CITY OF LANSING
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WORK SESSION AGENDA

August 27, 2015
Thursday
7:00 p.m.
Lansing City Hall

Call To Order:

I. Discussion of Various Road, Bridge, and Stormwater Concerns
   a) Flooding Issues/Maintenance of 9 Mile Creek
   b) Bittersweet Street Bridge
   c) DeSoto Road
   d) Stormwater Utility

Adjournment

TO: Tim Vandall, City Administrator

FROM: Sarah Bodensteiner, City Clerk

DATE: August 20, 2015

SUBJECT: Work Session Summary

I. **Discussion of Various Road, Bridge, and Stormwater Concerns**
   a) Flooding Issues/Maintenance of 9 Mile Creek
   b) Bittersweet Street Bridge
   c) DeSoto Road
   d) Stormwater Utility
      - Staff will be present to facilitate discussions regarding items of concern.

II. **Adjournment**

WORK SESSION SUMMARY

WORK SESSION SUMMARY

TO: Tim Vandall, City Administrator

FROM: John W. Young, Director of Public Works

DATE: August 21, 2015

SUBJECT: Discussion of Various Road, Bridge, and Stormwater Concerns

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9-Mile Creek: The Public Works Director will be in attendance to facilitate discussion of 9-Mile Creek flooding and maintenance issues. Specific detailed information from Lansing Correctional Facility on what services, in what locations, and under what circumstances they may be able to provide those services has been requested and we hope to have that response in time for the work session.

Bittersweet Street Bridge: The Public Works Director will be in attendance to facilitate discussion of the Bittersweet Street bridge and the associated concrete roadway approach slab and barriers that have settled resulting in an unsightly crack, along with any other issues such as graffiti, and vandalism of the hand rail along the walkway.

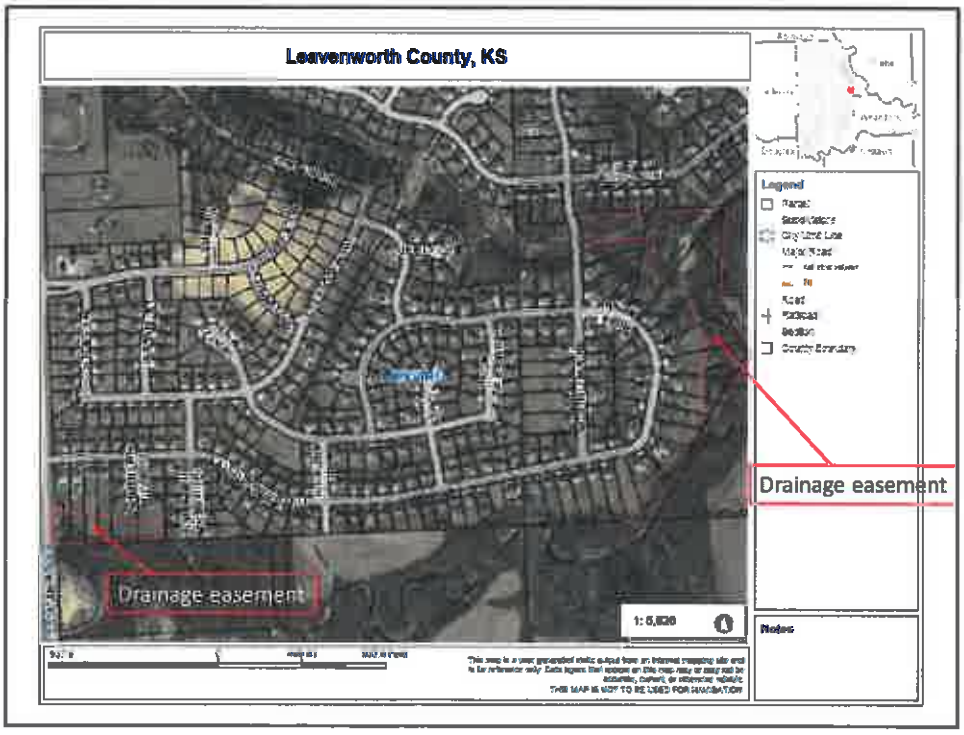
DeSoto Road: The Public Works Director will be in attendance to facilitate discussion of the history and options moving forward for the Ida to Eisenhower project, along with discussion of future needs for other portions of the road.

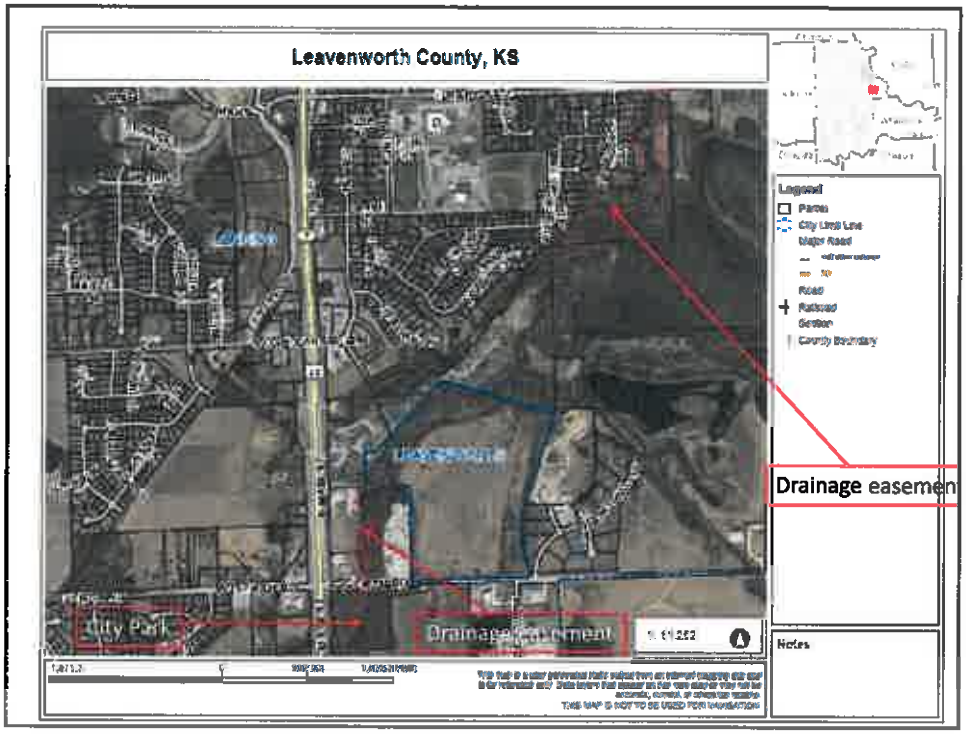
Stormwater Utility: The Public Works Director will be in attendance to facilitate discussion of the potential for funding stormwater needs via formation of a stormwater utility.

