AN ORDINANCE ESTABLISHING RULES AND REGULATIONS FOR THE OPERATION AND USE OF PUBLIC AND PRIVATE SEWERS AND DRAINS, PRIVATE SEWAGE DISPOSAL, THE INSTALLATION AND CONNECTION OF BUILDING SEWERS, AND THE DISCHARGE OF WATERS AND WASTES INTO THE PUBLIC SEWER SYSTEM: AND PROVIDING PENALTIES FOR VIOLATIONS THEREOF: IN THE CITY OF ST. MARY, COUNTY OF STE. GENEVIEVE, STATE OF MISSOURI.

BE IT ORDAINED BY THE BOARD OF THE CITY OFST. MARY, MISSOURI, AS FOLLOWS:

ARTICLE I

<u>SECTION 1</u>. The following Rules and Regulations are hereby adopted to govern the sewer services furnished by the City in a uniform manner for the benefit of the municipality and its sewer users. They are subject to change from time to time. All such changes must be approved by the State Director of Rural Development, United States Department of Agriculture, or his successor, so long as the municipality has unpaid obligations which are held by or insured by the United States of America. If any portion of these Rules shall be declared invalid by competent authority, such voidance shall not affect the validity of the remaining portions.

ARTICLE II

Unless the context specifically indicates otherwise, the meaning of terms used in this ordinance shall be as follows:

<u>SECTION 1</u>: "BOD" (denoting Biochemical Oxygen Demand) shall mean the quantity of oxygen utilized in the biochemical oxidation of organic matter under standard laboratory procedure in five (5) days at 20 degrees Celsius, expressed in milligrams per liter.

<u>SECTION 2</u>: "Building Drain" shall mean that part of the lowest horizontal piping of a drainage system which receives the discharge from soil, waste, and other drainage pipes inside the walls of the building and conveys it to the building sewer, beginning five (5) feet (1.5 meters) outside the inner face of the building wall.

<u>SECTION 3</u>: "Building Sewer" shall mean the extension from the building drain to the public sewer or other place of disposal.

<u>SECTION 4</u>: "Combined Sewer" shall mean a sewer receiving both surface runoff and sewage.

<u>SECTION 5</u>: "Garbage" shall mean solid wastes from the domestic and commercial preparation, cooking and dispensing of food, and from the handling, storage and sale of produce.

<u>SECTION 6</u>: "Industrial Wastes" shall mean the liquid wastes from industrial manufacturing processes, trade, or business as distinct from sanitary sewage.

<u>SECTION 7</u>: "Natural Outlet" shall mean any outlet into a watercourse, pond, ditch, lake or other body of surface or groundwater.

<u>SECTION 8</u>: "Person" shall mean any individual, firm, company, association, society, corporation, or group.

SECTION 9: "pH" shall mean the logarithm of the reciprocal of the weight of hydrogen ions in grams per liter of solution.

SECTION 10: "Properly Shredded Garbage" shall mean the wastes from the preparation, cooking and dispensing of food that have been shredded to such a degree that all particles will be carried freely under the flow conditions normally prevailing in public sewers, with no particle greater than one-half (½) inch (1.27 centimeters) in any dimension.

<u>SECTION 11</u>: "Public Sewer" shall mean a sewer in which all owners of abutting properties have equal rights, and is controlled by public authority.

<u>SECTION 12</u>: "Sanitary Sewer" shall mean a sewer which carries sewage and to which storm, surface and groundwater are not intentionally admitted.

<u>SECTION 13</u>: "Sewage" shall mean a combination of the water-carried wastes from residences, business buildings, institutions, and industrial establishments, together with such ground, surface, and storm waters as may be present.

<u>SECTION 14</u>: "Sewage Treatment Plant" shall mean any arrangement of devices and structures used for treating sewage.

<u>SECTION 15</u>: "Sewage Works" shall mean all facilities for collection, pumping, treating and disposing of sewage.

SECTION 16: "Sewer" shall mean a pipe or conduit for carrying sewage.

SECTION 17: "Shall" is mandatory; "May" is permissive

SECTION 18: "Slug" shall mean any discharge of water, sewage, or industrial waste which in concentration of any given constituent or in quantity of flow exceeds for any period of duration longer than fifteen (15) minutes more than five (5) times the average twenty-four (24) hour concentration or flows during normal operation.

