

CITY COUNCIL STUDY SESSION

TO: Mayor and City Council
FROM: Mari E. Macomber, City Manager
SESSION DATE: December 3, 2012
TIME: 4:30 p.m.
PLACE: Second Floor Conference Room

AGENDA:

- **FINAL PRESENTATION AND REVIEW OF WASTEWATER TREATMENT PLANT FACILITY PLAN**
- **DREAM PRESENTATION DOWNTOWN STRATEGIC PLAN**
- **STORMWATER PROJECTS UPDATE**
- **REVIEW NEWSLETTER**
- **REVIEW COUNCIL AGENDA**

FINAL PRESENTATION AND REVIEW OF WASTEWATER TREATMENT PLANT FACILITY PLAN

On Monday, Pat Young, Associate Vice President with HDR, our wastewater treatment plant engineering consultant, will be at the Study Session on Monday to present the completed Wastewater Treatment Plant Facility Plan. Mr. Young will provide a comprehensive overview and proposed recommendation for the City Council to consider.

As a reminder, the City's wastewater treatment plant operating permit expired in 2011 and we have been working with DNR and our consultant to come up with a plan to insure compliance with new state and federal standards. In the most recent meeting the City was directed to move toward obtaining a permit for plant modifications. The operating permit would then be drafted as part of the construction permit.

The City has since submitted an application to the Missouri Department of Natural Resources State Revolving Loan Fund program. The City would need to go to the voters to ask for support of a bond issue (revenue or general obligation).

A staff report from John Buckwalter outlining the history of this project is included. In summary, after completing their review and evaluating options, the recommended approach will be to complete the minimum work necessary to meet permit requirements.

Recommendation: The Council will need to review the Facility Plan, listen to the presentation from Pat Young and determine if the recommended approach is in the best interest of the City. If agreeable, the next step would be to consider an agreement with HDR to complete the plant design work and other measures necessary to obtain the necessary operating permit.

DREAM PRESENTATION DOWNTOWN STRATEGIC PLAN

The City was selected as a DREAM community back in 2007. Since that time, consultants working for the State of Missouri, City of Kirksville and the Downtown Improvement Committee have been gathering information, meeting with community members and developing various plans for the downtown area.

The last step in the process is the completion of a Downtown Strategic Plan. Mike Hemmer with PGAV Consultants was in Kirksville on October 23 to meet with interested individuals on a proposed strategic plan. There was a small group who attended the meeting including property and business owners, as well as the Presidents of both Truman State and AT Still University. Since that time, comments have been solicited on the proposed plan.

The City Council, as the contracting agency with the State of Missouri, will be asked to approve the Downtown Strategic Plan, so it is important that the City Council be aware of what is included.

Recommendation: Mike Hemmer with PGAV will be at the Council Study Session on Monday to provide an overview of the Plan. The City Council will need to ask questions of Mr. Hemmer and discuss the overall impact and importance of this document for the future development of downtown Kirksville. If the Council wishes to make changes these will need to be communicated to Mr. Hemmer, as the City Council will then be asked to approve the Plan at the December 17 meeting. The City has been a participant of DREAM for 5 years. This is the last step in the process and the State would like to have this project completed.

STORMWATER PROJECTS UPDATE

In 2010, the City was able to secure one-time loan funds from the State of Missouri through the American Recover and Reinvestment Act for stormwater improvements. The amount of funds available to Kirksville was \$2.274 million and was contingent upon voter approval. The citizens supported the City's efforts to borrow these funds by approving a bond issue that included the repayment of the bonds through stormwater fees paid by the residents.

The City contracted with Bartlett & West Engineers to develop a stormwater substantial plan, which identified the top 20 projects based on established criteria that had been approved by the City.

The City entered into an agreement with Willis Brothers to complete the top six projects in 2011.

The City also contracted with Willis to complete a seventh project in 2012, Bear Creek 9, which was funded through a combination of grant funds, capital improvement and transportation sales tax monies and \$40,000 from the General Fund. This was one of the top 20 projects but the only project in the list that meet grant requirements.

After completing the top six projects, there is about \$474,000 available to complete one more project. Regardless of the project, the costs will include design, inspection and infrastructure work. We have estimated that we will have about \$413,000 for the infrastructure portion.

One of the next projects is in the College Park area. We have been working to obtain the easements needed to do this project. We have not been able to obtain the easements that are needed. Included with this Memorandum is a report from City Engineer Ed leans. Mr. leans has outlined three options for the Council to consider. See Pages 11 – 13.