The attached PowerPoint slides will be available for the meeting if needed.

WORKSESSIONWORKSESSION ITEM # 1

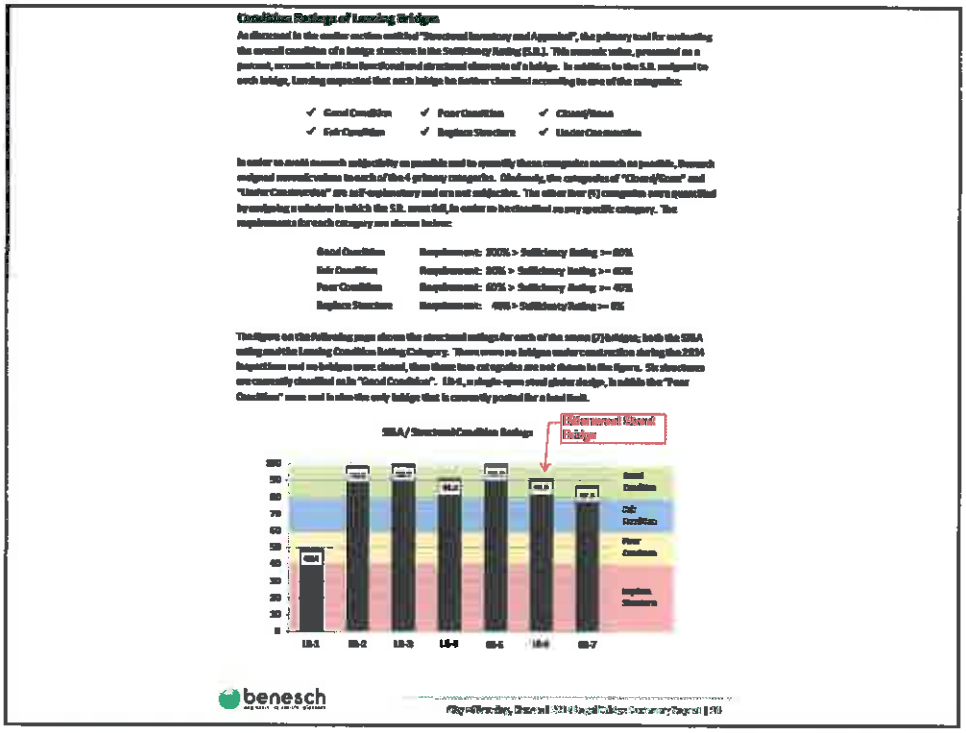
9-Mile Creek


Leavenworth County, KS
Legend
Drainage easement
Drainage easement
1: 5,820
Notes



- Only small portions of 9–Mile Creek are in public drainage easements or on public land.
- Specific detailed information from Lansing Correctional Facility on what services, in what locations, and under what circumstances they may be able to provide those services has been requested and we hope to have that response in time for the work session.

Bittersweet Bridge



Condition Ratings of Lansing Bridges

As discussed in the earlier section entitled "Structural Inventory and Appraisal", the primary tool for evaluating the overall condition of a bridge structure is the Sufficiency Rating (S.R.). This numeric value, presented as a percent, accounts for all the functional and structural elements of a bridge. In addition to the S.R. assigned to each bridge, Lansing requested that each bridge be further classified according to one of the categories:

- ✓ Good Condition
- ✓ Fair Condition
- ✓ Poor Condition
- ✓ Replace Structure
- ✓ Closed/Gone
- ✓ Under Construction

In order to make research subjective as possible and to quantify these categories as much as possible, Bennett assigned numeric values to each of the 4 primary categories. Obviously, the categories of "Closed/Gone" and "Under Construction" are not exploratory and are not subjective. The other four (4) categories were quantified by assigning a number to which the S.R. must fall, in order to be classified as any specific category. The requirements for each category are shown below:

Good Condition	Requirement: 100% > Sufficiency Rating >= 80%
Fair Condition	Requirement: 80% > Sufficiency Rating >= 60%
Poor Condition	Requirement: 60% > Sufficiency Rating >= 40%
Replace Structure	Requirement: 40% > Sufficiency Rating >= 0%

The figure on the following page shows the structural ratings for each of the seven (7) bridges, both the SR.A rating and the Lansing Condition Rating Category. There were no bridges under construction during the 2024 inspections and no bridges were closed, thus these two categories are not shown in the figure. Six structures are currently classified as in "Good Condition". LB-4, a single-span steel girder bridge, is within the "Poor Condition" zone and is also the only bridge that is currently posted for a load limit.

b.

Bridge Number:	LB-6 (Bittersweet Street over Seven Mile Creek)
Location:	0.1 miles North of Mary Street on Bittersweet Street
Inspected By:	Alfred Benesch & Company (T. Keiser & J. Davis)
Date Inspected:	25-Mar-14
Structure No.:	515150520000LB0

2014
Legal Bridge Inspections

Overall Structure Condition & Rating

Lansing Condition Rating = *Good*
SI&A Rating = *91.3%*

Structurally Deficient = *No*
Functionally Obsolete = *No*
Federal Funding Status = *Not Currently Eligible*
Current Load Posting = *No Posting*

3 Span Prestressed Concrete Girder

Condition Rating Color Code Key

SI&A Rating:	(100 to 80)	(80 to 60)	(60 to 40)	(40 to 1)	(0)
Lansing Rating:	= Good	= Fair	= Poor	= Replace	= Closed

General Notes & Comments (From Inspection)

(1) *Inspection Day Information:* Weather Condition = Sunny/Clear Temperature = 34 - Degrees Fahrenheit

(2) Approach Roadway is Asphalt with a 20 mph Speed Limit and No Posted Load Limit. No Guardrail or Hazard Signs are Installed at Any Corner of the Structure. (Roadway has Curb & Gutter so doesn't need Guardrail)(Suggest Hazard Signs)

(3) Transverse Cracking Across Deck Above Piers (Both North and South); Crack Width Ranges 0.5-0.8 mm. Diagonal Cracking Across Deck Above South Pier (Average Crack Width = 0.5 mm). Reflective Cracking Along Deck Soffit with Efflorescence.

(4) Minor Cracking in Corral Rail Pedestals (Typical at Transverse Cracking Locations). Prestress Girders are in Adequate Condition (No Visible/Noteworthy Defects). No Visible Cracking in Prestress Girders.

