

CITY OF MARSHALL  
2014 - 2019 CAPITAL IMPROVEMENT PLAN

Department (sort with filter)	Project Title	Priority Ranking	Estimated Useful Life	Source of Funding	Project Narrative/Purpose	2014-2015 Expenditure	2015-2016 Expenditure	2016-2017 Expenditure	2017-2018 Expenditure	2018-2019 Expenditure	Trade In or Grant Share	Total Expenditure	Impact on Operating Budget
Airport	Maintenance Bay Roof Repair	1	20	General Fund	Roof over the maintenance bay, which is currently leased out is in need of multiple repairs.	\$50,000	\$0	\$0	\$0	\$0	\$0	\$50,000	Reduction in maintenance expenses.
Airport	Terminal Building Study	2	20	General Fund 5%, FAA Allocation 90%, State 5%	The existing terminal building, due to it's age, requires improvements to maintain the use of the building.	\$1,500	\$0	\$0	\$0	\$0	\$28,500	\$30,000	Reduction in maintenance expenses.
Airport	Taxistreet Rehabilitation	2	20	General Fund 5%, FAA Allocation 90%, State 5%	The most recent PCI rated these pavements between 41-55, indicating the need for rehabilitation. Since these pavements service the majority of the hangers on the field, they need to be maintained free of debris.	\$13,500	\$0	\$0	\$0	\$0	\$256,500	\$270,000	Reduction in maintenance expenses.
Airport	Runway Extension Environmental Study	3	30	General Fund 5%, FAA Allocation 90%, State 5%	An environmental assessment will be necessary to document any potential environmental issues associated with the runway extension.	\$0	\$0	\$0	\$5,000	\$0	\$95,000	\$100,000	None.
Airport	Runway Extension justification study	3	30	General Fund 5%, FAA Allocation 90%, State 5%	Since more than ten years will have elapsed since the ALP update, it will be necessary to assess current FAA criteria related to runway layout, as well as provide justification for the runway extension which will be used in the purposed and need section of the environmental assessment.	\$0	\$0	\$0	\$1,250	\$0	\$28,750	\$30,000	None.
Airport	Preliminary Engineering for Runway Extension to Support Environmental Assessment	3	15	General Fund 5%, FAA Allocation 90%, State 5%	Engineering will be necessary to determine grading limits and general runway layout for the EA document. This will include approach assessments for obstruction removal.	\$0	\$0	\$0	\$1,500	\$0	\$28,500	\$30,000	None.
Airport	Pavement Marking and Crack Sealing	2	10	General Fund 5%, FAA Allocation 90%, State 5%	Replacement of pavement markings and crack sealing as necessary	\$0	\$1,000	\$0	\$0	\$0	\$19,000	\$20,000	None
Airport	Terminal Building Construction	2	30	General Fund 5%, FAA Allocation 90%, State 5%	The existing terminal building, due to it's age, requires improvements to maintain the use of the building.	\$0	\$0	\$15,677	\$0	\$0	\$297,861	\$313,538	Reduction in maintenance expenses.
Cemetery	Cemetery Water Distribution System	2	20	Cemetery Trust Fund	Replacing the current water distribution system will eliminate line breaks which will result in reduced water usage as a result of the leaks.	\$45,000	\$0	\$0	\$0	\$0	\$0	\$45,000	Will reduce water loss and maintenance costs due to the age of the current system. Needs to be done prior to road paving.
Cemetery	Cemetery Road Paving Project	2	20	Cemetery Trust Fund	Finishing the drives in the cemetery will provide a clean and solid surface during inclement weather for those visiting their loved ones during a funeral service.	\$10,000	\$10,000	\$10,000	\$10,000	\$0	\$0	\$40,000	Will reduce the need to haul in gravel to build up the drives so that visitors to the cemetery will not be driving or stepping in the mud.
Cemetery	Cemetery Expansion to Meet Future Demand	2	150	Cemetery Trust Fund	Cemetery has four sections left holding 600 spaces for purchase. The number available will shrink exponentially as families begin having trouble finding blocks of spaces available for family plots. This will drive many to seek alternate locations.	\$0	\$40,000	\$40,000	\$40,000	\$40,000	\$0	\$160,000	Money to come from Trust Fund.
City Hall	Exterior Restoration	3	30	80% Byways Grant (with tourism connection), 20% Building Authority Bond (Fire/City Hall Renovation Bond)	Project will replace loose stones and joints on the façade of City Hall. It will be sealed appropriately to keep building viable.	\$0	\$0	\$9,500	\$9,500	\$0	\$76,000	\$95,000	Decrease maintenance and energy efficient.
City Hall	Interior Restoration, Painting & Flooring	4	15	General Fund	Interior has cracks in plaster and peeling paint. Areas of floor need repair and replacement. Restoration is to keep building viable for office space.	\$0	\$35,000	\$0	\$0	\$0	\$0	\$35,000	Maintenance.
Dart	Bus Replacement	4	7	100% Fed/State Grant	Replacement of busses for local transportation services. Replacement criteria based on age/mileage of vehicle	\$0	\$152,000	\$158,000	\$82,000	\$0	\$0	\$392,000	Vehicle maintenance costs increase with age and usage.
Downtown Development Authority	Farmers Market Pavilion	4	25	General Fund 10%, Grant 90%	Construction of a pavilion to provide minimal shelter for Farmers' Market and other community activities. As the demand for "farm to food" and "buying local produce" continues, federal tax dollars are being earmarked for Farmers' Market projects. Staff will monitor the availability of grants for this project, and research potential location(s).	\$0	\$0	\$0	\$35,000	\$0	\$315,000	\$350,000	None.
Downtown Development Authority	Market Study	1	5	DDA Fund 25%, General Fund 37.5%, Grant 37.5%	Market Study Update for the City of Marshall – including all commercial districts and corridors into the city. This study is an important tool for recruiting new businesses, and providing information to existing businesses for marketing, promotions and business expansion ideas.	\$0	\$5,000	\$0	\$0	\$0	\$3,000	\$8,000	None.

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Electric	Breaker Maintenance	1	5	Electric Fund	Circuit breakers are mechanical devices that require periodic maintenance to ensure proper operation. A popular misconception is that if a circuit breaker has not tripped due to an over current it is in original condition. In fact, a circuit breaker that sits without opening over long periods can have performance issues. The lubrication of the mechanism, which is vital for its proper operation, can degrade or dry over time and affect the circuit breaker's ability to operate properly. A circuit breaker also can be damaged or degraded after interrupting a fault.	\$0	\$25,000	\$0	\$0	\$0	\$0	\$25,000	
Electric	Engine #3 & #6 gauge panel replacement	3	20	Electric Fund	One panel replacement each year will modernize control packages for engine control of the city's two newest, largest and most economical engines most requested to run by MSCPA. It will incorporate PLC control and graphic units using touch screen display, a data highway suitable for SCADA interface, one touch start/stop sequence, critical alarm and shutdown inputs, vibration monitoring and fuel/air ratio.	\$80,000	\$0	\$0	\$0	\$0	\$0	\$80,000	Presumed savings unknown. \$8,000 depreciation.