<u>SECTION 19</u>: "Storm Drain" (sometimes termed "storm sewer") shall mean a sewer which carries storm and surface waters and drainage, and unpolluted cooling water, but excludes sewage and industrial wastes.

<u>SECTION 20</u>: "Superintendent" shall mean the Superintendent of the Municipal Sewage Works of the City of, Missouri, or his authorized deputy, agent, or representative.

<u>SECTION 21</u>: "Suspended Solids: shall mean solids that either float on the surface of, or are in suspension in water, sewage, or other liquids, and which are removable by laboratory filtering.

<u>SECTION 22</u>: "Watercourse" shall mean a channel in which a flow of water occurs, either continuously or intermittently.

SECTION 23: "Municipality" shall mean the City of, Missouri.

<u>SECTION 24</u>: "State Director" shall mean the State Director of Rural Development for Missouri, United States Department of Agriculture, or his successor.

<u>SECTION 25</u>: "Applicant" shall mean any individual, firm, partnership, corporation or other agency owning land within the City applying for sewer service.

SECTION 26: "Board" shall mean the Board of Aldermen of the City of, Missouri.

<u>SECTION 27</u>: "Inspector" shall mean the one person or persons duly authorized by the City of to inspect and approve the installation of building sewers and their connection to the public sewer system.

ARTICLE III

<u>SECTION 1</u>: It shall be unlawful for any person to place, deposit, or permit to be deposited in any unsanitary manner on public or private property within the City of, or in any area under the jurisdiction of said City, any human or animal excrement, garbage, or other objectionable waste.

<u>SECTION 2</u>: It shall be unlawful to discharge to any natural outlet within the City of, or in any area under jurisdiction of said City, any sewage or other polluted waters, except where suitable treatment has been provided in accordance with subsequent provisions of this ordinance.

<u>SECTION 3</u>: Except as hereinafter provided, it shall be unlawful to construct or maintain any privy, privy vault, septic tank, cesspool, or other facility intended or used for the disposal of sewage.

<u>SECTION 4</u>: The owner of all houses, buildings, or properties used for human occupancy, employment, recreation, or other purposes, situated within the City and abutting on any street, alley, or right-of-way in which there is now located or may in the future be located a sanitary or combined sewer of the City, is hereby required at his expense to install suitable toilet facilities therein, and to connect such facilities directly with the proper public sewer in accordance with

the provisions of this ordinance, within ninety (90) days after date of official notice to do so, provided that the public sewer is within two hundred (200) feet (61 meters) of the property line.

ARTICLE IV

<u>SECTION 1</u>: Where public sanitary or combined sewer is not available under the provisions of Article III, Section 4, the building sewer shall be connected to a private sewage disposal system complying with the provisions of this Article.

SECTION 2: Before commencement of construction of a private sewage disposal system the owner shall first obtain a written permit signed by the Inspector. The application for such permit shall be made on a form furnished by the City, which the applicant shall supplement by any plans, specifications, and other information as are deemed necessary by the Inspector. A permit and inspection fee of Fifty Dollars (\$50.00) shall be paid to the City at the time the application is filed.

SECTION 3: A permit for a private sewage disposal system shall not become effective until the installation is completed to the satisfaction of the Inspector. He shall be allowed to inspect the work at any stage of construction and, in any event, the applicant for the permit shall notify the Inspector when the work is ready for final inspection, and before any underground portions are covered. The inspection shall be made within four (4) hours of the receipt of notice by the Inspector if received in the forenoon and within eighteen (18) hours of receipt of notice if received in the afternoon.

SECTION 4: The type, capabilities, location, and layout of a private sewage disposal system shall comply with all recommendations of the Department of Public Health of the State of Missouri. No permit shall be issued for any private sewage disposal system employing subsurface soil absorption facilities where the area of the lot is less than 5.0 acres. No septic tank or cesspool shall be permitted to discharge to any natural outlet.

<u>SECTION 5</u>: At such time as public sewer becomes available to a property served by a private sewage disposal system, as provided in Article IV, Section 4, a direct connection shall be made to the public sewer in compliance with this ordinance, and any septic tanks, cesspools, and similar private sewage disposal facilities shall be abandoned and filled with suitable material.

<u>SECTION 6</u>: The owner shall operate and maintain the private sewage disposal facilities in a sanitary manner at all times, at no expense to the City.

