CITY OF LANSING
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Lansing, KS 66043
913-727-3233 Fax: 913-828-4579
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WORK SESSION AGENDA

February 26, 2015
Thursday
7:00 p.m.
Lansing City Hall

Call To Order:

I. Activity Center Gym Floor
II. Sewer Rate Study
III. Sanitary Sewer Design Criteria Update
IV. Consideration for Memorial Plaque
V. Adjournment

TO: Michael W. Smith, City Administrator

FROM: Jason Crum, Parks and Recreation Director

DATE: February 19, 2015

SUBJECT: Activity Center Gym Floor

At the August 2014 Work Session SFS Architecture presented the findings from the Activity Center building study. Options were presented concerning improving the building as well as interim repair options. Replacement of the gym floor was one of the interim options. The Parks and Recreation Advisory Board recommended setting aside funds from the Parks and Recreation CIP for the replacement of the gym floor in 2006. There has been $45,000.00 approved to be set aside by this method to date and there are sufficient funds in the Special Parks and Recreation Account to fund the replacement of the floor.

Staff recommends for the City Council to allow staff to go out for bid to replace the gym floor in 2015.

WORK SESSION WORK SESSION ITEM # 1

Acme FLOOR CO., INC.

10100 MARSHALL DRIVE LENEXA, KANSAS (913) 888-3200 FAX (913) 888-1936

February 19, 2015

Lansing Activity Center
108 S. 2nd Street
Lansing, KS 66043

Attention: Christina Moberly

RE: Lansing Activity Center Gym Floor Replacement

Dear Christina,

Acme Floor Co., Inc. is pleased to submit a proposal to replace the maple gym Floor at the Lansing Activity Center.

We will remove only the maple flooring and leave the sub-floor system in place. We will re-nail and anchor the sub-floor where needed and then install new 25/32" x 2-1/4" 2nd Better Northern Hard Maple nailed to the existing sub-floor system. This flooring will be sanded, two coats of Hillyard Gold Medalist Seal will be applied, the striping and artwork to match the existing will be applied to the floor and then two coats of Hillyard Gold Medalist Finish will be applied.

Black Vented Rubber Base will be installed at the walls and K20-41-11 Aluminum Transitions will be installed at the doors.

Total cost for this scope of work is $50,529.00

This proposal excludes tax; repair or replacement of the sub-floor material, and fine dust clean up.

All work is to be preformed during regular working hours Monday through Friday.

Thank you for the opportunity to bid on your project, if you have any questions please feel free to call.

Sincerely,
Acme Floor Co., Inc.

Randy Hamilton
Commercial Sales

TO: Michael W. Smith, City Administrator mc

FROM: Beth Sanford, Finance Director BS

DATE: February 20, 2015

SUBJECT: Sewer Rate Study

Staff will present information to the City Council on the on the timeline and funding of the sanitary sewer projects.

WORKSESSIONWORKSESSION ITEM # 2

SANITARY SEWER CAPITAL PROJECTS

- 7 Mile Creek Action Plan
  - Design Cost - $262,918
  - Total Construction Cost - $5,378,600 (estimated)
    - Ph 1 Construction Cost $905,100 (Potential Cost Share with Benefit District)
- 9 Mile Creek Action Plan
  - Design Cost - $311,905
  - Total Construction Cost - $3,962,000

USER RATE STUDY

- Professional Engineering Consultants
  - Created 2007 Rate Structure
  - Updated in 2012
  - At The Time Lansing Was Second Highest Rate in Surrounding Areas
  - Presently Lansing is Fourth Highest (Other Communities Adjusting Rates)
  - Current Rate Structure in Effect Until 2017
  - Staff Estimate for 2015 Rate Study - $24,000
  - Funds Available in Engineering Studies Base Budget
  - Consultant Indicated 5 to 6 Months to Complete

PROJECT AND FUNDING TIMELINE

- 7 Mile Creek Action Plan
  - Construction begins July or August 2015
  - Project complete by end of 2016
- 9 Mile Action Plan
  - Construction begins 2016
  - Project complete end of 2016
- Permanent debt Spring 2017
  - First interest payment Fall 2017

REVENUE SOURCES

- Capital Projects Reserve
  - Reserve of $300,000 as of the end of 2014
    - A portion of this will be used to pay design costs for the 9 Mile Action Plan
- Debt Service Fee
  - A flat fee added to monthly bills

Monthly fee	# of Households	Monthly Revenue	Annual Revenue
$5	2600	$13,000	$156,000
$8	2600	$20,800	$249,600
$10	2600	$26,000	$312,000