Electric	Overhaul West Well pump	2	10	Electric Fund	Recommended every 10 years by Peerless Midwest. Replace unsatisfactory facilities to maintain the agency program at current level of performance. This is recommended by yearly testing.	\$0	\$0	\$15,000	\$0	\$0	\$0	\$15,000	\$1,500 depreciation per year.
Electric	Replace Protective Relaying - Transformers	2	20	Electric Fund	Microprocessor based protective relaying will be installed on transformers that do not currently have protection and replace current electro/mechanical relays on other transformers. This relaying will open the circuit breaker or breakers in the event of a fault that could harm equipment and personnel and provide feedback to the SCADA to assist the operator in locating or preventing faults.	\$20,000	\$0	\$0	\$0	\$0	\$0	\$20,000	Replace electro/mechanical relays with microprocessor-based relays. This should reduce costs of calibration and maintenance and offer increased protection for equipment and personnel. \$1000 depreciation.
Electric	Repair Blockhouse Walls	2	50	Electric Fund	Concrete block walls are crumbling along roof line and are in need of repair as detailed in the facilities management plan	\$0	\$0	\$6,000	\$0	\$0	\$0	\$6,000	Restoration of block walls. \$120 depreciation
Electric	Repair Brick (re-tuck joints & seal)	2	50	Electric Fund	General maintenance of brick structures as detailed in the facilities management plan	\$0	\$0	\$40,000	\$40,000	\$0	\$0	\$80,000	Repair brick, re-tuck joints and seal. \$160000 depreciation
Electric	Replace Windows	2	50	Electric Fund	Existing windows are the original single pane steel framed and not energy efficient at all. Many of the window sills and frames are deteriorated to the point that water is coming in and further damaging the building.	\$0	\$95,333	\$95,334	\$95,334	\$0	\$0	\$286,001	Estimate based on no asbestos. Must meet historical restoration guidelines. \$5720 depreciation
Electric	Tree Removal/Replacement Program	2	50	Electric Fund	Removal and replacement of trees that need to be trimmed from overhead lines to the extent that they are structurally, physical unsound, unhealthy and unsightly. The tree will be completely removed and replanted with a lower growing species.	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$0	\$25,000	Reduction of customer outages, storm damage, repairs and increased reliability.
Electric	Recondition #1 Hydro	3	30	Electric Fund	Improve the efficiency of the hydro power supply generated by the river flow.	\$75,000	\$0	\$0	\$0	\$0	\$0	\$75,000	\$2,250 depreciation expense per year.
Electric	Recondition #3 Hydro	3	30	Electric Fund	Improve the efficiency of the hydro power supply generated by the river flow.	\$0	\$75,000	\$0	\$0	\$0	\$0	\$75,000	\$2,500 depreciation expense per year.
Electric	Rewind Generator #2	3	30	Electric Fund - Bond	The insulation is showing signs of aging. It is beginning to lose some of its insulating properties and will need to be replaced eventually in order to continue operating the equipment.	\$132,000	\$0	\$0	\$0	\$0	\$0	\$132,000	\$4,400 depreciation expense per year.
Electric	Pearl Street Substation Upgrade	3	25	Electric Fund - Bond	The current equipment is reaching a size that if one transformer is out of service generation is utilized to prevent overloading the other transformer. Future distribution lines need to be 12kv and we are out of available breakers now. This project will depend on many variables and fits nicely into priority 3. If we don't have the money we probably don't have the need.	\$2,000,000	\$3,000,000	\$0	\$0	\$0	\$0	\$5,000,000	Anticipated load growth may substitute this project to service our customers in a safe efficient manner.
Electric	Relocation of Overhead Electric in South Alley between Jefferson Street and Hamilton Street and Eagle Street to Grand Street to Underground.	3	35	Electric Fund - Bond	The relocation of the overhead power lines in the South Alley between Jefferson and Hamilton and Grand and Eagle will complete the project that was started in 2007. This relocation will aid in fire responses and also help to clean up the rear facades of the business downtown.	\$0	\$400,000	\$0	\$0	\$0	\$0	\$400,000	Increase safety.
Electric	Rewind Generator #5	3	30	Electric Fund - Bond	The insulation is showing signs of aging. It is beginning to lose some of its insulating properties and will need to be replaced eventually in order to continue operating the equipment.	\$0	\$145,000	\$0	\$0	\$0	\$0	\$145,000	\$4,833 depreciation expense per year.

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Electric	Upgrade Transformer in South Substation	4	30	Electric Fund - Bond	The transformer is circa 1972 that tests okay as of now but will need replacement in the future.	\$0	\$200,000	\$0	\$0	\$0	\$0	\$200,000	No direct cost or savings. \$6,667 depreciation.
Electric	Powerhouse and Engine #6 building lighting fixtures.	2	20	Electric Fund	Replacement of old inefficient T12 lighting with energy efficient T8 lighting in the Powerhouse and Engine #6 building	\$13,000	\$0	\$0	\$0	\$0	Energy Optimization	\$13,000	May be able to utilize rebate funds from the Energy Optimization Program
Electric	Retrofit Breakers in Plant #1 Switchgear	4	30	Electric Fund	Switchgear is 1950's vintage that tests okay now but will need replacement in the future. Retrofitting of modern breakers in place of original is deemed to be the most cost effective way of bringing old gear up to date.	\$50,000	\$50,000	\$0	\$0	\$0	\$0	\$100,000	No direct cost or savings. \$5,000 depreciation.
Electric	Meter / Relay Calibration	1	3	Electric Fund	Regular inspection and maintenance of relays is paramount in protecting electrical systems from unscheduled outages. Relays will nuisance trip when set too low or if not coordinated, the wrong relay may trip and bring down a large portion of the system. Many factors can influence the operation of protective relays. These include changes in load, replacement of equipment, dust or dirt from the environment or age.	\$0	\$0	\$25,000	\$0	\$0	Energy Optimization	\$25,000	To provide a safe efficient operation we do meter calibration to maintain accuracy, relay calibration to maintain safety and protection of the distribution lines and infrastructure.
Electric	Pole Replacement and Line Reconstruction	1	50	Electric Fund - Bond	Most of the older poles in the City of Marshall are Creosote treated poles and have a life expectancy of 30-40 years. However, Creosote, is not environmentally acceptable by today's standards. In most recent history, the City has purchased Penta and CCA treated poles. Many of the poles in the City of Marshall's electric system have aged way beyond 60 years and are in desperate need of replacement. We would like to implement a plan to replace several poles and conductor (if needed) per year to get the poles in the system more environmentally friendly and safe.	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000	\$0	\$400,000	System reliability with a reduction in maintenance and overtime trouble calls.