<u>SECTION 7</u>: No statement contained in this article shall be construed to interfere with any additional requirements that may be imposed by the Health Officer of the State or County.

<u>SECTION 8</u>: When a public sewer becomes available, the building sewer shall be connected to the sewer within ninety (90) days and the private sewage disposal system shall be cleaned of sludge and filled with clean bank-run gravel or dirt.

ARTICLE V

<u>SECTION 1</u>: No unauthorized person shall uncover, make any connections with or opening into, use, alter, or disturb any public sewer or appurtenance thereof without first obtaining a written permit from the Inspector.

SECTION 2: There shall be two (2) classes of building sewer permits: (a) for residential and commercial service, and (b) for service to establishments producing industrial wastes. In either case, the owner or his agent shall make application on a special form furnished by the City. The permit application shall be supplemented by any plans, specifications, or other information considered pertinent in the judgement of the Inspector. A permit and inspection fee of Twenty Five Dollars (\$25.00) for a residential or commercial building sewer permit and Fifty Dollars (\$50.00) for an industrial building sewer permit shall be paid to the City at the time the application is filed.

<u>SECTION 3</u>: All costs and expenses incident to the installation and connection of the building sewer shall be borne by the owner. The owner shall indemnify the City from any loss or damage that may directly or indirectly be occasioned by the installation of the building sewer.

<u>SECTION 4</u>: A separate and independent building sewer shall be provided for every building; except where one building stands at the rear of another on an interior lot and no private sewer is available or can be constructed to the rear building through an adjoining alley, courtyard, or driveway, the building sewer from the front building may be extended to the rear building and the whole considered as one building sewer.

<u>SECTION 5</u>: Old building sewers may be used in connection with new buildings only when they are found, on examination and test by the Inspector, to meet all requirements of this ordinance.

<u>SECTION 6</u>: The size, slope, alignment, materials of construction of a building sewer, and the methods to be used in excavating, placing of the pipe, jointing, testing and backfilling the trench, shall all conform to the requirements of the building and plumbing code or other applicable rules and regulations of the City. In the absence of code provisions or in amplifications thereof, the materials and procedures set forth in appropriate specifications of the A.S.T.M. and W.P.C.F. Manual of Practice No. 9 shall apply.

<u>SECTION 7</u>: Whenever possible, the building sewer shall be brought to the building at an elevation below the basement floor. In all buildings in which any building drain is too low to permit gravity flow to the public sewer, sanitary sewage carried by such building drain shall be lifted by an approved means and discharged to the building sewer.

<u>SECTION 8</u>. No person shall make connection of roof down spouts, exterior foundation drains, areaway drains, or other sources of surface runoff or groundwater to a building sewer or building drain which in turn is connected directly or indirectly to a public sanitary sewer.

<u>SECTION 9</u>: The connection of the building sewer into the public sewer shall conform to the requirements of the building and plumbing code or other applicable rules and regulations of the City, or the procedures set forth in appropriate specifications of the A.S.T.M. and the W.P.C.F. Manual of Practice No. 9. All such connections shall be made gastight and watertight. Any deviation from the prescribed procedures and materials must be approved by the Inspector before installation.

<u>SECTION 10</u>: The applicant for the building sewer permit shall notify the Inspector when the building sewer is ready for inspection and connection to the public sewer. The connection shall be made under the supervision of the Inspector or his representative.

<u>SECTION 11</u>: All excavations for building sewer installation shall be adequately guarded with barricades and lights so as to protect the public from hazard. Streets, sidewalks, parkways, and other public property disturbed in the course of the work shall be restored in a manner satisfactory to the City.

SECTION 12: Electrical service for the operation of the pump unit shall be provided by the property owner and the connection will be located at a point between the meter and the structure thereby including electrical charges in the property owner's monthly billing.

<u>SECTION 13</u>: The City will be responsible for maintaining the electrical control panel, grinder pump unit and all lines past the point of connection to the pump tank. The property owner will be responsible for maintaining the service line beginning at the point of exit from the house and running to the grinder pump.

SECTION 14: It is the property owner's responsibility to inform the Superintendent, or other official of the City, if the alarm light on the pump unit is activated. The City will make every reasonable effort to identify the problem and make the necessary repairs or adjustments. In the event that a backup occurs, and the City has made a reasonable effort to eliminate the problem, the City is not liable for any damages that may occur to the property owner's assets.