(5) Settlement of Roadway Surface and Sidewalks at Both North & South Ends; Resulting in Cracking Along Driving/Walking Surfaces and Bridge Barrier Transition Section. Snow Plow Damage is also Typical at both Ends.

(6) Bridge Barrier Extends onto and Beyond the 12-Foot-Long Approach Slabs. Inadequate Compaction and Perhaps Small Footings have Resulted in the Barriers Settling/Rotating. This has Caused Cracking at the Bridge Ends in the Barrier Jt.

(7) Embankments Appear Adequate/Stable; No Erosion or Scour Concerns at this Time. Buried Electric/Power Line at SW Corner. Waterline/Sewerline at Northeast Corner.

(8)

Bridge was Load Rated as Part of the 2012 Inspection Cycle. This information was Placed in Lansing's Bridge Files.

Note:

Refer to Attached Sheets for Further Information/Details (Including Inspection Photographs, SI&A Sheet, & Repair Quantities)

(6)also likely the type of soils found in the subgrade is an issue

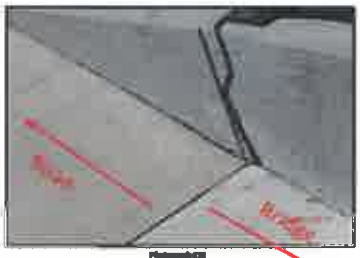
Bridge Inventory & Appraisal (English)

(8) STRUCTURE NO	515150520000100	(1) STATE	Kansas	(4) CITY	Lansing	(3) COUNTY	Leavenworth
LPA Bridge ID	LB-6	(5A) ROUTE ON/UNDER		Route On Structure		NBI FUNDING ELIGIBILITY	Not Eligible

2014
Legal Bridge Inspection

- The approach slabs and approach barriers are part of the roadway itself resting on fill, and are not a structural element of the bridge itself.
- The cosmetic issue (barrier crack) is a result of a settlement.
- There is no structural or safety issue with the bridge itself.

1" Wide Crack in Sidewalk Barrier at SE Corner



1" Wide Crack in Sidewalk Barrier at SE Corner

ESTIMATE OF PROBABLE CONSTRUCTION COST
CITY OF LANSING, KANSAS
BITTERSWEET BRIDGE TRANSITION BARRIER REPAIR OPTIONS
By: EL Johnson / SG Wilton
May 30, 2014
(Note: Unit prices established from average bid tabs for original project plus 20% increase from 2007.)

OPTION 1: [redacted]. The barrier transitions will be constructed on and connected to the extended concrete approach slabs. Current bridge approach slabs utilize bridge approach slab footings. Approach slab footings will be incorporated into the new construction.

DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
Mobilization	1	LS	$6,500.00	$6,500
Demolition / Pavement Removal	89	CY	$20.00	$1,780
Compaction of Earthwork (Type AA)(MR-5-5)	38	CY	$2.25	$86
Embankment (Contractor Furnished)	275	CY	$10.00	$2,750
Concrete Safety Barrier (Transition)	124	LF	$136.00	$16,864
Approach Pavement Rail	48	LF	$136.00	$6,525
Sidewalk Construction (4") (AE)	755	SY	$36.00	$27,180
Concrete Pavement (10") (AE)	242	SY	$217.50	$52,635
Bridge Approach Slab Footing	36	CY	$510.00	$18,360
Traffic Control	1	LS	$500.00	$500
Pavement Marking	1	LS	$250.00	$250
Sodding	416	SY	$8.00	$3,320
Contingency (20%)				$26,100
[redacted]				[redacted]

Good reconstruction method – $162,853

OPTION 2: [redacted]
The high end of the transitions will be connected to the portions of the transitions that are constructed on and connected to the concrete approach slabs.

DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
Mobilization	1	LS	$7,300.00	$7,300
Demolition / Pavement Removal	89	CY	$20.00	$1,780
Compaction of Earthwork (Type AA)(MR-5-5)	38	CY	$2.25	$86
Embankment (Contractor Furnished)	275	CY	$10.00	$2,750
Concrete Safety Barrier (Transition)	124	LF	$204.00	$25,296
Approach Pavement Rail	48	LF	$204.00	$9,792
Sidewalk Construction (4") (AE)	755	SY	$36.00	$27,180
Concrete Pavement (10") (AE)	270	SY	$217.50	$58,725
Bridge Approach Slab Footing	32	CY	$510.00	$16,320
Traffic Control	1	LS	$500.00	$500
Pavement Marking	1	LS	$250.00	$250
Sodding	416	SY	$8.00	$3,320
Contingency (20%)				$29,200
			Total Probable Construction Cost =	[redacted]

Best reconstruction method – $182,499

OPTION 3: [redacted]. Pricing is based on the industry theory that mudjacking is half the cost of removal and replace of the concrete elements.

DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
Mudjacking	1	LS	$55,740.00	$55,740
Concrete Patching	1	LS	$5,000.00	$5,000
Contingency (20%)				$12,100
			Total Probable Construction Cost =	[redacted]

Maintenance repair likely will have to be repeated in future – $72,840

DeSoto Road

DeSoto Road Project History

June 2005--earmark pitch: Councilman Robert Ulin convinced the Council that we should pick a road project and lobby Senator Robert's office earmark funds. Council directed staff to develop a concept for improvements on 147th Street (DeSoto Road) within the city limits. Staff developed a Parkway concept for the route and put together a brochure for Councilman Ulin and Mayor Bernard to take to Washington, D.C. The project, at the concept phase in 2005, was for a Parkway section from Cottonwood to Eisenhower, with a cost estimate of $14 million. This was done without the benefit of any engineering studies.
February 2006--city agreed to have KDOT perform noise study for environmental assessment to be paid for from the $2 million of committed HDP (earmark) funds. $4000.00 for noise study.
April 2006--city/state agreement for 4--H Road to Eisenhower Road executed
June 2006--advised by KDOT that there was no sunset on earmark funds
December 2006--Council enacted enabling resolution and made decision to proceed with design: *staff recommended constructing from Mary to Ida Street, with* preliminary estimate of $4.05 million in local funding, as opposed to preliminary estimate of $6.4 million for Ida to Eisenhower. Reasons were: higher traffic count, deficient bridge, steep hill; in effect, far more safety benefit provided by improving this section.
May 2009--updated city/state agreement: allowed earmark funds to be used for 80% of preliminary engineering costs ($422,672). Local share of engineering $105,668. This *agreement included a sunset on the earmark funds*, requiring them to be used on an active construction project within 10 years (fiscal year 2019, which begins October 2018) or the balance be forfeited and the amount spent repaid.