Electric	Regulators	1	25	Electric Fund	To maintain the voltage at the customer's service within the acceptable range, electrical distribution utilities use regulating equipment at electrical substations or along the distribution line. At a substation, the step-down transformer will have an automatic on-load tap changer, allowing the ratio between transmission voltage and distribution voltage to be adjusted in steps. For long distribution circuits, automatic voltage regulators may be mounted on poles of the distribution line. These are autotransformers again with on-load tap changers to adjust the ratio depending on the observed voltage changes. At each customer's service, the step-down transformer has up to five taps to allow some range of adjustment, usually ±5% of the nominal voltage. Since these taps are not automatically controlled, they are only used to adjust the long-term average voltage at the service and do not regulate the voltage seen by the utility customer.	\$0	\$55,000	\$0	\$0	\$0	\$0	\$55,000	Increase quality of electricity.
Electric	Circuit Reclosers and SCADA Operated Sectionalizing	1	20	Electric Fund	Auto-reclosers are used in coordinated protection schemes for overhead line power distribution circuits. Auto-recloser/sectionalizing switches will make several pre-programmed attempts to re-energize the line unlike blown fuses which require manual replacement. Auto-reclosers are made in single-phase and three-phase versions. Controls for the auto-reclosers range from the original electromechanical systems to digital electronics with metering and SCADA functions.	\$0	\$50,000	\$0	\$0	\$0	\$0	\$50,000	System reliability with a reduction in maintenance cost and overtime trouble calls.
Electric	Upgrade Plant #1 House Power Panels	1	30	Electric Fund	Maintain the equipment for safe and efficient operation by upgrading fuse-type panels with newer circuit breaker panels through a 4-year program. Old panels and wiring have been in place for 50+ years and could become a fire hazard.	\$7,500	\$7,500	\$0	\$0	\$0	\$0	\$15,000	No direct cost or savings. \$500 depreciation.
Electric	Station Battery Replacement	1	20	Electric Fund	Due to the age and critical nature of the battery banks, which are relied on to operate relays and breakers, staff feels they both should be replaced at this time.	\$8,000	\$0	\$0	\$0	\$0	\$0	\$8,000	These batteries are starting to show signs of deterioration in the plates and cracking on the top covers of several cells at the posts. Due to the age and critical nature of the battery banks to operate relays and breakers in an outage staff feels they both should be replaced at this time.
Electric	Powerhouse Medium Voltage Switchgear and Generator #6 Switchgear	1	10	Electric Fund	Cleaning, visual inspection and testing of switchgear, bus and equipment which hasn't been done for an unknown amount of time and should be done on a regular basis.	\$22,500	\$0	\$0	\$0	\$0	\$0	\$22,500	Cleaning of switchgear, bus and equipment to prevent tracking and arcing between components and reliability.

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Electric	Replacement of major pole mounted with critical circuits leaving the powerhouse substation	1	50	Electric Fund	Replace of substation exit pole which handles 3 critical circuits on the cities system. Pole is very old, rotting, cracked and bowed, This would be a catastrophic failure if pole fails.	\$50,000	\$0	\$0	\$0	\$0	\$0	\$50,000	System reliability and hardening of critical system pole,
Electric	Raceway/Dam Maintenance	2	20	Electric Fund	Maintain the structures for safe & efficient operations to meet FERC mandates/licensing. This is a 5-year maintenance program of the concrete structures.	\$15,000	\$15,000	\$0	\$0	\$0	\$0	\$30,000	No direct cost or savings. \$750-\$1,500 depreciation.
Electric	Upgrade Engine Protection Systems #2 & #5	2	20	Electric Fund	To allow a small work force to operate the equipment as needed by MSCPA and the customers of the City of Marshall.	\$0	\$0	\$15,000	\$0	\$0	\$0	\$15,000	Due to the limited work force and the anticipated equipment, it is felt engine protection systems should be upgraded closer to today's standards and technology. With only one operator per shift, it is difficult to be with all of the engines at the same time and to catch a sudden drop in pressure or an increase in temperature before damage is done.
Electric	Pole Inventory and inspection	1	10	Electric	Project will update the GIS by collecting vital information to improve efficiency of the electric department when responding to routine maintenance and emergency responses. Information collected will include size, type, attachments, and condition. Project will also include photographing the poles and labeling them.	\$20,000	\$20,000	\$0	\$0	\$0	\$0	\$40,000	Increase in department efficiency
Electric	Embankment Project	2	50	Electric Fund - Bond	The FERC is requesting that all trees, stumps and root system systems be removed from the earthen embankment between the spillway's. This will require a geotechnical investigation be completed to determine to what extent the embankment must be excavated and replaced. This budgetary number was created assuming the entire embankment would need to be removed and reconstructed.	\$805,000	\$0	\$0	\$0	\$0	\$0	\$805,000	Expected Federal Regulatory Energy Commission (FERC) requirement.
Electric	Automated Meter Information Project	2	20	Electric Fund - Bond or Installment Purchase Contract	This system will automate the collection of meter readings and data from a centrally located facility eliminating the need for door to door readings, reduce or eliminate inaccurate readings and flag problems or tampering with a meter. This system will also provide us with an Outage Management System (OMS), pinpointing back to what device (Breaker, Recloser, Fuse) the outage originates from therefore reducing outage response time. The system will be fully functional within existing ESRI map framework and be ready for immediate integration with the proposed "mPower Innovations" AMI/OMS software. The system will be scalable and capable of pulling in all other available and future layers and data sources.	\$625,000	\$0	\$0	\$0	\$0	\$0	\$625,000	Increase on meter reading efficiency
Electric	Sherman Drive/Wright Lane Upgrade	3	30	Electric Fund - Bond	The underground electric in this neighborhood originated in the mid 1960's. Generally speaking underground electric becomes unreliable after 20 years and reaches the end of its life at approximately 25 - 35 years. Due to the age of the infrastructure, we recommended replacing existing primary and secondary lines.	\$0	\$0	\$3,000,000	\$0	\$0	\$0	\$3,000,000	System reliability with a reduction in maintenance and overtime trouble calls.
Electric	Circuit Upgrade	3	50	Electric Fund - Bond	New poles and reconductor 3 phase from corner of High St & E Prospect east to N Liberty, north on Liberty to Forest, west on Forest to N Marshall, north on N Marshall to North Drive, west on North Drive to dead-end pole. High St from E Prospect north to Forest currently only single phase.	\$0	\$0	\$0	\$1,000,000	\$0	\$0	\$1,000,000	
Fire	Structural Fire Fighting Protective Clothing Purchase	1	10	General Fund or FEMA Grant with a 5% match	With our turn-out gear being quickly outdated and non-compliant, it is imperative to set up a program to not only keep our fire fighters in current gear but to lessen the financial burden of having to make a one time purchase. This CIP should be placed in perpetuity so as to keep up with the ever changing standards and rules for protective clothing.	\$10,000	\$10,500	\$11,000	\$11,500	\$0	\$0	\$43,000	Currently the State of Michigan has mandated that all structural fire fighting protective clothing must meet or exceed the 2000 edition of the National Fire Protection Association's standard for structural fire fighting protective clothing, 24 of our fire fighters have this gear. 10 of our fire fighters are issued the 1997 edition of the N.F.P.A. standard for gear or in a combination thereof.