ARTICLE VI

<u>SECTION 1</u>: No person shall discharge any stormwater, surface water, groundwater, roof runoff, subsurface drainage, including interior and exterior foundation drains, other sources of surface runoff or groundwater, uncontaminated cooling water, or unpolluted industrial process waters to any sanitary sewer.

<u>SECTION 2</u>: Stormwater and all other unpolluted drainage shall be discharged to such sewers as are specifically designed as combined sewers or storm sewers, or to a natural outlet approved

by the Inspector. Industrial cooling water or unpolluted process waters may be discharged on approval of the Inspector, to a storm sewer, combined sewer, or natural outlet.

<u>SECTION 3</u>: No person shall discharge or cause to be discharged any of the following described waters or wastes to any public sewers:

- (a) Any gasoline, benzene, naphtha, fuel oil, or other flammable or explosive liquid, solid, or gas.
- (b) Any waters or wastes containing toxic or poisonous solids, liquids, or gases in sufficient quantity, either singly or by interaction with other wastes, to injure or interfere with any sewage treatment process, constitute a hazard in the receiving waters of the sewage treatment plant, including but not limited to cyanides in excess of two (2) mg/l as CN in the wastes as discharged to the public sewer.
- (3) Any waters or wastes having (1) a 5-day biochemical oxygen demand greater than 300 parts per million by weight, or (2) containing more than 350 parts per million by weight of suspended solids, or (3) having an average daily flow greater than 2 percent of the average sewage flow of the City, shall be subject to the review of the Superintendent. Where necessary in the opinion of the Superintendent, the owner shall provide, at his expense, such preliminary treatment as may be necessary to (1) reduce the biochemical oxygen demand to 300 parts per million by weight, or (2) reduce the suspended solids to 350 parts per million by weight, or (3) control the quantities and rates of discharge of such waters or wastes. Plans, specifications, and any other pertinent information relating to proposed preliminary treatment facilities shall be submitted for the approval of the Superintendent and no construction of such facilities shall be commenced until said approvals are obtained in writing.
- (d) Solid or viscous substances in quantities or of such size capable of causing obstruction to the flow in sewers, or other interference with the proper operation of the sewage works.

<u>SECTION 4</u>: No person shall discharge or cause to be discharged the following described substances, materials, waters, or wastes if it appears likely in the opinion of the Inspector that such wastes can harm either the sewers, sewage treatment process, or equipment, have an adverse effect on the receiving stream, or can otherwise endanger life, limb, public property or constitute a nuisance. In forming an opinion as to the acceptability of these wastes, the Inspector will give consideration to such factors as the quantities of subject wastes in relation to flows and velocities in the sewers, materials of construction of the sewers, nature of the sewage treatment process, capacity of the sewage treatment plant, degree of treatability or wastes in the sewage treatment plant, and other pertinent factors. The substances prohibited are:

- (a) Any liquid or vapor having a temperature higher than one hundred fifty (150) degrees Fahrenheit (65 degrees Celsius).
- (b) Any water or wastes containing fats, wax, grease, or oils, whether emulsified or not, in excess of one hundred (100) mg/l or containing substances which may solidify or become viscous at temperatures between thirty-two (32) and one hundred fifty (150) degrees Fahrenheit (0 and 65 degrees Celsius).
- (c) Any garbage that has not been properly shredded. The installation and operation of any garbage grinder equipped with a motor of three-fourths (3/4) horsepower (0.76 hp metric) or greater shall be subject to the review and approval of the Inspector.
- (d) Any waters or wastes containing strong acid, iron, pickling wastes or concentrated plating solutions, whether neutralized or not.
- (e) Any water or wastes containing iron, chromium, copper, zinc, and similar objectionable or toxic substances; or wastes exerting an excessive chlorine requirement, to such degree that any such material received in the composite sewage at the sewage treatment works exceeds the limits established by the Inspector for such materials.
- (f) Any waters or wastes containing phenols or other taste or odor-producing substances, in such concentrations exceeding limits which may be established by the Inspector as necessary, after treatment of the composite sewage, to meet the requirements of State, Federal, or other public agencies of jurisdiction for such discharge to the receiving waters.
- (g) Any radioactive wastes or isotopes of such half-life or concentration as may exceed limits established by the Inspector in compliance with applicable State or Federal regulations.
- (h) Any waters or wastes having a pH in excess of 9.5.
- (i) Materials which exert or cause:
 - 1. Unusual concentrations of inert suspended solids (such as, but not limited to, Fullers earth, lime slurries, and lime residues) or of dissolved solids (such as, but not limited to, sodium chloride or sodium sulfate).
 - 2. Excessive discoloration (such as, but not limited to, dye wastes and vegetable tanning solutions).