C.

June 2009--work session – considered options of which phase to be designed: *staff recommended constructing from Mary to Ida* as previously recommended in December.
July 2009--Council decided to proceed with design of Ida to Eisenhower over staff recommendation of Mary to Ida. *Council authorized design for a four-lane arterial facility* because the concept design would not have an adequate level of service throughout the 20 year design life, and there was not a significant cost difference between the original concept and the four-lane facility.
December 2009--began consultant selection process (qualification based selection process)
May 2010--three-party preliminary engineering agreement with PEC and KDOT executed in the total amount of $528,340. There was $145,000 set aside in fund 70 for the project for local costs at this time.
May 2010--preliminary engineering began: *Traffic study indicated need for dedicated turn lane at intersections and a two-way center turn lane in the portion of the project where there are closely spaced direct access driveways to the street.*
May 2011--public information meeting showing plan and profile of roadway design, right-of-way and easement needs, etc. Wide solicitation of public comment for the project.
May 19, 2011--email distributed to all elected officials summarizing all public comments received and providing staff recommendations. Further comment from councilmembers was solicited by this email.
August 2011--commitment by KDOT for $200,000 safety funds for the Eisenhower intersection - amended city/state agreement signed.
December 2011--field check plans completed except for trail modification to address public comment. Field check construction cost estimate $7,984,000.

January 2012--field check completed: *KDOT authorization to begin right-of-way acquisition* and to proceed to office check plans
May 2012--capital and supplemental budget request for right-of-way acquisition - not funded
February 2013--Council declined to act on supplemental agreement for engineering services for additional work needed to redesign/relocate trail to address concerns expressed at public information meeting. Also at this meeting, the *councilmembers from Ward 4 expressed concern about the design and asked why it wasn't designed as a three-lane facility*. This is the first comment staff received from the Council about this matter . . . a year and nine months after we distributed summary of public comment and staff recommended responses in May 2011.
May 2013--office check plans submitted to KDOT without trail design completed
May 2013--capital and supplemental budget request for right-of-way acquisition - not funded
June 2013--project removed from current MARC TIP – Project # 163004 (U-2113-01), due to being behind schedule – resubmit at next call for projects for 2019-20 construction.
July 2013--PEC began work on second office check plans
Second office check *plans have been submitted to KDOT, without completion of trail design*. Construction cost estimate $7,101,000.
May 2014--capital and supplemental budget request for right-of-way acquisition - not funded
July 2014--PEC inquired about being relieved of remaining items in design contract and terminating contract due to inactivity.
May 2015--capital and supplemental budget request for right-of-way acquisition - not funded

Federal funds currently dedicated to the project = $2,200,00

Federal funds available from MARC = ***unknown***

Federal funds spent to date = $422,211 - pay back by 2019 if not under construction

Federal funds remaining to spend on construction and construction engineering = $1,770,789

Estimated construction cost = $7,101,000

Estimated construction engineering expense = $710,100

Estimated right-of-way expense = $450,000 *(2010 estimate)* - needed in 2017 latest

Estimated utility relocation expense = $1,260,000 *(2010 estimate)* - needed in 2018 latest

Estimated total project cost = $10,149,440

Local expenditure to date = $105,553

Total of additional funds needed (local or combination of local and MARC) = $7,843,887

$ in thousands

				Total local costs depending on % of federal construction funding that can be obtained						
Total construction	$7,101.0			80%	70%	60%	50%	40%	30%	20%
Available Fed.	$1,431.1									
Remaining Const.	$5,660.0	Plus CE	$6,707.0							
Other Local Costs	$1,760.0									
Total after Avail. Fed	$8,467.0			$3,101.4	$3,772.1	$4,442.8	$5,113.5	$3,320.20	$6,454.9	$7,125.60

- **From:** John Young [mailto:jyoung@lansing.ks.us]
  Sent: Thursday, May 19, 2011 4:21 PM
  To: 'Mike Smith'; 'Mayor'; buehler@lansing.ks.us; mcneill@lansing.ks.us; Dave Trinkle; 'Blackwell, Billy M.'; kirby@lansing.ks.us; Andi Pawlowski; dstudnicka@sbcglobal.net
  Cc: Terry Coder; Cindy; Dennis Thompson; Herb Mayfield; Jacobson; Justin Holden; Rebecca Savidge; Tim Dossey; Tracy Heim
  Subject: DeSoto Road Public Information Meeting - comments to date

- This was a successful meeting. 35 persons registered as attendees. Sufficient City Staff and Consultant Staff were on hand to explain the project and answer all questions one on one.

- 11 comment forms were submitted at the meeting. We will be reviewing any additional comment forms as they come in. Displays prepared for the meeting are at Public Works and will be available for anyone who would like to see them. Comment forms are available at Public Works and on the City web site.

- Summary of comments to date with some staff statements about design and process germane to the comments:

- 3 forms indicated everything about the project was positive.
- 1 person requested an entrance to their vacant property.
- There were 3 concerns expressed about speed limit on the new road...wanted to keep speed low.
- *Design speed for the project is 45 MPH, and the design is such that all safety considerations for a facility of that speed have been taken into account. The projected traffic growth for this project is such that capacity would be negatively affected by arbitrarily setting the speed limit low. That drag would extend to the ability to accommodate traffic from the side streets. Fed. funding and state law require speed limits to be set per traffic engineering study.*
- There were 3 comments wanting the road to be one lane each direction with a two-way center turn lane.
- *Projected traffic flow during the design life of the project will reach 16,580 vehicles per day which by appropriate traffic engineering criteria will require 4 lanes at design speed to effectively move the traffic. We must design for the life of the project, not for today's conditions. The two-way center turn lane is warranted because of entry and exit turns from the high number of residential access points along the route. The cost difference between a 3 land and 5 lane facility is minimal in the overall cost picture.*
- 1 comment in addition to the 3 that said everything was positive, was in favor of the trail as shown, totaling 4 in favor as shown.
- 1 comment asked to move the trail closer to the creek.
- 2 comments were against a trail in yards near the creek.
- 2 persons from other neighborhoods not affected by the project questioned the location of the trail near the creek.
- *All public projects and developments in Lansing since 2005 that are in areas where trails are shown on the Master Trail Plan have incorporated trails along the approximate corridor adopted in the plan by the Planning Commission and City Council that year. This preliminary alignment may easily be pushed closer to the creek, which is actually the ideal location, and privacy fence may be incorporated to screen the trail from the nearby houses and yards. Where possible the ideal location for the trail easement is within the existing drainage easement at the rear of these properties. Appropriate compensation will be provided for any pedestrian easement acquired as well as for any street right-of-way or other types of easements (there is a very formal and extremely fair process required for this by the Federal Government since Fed. funds are involved.)*
- We welcome any questions and comments from Council Members as well as from the public throughout the design process as we continue toward a final design.