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Fire	Personal Alert Safety System (P.A.S.S. Device) Replacement	1	5	General Fund	P.A.S.S. devices attached to turn out gear, are a means by which if a fire fighter becomes incapacitated, trapped, or disoriented, the device can activate an audible alarm, either automatically (motionless for 30 seconds) or manually (by the fire fighter), to let others know that the fire fighter is in distress and needs assistance. Our P.A.S.S. devices currently have a time weighted thermal exposure alarm (so many degrees times so many minutes), too. This notifies the fire fighter that they are in an atmosphere that's exceeding the protection limits of their turn out gear. This project is renewed every 5 years to be in compliance with manufacturer's recommendation and MIOSHA standards.	\$0	\$12,250	\$0	\$0	\$0	\$0	\$12,250	Our current inventory of P.A.S.S. Devices, purchased in 2004, are quickly reaching their end of life. Grace Industries, the manufacturer of our Super PASS II, lists in their instruction and maintenance guide that the device needs to be retired from service 3-5 years from the date of purchase, depending on use and abuse. This is supported by N.F.P.A. 1982, 2007 edition and is adopted by MIOSHO by reference (1998 edition) in Part 74, Standards for Fire Fighting.
Fire	SCBA Masks	1	7	General Fund	It is the intent of the Marshall Fire Department to provide safety equipment that meets and/or exceeds industry standards. This project will allow the agency to provide SCBA breathing equipment that is fit tested and assigned to each firefighter. Doing so relieves undue hazards and risks to the firefighters and liability to the City of Marshall.	\$6,000	\$6,000	\$6,000	\$3,000	\$0	\$0	\$21,000	The current condition of the SCBA masks are approximately 14yrs old. Recently all firefighters retrieve a mask that is stored in the fire apparatus. The current protocol has a firefighter retrieve one of those masks from the apparatus. This will allow the department to issue a mask specifically to each firefighter to assure compliance and best practices. We will also have masks available on the apparatus in case of malfunction or other needs.
Marshall House	Apartment Remodeling - 100 Units	1	15	Marshall House Fund	Remove old and replace with new cabinets, countertops and floor coverings with vinyl base. Current items from original construction in 1979.	\$104,244	\$104,244	\$104,244	\$104,244		HUD Replacement Reserve	\$416,976	Add depreciation expense of \$7,000 annually.
Marshall House	Annual Vacancy Maintenance	1	5	Marshall House Fund	Carpeting, painting, vinyl and (4) ADA tub replacements when units become vacant.	\$10,000	\$10,000	\$10,000	\$0		\$0	\$30,000	To provide a clean & healthy unit that meets Fair Housing Requirements
Marshall House	Refurbish Canopy and Balcony	2	4	Marshall House Fund	Sandblast and paint entrance canopy and balcony	\$20,160	\$0	\$0	\$0	\$0	\$0	\$20,160	To improve the deficiency rating from the REACS Physical Assessment of the building.
Marshall House	Resurface and Seal Parking Lot	2	4	Marshall House Fund	Remove 1 1/2" of asphalt and pave new 1 1/2" layer of asphalt with 5 year seal coat and striping (43340 sq ft).	\$0	\$65,010	\$0	\$0	\$0	\$0	\$65,010	The minimal maintenance adds to the useful life of the parking lot.
Marshall House	Replace Fire Board and Alarm System	1	1	Marshall House Fund	Original system is at the end of its useful life.	\$40,000	\$0	\$0	\$0	\$0	\$0	\$40,000	The servicer is unable to obtain replacement parts due to the discontinued status of the units. Professionals have recommended replacement due to the critical nature of the units.
Marshall House	Sidewalk Replacement	2	1	Marshall House Fund	Allowance for replacement of deteriorated concrete sidewalk (10% replacement)	\$6,885	\$6,885	\$6,885	\$6,885	\$6,885	\$0	\$34,425	To improve the visible faults in the pavement and walkways and improve the deficiency rating from a Physical Assessment of the building.
Marshall House	Smoke Detector Replacement	1	1	Marshall House Fund	Replace apartment smoke detectors and install new in bedrooms, interconnected to living area	\$38,760	\$0	\$0	\$0	\$0	\$0	\$38,760	Under advisement of the City of Marshall Fire Department, the status of the systems should be upgraded for the health and safety of all tenants.
Marshall House	Entrance Renovation	3	25	Marshall House Fund	Remove large shrubs and construct new seating area at front entrance	\$0	\$0	\$32,400	\$0	\$0	\$0	\$32,400	Tenant requests for improvement received.
Marshall House	Parking Lot Lighting	2	25	Marshall House Fund	Replace parking lot lighting	\$0	\$13,500	\$0	\$0	\$0	Energy Optimization	\$13,500	Tenants requests for improvement received. Lighting inadequate for the safety of the tenants.
Marshall House	Pole Mounted Lighting	2	25	Marshall House Fund	Replace pole mounted site lighting for pedestrian walkways	\$0	\$32,000	\$0	\$0	\$0	Energy Optimization	\$32,000	Tenant requests for improvement received. Lighting inadequate for the safety of the tenants.
Marshall House	Public Restrooms	1	20	Marshall House Fund	Upgrade the public restrooms to ADA compliant status	\$0	\$12,350	\$0	\$0	\$0	\$0	\$12,350	Per Section 504/ADA Study, not in compliance
Marshall House	Office Remodel	1	20	Marshall House Fund	Upgrade the office to ADA compliant status	\$0	\$40,000	\$0	\$0	\$0	\$0	\$40,000	Per Section 504/ADA Study, not in compliance
Marshall House	Air Conditioner Sleeves	1	40	Marshall House Fund	Replace all air conditioning sleeves for each apartment	\$0	\$13,125	\$13,125	\$13,125	\$13,125	\$0	\$52,500	Experiencing water leakage issues with air conditioners. Not appropriate drainage provided with original sleeves. Upgrades will eliminate future damage to the building and units.
Marshall House	Window Flashing	1	40	Marshall House Fund	Replace and Repair the flashing of nine (9) apartment windows	\$12,000	\$0	\$0	\$0	\$0	\$0	\$12,000	To improve the status of the continual water damage caused by deteriorating flashing around the windows.
Marshall House	Sign Refurbishing	4	25	Marshall House Fund	Refurbish property sign w/new landscaping and electric for illuminating sign	\$0	\$0	\$32,400	\$0	\$0	\$0	\$32,400	To improve on the marketability of the Marshall House

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Marshall House	Curb Replacement	2	40	Marshall House Fund	Estimate replacing 20% of curbing	\$0	\$0	\$10,024	\$10,024	\$10,024	\$0	\$30,072	Original curbs are in fair condition per Physical Assessment of the site. To improve the rating from the assessment.