- 3. Unusual BOD, chemical oxygen demand, or chlorine requirements in such quantities as to constitute a significant load on the sewage treatment works.
- 4. Unusual volumes of flow or concentration of wastes constituting "slugs" as defined herein.
- (j) Waters or wastes containing substances which are not amenable to treatment or reduction by the sewage treatment processes employed, or are amenable to treatment only to such degree that the sewage treatment plant effluent cannot meet the requirements of the other agencies having jurisdiction over discharge to the receiving waters.

<u>SECTION 5</u>: If any waters or wastes are discharged, or are proposed to be discharged to the public sewers, which waters containing the substances or possess the characteristics enumerated in Section 4 of this Article, and which in the judgment of the Inspector, may have a deleterious effect upon the sewage works, processes, equipment, or receiving waters, or which otherwise create a hazard to life or constitute a public nuisance, the Inspector may:

- (a) Reject the wastes,
- (b) Require pretreatment to an acceptable condition for discharge to the public sewers,
 - (c) Require control over the quantities and rates of discharge, and/or
 - (d) Require payment to cover the added cost of handling and treating the wastes not covered by existing taxes or sewer charges under the provisions of Section 10 of the Article.

If the Inspector permits the pretreatment or equalization of waste flows, the design and installation of the plants and equipment shall be subject to the review and approval of the Inspector, and subject to the requirements of all applicable codes, ordinances and laws.

<u>SECTION 6</u>: Grease, oil, and sand interceptors shall be provided when, in the opinion of the Inspector, they are necessary for the proper handling of liquid wastes containing grease in excessive amounts, or any flammable wastes, sand, or other harmful ingredients: except that such interceptors shall not be required for private living quarters or dwelling units. All interceptors shall be of a type and capacity approved by the Inspector, and shall be located as to be readily and easily accessible for cleaning and inspection.

<u>SECTION 7</u>: Where preliminary treatment or flow-equalizing facilities are provided for any waters or wastes, they shall be maintained continuously in satisfactory and effective operation by the owner at his expense.

<u>SECTION 8</u>: When required by the Inspector, the owner of any property serviced by a building sewer carrying industrial wastes shall install a suitable control manhole together with such necessary meters and other appurtenances in the building sewer to facilitate observation, sampling, and measurement of the wastes. Such manhole, when required, shall be accessibly and safely located, and shall be constructed in accordance with plans approved by the Inspector. The manhole shall be installed by the owner at his expense, and shall be maintained by him so as to be safe and accessible at all times.

SECTION 9: All measurements, tests, and analyses of the characteristics of waters and wastes to which reference is made in this ordinance shall be determined in accordance with the latest edition of "Standard Methods for the Examination of Water and Wastewater," published by the American Public Health Association, and shall be determined at the control manhole provided, or upon suitable samples taken at said control manhole. In the event that no special manhole has been required, the control manhole shall be considered to be the nearest downstream manhole in the public sewer to the point at which the building sewer is connected. Sampling shall be carried out by customarily accepted methods to reflect the effect of constituents upon the sewage works and to determine the existence of hazards to life, limb, and property. (The particular analysis involved will determine whether a twenty-four (24) hour composite of all outfalls of a premise is appropriate or whether a grab sample or samples should be taken. Normally, but not always, BOD and suspended solids analyses are obtained from 24-hour composites of all outfalls whereas pH analyses are determined from periodic grab samples.)

<u>SECTION 10</u>: No statement contained in this article shall be construed as preventing any special agreement or arrangement between the City and any industrial concern whereby an industrial waste of unusual strength or character may be accepted by the City for treatment, subject to payment therefore, by the industrial concern.