CHOICES

1. PAY BACK FEDERAL SHARE OF DESIGN COSTS.
   a. This action will relieve the City Council from having to raise revenues to pay the local match for the project which, depending on the success of future funding requests, will amount to between $3 million and $8 million.
      - $422,211 between now and 2019

2. REDESIGN PROJECT TO A THREE-LANE MINOR ARTERIAL SECTION.
   a. Will require additional local funds for redesign, which will essentially offset any savings in construction cost. Funds for redesign will be needed in addition to funds for right-of-way in 2017 latest.
      - $450,000 for right-of-way plus $250,000 for redesign = $700,000 in 2017
      - $1,260,000 for utility relocation in 2018
      - Between $2 million and $8 million in 2019

3. PROCEED WITH PROJECT USING CURRENT DESIGN AND FINISH TRAIL DESIGN.
   a. Will require commitment to follow through on funding.
      - $450,000 for ROW plus $25,000 to complete trail redesign = $475,000 in 2017
      - $1,260,000 for utility relocation in 2018
      - Between $2 million and $8 million in 2019

Stormwater Utility

2013 Strategic Planning Work Session

Why Consider a Utility?

- All developed property in Lansing contributes to the displacement of stormwater in proportion to the amount of impervious surface developed on the property (rooftops, driveways, patios, parking areas, etc.)
- Property valuation and ad valorem tax assessments are not proportional to displacement of stormwater.

- WATER - > Charge for volume used
- WASTEWATER - > Charge for volume used (direct proportion to water use)
- ELECTRICITY - > Charge for amount used
- GAS - > Charge for volume used
- STORMWATER - > Charge for amount of runoff generated

Researching Heartland v Mission to see if this argument will withstand a legal challenge

d.

This fee is clearly assessed, in part, on how property owners decide to use their property. Plainly, the property owners' decision directly affects the City's determination of the amount of the direct and indirect volume of traffic each property generates, the type and size of such traffic, and the traffic generation factor. The larger the developed square footage and the greater the use or disposition made of the developed property, the greater the tax. In sum, this tax taxes the use of developed property and would have been prohibited as an unauthorized transactional excise tax under the former law.

With the broader prohibition of excise taxes now in effect, it is clear beyond a substantial doubt the transportation user fee is an excise tax or a tax in the nature of an excise and the City exceeded its home rule authority. See Kan. Const. art. 12, § 5(b); K.S.A. 12-194; see *Executive Aircraft*, 252 Kan. at 424-25.

in the case of the stormwater utility fee, the owner's decision on the size of house and other impervious surfaces on the property affects the amount of the fee charged

Remaining issues

Given our ruling here, we need not address Heartland's due process and equal protection arguments. The same is true for Heartland's argument raised after summary judgment was granted, that the City failed to properly follow the procedures in K.S.A.

Stormwater Funding

- To properly plan and operate a Stormwater program addressing the varied, often very expensive and complex capital projects, along with annual operations and maintenance, a stable, sufficient, revenue source is needed.
- Typical funding sources are a) unstable, as has been demonstrated by our own history with Stormwater budgeting; b) project-based (one time funding, grants, etc.); or c) temporary.
- In the absence of an autonomous program, we experience delays in projects and maintenance due to competition for general fund resources, budget cuts, unfunded regulations (next phase of NPDES), etc.
- Results:
  - Deferred maintenance leading to system failures and more expensive repairs.
  - Inability to fix recurring problems.
  - Failure to meet NPDES requirements . . . potential fines.
  - Large high priority projects deferred due to insufficient funding.

Stormwater Utility

- Has a dedicated method of funding separate from the General Fund.
- Has a budget separate from the General Fund within City Government, similar to the wastewater utility budget.
- Provides long term programmed approach to Stormwater issues.
- Provides for unified/coordinated management of planning, capital improvements, maintenance, regulation/enforcement, and administration/funding for Stormwater services.

Stormwater Utility Fee

- User/generator fee.
- Is charged to Stormwater runoff generators (customers) so the utility can manage the customers' runoff.
- Customers are owners of developed property in the City Limits.
- Fee is set to provide an amount adequate for demonstrated funding needs (operation and maintenance plus capital improvements as determined by a rate study).
- Fee is fair and equitable, based on the actual impact of each customer.
- Provides a dedicated revenue stream unaffected by the General Fund and other considerations.

Advantages of Stormwater utility

- Stable source of revenue.
- Sufficient funding for Lansing's specifically identified needs (Master Plan).
- Fair to all customers: residential, commercial, industrial, agricultural, large, small, etc.
- One less category to compete with the many other important General Fund needs.
- Ability to fund large projects and demonstrate progress to customers soon after inception.

EQUITABILITY

- The amount of Stormwater runoff produced is directly related to the area of impervious surface on a property.
- Rate structure is developed in proportion to area of impervious surface, so customers pay their fair share of the overall cost for the City to manage the excess Stormwater runoff that comes from their property due to impervious surfaces on the property.

In-House Work to Minimize Master Plan Costs

- Mapping of existing Stormwater infrastructure – *95% Complete.*
- Determination of current impervious surface area on all properties in the City – *95% Complete.*
- Condition Inventory of existing Stormwater infrastructure – *Suspended due to KERIT requirements.*
- Identification of Stormwater problems – *Results of condition inventory will be added to current list of known Stormwater problems and citizen concerns.*
- Estimate that mapping and inventory efforts already completed or to be completed by staff will reduce the cost of a master plan by $65,000.