	Revenue	Loan Payment	Balance
2016	$249,600	$0	$249,600
2017	$249,600	$0	$499,200
2018	$249,600	($300,000)	$448,800
2019	$249,600	($300,000)	$398,400
2020	$249,600	($300,000)	$348,000

TYPES OF FUNDING

- State Revolving Loan
  - Limited to 20 years
  - Other criteria that must be met to qualify for the loan
  - Ability to lock in at current interest rate
- General Obligation Bonds
  - Option for 30 year payment schedule
  - Interest rates may increase
- Option to 'bend' the loan
  - Pay interest on the new loan until the debt from the WW Treatment Plant is paid off
  - The estimated annual payment is $300,000 in addition to the city's current debt payment
  - This option is available when using either the State Revolving Loan Fund or issuing G.O. Bonds
  - The estimated annual payment would be $300,000

QUESTIONS?

TO: Michael W. Smith, City Administrator MWS

FROM: Anthony J. Zell, Jr., Wastewater Utility Director TZ

DATE: February 20, 2015

SUBJECT: Sanitary Sewer Design Criteria Update

On December 18, 2014, the Lansing City Council approved the final draft of the 2014 Sanitary Sewer Master Plan, completed by George Butler Associates. Based on the results of the master plan, GBA presented the city with a new universal design curve for new sewers. This has now been incorporated into the new design criteria.

In order to complete the sewer master plan, GBA completed hydraulic modeling of the existing and future sewers within the city's urban grown area. The developer will now have the option to pay a minimal fee ($500.00), and provide the City with the design calculations which will be submitted to GBA and have them create hydraulic model runs. As an alternative, the developer will also have the option to have their own engineer model the City's sanitary sewer system and report any issues found. Either practice will ensure that future developments will not exceed existing pipe capacities, and determine if those developments require additional upgrades within the collection system.

These changes, along with other administrative changes, are presented for your consideration. A copy of the proposed changes are attached. Staff will be present to answer any questions.