ARTICLE VII

<u>SECTION 1</u>: No unauthorized person shall maliciously, willfully, or negligently break, damage, destroy, uncover, deface, or tamper with any structure, appurtenance, or equipment which is part of the sewage works. Any person violating this provision shall be subject to immediate arrest under charge of disorderly conduct.

ARTICLE VIII

<u>SECTION 1</u>: The Inspector and other duly authorized employees of the City bearing proper credentials and identification shall be permitted to enter all properties for the purposes of inspection, observation, measurement, sampling, and testing in accordance with the provisions of this ordinance. The Inspector or his representatives shall have no authority to inquire into any processes including metallurgical, chemical, oil, refining, ceramic, paper, or other industries beyond that point having a direct bearing on the kind and source of discharge to the sewers or waterways or facilities for waste treatment.

SECTION 2: While performing the necessary work on private properties referred to in Article VIII, Section 1 above, the Inspector or duly authorized employees of the City shall observe all safety rules applicable to the premises established by the company and the company shall be held harmless for injury or death to the City employees and the City shall indemnify the company against loss or damage to its property by City employees and against liability claims and demands for personal injury or property damage asserted against the company and growing out of the gauging and sampling operation, except as such may be caused by negligence or failure of the company to maintain safe conditions as required in Article VI, Section 8.

SECTION 3: The Inspector and other duly authorized employees of the City bearing proper credentials and identification shall be permitted to enter all private properties through which the City holds a duly negotiated easement for the purposes of, but not limited to, inspection, observation, measurement, sampling, repair, and maintenance of any portion of the sewage works lying within said easement. All entry and subsequent work, if any, on said easement, shall be done in full accordance with the terms of the duly negotiated easement pertaining to the private property involved.

ARTICLE IX

<u>SECTION 1</u>: Any person found to be violating any provision of this ordinance except Article VII shall be served by the City with written notice stating the nature of the violation and providing a reasonable time limit for the satisfactory correction thereof. The offender shall, within the period of time stated in such notice, permanently cease all violations.

SECTION 2: Any person who shall continue any violation beyond the time limit provided for in Article IX, Section 1, shall be guilty of a misdemeanor, and on conviction thereof shall be fined in the amount not exceeding One Hundred (\$100.00) Dollars for each violation. Each 24-hour period in which any such violation shall continue shall be deemed a separate offense.

<u>SECTION 3</u>: Any person violating any of the provisions of this ordinance shall become liable to the City for any expense, loss, or damage occasioned the City by reason of such violation.

ARTICLE X

<u>SECTION 1</u>: All ordinances or parts of ordinances in conflict herewith are hereby repealed.

<u>SECTION 2</u>: The invalidity of any section, clause, sentence, or provision of this ordinance shall not affect the validity of any other part of this ordinance which can be given effect without such invalid part or parts.

ARTICLE XI

<u>SECTION 1</u>: This ordinance shall be in full force and effect from after its passage, approval, recording, and publication as provided by law.

SECTION 2: Passed and approved by the Board of Aldermen of the City of St. Mary, Missouri on the 9th day of August, 2012 by the following vote:

AYES: 3_; Namely Dennis Bovey, Clyde Cassoutt and Brenda Franklin

NAYS: 1 Namely Frank Gerardot

ATTEST:

To com a wonge

I, JoAnn E. Donze, Clerk of the City of St. Mary, Missouri do hereby certify that the foregoing ordinance was duly read on July 16, 2012 and on August 9, 2012 at the regular meetings of the Board of Aldermen and was passed and adopted on August 9, 2012.

CITY CLERK JOANN E. DONZE

APPENDIX "B" TO USER CHARGE ORDINANCE

REPLACEMENT SCHEDULE

This appendix contains a replacement schedule that was developed to determine the amount of revenue needed to fund the Replacement Account. The replacement schedule lists the major equipment in the wastewater system, the estimated dates when the equipment will have to be replaced, and the estimated cost of replacement (based on today's cost) over the useful life of the wastewater system. The replacement dates and costs shown are estimates; the actual replacement dates and costs could be significantly different from those shown. If the actual replacement expenses differ significantly from those listed in the replacement schedule, the funding of the Replacement Account shall be adjusted accordingly. The Replacement Fund Calculation includes factors for inflation and interest. These should be adjusted to reflect actual interest and inflation rates.