Also included in his report is the list of remaining top stormwater projects in rank order. In looking at the list, it is obvious that the top project is not financially feasible. The second project, Elson/Potter is one that would be eligible for federal/state support once the Adair County Mitigation Plan is completed. The third project is again to costly, which leaves College Park as the next viable project.

The issue with the College Park project is one of cost, to complete the entire project eliminating the flooding of yards on Circle Drive. The City would have to construct a portion of the storm drainage project within Circle Drive due to our inability to obtain all the easements. This increases the cost of the project and would require the City to complete improvements on a private roadway. The City could consider scaling the scope of the project to focus on eliminating the flooding that occurs on College Park Drive, which is a city owned street. This option, though not ideal for all property owners within this neighborhood, would give the City a little bit of room should the actual cost of the project exceeds the current estimate.

The Council should also be aware that the original project required the City to obtain an easement from the property owner to the south of Circle Drive. This adjacent property is the planned location for Sunset Cove Subdivision. The original storm drainage project would have worked to reduce the size of the detention basin needed within this development. Due to the location of the sewer line serving the Circle Drive residents, part of the project required the location of a new sewer line. The developer was interested in connecting his development into this new sewer and signed an easement contingent upon getting access to public sewer.

Recommendation: At this point, we have not received any indication that the necessary easement to complete the original project will be granted. The City needs to

utilize the dollars allocated for stormwater work in the most beneficial manner. The fact that College Park Drive floods leaving about 30 homes without access into or out of this area until the water subsides. Also, since we have another option to explore for the Elson/Potter project, we need to consider this to maximize our available funds. Completing a scaled down College Park project will benefit those property owners located west of Circle Drive. It will not eliminate the flooding that occurs along Circle Drive, nor will it give sewer access to the developer of Sunset Cove.

NEWSLETTER REVIEW

REVIEW COUNCIL AGENDA

Attachments

Staff Rpt WW Treatment Plant Facility Plan – J. Buckwalter, PW Director

Staff Rpt DREAM Strategic Plan – S. Halstead, Community Services Coordinator

Staff Rpt Stormwater Projects Update – E. Ieans, City Engineer

KIRKSVILLE CITY COUNCIL STUDY SESSION ATTACHMENT

SUBJECT: Wastewater Treatment Plant Progress

STUDY SESSION MEETING DATE: December 3, 2012

CITY DEPARTMENT: Public Works

PREPARED BY: John R. Buckwalter, PE, Public Works Director

This attachment updates information provided to Council during the November 5, 2012 Study session. Pertinent information from the November Study Session is repeated so Council only has to refer to one document.

The City's WWTP operating permit expired in February, 2011. A permit renewal was submitted to DNR in July 2010, 180 days prior to the expiration of the permit. The EPA released the final TMDL for Bear Creek on December 23, 2010. The City's permit renewal has been under study or on hold at DNR since the TMDL draft was released in the fall of 2010. The pollutant load limits established by the TMDL are much less than the expired permit limits, less than technically feasible for some pollutants, and not addressed by any MoDNR state-wide effluent limits or guidelines.

In March 2011 the City engaged an engineering team headed by HDR Engineering Inc. to develop a facility plan for the WWTP and to follow that facility plan with permitting and design of required plant improvements. The original timeline would have had the facility plan completed by March, 2012 and a new permit in place by June or July. HDR is under contract to complete the Facility Plan and assist in obtaining a new NPDES permit. During sequential meetings with DNR staff, it was determined that a TMDL implementation plan, and Antidegradation analysis would be completed, and permit limits, hopefully based on state-wide effluent limits established by DNR would be negotiated. The state published proposed new rules on effluent limits on November 21, 2012, and proposed rules on Water Quality Regulations on November 23, 2012. Both proposed rules are currently open for public review and comment until January 22, 2013.

The TMDL implementation plan was submitted to DNR on July 20, 2012. On October 12, 2012 the DNR distributed a draft water quality review (WQR) "For the Protection of Water Quality and Determination of Effluent Limits for Discharge to Bear Creek by Kirksville Wastewater Treatment Plant". Following comments by Staff and our consultant team, DNR determined that our proposed discharge was not subject to an Antidegradation Review, and issued the final Water Quality Review on November 14, 2012. The Facility Plan was finalized, and submitted to DNR on November 15, 2012. The Facility Plan will be discussed in detail with Council during the December 3 Study Session.

