can be corrected.

Nielsen said the drainage into the Central Canal is fairly limited on the north side of Indianapolis. There are some instances near Butler University and Woodstock Country Club where storm water drains to the canal, but those are basically it. He added that when the wastewater and water utilities are transferred, CEG will be addressing the issue.

Polin said the bridge in the Keystone Avenue and Fall Creek area has just had a bridge rehabilitated, but after rain, storm water builds up on the bridge. He suggested that drainage on the bridge be examined.

Allyson Pumphrey of the Office of Sustainability presented green infrastructure aspects of the RebuildIndy program. She said a Green Checklist has been developed to provide guidance and evaluation tools for capital improvement projects. The checklists will be utilized in project scoping, design, construction and post-construction to assist project managers in identifying opportunities to incorporate green infrastructure. Pumphrey said green infrastructure is more than rain gardens. It also includes bioswales, connectivity, bioretention, porous pavement, performance monitoring and more. Pumphrey said many of these components will improve storm water drainage, which will, in turn, extend the life of the pavement. (RebuildIndy, slide 15)
Pumphrey said the “Big Ten” green infrastructure pilot projects have been identified, and the timeline for completion is July 2010 through December 2011. (RebuildIndy, slide 16) The Big Ten projects include:

1. Alabama Street:
   - Location: From Terrace Avenue to Lincoln Street
   - Details: Includes rain gardens, pervious concrete, community plaza
   - Construction: Complete

2. Michigan Road:
   - Location: From Cold Spring Road to Kessler Avenue, Township Line Road to 86th Street
   - Details: Includes bike routes and connectivity
   - Construction: Started in September 2010

3. Ohio Street:
   - Location: From Alabama Street to College Avenue
   - Details: Includes rain gardens and pervious concrete
   - Construction: Started in September 2010

4. Frog Hollow:
   - Location: Harding Street and Troy Avenue area
   - Details: Includes a constructed wetland
   - Construction: Started in fall 2010

5. Norwaldo Avenue:
   - Location: Brouse and Hillside avenues from East 56th Street to Kessler Boulevard East
   - Details: Includes pervious pavers and rain gardens
   - Construction: Starts in August 2011

6. Georgia Street:
   - Location: Downtown Indianapolis
   - Details: Includes bike route corridor, inverted crown infiltration area and pedestrian median.
   - Construction: Starts in fall 2011.

7. Fall Creek Road/Shadeland Avenue:
   - Location: Fall Creek Road and Shadeland Avenue
   - Details: Includes constructed wetland
   - Construction: Starts in fall 2011

8. 16th Street:
   - Location: From Illinois Street to Central Avenue
   - Details: Includes rain gardens and green strips
   - Construction: Starts in winter 2010
9. CSO 143:
   - Location: 21st Street and Emerson Avenue area
   - Details: Includes a storm water/sanitary sewer separation and bioretention/infiltration
   - Construction: Starts in March 2011

10. Fountain Square:
    - Location: Shelby Street and Prospect Street area
    - Details: Includes rain gardens and pervious pavement
    - Construction: Schedule is to be determined

Pumphrey said the Office of Sustainability values the pilot project process as a means to evaluate areas where green infrastructure can be successfully implemented in Indianapolis. She said staff will measure the successes and failures in the Big Ten projects, as well as develop maintenance plans for each. The projects will also aid in the development and implementation of green infrastructure policies.

The Office of Sustainability also has developed a Web resource center as part of its rain garden program. [www.sustainindy.org](http://www.sustainindy.org) offers guidance for designing, constructing and maintaining a rain garden. Pumphrey said the city is looking to residents and business owners to participate in the rain garden program, which will reduce the stress being placed on the city's sanitary, storm water and transportation systems. Pumphrey added that outreach is focused on internal and external publics, and an on-call urban conservationist will be hired to assist.

Polin asked if Fall Creek Pilot Project has been monitored.

Nielsen said the project is actually working too well; he said there isn’t a discharge from it. He explained that some additional sewer separation work to capture discharge for flow monitoring. He added that the DPW is considering expanding wetlands at Troy Avenue and Banta Road, and the CSO 143 separation at 21st Street and Sherman Drive is being considered for bioremediation and rain gardens.

Polin requested an update on funding for the transportation and mass transit system.

Parks said Indianapolis is competing for funding with several communities in the metropolitan area but is trying to maximize what’s available.

Jones said a sales tax increase and Surface Transportation Program (STP) is being considered to fund mass transit. He said the mass transit is competing for funding with the transportation portion of the RebuildIndy program, and its route may be in conflict with the transportation and sewer infrastructure. Jones said the mass transit corridors have been identified, and many of the routes are in existing rail corridors.
Long Term Control Plan Update

Masbaum reviewed the requirements of the city’s consent decree with the EPA and DOJ. The CD, which was executed in September 2006, requires:

- 97 percent capture in Fall Creek with up to two CSOs in a typical year
- 95 percent capture in White River and all other waterways with up to four CSOs in a typical year
- Completion of a $1.7 billion (2004 dollars) Long Term Control Plan that includes 31 control measures

He said DPW has completed value engineering to identify cost savings related to the Long Term Control Plan. The first piece included a review of the Interplant Connect, which is now referred to as the Deep Rock Tunnel Connector. The city initiated conversations with IDEM and EPA in May 2008 to discuss CD modifications, and in December 2008 the EPA and DOJ approved them. The CD amendment will allow the city to construct the Deep Rock Tunnel Connector, a more reliable tunnel solution.