Current Ranked List of Major Stormwater Problems *(2014)*

Location	Private Property Risk	Public Infrastr. Risk	Population Vulnerability	Existing Condition	Cost/Benefit	TOTAL	Existing Easement?	Preliminary Cost Estimate	Accumulative Total Preliminary Cost Estimates	Notes	
Southfork 84" pipe	7	8	3	7	7	32	Y	$198,000	$198,000	Damaged - Replace with RCP	
Key St. between 2nd & 3rd	8	2	3	9	6	28	N	$44,000	$242,000	Replace CMP with RCP, make channel	
130 Jayhawk Ct.	3	5	0	3	6	16	?	$27,500	$269,500	San. Sewer Risk??	
North Centre Drive Detention Wall	0	3	1	3	6	12	Y	$37,400	$306,900	Re-stack Walls two locations	
Rock Creek West #5 Neighborhood	7	1	0	2	1	11	Y	$385,000	$691,900	Levy	
2nd St. & Key St.	0	4	1	3	2	10	Y	$14,000	$705,900	Non-Structural Storm inlet in traffic area	
E. side Fawn Valley Ct.	7	0	0	1	1	9	N	$385,000	$1,090,900	Levy	
300 E. Lois	2	2	0	3	1	8	N	$27,500	$1,118,400	Ditches, Storm S. to Creek	
American Ave. E. of Santa Fe St.	3	1	0	2	1	7	I	$82,500	$1,200,900	Ditch & structures capacity	
Ditch Liner between Fairlane to Holiday	2	2	0	2	1	7	Y	$330,000	$1,530,900	Reconstruct Ditch Liner	
109 to 301 W. Ida Street Culvert	3	1	0	2	1	7	N	$49,500	$1,580,400	Bank Stabilization	
Outlets behind 801, 805, & 807 Cottonwood	1	2	1	2	1	7	N	$168,000	$1,748,400	Top of Pipe below ground - Channel to Creek	
South Centre Drive Detention Wall	0	2	1	1	3	7	Y	$30,800	$1,779,200	Wall being monitored	
McIntyre Rd., K-7 to 147th	2	2	0	2	1	7	Y	$82,500	$1,861,700	Aggregate Ditch Liner - drainage from 13958 to 14074	
7th St., Carol to Beth	3	1	0	2	0	6	N	$220,000	$2,081,700	CMPs & End. Pipes, Ditches	
Ditch Liner between Fairlane and Brookwood	1	1	0	3	1	6	I	$396,000	$2,477,700	Shape and protect channel	
City Park W. of Bittersweet	2	1	0	2	1	6	Y	$99,000	$2,576,700	Bank Stabilization (slide)	
105-117 Continental Dr	2	1	0	2	0	5	N	$16,500	$2,593,200	Behind/through yards	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Y		[illegible]	[illegible]	[illegible]
112 to 202 Fairlane Avenue	2	0	1	1	0	4	?	$21,500	$2,614,700	Behind/through yards (owners blame Speedway)	
260 Holiday Drive	2	0	0	2	0	4	?	$9,000	$2,623,700	Homeowner complaint	
2nd St. & E. Mary	0	0	1	2	0	3	Y	$126,500	$2,750,200	New Storm Sewer, C&G	
115 E. Key Street	1	0	0	2	0	3	N	$4,400	$2,754,600	Private pipe connected to CRP	
23802 140th Street (Robin Rd & 140th Street)	1	1	0	1	0	3	I	$99,000	$2,853,600	Lower CMP & Construct Channel	
519 Meadowlark	2	0	0	1	0	3	Y	$25,000	$2,878,600	Standing Water Complaint	
109 Brookwood	1	0	0	1	0	2	P	$5,500	$2,884,100	Homeowner complaint	
"Key-K5/1st-2nd	1	0	0	1	0	2	?	$4,200	$2,888,300	alley drainage & Ind. 122 to 116	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2			[illegible]		[illegible]
Wyndham Hill Allyssa Court Detention	0	0	0	1	0	1	Y	$49,500	$2,937,800	Discharge Pipe Replacement	
Willows detention outlet to Holiday Drive	[illegible]	4	3	6	5	[illegible]		$40 000	$2 977 800	Discharge pipe replacement through backyards	2015 JY
Maintenance Items, 2014 Biennial Br. Insp.								$164,942	$3,142,742		