Marshall House	Gazebo Refurbishing	4	25	Marshall House Fund	Refurbish gazebo, clean roof & add electric with lighting	\$0	\$0	\$0	\$0	\$17,750	\$0	\$17,750	Tenant request for improvements.
Marshall House	Ceiling Tiles	4	25	Marshall House Fund	Replace suspended ceiling tiles in common area rooms	\$0	\$0	\$0	\$0	\$26,325	\$0	\$26,325	
Marshall House	Intercom Replacement	3	40	Marshall House Fund	Replace intercom system	\$0	\$0	\$0	\$27,500	\$0	\$0	\$27,500	Tenant requested improvements.
Marshall House	Replace Steel Entrance Service Doors	2	20	Marshall House Fund	They are the original doors of the facility and have long outlived their expected life.	\$0	\$0	\$19,800	\$0	\$0	\$0	\$19,800	Replacement insures safety and security of the building as well as increased energy efficiency. Will improve the deficiency rating on the Physical Assessment of the building.
Marshall House	Replace Tankless water heating system	2	10	Marshall House Fund	They are at the end of their estimated useful life.	\$40,000	\$0	\$0	\$0	\$0	\$0	\$40,000	Replacement insures continuous uninterrupted heat for tenants.
Marshall House	Exterior Brick Power Cleaned, Joints Re-tucked	2	4	Marshall House Fund	The re-sealing of the brick is the minimal amount of maintenance required to prevent further water infiltration into interior of apartments causing further damage.	\$0	\$0	\$0	\$39,840	\$0	\$0	\$39,840	Preserving brick and health and safety of tenants.
Marshall House	Renovation of Salon	3	20	Marshall House Fund	The salon and its equipment have long outlived its estimated useful lifespan.	\$0	\$0	\$0	\$0	\$6,000	\$0	\$6,000	Insures a convenient service for tenants with limited mobility, especially during winter months.
Marshall House	Replace Water Softeners	2	10	Marshall House Fund	The water softeners will be exceeding their useful lifespan in fifteen years and will need to be replaced.	\$0	\$0	\$0	\$8,600	\$0	\$0	\$8,600	Future will increase energy savings and will insure continued efficient operations of boilers and heaters.
Motor Pool	Roof Replacement and Building Upgrades	2	75	General Fund/Bond	The roof has been inspected to determine the cost to fix the leaks. Because of the style of roof (nails are exposed and fixed so roof cannot expand and contract) repairs would be of little effect. \$10,000 would pay for an architect to inspect the building and form a plan for roof, sidewall repairs, infra-red heating design and insulation. \$200,000 should cover repairs based on a preliminary estimate of \$110,000 to replace the roof.	\$0	\$0	\$10,000	\$0	\$200,000	\$0	\$210,000	This would extend the life of the DPW garage for another 75 years.
Parks	Skate Park Relocation	2	20	General Fund	Current location of skateboard park present challenges with oversight and enforcement. New location will be highly visible and easily enforceable. Community group will be responsible for relocating equipment and installing new concrete pad and the City of Marshall will purchase the land.	\$55,000	\$0	\$0	\$0	\$0	\$0	\$55,000	Reduction in maintenance of N. Ketchum Park caused by vandalism
Parks	Brooks Memorial Fountain Painting	1	5	General Fund	Brooks Memorial Fountain was fully restored in 2009. The exterior of the fountain will be repainted and joints re-caulked.	\$25,000	\$0	\$0	\$0	\$0	\$0	\$25,000	None
Parks	Shearman Park Development	3	20	General Fund/ Misc Grants	The City acquired the land where the Shearman School once stood from Marshall Public Schools. A steering committee was formed to help identify the needs of the city and desires of the neighborhood. The park development help to further the needs of the community, one of which is the proper spacing of parks.	\$0	\$686,451	\$0	\$0	\$0	\$686,451	\$1,372,902	Increase in maintenance costs.
Parks	Brooks Nature Park 16 x 20 Shelter	2	20	Special Projects Fund-Brooks Nature Project Fund Balance from 100% DNRE Grant	This will be an area for those using the park to take refuge during adverse weather conditions. It will be open on three sides. One side will be closed to help block the wind or rain from those occupying the structure. The ceiling area will be enclosed to keep wild life from using the trusses as a nesting area.	\$0	\$0	\$0	\$0	\$0	\$10,000	\$10,000	Will be an increase in maintenance cost in the future.
Parks	Ketchum Park Restroom Near Kids Kingdom	2	25	General Fund	Install a restroom facility for Kids Kingdom Playground.	\$0	\$88,000	\$0	\$0	\$0	\$0	\$88,000	Increased maintenance and utility costs for restroom.
Parks	Ketchum Park Parking & Access	4	20	General Fund and DNR Grants	Construct 20 car parking area on Water Department property on the South side of Green Street. Construct bridge and boardwalk (400') across Rice Creek wetlands to provide improved access to the East end of Ketchum Park.	\$0	\$40,000	\$0	\$0	\$0	\$0	\$40,000	\$500 increase in maintenance costs per year for stripping, plowing, keeping bridge & boardwalk treated.
Parks	Phase V Riverwalk Design / Construction	3	30	General Fund 25%, Local Grant 75%	Design and construction of the next phase of Kalamazoo Riverwalk extending from Kalamazoo Ave. westerly to Pearl St .sub-station area.	\$37,500	\$375,000	\$0	\$0	\$0	\$1,237,500	\$1,650,000	Increase in operational costs-walkway will require periodic maintenance.
Parks	South Ketchum Parking Lot Expansion	3	15	General Fund	With the addition of the Kids Kingdom current and future uses of the park area, additional parking is needed. The City could need to purchase additional property and then install storm sewer.	\$0	\$52,000	\$0	\$0	\$0	\$0	\$52,000	Increase in maintenance costs (stripping, snow plowing, sweeping)

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Parks	Playground Ground Cover replacement	2	10	General fund	As suggested by the recent playground inspection new mulch should be install in all play structures throughout the city. Mulch needs to be replaced every 5 years.	\$0	\$0	\$0	\$8,000	\$0	\$0	\$8,000	Potential reduction in accident liability
Police	Protective Vests	1	5	General Fund or Grant	Protective armor vests are worn by all personnel wearing a uniform. It is a contractual agreement that the City of Marshall provide the vests. It is also an industry standard to provide and wear the protective armor.	\$4,000	\$5,000	\$0	\$0	\$0	\$0	\$9,000	This is an officer safety issue and one that has proven to reduce or eliminate injuries and also saved lives. This has significant savings should a catastrophic event occur.