WORKSESSIONWORKSESSION ITEM # 3

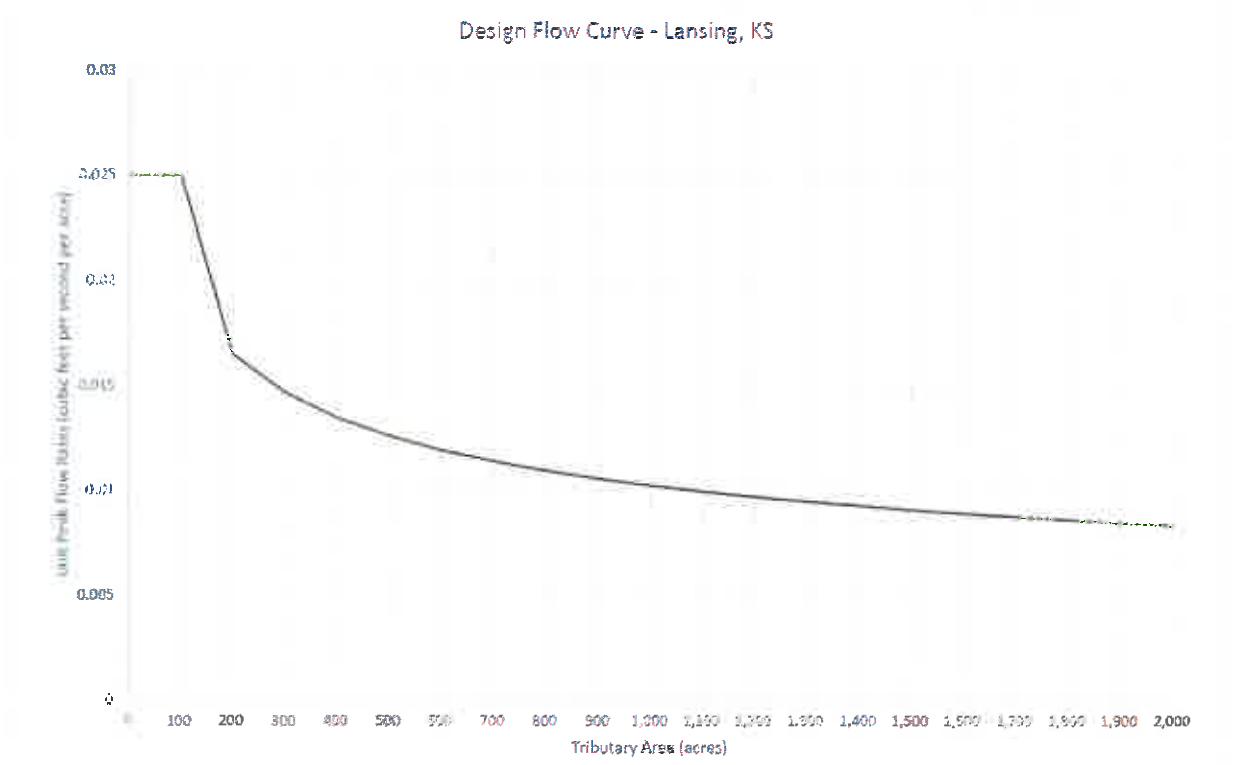
DESIGN CRITERIA FOR
SANITARY SEWERS AND APPPURTENANCES

A. DESIGN FACTORS. Sanitary sewers shall be designed for the ultimate tributary population. Due consideration should be given to current zoning regulations and approved planning and zoning reports where applicable. Sewer capacities shall be adequate to handle the anticipated maximum hourly quantities of sewerage and industrial waste together with reasonable consideration given to infiltration/inflow.

B. SEWER DESIGN. Sewers shall be designed for the total tributary area using the following minimum criteria:

~~Interceptor or main sewers and relief interceptor sewers 18-inch and larger pipes are to be sized flowing two-thirds full; up to 18-inch pipes are to be sized flowing three-fourths full. Lateral sewers may be designed to flow at capacity. All sewers are to be designed for anticipated flows from a 50-year return interval storm.~~

Sewers up to and including a diameter of 18-inch are to be sized flowing two-thirds full; Interceptors, main sewers, and relief interceptor sewers larger than 18-inch diameter are to be sized flowing three-fourths full. Lateral sewers may be designed to flow at capacity. All sewers are to be designed for anticipated flows from a 50-year interval storm.



C. MAXIMUM SIZE. The diameter of sewers proposed shall not exceed the diameter of the existing or proposed outlet, whichever is applicable, unless directed by the Wastewater Utility Director or City Engineer.

D. MINIMUM SIZE. No public sewer shall be less than eight (8) inches in diameter. Stublines for service connections

shall not be less than six (6) inches in diameter.

E. MATERIALS OF CONSTRUCTION. Sanitary sewers shall be constructed of pipe material resistant to or protected from degradation, acid and alkaline solutions, normal sewer temperature variation, abrasion, and industrial wastes or other materials which may be transmitted by the collection system.

The following types of commercial pipe are approved for gravity sanitary sewer systems constructed in the city of Lansing:

PVC Pipe	ASTM D3034, Type PSM Polyvinyl (Chloride), SDR 26 (SDR 21 ~~may~~ will be required for depths in excess of 20 ft.); PVC Material shall conform to ASTM D1784 and shall have a cell classification of 12454-B, 12454-C, or 13364-B. Sizes 18" to 36" shall conform to ASTM F679-80. The minimum pipe stiffness for pipe used for stublines shall be SDR 26.
Reinforced Concrete Pipe	ASTM C76
Ductile Iron Pipe (only with approval of Engineer and with appropriate lining)	ANSI A21.51; ASTM A536, Grade 60-42-10; thickness Class 50, unless otherwise required by the Engineer.

The use of PVC pipe, ASTM D3034, shall be limited to residential or commercial areas as approved by the Wastewater Utility Director or CityEngineer and shall not be used for pipelines exceeding 24 inches in diameter, unless approved by the City Engineer. Concrete pipe shall be approved on a per project basis as recommended by the Design engineer and approved by the City Engineer.

F. MINIMUM SLOPE. All sewers shall be designed to give mean velocities when flowing one-half full of not less than 2.0 feet per second.

All velocity and flow calculations shall be based on the Manning Formula using an N value of 0.013. The following slopes shall be minimum for the size indicated.

SEWER SIZE	MINIMUM SLOPE IN PERCENT FULL AND HALF FULL FLOW
8"	0.40
10"	0.28
12"	0.22
15"	0.15
18"	0.12
21"	0.10
24"	0.08
27"	0.065
30"	0.058

Exceptions to these minimum slopes shall be made at the upper end of the lateral sewers serving under 30 dwelling units. Said sewers shall have a minimum slope of 0.80 percent. All sewers larger than 30 inches in diameter shall have the slope approved by the Wastewater Utility Director or City Engineer.

Where lateral sewers serve less than 10 dwelling units, the minimum slope shall not be less than 1.0 Percent.