A meeting with DNR, the City and our consultant team was held at 10:00 am on Tuesday October 23 at Jefferson City. A pre-meeting between the City and our consultants was held in Columbia at Geosyntec's office at 8:00 am. Refatt Mefrakis, Chief of Permits and Engineering, Water Protection Program, MoDNR, recommended that rather than continuing with the permit renewal process, the City submit an application for a construction permit for the plant modifications. The operating permit would then be drafted as part of the construction permit. Instead of including schedules in a permit renewal, we could draft an operating permit for the new facility that would not include explicit schedules. He indicated that operating permits issued for new construction do not include schedules as the final permit limits are meant to be effective upon construction. He also suggested including the proposed permit limits as the final limits thereby improving water quality, while recognizing the TMDL WLAs in the permit as longer-term targets. He also suggested including nutrient limits to help address potential concerns from EPA. Other DNR staff noted this permit would not actually have to be issued and that the final permit could change after construction. As EPA would have 30 days to respond to the public noticing of this permit, this option would provide some resolution for the City. HDR Engineering prepared a construction permit application, which was submitted to DNR for public review on November 15th.

Simultaneously, the City submitted an application for SRF monies for WWTP improvements to DNR on November 15th.

A full review of the TMDL Implementation Plan, Water Quality Review, and Facility Plan will be presented to Council by staff and HDR engineers on December 3, 2012.

In parallel action, the City's projects for collection system improvements, totaling over \$1.4 Million, were moved to the SRF fundable list. During early discussions with DNR they noted that improvements in the collection system should have a high priority. Gary Beck, with GBA has reviewed our submittal and has drafted a design contract and schedule for the collection projects. HDR believes the City should continue to work with GBA on collection system projects, and will integrate their work into the overall facility plan and plant sizing calculations, and construction schedule if they overlap. GBA's schedule would have the project bid in July 2013, with construction from September 2013 thru April 2014.

On October 16th Ed leans, City Engineer, Jack Schuster, Deputy Public Works Director, Duane Covington, WWTP Supervisor, and I met with Pat Young of HDR to discuss the next steps in the planning process, and to discuss immediate issues at the plant. Current major issues at the plant are the digesters, the secondary clarifier drive, and the bar screen. The secondary digester is not being used, the floating roof is immobile, and the digester is full of sludge and water. The boiler and the primary digester gas generation system are failing, and major investments (\$80,000 or more) are required to do any more than just get the boiler running. The bar screen is on the verge of failure, and estimates range from \$ 52,665 to rebuild it with OEM equipment to \$90,000 to replace it with a new but similar unit. The secondary clarifier drive has been ordered,

and is scheduled to be installed before the end of December. A replacement bar screen is included in the 2013 capital budget.

The plant improvements really have three major segments: Headworks and flow control, biological treatment, and solids handling. The bar screen is part of the headworks. If we go with a screen after the lift pumps, the bar screen could be used in the new headworks. If we want the screen before the pumps, which is the operational preference, the work on the bar screen will be lost. The headworks can be designed and built ahead of the rest of the plant if necessary. The plant improvements include a major change in solids (sludge) handling. The closed digesters would be converted from anaerobic process to open aerobic digesters. The gas capture goes away. The sludge does not have to be heated in an aerobic process. A new furnace would be installed in the plant, eliminating the need for the boiler entirely. The conversion of the digesters could take place at any time in the improvement process, at a cost of about \$1.5 million.

HDR has prepared a detailed schedule for plant design and permitting of the new plant, as well as a proposal for design phase services. The design could be completed by May 2013, and ready for DNR and EPA review and public comment. That could take 90 days or more. The estimated construction cost of the minimum required improvements remains \$18 million. We would not plan on turning earth for any major improvements at the plant until 2014. These details will be discussed with Council on December 3. A proposal for engineering services for the design phase will be presented to council for their review and comment, with approval of a contract for engineering services included in the Council agenda on December 17, 2012.

KIRKSVILLE CITY COUNCIL STUDY SESSION ATTACHMENT

SUBJECT: Downtown Strategic Plan

STUDY SESSION MEETING DATE: December 3, 2012

CITY DEPARTMENT: Economic Development

PREPARED BY: Sarah Halstead

The City of Kirksville was designated a D.R.E.A.M. Community in 2007. D.R.E.A.M. stands for Downtown Revitalization and Economic Assistance for Missouri. One of the final pieces of the D.R.E.A.M. process is to create a strategic plan for Downtown Kirksville. The Downtown Strategic Plan will tie in with the citywide plan, and will help to create an overall plan for the downtown. The Plan consists of a set of recommendations and guidelines that PGAV Consulting has helped to develop to revitalize Kirksville's Downtown.