Police	Police Vehicle Change-over	1	10	General Fund	To purchase all new equipment other than radios for the new vehicles beginning in 2011. This is due to the crown Victoria no longer be produced, therefore a new design vehicle will be utilized. This will not allow the current equipment to change-over to the new design.	\$6,000	\$5,000	\$5,000	\$0	\$0	\$3,200	\$19,200	Provide safety equipment and emergency equipment to all new vehicles.
Police	Police Protective Shelter / Equipment Storage	4	20	General Fund	To provide safe cover for all personnel while at the shooting range in the event of inclement weather. This will also be used as storage of range materials with exception of firearms or ammunition. It is also agreed upon with the Street Department to share the facility for their storage and protective cover as well.	\$5,000	\$0	\$0	\$0	\$0	\$0	\$5,000	Will provide man hour savings with storage of equipment on site. Original estimate was \$10,000, but can be built on site at the reduced cost.
Police	Police Vehicle Video Equipment	1	5	General Fund	Patrol car cameras are used daily by this agency. We utilize the cameras to document crimes, actions by offenders, and officers. The Marshall Police Department has a policy and Procedure stating that while on patrol the car video has to be on and functioning. The audio must be engage whenever contact with the public is made. The cameras are an asset to the City of Marshall as it reduces liability and also aids in conviction of crimes.	\$11,000	\$11,200	\$0	\$0	\$11,200	\$2,000	\$35,400	The cameras provide crucial documentation of police practices public contacts. They are an industry standard and are useful in court presentations, training issues, and reduction liability.
Police	Toughbook H2 Tablet	1	5	General Fund	Patrol car computers are used daily by this agency. We utilize the computers to document crimes, actions by offenders, officers, dispatch communications, GPS functions and officer safety. The Marshall Police Dept has a policy and procedure stating that while on patrol the computer has to be on and functioning. The computers are an asset to the City of Marshall as it reduces liability ad also aids in patrol operations.	\$5,500	\$5,500	\$11,500	\$11,500	\$0	\$1,000	\$35,000	The computers provide crucial documentation of police reports, dispatch complaints, report writing, GPS functions etc for police operations while in the vehicle.
PSB Operations	Exterior Maintenance	2	10	Department Cost Allocation - 55% Electric, 28% GF, 9% DART, 8% Water	PSB exterior needs to be washed and sealed to keep the concrete aesthetically pleasing.	\$6,500	\$0	\$0	\$0	\$0	\$0	\$6,500	Maintenance.
PSB Operations	PSB Mill and Pave Asphalt Parking Lot. Add Electronic Gate to North Entrance	3	30	Department Cost Allocation - 55% Electric, 28% GF, 9% DART, 8% Water	Parking lot is deteriorating due to heavy vehicles (garbage trucks, line trucks, delivery trucks, etc.) using the main parking lot to access the delivery doors and refuse sites. The parking lot was not designed for this kind of use. After paving, heavy traffic will be re-routed to the north side of the building.	\$0	\$0	\$0	\$0	\$125,000	\$0	\$125,000	Maintenance
Recreation	Replacement of Athletic Field Light System	4	30	General Fund Transfer to Electric Fund-Bond	The current lights on diamond #1 & #2 are approaching the end of their expected life. The entire system should be replaced.	\$0	\$0	\$0	\$300,000	\$0	\$0	\$300,000	May be a slight decrease in utilities due to more efficient system.
Recreation	Dug Outs	4	25	General Fund	To complete recent renovations to Athletic Field, dug outs for diamonds #1 & #2 can provide additional safety and protection to players, add a professional element to the facility and will be visually pleasing which may help expand programming.	\$0	\$0	\$0	\$25,088	\$0	\$0	\$25,088	Potential increased revenue by attracting additional tournaments.
Recreation	Painting & Repairs on Athletic Field Concession/Restroom Building.	3	5	General Fund	Painting is considered routine maintenance. Small repairs are also needed on portions of the siding and columns in the covered picnic area.	\$0	\$6,500	\$0	\$0	\$0	\$0	\$6,500	Maintenance
Recreation	Seal Coating Athletic Field Parking Lot & Pathways. Striping of Parking Lot	4	3-5	General Fund	Seal Coating Athletic Field Parking Lot & Pathways is considered routine maintenance. Seal Coated Sept. 2013.	\$0	\$0	\$8,500	\$0	\$0	\$0	\$8,500	Maintenance
Recreation	Roofing - Athletic Field Concession/Restroom Building	4	25	General Fund	Replacement of shingles on Concession/Restroom Building.	\$0	\$0	\$0	\$0	\$10,000	\$0	\$10,000	Maintenance
Recreation	Sand Volleyball Court Renovations	3	10+	General Fund	Old volleyball court posts will be removed and replaced by posts that can be easily removed for the winter. Purchase new net system. This will allow program expansion for this area. Fence repairs & fence painting also needed.	\$0	\$0	\$9,000	\$0	\$0	\$0	\$9,000	Potential increased revenue by expanding programming opportunities.

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Recreation	Outdoor Basketball Courts	3	20+	General Fund	This project will encompass a new full size outdoor basketball court on the south side of the Athletic Field. This will include excavating & leveling, base, blacktop courts, (2) hoops, nets and striping court lines.	\$12,000	\$0	\$0	\$0	\$0	\$0	\$12,000	Potential increased revenue by expanding programming opportunities. Provide another facet to the facility.
Recreation	Safety upgrades to the Athletic Fields	2	3-5	General Fund	Per recommendations of Marshall Police Report safety/code upgrades should be met. These include; additional lighting in recesses of the park, replacement & additional signage as designated in the report, landscaping to address wooded areas, fence lines and old entrance near Michigan Ave. (diamond #4).	\$15,000	\$0	\$0	\$0	\$0	\$0	\$15,000	No effect on operational revenues and expenditures anticipated.
Recreation	Additional Pavilion at the Athletic Fields	4	20+	General Fund	The Athletic Fields are used not only by Department sponsored activities but rentals and community use as well. A pavilion in-between the outfields of diamond #3 & #4 would provide an additional picnic area.	\$0	\$0	\$0	\$0	\$8,500	\$0	\$8,500	No effect on operational revenues and expenditures anticipated.
Recreation	Dug-Outs, Diamond #3 & #4	3	25	General Fund	Dug-outs for diamonds #3 & #4 can provide additional safety and protection to players while separating from spectators which is desired for tournament/league play. This will add a professional element to the facility and may help to expand programming/rentals.	\$0	\$12,544	\$12,544	\$0	\$0	\$0	\$25,088	Dug-outs will have low maintenance. This extra amenity may help to attract more field rentals.
Streets	Sidewalk Ramp Installation	2	50	General Fund	Repair of 100 sidewalk ramps at intersections under the City's jurisdiction which do not currently have a handicap accessible ramp.	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$0	\$50,000	Increased pedestrian safety.
Streets	Bridge Replacement-Monroe Street @ Rice Creek	2	30	MVH Major 8% - Bond, MDOT Grant 92%	Replacing of 100 year-old structure utilizing match from MDOT grant.	\$159,000	\$0	\$0	\$0	\$0	\$1,150,000	\$1,309,000	Increase safety and load handling of the bridge.