G. INCREASING PIPE SIZE. When a sewer joins a larger one, the invert of the larger sewer should be lowered

sufficiently to maintain a continuous energy gradient.

H. HIGH VELOCITY PROTECTION. In situations where flow is continuous and grit is a problem or where velocities greater than 10 feet per second are possible, special provisions shall be made to protect against abrasion damage to the pipe and manhole. Such protection may be attained utilizing ductile iron pipe, and T-Lock lining of manholes.

I. ALIGNMENT. All sewers shall be laid with straight alignment between manholes, with the bell-end pointed upstream or as per the manufacturer's recommendation.

J. MANHOLE CONSTRUCTION. Manholes shall be installed at the end of each line; at all changes in grade, size, or alignment; at all intersections; and at a distance not greater than four hundred (400) feet for sewers eighteen (18) inches or less in diameter and not greater than six hundred (600) feet for larger sewers.

K. MANHOLES. The construction of all manholes shall conform to the details shown on Standard Details 31-1 through 31-4.

The minimum horizontal clear distance within the barrel of standard manholes should not be less than four (4) feet. Manholes with connecting pipe diameters greater than 24 inches shall have a minimum inside clear dimension of five (5) feet. The Engineer may require diameters in excess of four (4) feet when warranted by excessive depth or other circumstances.

Drop manholes should be avoided as much as possible. However, an inside drop pipe shall be provided for a sewer entering a manhole at an elevation of twelve (12) inches or more above the manhole invert. The drop pipe shall have the same nominal diameter as that of the incoming sewer. The minimum diameter of an inside drop type manhole must be increased to five (5) feet.

Without utilizing drop manholes, the difference in elevation between the invert of any incoming sewer and the invert of the outgoing sewer should not exceed twenty-four (24) inches except where required to match crowns. When a sewer joins a larger one, the crown of the smaller sewer shall not be lower than the crown of the larger one. The minimum drop through manholes shall be 0.2 feet for manholes with greater than 45° turns and 0.1 feet for straight-through trough and up to 45° turns.

Where manholes are to be built in close proximity to streets, the top of manhole elevation shall be set within the following limits:

Minimum Elevation	¼" per foot rise above top back of curb
Maximum Elevation	½" per foot rise above top back of curb

All other sanitary sewer lines (sewer lines across unplatted land, etc.) shall have the tops of manholes set flush with the existing ground elevation. The top of all manholes shall be located a minimum of 1.0 feet above the 100-year flood elevation. Manholes adjacent to flood plain areas must have bolt-down lids.

Any variation from the above top of manhole criteria will require a letter of explanation to be submitted with the drawings and be subject to approval by the City ~~Engineer~~ or Wastewater Utility Director.

L. SEWER LOCATIONS. Sanitary sewers shall be located within street or alley rights-of-way unless topography dictates otherwise. When located in easements outside of street pavement on private property, access shall be provided to all manholes. A manhole shall be provided at each street or alley crossing. End lines shall be extended to provide access from street or alley rights-of-way where possible. Imposed loading shall be considered in all locations. Not less than eight (8) feet of cover shall be provided over top of pipe in street and alley rights-of-way and five (5) feet in all other areas.

The center of sanitary sewer manholes shall be located five (5) feet beyond the right-of-way, and five (5) feet off a property line, within a dedicated easement. Other locations require the Engineer's approval of a written request.

Tees and stub lines shall not be located within ten (10) horizontal feet of any pipe, structure, or other improvements

without approval of the Engineer. Stub lines shall extend to the easement boundary, opposite of the right-of-way unless directed by the Engineer.

M. CLEANOUTS AND LAMPHOLES. Cleanouts and lampholes will not be permitted on public lines. Cleanouts must be installed on private service lines at a maximum spacing of 100 feet, and at alignment changes.

N. PROTECTION OF WATER SUPPLIES. There shall be no physical connection between a public or private potable water supply system and a sewer, or appurtenance thereto, which would permit the passage of any wastewater or polluted water into the potable water supply.

Sanitary sewer lines and water lines shall be constructed a distance of ten (10) horizontal feet apart when they are to be installed parallel to each other. Exceptions to this requirement shall be granted only upon written approval by the Kansas Department of Health and Environment.

Where sanitary sewer lines are to be installed over or under and across water lines and a two (2) foot clearance cannot be obtained because of limited grades or grades of existing structures, then the sewer pipe shall be encased in concrete for a distance of at least ten (10) feet in each direction from the crossing.