The goals of D.R.E.A.M. are the following:

1. Re-establish the properties in use in Downtown
2. Increase property tax values and sales tax opportunities
3. Re-establish a sense of place and cultural heritage in the heart of the community
4. Attract new private investment and jobs

From information gathered, the D.R.E.A.M. process then developed recommendations through a series of tasks. 49 recommendations were developed and categorized:

1. Organizational Structure
2. Land Use, Buildings, & Infrastructure
3. Community Surveys
4. Building & Streetscape
5. Retail Market
6. Residential Market
7. Financial Mechanisms
8. Marketing

Several of these recommendations coalesced into 7 goals for Downtown Kirksville:

1. Develop and support a Downtown Organization to spearhead revitalization efforts
2. Form the University Partnership Committee
3. Brand Downtown
4. Establish gateways to Downtown
5. Promote building rehabilitation
6. Conduct parking study
7. Strengthen retail base

The Strategic Plan is available to view on the City's Website. It is listed in the News & Announcements section on the main page.

Mike Hemmer with PGAV will be in attendance at the Study Session to give a brief overview and answer any questions that the Council may have about the Dream Strategic Plan.

KIRKSVILLE CITY COUNCIL STUDY SESSION ATTACHMENT

SUBJECT: STORMWATER PROJECT UPDATE

STUDY SESSION MEETING DATE: December 3, 2012

CITY DEPARTMENT: Engineering Division of Public Works

PREPARED BY: Edward leans, City Engineer

In 2010, a storm sewer substantial report was prepared by Bartlett and West to identify various locations with flooding problems. This report prioritized storm sewer projects in twenty one areas within the City of Kirksville. The first 15 areas are: Those shaded in grey are the completed projects.

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|----------------------------------|--------------------------------|
| 1. FC2: Suburban and Monte Carlo | 11. BC4: College Park |
| 2. SC2: Lewis and Harrison | 12. BC9: George St |
| 3. SC2: Lincoln and Normal | 13. BC6: Lewis and Halliburton |
| 4. BC10: Normal Ave | 14. SC3: Dear St |
| 5. SC3: Pintail and Gadwell | 15. BC9: Bear Creek 9 by grant |
| 6. SC3:Greenway and Canvasback | |
| 7. SC2:Lincoln Square | |
| 8. SC7:Elson south of Potter | |
| 9. SC2:Braford to Manor | |
| 10. SC4:Garrett Drive | |

The City of Kirksville awarded Willis Brothers a construction contract to install storm sewer in the first 6 areas in August 2011. All work was completed by June 15, 2012. The bid cost and final cost of each project are listed below.

Project Name	BID Per Project	Final COST
FC2: Suburban and Monte Carlo	\$338,694.70	\$370,663.59
SC2 Lewis and Harrison	\$427,083.60	\$401,842.04
BC10: Normal	\$57,796.00	\$49,145.00
SC3: Pintail and Gadwell	\$156,266.20	\$163,749.18
SC3: Greenway and Canvasback	\$213,998.90	\$183,174.08
SC2: Lincoln and Normal	\$15,069.60	\$16,769.60
TOTAL	\$1,208,909.00	\$1,185,343.49

Revenues - Bond and CIP	\$2,352,366
Stormwater Plan/Design/Inspection	(\$602,853)
Willis Contract: 2011 Storm Projects	(\$1,208,909)
Utility/Easements/Bldg Demo	(\$19,961)
Equipment Rental	(\$16,114)
Property Purchased	(\$30,027)
Funds available for 2013 Projects	\$474,502

The Engineering Division of Public Works completed the design, inspection and provided the project management of the Bear Creek 9 project in 2012. It is listed as priority 15 in the substantial storm water report.

Bear Creek 9 is a Community Development Block Grant project. It is a recommend project in the substantial report. This project was funded using transportation sales tax, storm water fund, capital improvement sales tax and general fund, including a \$300,000 grant from the Missouri Economic Development Department.

Willis Brothers was awarded this project based on a bid of \$538,606 in June 2012. The construction of this project was completed on October 16, 2012 for \$554,351.