Streets	Bridge Replacement-Marshall Ave @ Kalamazoo River	2	30	MVH Major 6% - Bond, MDOT Grant 94%	Replacing of 100 year-old structure utilizing match from MDOT grant.	\$305,000	\$0	\$0	\$0	\$0	\$2,185,000	\$2,490,000	Increase safety and load handling of the bridge.
Streets	New Sidewalk Installation	3	25	General Fund	Sidewalks include North Drive from Madison to Marshall Avenue, Pearl from Kalamazoo to Riverwalk Access, Forest Street, O'Keefe, and Woodruff Drives, Sherman from Pristanchia to Verona Road, Hobart from Kalamazoo to Brewer East Drive from Forest to Mann, Prospect where missing, Greenfield from Verona to Michigan, Birch and Mulberry where missing.	\$30,000	\$30,000	\$30,000	\$30,000	\$0	\$0	\$120,000	Increased cost in the form of sidewalk repairs.
Streets	Alley Rehabilitation	1	30	General Fund	Remove and replace asphalt in alley at O'Leary Water to match adjoining new asphalt parking lot.	\$15,000	\$0	\$0	\$0	\$0	\$0	\$15,000	Reduction in maintenance costs.
Streets	Street Sign Replacement	2	15	MVH Major 35%, MVH Local 65%	Signs will be replaced by City crews one quadrant per year. Street signs will begin to be replaced in the fifth year	\$14,000	\$14,000	\$14,000	\$14,000	\$0	\$0	\$56,000	None.
Streets	Barricade Replacement	2	10	General Fund	Replacement of traffic barricades and cones that are used for special events, maintenance, and construction.	\$0	\$0	\$0	\$5,000	\$0	\$0	\$5,000	None.
Streets	Jefferson Street Redevelopment	2	20	Water 35% / Major Streets 65%	Project will replace water main and reconstruct street surface in preparation of the redevelopment of the Cronin Building	\$150,000	\$0	\$0	\$0	\$0	\$0	\$150,000	Decrease in maintenance cost.
Streets	N. Madison Street Fence	2	20	Local Streets	Decorative fence will be installed along sidewalk within the right of way to funnel pedestrian traffic to the approved mid block crossing	\$4,000	\$0	\$0	\$0	\$0	\$0	\$4,000	None
Streets	MDOT - Small Urban Grant Project 2015	2	20	Major Streets	Reconstruction of Monroe Street from S. Marshall Avenue to Locust and North Drive from Kalamazoo Avenue to Brewer Street	\$131,250	\$0	\$0	\$0	\$0	\$375,000	\$506,250	Reduction in Maintenance
Streets	MDOT - Small Urban Grant Project 2017	2	20	Major Streets	Reconstruction of Eagle from Green to Mansion and Jefferson from Mansion to Michigan	\$0	\$0	\$131,250	\$0	\$0	\$375,000	\$506,250	Reduction in Maintenance
Streets	MDOT - Small Urban Grant Project 2019	2	20	Major Streets	Reconstruction of North and East Drives from Madison Street to Michigan Avenue	\$0	\$0	\$0	\$0	\$131,250	\$375,000	\$506,250	Reduction in Maintenance
Streets	Special Tree Removal	2	20	General Fund	Some trees slated for removal need to be done by professional tree services due to special circumstances or equipment limitations	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$0	\$75,000	Reduction in Maintained
Streets	Local Street Rehabilitation	2	30	General Fund	Road repaving and rehabilitation for 2015 will be N. Madison St. Maple St. and Washington St. For 2016 will be W. Green St. N. Liberty St. E. Hanover St. and S. Hamilton St.	\$370,000	\$370,000	\$250,000	\$250,000	\$250,000	\$0	\$1,490,000	Reduction in maintenance cost.



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Wastewater	I & I Study (Inflow and Infiltration)	2	15	Wastewater Fund	An I & I Study will determine where the infiltration and inflow areas are in the City's Sewer System. This will allow us to budget in the future the repairs of the City's sewers.	\$0	\$0	\$0	\$65,000	\$0	\$0	\$65,000	The I & I Study will help us identify where the repairs will be needed and all the infiltration that we can prevent going into the sewers will save the City money by not treating ground water at the Wastewater Plant.
Wastewater	Wastewater Plant Brick Restoration	2	25	Wastewater Fund	Brick restoration on all buildings with the exception of the RMA. Buildings range in construction from 1955 to 1975. Project will mainly consist of tuck pointing and sealing of exterior. Some interior work is needed on concrete block garage dating to mid to late 1960's.	\$20,000	\$0	\$0	\$0	\$0	\$0	\$20,000	General maintenance needed on facilities with no real effect on plant operations. Extends the life of the buildings.
Wastewater	Septage Receiving Station	4	20	Wastewater Fund - Bond	This project will provide a place for dumping septage in Calhoun County. State laws require septage to be dumped at an approved receiving station if within a 25 miles radius of such a station. Currently there is no such facility in Calhoun County. This is an investment in the environmental health of Calhoun County.	\$0	\$0	\$0	\$0	\$1,000,000	\$0	\$1,000,000	Provide a new revenue source. Septage would be brought in from outlying townships that do not offer sewer service. Possible increase in cost of operation would be offset by fees collected from users.
Wastewater	Automated Meter Information Project	2	20	Wastewater Fund - Bond or Installment Purchase Contract	This system will automate the collection of meter readings and data from a centrally located facility eliminating the need for door to door readings, reduce or eliminate inaccurate readings and flag problems or tampering with a meter. This system will also provide us with an Outage Management System (OMS), pinpointing back to what device (Breaker, Recloser, Fuse) the outage originates from therefore reducing outage response time. The system will be fully functional within existing ESRI map framework and be ready for immediate integration with the proposed "mPower Innovations" AMI/OMS software. The system will be scalable and capable of pulling in all other available and future layers and data sources.	\$500,000	\$0	\$0	\$0	\$0	\$0	\$500,000	Increase on meter reading efficiency
Wastewater	Door and Window Replacement	2	25	Wastewater Fund	This project will entail replacing a number of exterior doors and windows in the various buildings at the Wastewater Plant. Some of these doors have been damaged by the naturally corrosive atmosphere present. Others need replacing due to age. The windows needing replacement are due to age and deterioration	\$50,000	\$0	\$0	\$0	\$0	\$0	\$50,000	Increase energy efficiency using fiber reinforcing panels for the doors. Single pane windows will be changed to more efficient double pane.
Wastewater	South Marshall & Hughes Lift Station Replacement	2	25	Wastewater Fund	Due to the age (20 yrs) and on-going maintenance to the lift station replacement is recommended. The new station will be relocated as it is currently in the green space between the curb and sidewalk. A new location will increase employee safety.	\$0	\$0	\$300,000	\$0	\$0	\$0	\$300,000	New station will save on maintenance costs. Depreciation is \$12,000 annually.