Years From Treatment Works	,	Cost Per Item	
In Operation	* .	. Cost Fet itelli	n 600 - 100 - 100 - 100
III Operation	Replacement Item		Yearly Total
1		\$0.00	\$0.00
2	Grinder Pump	\$30,000.00	\$30,000.0
3			\$0.00
4	UV Bulbs	\$800.00	\$800.00
5	Lift Station Pumps	\$12,000.00	\$12,000.00
6			\$0.00
7	Blowers	\$8,000.00	\$8,000.00
8 .	UV Bulbs	\$800.00	\$800.00
· 9			\$0.0
10	Flow Meters	\$1,000.00	
	Clarifier Drives	\$2,000.00	
	Rotor Drives	\$20,000.00	
	Grinder Pump Repair/Replacement	\$240,000.00	
	Lift Station Pumps .	\$12,000.00	
	Generator Repair	\$3,000.00	\$278,000.00
11			\$0.00
12	UV Bulbs ·	\$800,00	\$800,00
13			\$0,00
14	Blowers	\$8,000.00	
15	Lift Station Pumps	\$12,000.00	\$20,000.00
	Grinder Pump	\$30,000.00	\$42,000.0
	U V Bulbs	\$800.00	\$800.00
17		\$00,00	\$0.00
18			\$0.00
. 19	1		\$0.0
	UV Bulbs · · ·	\$800.00	7010
	Rotor Drives	\$20,000.00	***************************************
	Clarifler Drives	\$2,000.00	
	Flow Meters	\$1,000.00	
	Grinder Pump Repair/Replacement	\$240,000.00	
	Lift Station Pumps	\$12,000.00	
	Generator Repair	\$3,000.00	\$278,800.00
		Total	\$672,000.00

REPLACEMENT FUND ANNUAL ANNUITY

(A separate sheet showing what items are to be replaced, what year, and estimated replacement cost, should also be attached.)

· ·	Net Fund Balance	\$173,690.18 \$201,650.69	\$199,847.01	\$257,367.31	\$275,226.01	\$329,592,29	\$361,363.57	\$394,954.28	\$122,467.75	\$140,091.39 \$475,306,68	\$203,212.68	\$209,069.38	\$189,330.56	\$216,822.22	\$246,076.69	\$276,208.79	\$307,244.85	(\$0.83)		•	·	
	Interest on Fund Balance	5,210.71	6,049.52	6,857.77	7,721.02	9,186.98	9,887.77	10,840.91	11,848.63	3,6/4.03	5,256.20	6,096.38	6,272.08	5,679.92	6,504.67	7,382.30	8,286.26	9,217.35				
	Adjusted Present Worth	\$0.00	\$28,846.26	\$739.65	\$10,879.33	\$6.973.95	\$683.85	\$0.00	\$228,500.04	\$0.00	\$632.27	\$15,198,76	\$31,297.64	\$584.57	\$0.00	\$0.00	\$0.00		\$ 512,150.00	\$ 338,459.82	0.067216	\$22,749.80
	3.00% Present X Worth = Factor (P/F)	0.970874	0.942596	0.888487	0.862609	0.837484	0.789409	0.766417	0.744094	0.722421	0.701380	0.661118	0.641862	0.623167	0.605016	0.587395	0.570286	0.553676	1		Factor X	,
	Future · Worth	\$0.00	30,603.00	0.00 832.48	12,612.12	0.00	866.29	00.00	307,084.95	0.00	901.46	22.989.48	48.760.70	938.06	0.00	0.00	0.00	339,212.83		Less Initial Deposit	Capital Recovery Factor	Annual Annuity
1.00% 3.00% \$173,690.18	1.00% Compound Amount =	1.010000	1.020100	1.030301	1.051010	1.061520	1.082857	1.093685	1.104622	1.115668	1.126825	1.138093	1 160969	1,172579	1.184304	1 196147	1,208109	1,220190				
Inflation Interest Initial Balance	Estimated Replacement X <u>Costs</u>	Initial Balance	\$30,000.00	\$0.00	\$12,000.00	\$0.00	\$6,000.00 \$800.00	\$0.00	\$278,000.00	\$0.00	\$800.00	\$0.00	472,000,00					278,0	\$671,200.00			
-	Year	~	- (4)	(O Z	(C)		~ a	, (1)	7	-	7	÷ ÷	- 4	2 4	17	4	0 0	2				



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