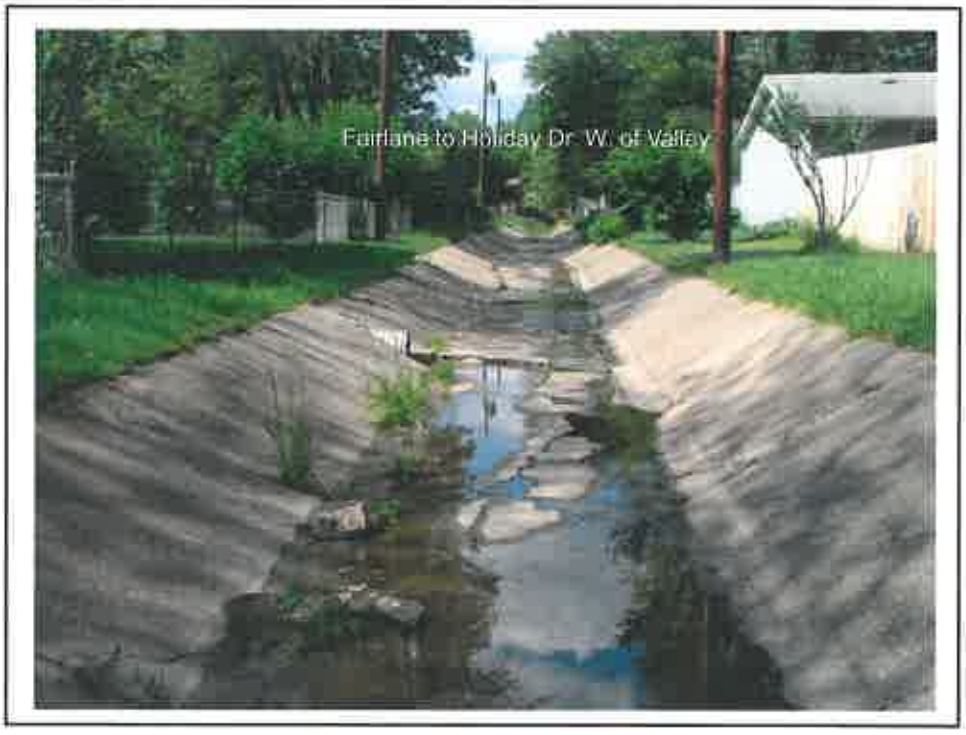
Stormwater Project Ranking Criteria

Private Property Risk	10 = likelihood of home or store damage for <10 Yr. Return 9 = likelihood of home or store damage for <25 Yr. Return 8 = likelihood of home or store damage for <50 Yr. Return 7 = likelihood of home or store damage for <100 Yr. Return 6 = likelihood of accessory structure damage for <10 Yr. Return 5 = likelihood of accessory structure damage for <25 Yr. Return 4 = likelihood of accessory structure damage for <50 Yr. Return 3 = likelihood of accessory structure damage for <100 Yr. Return 2 = likelihood of yard or grounds erosion 1 = likelihood of grounds inundation 0 = no apparent risk
Public Infrastructure Risk	10 = Road or bridge could wash out or collapse @ <10 Yr. Return 9 = Road or bridge could wash out or collapse @ < 25 Yr. Return 8 = Road or bridge could wash out or collapse @ <100 Yr. Return 7 = Public building or other facility could be damaged @ <10 Yr. Return 6 = Public building or other facility could be damaged @ <25 Yr. Return 5 = Public building or other facility could be damaged @ <100 Yr. Return 4 = Pipe or inlet (not under street) could collapse or undermine 3 = Ditch liner could wash out 2 = Ditch/channel could erode to unsafe condition 1 = likelihood of grounds erosion or inundation 0 = no apparent risk
Population Vulnerability	10 = High likelihood of danger to large groups (such as schools) 5 = High likelihood of danger to individuals 0 = Little risk to persons
Existing Condition	10 = Will not perform function intended 0 = New
Cost Benefit	10 = High benefit per $1 of estimated cost 0 = Very little benefit per $1 of estimated cost

Reasons Needed

- Flooding – life safety, property risk
- Deteriorating infrastructure
- Revenue concerns
- Development impacts
- NPDES requirements
- Water pollution concerns


Southfork


Fairlane to Holiday Dr. W. of Valley

7th St., Carol to Beth

Lots at 3rd St

Kay St between 2nd & 3rd
Upstream

Deteriorated Storm Inlet

Kay St between 2nd & 3rd
Downstream

McIntyre
Rd

Detention Outlet Wyndham Hill South

Process

1. ***Stakeholder involvement/education initiative*** (residential, commercial, industrial, agricultural, institutional property owners/businesses)
2. Decide on type of rate structure
3. Set program objectives and priorities
4. Master plan and rate study (temporary note)
5. Charter Ordinance
6. Utility Ordinance
7. Rate Ordinance
8. Bond Sale
9. Implementation

Financing

- One portion of revenue stream dedicated to maintenance.
- One portion of revenue stream dedicated to capital projects and to stormwater master plan.
- Capital projects and master plan/rate study are eligible for bond financing.
- Financing makes it possible to deliver larger and more high priority projects in the near term so the public receives immediate and noticeable benefit from the fee.

Developed Properties *(2013)*

- There are over 568 acres of impervious surface on the over 2,949 developed properties in Lansing.
- The average area of impervious surface on our 1,345 single family residential properties in R-1 is 3,920 square feet, or 0.09 acres.
- For purposes of the following examples, 3,920 square feet was used as one Equivalent Residential Unit (ERU). 568 acres yields a total of 6,309 ERU in the City.
- A rate study will likely establish a rate structure such as .75 ERU for very small houses, and 1.25 ERU for extremely large houses in R-1 zoning, as a matter of equitability, and a rate per square ft. of actual measured impervious surface for all other zoning categories.
- For purposes of the following examples, a home appraised at $200,000 is assumed to be billed for 1 ERU.

Example #1 ($2 million) (bond rate 4.4%)

Year	Utility Fee Revenue (95% collection rate; 0.5% annual growth)	Bond Payment	Operation and Maintenance	Monthly Utility Bill per ERU	Equivalent Mil Levy	Monthly Property Tax on $200,000 Home
2014 BOND			$33,502	$4.10	3.92	$7.51
2015	$294,883	$251,516	$43,367	$4.10	3.92	$7.51
2016	$296,357	$251,516	$44,841	$4.10	3.92	$7.51
2017	$297,839	$251,516	$46,323	$4.10	3.92	$7.51
2018	$299,328	$251,516	$47,812	$4.10	3.92	$7.51
2019	$300,825	$251,516	$49,309	$4.10	3.92	$7.51
2020	$302,329	$251,516	$50,813	$4.10	3.92	$7.51
2021	$303,841	$251,516	$52,325	$4.10	3.92	$7.51
2022	$305,360	$251,516	$53,844	$4.10	3.92	$7.51
2023	$306,887	$251,516	$55,371	$4.10	3.92	$7.51
2024	$308,421	$251,916	$56,505	$4.10	3.92	$7.51
2025	$309,963	$0	$309,963	$4.10	3.92	$7.51

Loan Amortization Schedule

	Enter values
Loan amount	$2,000,000.00
Annual interest rate	4.40 %
Loan period in years	10
Number of payments per year	1
Start date of loan	5/1/2012
Optional extra payments	$ -

Lender name:

Loan summary	
Scheduled payment	$ 251,516.40
Scheduled number of payments	10
Actual number of payments	10
Total early payments	$ -
Total interest	$ 515,164.05

Pmt No.	Payment Date	Beginning Balance	Scheduled Payment	Extra Payment	Total Payment	Principal	Interest	Ending Balance	Cumulative Interest	Annual Total
1	5/1/2013	$ 2,000,000.00	$ 251,516.40	$ -	$ 251,516.40	$ 163,516.40	$ 88,000.00	$1,836,483.60	$ 88,000.00	$ 251,516.40
2	5/1/2014	1,836,483.60	251,516.40	-	251,516.40	170,711.13	80,805.28	1,665,772.47	168,805.28	
3	5/1/2015	1,665,772.47	251,516.40	-	251,516.40	178,222.42	73,293.98	1,487,550.05	242,099.27	$503,032.81
4	5/1/2016	1,487,550.05	251,516.40	-	251,516.40	186,064.20	65,452.20	1,301,485.85	307,551.47	
5	5/1/2017	1,301,485.85	251,516.40	-	251,516.40	194,251.03	57,265.38	1,107,234.82	364,816.85	$503,032.81
6	5/1/2018	1,107,234.82	251,516.40	-	251,516.40	202,796.07	48,718.33	904,438.75	413,535.18	
7	5/1/2019	904,438.75	251,516.40	-	251,516.40	211,721.19	39,795.22	692,715.56	453,330.40	$503,032.81
8	5/1/2020	692,715.56	251,516.40	-	251,516.40	221,036.92	30,479.48	471,678.64	483,809.88	
9	5/1/2021	471,678.64	251,516.40	-	251,516.40	230,762.54	20,753.86	240,916.10	504,563.74	$503,032.81
10	5/1/2022	240,916.10	251,516.40	-	240,916.10	230,316.79	10,600.31	0.00	515,164.05	$240,916.10
										$2,504,563.74

Example #2 ($1.5 million) (bond rate 4.4%)