Masbaum said the Deep Rock Tunnel Connector diameter was increased from 12 to 18 feet, and it will be constructed in deep rock rather than soft ground. One of the two previously planned pump stations also were eliminated, which will result in energy savings.

In May 2009, the city proposed a second CD modification, which is referred to internally as the Enhancement Plan. Masbaum said the plan was based on more detailed system modeling and a holistic analysis of the sewer system’s storage and treatment. Based on this additional information, DPW identified ways in which to reduce the size of planned projects while still achieving CD requirements. Goals of the second CD amendment included:

- Remove more sewage sooner
- Meet CD performance criteria and schedule
- Incorporate the most cost effective environmental solutions
- Reduce the carbon footprint

Roper said the method of flow measurement used in the original analysis was overestimating the flow to the treatment plants, and more accurate measurement helped to match the model to the data.
Masbaum said the EPA provided verbal approval of the Enhancement Plan in May 2010, and written approval is expected to be completed later in November. Publication in the Federal Register will occur about two weeks after written approval is granted. (Long Term Control Plan, slide 8)

The Enhancement Plan will add additional deep storage tunnels along Pogues Run and Pleasant Run, instead of collection sewers. Masbaum said the addition of these tunnels will have a more positive impact on the environment. Milestone dates in the CD were modified slightly to ensure that all projects are scheduled in a logical/cost effective sequence; however, the final Long Term Control Plan compliance date of 2025 will remain the same. Masbaum said that with this second CD modification, DPW will have the ability to refine the Long Term Control Plan to be more affordable for the city and ratepayers. (Long Term Control Plan, slides 9-12)

Masbaum said all deep storage tunnels are currently in design or advanced facility planning. Following is a list of tunnels and other key CD projects still to be delivered:

- Deep Rock Tunnel Connector
- Fall Creek/White River Tunnel
- Pogues Run Tunnel
- Pleasant Run Tunnel
- Eagle Creek Interceptor (not started)
- Castleton Relief Sewer (phase I has bid)
- East Marion County Interceptor (manhole and rehabilitation phases have bid)
- Southport Advanced Wastewater Treatment (AWT) Plant
  - Headworks Expansion
  - Secondary Expansion
  - Primary Clarifiers
  - Wet Weather Disinfection

(Long Term Control Plan, slide 13)

CD Elements that still must be delivered include:

- Update of the Long Term Control Plan every five years
- Use Attainability Analysis Development: In progress/discussions with regulatory agencies
- Financial Capability Assessment (FCA)
  - Updates completed every five years
  - In progress/discussions with regulatory agencies
  - Periodic CD reporting

(Long Term control Plan, slide 13)
Masbaum added that the EPA guidance with regard to the FCA offers lots of flexibility, but the agency itself has a different interpretation of what the guidance suggests. Because of economy, the FCA actually looks worse for Indianapolis than when it was first developed.

Van Frank asked if the utility transfer would have any impact on the FCA.

Nielsen said the utility transfer could impact the financial capability, but CEG isn’t able to step up to the table yet. The FCA examines affordability of the Long Term Control Plan for ratepayers and the amount of work that can be completed during a given time. Nielsen said that IDEM has requested an updated FCA before the UAA is addressed.

Masbaum said that in the 1990s, the Long Term Control Plan and UAA were developed to work together. The original CD stated that approval of an updated UAA must be completed in September 2006 and 2011. The city submitted a UAA in advance of the 2011 deadline, but once the EPA became involved IDEM decided not to approve it.

Beranek said the agencies seem to be using the documents in the wrong way. He said financial capability should not be tied to the UAA, and the clear guidance that EPA laid out has been lost. He said these issues with the FCA and UAA need to be resolved or the schedule will be affected.

Masbaum said that the UAA is based on water quality standards, and if the updated version is not approved, an Indianapolis citizen could sue the city for not meeting those standards.

Non-CD programs that still need to be delivered include plant expansion (growth), plant rehabilitation, collection system expansion, collection system rehabilitation, Septic Tank Elimination Program (STEP) and the storm water capital program. (Long Term control Plan, slide 14)

Masbaum said electrical rehabilitation is in progress at both treatment plants. An additional challenge will be to meet air pollution standards at the plant. Masbaum said a requirement to measure the air pollution from incinerators is being implemented, and there isn’t currently a method for measurement in place.

Beranek said the mass burning facility at the Belmont AWT Plant was designed and bid to burn sludge as well as trash. After the project was bid the contractor pointed out that burning sludge and trash would not produce consistent sludge quality. He said that’s why sludge isn’t being mass burned as intended.

Nielsen said CEG, Covanta and DPW would need to meet and discuss the options.

Beranek said the city is in violation of the water quality standard and has been in violation for 20 years.

Nielsen adjourned the meeting.