O. AERIAL CROSSINGS. Adequate support shall be provided at all joints in pipes utilized for aerial crossings. All aerial crossings shall be approved by the Wastewater Utility Director or City Engineer.

P. UNSEWERED DWELLINGS. All existing addresses that will be provided access to the sewer that previously did not have sewer service available shall be identified by the Design Engineer. This identification shall include the approximate distance from the dwelling to the sewer.

Q. MAXIMUM SLOPE. All sewers which are designed to flow at 10 feet per second or greater shall be reviewed by the Engineer for approval or alternate design considerations.

R. EXTENSIONS OF THE SEWER. All extensions of the sanitary sewer shall be made so that future extensions may be made by upstream users. When a future sanitary sewer extension will be required to serve adjacent upstream properties, the location for the center of the uppermost manhole, whenever possible, should be at least five (5) feet beyond the plat boundary in a permanent sewer easement.

S. ANALYSIS OF RECEIVING SEWER REQUIRED. Authorization to extend any existing sanitary sewer shall not be granted until an analysis of the receiving sewer system has been completed as outlined in Section T below.

a. Any proposed developments or additions to the existing sanitary sewer pipe network whose additional flows WILL cause or will likely cause a bypass of untreated sewage to the environment or an existing building shall not be approved.

b. Developments or additions to the existing sanitary sewer pipe network whose additional flows WILL NOT cause a bypass of untreated sewage to the environment or an existing building will be considered for approval on a case by case basis. Applicants seeking approval must submit sufficient engineering documents and downstream sewer analysis to the Lansing Wastewater Utility Department staff for their consideration in making a final determination and subsequent recommendation to the Lansing City Council.

T. CITY OF LANSING SANITARY SEWER CAPACITY ANALYSIS PROCEDURE.

As required by the City, the developer shall submit complete sanitary sewer information by creating ~~Create~~ a spreadsheet with information ~~regarding~~ containing:

1. Building use,
2. Acreage,
3. Square footage,
4. Point of connection to the public system,

5. 24-hour average and peak sanitary sewer flow graphs for the peak day, showing average daily and peak daily flows
6. Seasonal peak if it differs from daily peak
7. ~~the f~~Flow line elevations,
8. ~~p~~Pipe diameters,
9. ~~f~~Flow depths and, ~~-~~manhole top elevations,
~~r~~Reach distances, reach slopes, and reach capacity using Manning's equation, ~~with pipe flowing 2/3 full for~~
10. ~~pipes in excess of 18" diameter, or flowing ¾ full for pipes of 18" diameter or less.~~
11. Also include any other information that would support approval.

The design engineer will then ~~select reach(es) within the system that would be the limiting reach(es) and measure the drainage area to that(those) reach(es).~~ create a hydraulic model with existing flows in the system and add the proposed development to the model to determine adequacy of the receiving sewer downstream to the Wastewater Treatment Facility. As an alternative, for a fee of $500, the proposed development may submit the above information to the city to have it evaluated using the City's Sanitary Sewer Hydraulic Model for the trunk sanitary sewer system.

If there is not enough capacity in the existing modeled trunk sanitary sewer system, the developer may be required to upgrade the sanitary sewer system as determined by the City. The required sanitary sewer upgrades will be at the developer's expense. In instances in which KDHE issues the developer an extension permit based and contingent on an approved action plan prior to such time that the trunk capacity is adequate, developer expense for the trunk capacity upgrade may be a prorated portion, as determined by the City.

~~Using the City of Lansing design criteria sanitary sewer design curves, calculate the design flow to that reach.~~
If the design flow exceeds the pipe capacity, and would cause surcharging to homes, businesses, or the environment, the system would be considered hydraulically overloaded.

If the engineer wishes to propose alternative methods of sanitary sewer evaluation, the engineer must submit a written proposal clearly detailing the method and assumptions to be used in that evaluation. The proposal will be reviewed by the City Engineer and Wwastewater ~~Superintendent~~Utility Director for appropriateness for the situation. Do not submit alternative analyses until the proposed alternative method has been approved in writing by the ~~City Engineer~~ Wastewater Utility Director.

TO: Michael W. Smith, City Administrator

FROM: Sarah Bodensteiner, City Clerk on behalf of Mayor Kirby

DATE: February 20, 2015

SUBJECT: Consideration of Memorial Plaque

Mayor Kirby will discuss with governing body guidelines for Memorial plaque requests.

The ladies of the Lansing Community Club requested a memorial plaque for Bill Budd be commissioned and placed in Room 2 of the Community Center; the Community Club would be funding the plaque.

WORKSESSION WORKSESSION ITEM

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