Year	Utility Fee Revenue (95% collection rate; 0.5% annual growth)	Bond Payment	Operation and Maintenance	Monthly Utility Bill per ERU	Equivalent Mil Levy	Monthly Property Tax on $200,000 Home
2014 BOND			$33,502	$3.25	3.11	$5.96
2015	$233,748	$188,637	$45,111	$3.25	3.11	$5.96
2016	$234,917	$188,637	$46,280	$3.25	3.11	$5.96
2017	$236,091	$188,637	$47,454	$3.25	3.11	$5.96
2018	$237,272	$188,637	$48,635	$3.25	3.11	$5.96
2019	$238,458	$188,637	$49,821	$3.25	3.11	$5.96
2020	$239,650	$188,637	$51,013	$3.25	3.11	$5.96
2021	$240,849	$188,637	$52,212	$3.25	3.11	$5.96
2022	$242,053	$188,637	$53,416	$3.25	3.11	$5.96
2023	$243,263	$188,637	$54,626	$3.25	3.11	$5.96
2024	$244,480	$188,637	$55,843	$3.25	3.11	$5.96
2025	$245,702	$0	$245,702	$3.25	3.11	$5.96

Loan Amortization Schedule

	Enter values
Loan amount	$1,500,000.00
Annual interest rate	4.40 %
Loan period in years	10
Number of payments per year	1
Start date of loan	5/1/2012
Optional extra payments	$

Lender name:

	Loan summary
Scheduled payment	$ 188,637.30
Scheduled number of payments	10
Actual number of payments	10
Total early payments	$ -
Total interest	$ 386,373.04

Pmt No.	Payment Date	Beginning Balance	Scheduled Payment	Extra Payment	Total Payment	Principal	Interest	Ending Balance	Cumulative Interest	Annual Total
1	5/1/2013	$ 1,500,000.00	188,637.30	-	$ 188,637.30	$ 122,637.30	$ 66,000.00	$1,377,362.70	$ 66,000.00	$ 188,637.30
2	5/1/2014	1,377,362.70	188,637.30	-	188,637.30	125,033.35	60,603.98	1,249,329.35	126,603.98	
3	5/1/2015	1,249,329.35	188,637.30	-	188,637.30	133,666.81	54,970.49	1,115,662.54	181,574.46	$377,274.61
4	5/1/2016	1,115,662.54	188,637.30	-	188,637.30	139,548.15	49,089.15	976,114.39	230,663.60	
5	5/1/2017	976,114.39	188,637.30	-	188,637.30	145,688.27	42,949.03	830,426.12	273,612.63	$377,274.61
6	5/1/2018	830,426.12	188,637.30	-	188,637.30	152,098.55	36,538.75	678,327.56	310,151.38	
7	5/1/2019	678,327.56	188,637.30	-	188,637.30	158,790.69	29,846.61	519,536.87	339,997.80	$377,274.61
8	5/1/2020	519,536.87	188,637.30	-	188,637.30	165,777.59	22,859.61	353,759.28	362,857.41	
9	5/1/2021	353,759.28	188,637.30	-	188,637.30	173,071.91	15,565.40	180,687.37	378,422.81	$377,274.61
10	5/1/2022	180,687.07	188,637.30	-	180,687.07	172,796.64	7,950.29	0.00	386,373.04	$180,687.07
										$1,078,422.81

Example #3 ($1 million) (bond rate 4.4%)

Year	Utility Fee Revenue (95% collection rate; 0.5% annual growth)	Bond Payment	Operation and Maintenance	Monthly Utility Bill per ERU	Equivalent Mill Levy	Monthly Property Tax on $200,000 Home
2014 BOND			$33,502	$2.40	2.29	$4.39
2015	$172,614	$125,758	$46,856	$2.40	2.29	$4.39
2016	$173,477	$125,758	$47,719	$2.40	2.29	$4.39
2017	$174,344	$125,758	$48,586	$2.40	2.29	$4.39
2018	$175,216	$125,758	$49,458	$2.40	2.29	$4.39
2019	$176,092	$125,758	$50,334	$2.40	2.29	$4.39
2020	$176,973	$125,758	$51,215	$2.40	2.29	$4.39
2021	$177,858	$125,758	$52,100	$2.40	2.29	$4.39
2022	$178,747	$125,758	$52,989	$2.40	2.29	$4.39
2023	$179,641	$125,758	$53,883	$2.40	2.29	$4.39
2024	$180,539	$125,758	$54,781	$2.40	2.29	$4.39
2025	$181,442	$0	$181,442	$2.40	2.29	$4.39

Loan Amortization Schedule

Enter values	
Loan amount	$1,000,000.00
Annual interest rate	4.40 %
Loan period in years	10
Number of payments per year	1
Start date of loan	5/1/2012
Optional extra payments	$ -

Loan summary	
Scheduled payment	$ 125,758.20
Scheduled number of payments	10
Actual number of payments	10
Total early payments	$ -
Total interest	$ 257,582.02

Lender name:

Pmt No.	Payment Date	Beginning Balance	Scheduled Payment	Extra Payment	Total Payment	Principal	Interest	Ending Balance	Cumulative Interest	Annual Total
1	5/1/2013	$ 1,000,000.00	$ 125,758.20	$ -	$ 125,758.20	$ 81,758.20	$ 44,000.00	$ 918,241.80	$ 44,000.00	$ 125,758.20
2	5/1/2014	918,241.80	125,758.20	-	125,758.20	86,355.56	40,402.64	832,886.23	84,402.64	
3	5/1/2015	832,886.23	125,758.20	-	125,758.20	89,111.21	36,646.99	743,775.03	121,049.63	$251,516.40
4	5/1/2016	743,775.03	125,758.20	-	125,758.20	93,032.10	32,726.10	650,742.92	153,775.73	
5	5/1/2017	650,742.92	125,758.20	-	125,758.20	97,125.51	28,632.69	553,617.41	182,408.42	$251,516.40
6	5/1/2018	553,617.41	125,758.20	-	125,758.20	101,399.04	24,359.17	452,218.37	206,767.59	
7	5/1/2019	452,218.37	125,758.20	-	125,758.20	105,860.69	19,897.51	346,357.78	226,665.20	$251,516.40
8	5/1/2020	346,357.78	125,758.20	-	125,758.20	110,518.46	15,239.74	235,839.32	241,904.94	
9	5/1/2021	235,839.32	125,758.20	-	125,758.20	115,381.27	10,376.93	120,458.05	252,281.87	$251,516.40
10	5/1/2022	120,458.05	125,758.20	-	120,458.05	115,157.89	5,300.16	0.00	257,582.02	$120,458.05
										$1,252,281.87