Wastewater	Partello Road Lift Station Replacement	2	25	Wastewater Fund	Due to the age (20 yrs) and on-going maintenance to the lift station replacement is recommended. The new station will be relocated as it is currently in the green space between the curb and sidewalk. A new location will increase employee safety.	\$0	\$0	\$300,000	\$0	\$0	\$0	\$300,000	New station will save on maintenance costs. Depreciation is \$12,000 annually.
Wastewater	New Sludge Thickening/Dewatering Process	2	20	Wastewater Fund	The current equipment will be 20 years old and the polymer (thickening agent) used in the process is no longer produced. A suitable replacement is not expected. We have enough polymer to last about 4 years at our current rate.	\$0	\$0	\$0	\$500,000	\$0	\$0	\$500,000	A new process could change our biosolids from class B to class A. This could mean a possible revenue stream instead of paying a contractor to dispose of the biosolids. Depreciation is \$25,000 annually.
Wastewater	Grit Removal System	3	20	Wastewater Fund	A grit removal system installed at the headworks will reduce wear on the pumps and piping in the plant.	\$0	\$0	\$0	\$0	\$500,000	\$0	\$500,000	Decreased maintenance costs on other equipment. Depreciation is \$25,000 annually.
Wastewater	New Raw Sewage Pump VFDs	2	10	Wastewater Fund	Current VFDs need to be replaced due to age. Adding a third VFD to our third pump will allow us to rotate the pumps and increase the useful life of all three raw sewage pumps.	\$0	\$0	\$0	\$0	\$25,000	\$0	\$25,000	Depreciation is \$2,500 annually.
Wastewater	Channel Monster Cartridge Replacement	1	5	Wastewater Fund	It is recommended by the manufacturer to replace the cutter cartridge in the Channel Monster every five years.	\$0	\$30,000	\$0	\$0	\$0	\$0	\$30,000	Depreciation is \$6,000 annually.
Wastewater	Muffin Monster cartridge replacement	2	5	Wastewater Fund	It is recommended by the manufacturer to replace the cutter cartridge in the in-line Muffin Monster every five years. We have three of these units.	\$0	\$0	\$0	\$25,000	\$0	\$0	\$25,000	Depreciation is \$5,000 annually.
Water	Replace Chlorine Gas with Sodium Hypochlorite	3	20	Water Fund	Replace chlorine gas used for disinfecting the water with sodium hypochlorite. This is for safety reason. Presently the City is in compliance with MDEQ but regulations could change.	\$0	\$100,000	\$0	\$0	\$0	\$0	\$100,000	Increase in operational costs because sodium hypochlorite is a more expensive alternative. \$5,000 depreciation.

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Water	Install New Water Service on Washington & Elm	3	30	Water Fund	Install water mains on Elm from Washington to Clinton and on Washington from Elm to the fairgrounds. This project would coincide with installation of curb, gutter, draining and street improvements.	\$0	\$0	\$144,500	\$0	\$0	\$0	\$144,500	Long term increase for maintenance of additional water main offset by potential increased revenue as more customers hook into the city water system. \$1,500 depreciation.
Water	Replace Water Main on S. Marshall	2	30	Water Fund	Replace aging 6" water main on S. Marshall from Michigan Ave. to Raymond Rd. with 8" Ductile Iron. As recommended in the 2008 Master Plan.	\$0	\$0	\$0	\$705,500	\$0	\$0	\$705,500	Reduction in maintenance to structure, increase water quality and flow.
Water	Replace Existing Heaters in Water Treatment Plant	2	25	Water Fund	Replace existing electric heaters with forced air gas heaters in Water Treatment Plant. As recommended by the facilities review.	\$5,000	\$0	\$0	\$0	\$0	Energy Optimization	\$5,000	Reduction in electric use and increased heat in Water Plant
Water	Replace Existing 4" Water Main on S. Eagle and Brewer	2	30	Water Fund	Replace existing 4" cast iron water main in two locations. Upgrade to Ductile Iron pipe. As recommended in the 2008 Master Plan.	\$0	\$0	\$425,000	\$0	\$0	\$0	\$425,000	Reduction in maintenance to structure, increase in water quality and flow.
Water	Refurbish Well Houses 1-3	2	20	Water Fund	Refurbish Well House roofs and replace insulation on the walls in well houses 1-3. As recommended in the facilities review.	\$9,000	\$0	\$0	\$0	\$0	\$0	\$9,000	Reduction in maintenance and lower heating costs.
Water	New Garage at Water Treatment Plant	2	30	Water Fund	Build pole style building for trucks and storage at the Water Treatment Plant. As suggested by the operational study in 2010.	\$0	\$150,000	\$0	\$0	\$0	\$0	\$150,000	Save time money and eliminate using space at the Public Services Building.
Water	Automated Meter Information Project	2	20	Water Fund - Bond or Installment Purchase Contract	This system will automate the collection of meter readings and data from a centrally located facility eliminating the need for door to door readings, reduce or eliminate inaccurate readings and flag problems or tampering with a meter. This system will also provide us with an Outage Management System (OMS), pinpointing back to what device (Breaker, Recloser, Fuse) the outage originates from therefore reducing outage response time. The system will be fully functional within existing ESRI map framework and be ready for immediate integration with the proposed "mPower Innovations" AMI/OMS software. The system will be scalable and capable of pulling in all other available and future layers and data sources.	\$500,000	\$0	\$0	\$0	\$0	\$0	\$500,000	Increase on meter reading efficiency
Water	Build New Treatment Plant at Well #5 Site. S. Kalamazoo behind Moonraker	3	50	Water Fund - Bond	Install water main and build water treatment plant at #5 well site. This would add a backup in case of contamination to other four wells on Green St.	\$0	\$0	\$0	\$0	\$1,000,000	\$0	\$1,000,000	Increase utility use and chemical inventory
Water	Install VFD's to wells 3 & 4 at the Water Treatment Plant.	2	30	Water Fund	Installing VFD's to the well pumps will allow us to operate the pumps at a lesser rate and still maintain system pressure and volume at a lower cost.	\$100,000	\$0	\$0	\$0	\$0	\$0	\$100,000	Decrease electric use at the Treatment Plant, extend the life of the well pumps and lessen the down time for the pumps
Water	Paint 500,000 Water Tower	2	10	Water Fund, Cell Phone Fund	Paint and repair 500,000 gallon water tower as recommended by Inspection Report from Dixon Engineering November 2008	\$0	\$200,000	\$0	\$0	\$0	\$0	\$200,000	Reduction in maintenance cost and lengthen life of structure
Water	Jefferson Street and Eagle Street water main	3	30	Water Fund, Cell Phone Fund	Replace 4 and 6 inch water main while street is being reconstructed	\$0	\$0	\$100,000	\$0	\$0	\$0	\$100,000	Reduction in maintenance to structure, increase in water quality and flow.