Remaining Projects	Est. Cost
SC2:Lincoln Square	\$909,000
SC7: Elson South of Potter	\$247,000
SC2: Bradford to Manor	\$1,048,000
BC4:College Park	\$450,000
BC6: Lewis to Halliburton	\$120,000
SC3: Dear Street	\$111,000
SC2:Baltimore and Washington	\$615,000
SC3:East Meadow Lane	\$205,000
FC2:Pheasant Drive	\$342,000
BC:10 Randolph Street	\$208,000
SC4: New Street- Florence	\$0
SC3:Kings- Queens Road	<u>\$88,000</u>
	\$4,343,000

In addition, Bartlett and West completed the design of College Park and Circle Drive in September, 2012 including the 90 percent design of SC2: Cottage Grove and SC7: Elson St. City staff decided to delay the construction of the Cottage Grove and Elson Street projects because of the costs. We will apply for FEMA mitigation funds at a later date in the amount of \$350,000.00.

We have not advertised for bids on the College Park Drive and Circle Drive project because we only have \$413,000 in the 2013 budget for infrastructure work and we have not received signed easements from 2 residents.

Before we move forward with this project we would like the City Council to review the following options for the College Park Drive and Circle Drive project.

OPTION 1

This option would construct the project as originally described by Bartlett & West. The estimated cost of this project is \$511,595.00. This project will install storm sewer on Circle, College Park and March Drive. The sanitary sewer on Circle Drive will need to be shifted to the

west side of the street. The new location will have improved flow characteristics to reduce sewer backups.

The advantages of this project are:

1. Little or no detention required on Sunset Cove Subdivision. Many of the trees in this area could remain to provide a buffer from the residents on Circle Drive.
2. There would not be a large berm behind Williams & Steve Funk's house.
3. The 48" pipe and inlets would reduce flooding in Williams, Partenheimer, Cuppelli's and Porter's front yards. This alignment picks up overland flow based on natural drainage path from area south of Circle Dr.

The disadvantages of this project are:

1. Cost more than option 2.
2. Inconvenience to Circle and College Drive residents because front yards will be torn up during the construction of storm sewer. There would be limited access to Circle and College Park Drive.

OPTION 2

This option would only build storm sewer on College Park and March Drive. The cost of this project is \$347,781.00. The design fee for revisions to drawings is \$5664.00.

The advantages of this project are:

1. Reduces flooding on College Park and March Drive to allow vehicles to pass during heavy storms.
2. The lowest cost of all 3 options.

The disadvantages of this project are:

1. Sunset Cove Subdivision would put in a detention basin. This would remove lots of trees.
2. Flooding occurs in Patrick Williams, David Partenheimer, Porter, and Ralph Cuppelli's yards.
3. The detention basin maybe unsightly to Steve Funk and Patrick Williams. However, we will consider using storm water best management practices to reduce the size of the basin.

OPTION 3

This option would realign the storm pipe on Circle Drive to have a manhole or junction box in Circle Drive and install storm sewer on College Park and March Drive. The sanitary sewer on Circle Drive will need to be shifted to the west side of the street. The new location will have improved flow characteristics to reduce sewer backups. The cost of this project is \$576,595.00. The design fee for revisions to drawings is \$5353.00.

The advantages of this project are:

1. Little or no detention required on Sunset Cove Subdivision. Many of the trees in this area could remain to provide a buffer from the residents on Circle Drive.
2. There would not be a large detention berm behind William's and Steve Funk's house.
3. The realigned storm sewer would collect runoff in William's, Partenheimer, and Cupelli's front yard but not as efficient as Option #1 because the storm sewer does not follow the natural flow path from areas south of Circle Drive.

The disadvantages of this project are:

1. Cost more than other two options.
2. Inconvenience to Circle and College Drive residents because front yards will be torn up during the construction of storm sewer. There would be limited access to Circle and College Park Drive.
3. Would require city staff to acquire revised easements for Partenheimer, Cupelli and Williams.

Detention basin on Sunset Cove:

On a separate but related issue, we reviewed the detention basin and overall drainage for the College Park area that includes a new subdivision called Sunset Cove.

Currently, Sunset Cove is a preliminary plat (dated 6-18-2008) and shows a detention basin. It is about 130-150 feet from the edge of Circle drive. The berm of the proposed detention basin is about 3-5 feet above existing ground elevation. This detention basin is about 150 feet long and 410 wide (measured east to west). A detention basin of this size would be required if Option 2 storm sewer project (listed above) was chosen to build on College Park Drive.

However, if Option 1 or 3 were chosen, we estimate the detention basin would have the following dimensions: 150 feet long, 280 feet wide (measured east to west), and 3.7 feet high above existing ground elevation.

The actual dimensions of the detention basin would not be known until the final plans are completed for the Sunset Cove subdivision.