

**Carson City
Agenda Report**

Date Submitted: February 28, 2013

Agenda Date Requested: March 14, 2013
Time Requested: Workshop

To: Mayor and Supervisors
From: Public Works

Subject Title: For Possible Action: Presentation and discussion regarding the Capital Program for the Wastewater Fund and possible action to place discussion and/or action items on future Board of Supervisor agenda(s). (*Andy Burnham*)

Staff Summary: Staff will present an overview of the Wastewater Fund Capital Requests for the five year fiscal period FY 14 through FY 18. Included will be staff recommended priorities for possible future expenditures depending on available future funding.

Type of Action Requested: (check one)

☐ Resolution ☐ Ordinance
☐ Formal Action/Motion ☒ Other (Possible Direction to Staff)

Does This Action Require A Business Impact Statement: ☐ Yes (X) No

Recommended Board Action: Discussion and possible action to place discussion and/or action items on future Board of Supervisor agenda(s).

Explanation for Recommended Board Action: Staff will present information regarding the Wastewater Fund Capital Program for review and discussion by the Board.

Applicable Statute, Code, Policy, Rule or Regulation: NA

Fiscal Impact: See supporting material.

Explanation of Impact: See supporting material.

Funding Source: Wastewater Fund.

Supporting Material: Spreadsheet of CIP

Prepared By: Andrew Burnham, Public Works Director

Reviewed By:

[Signature]
(Public Works Director)

Date: 3-4-13

[Signature]
(City Manager)

Date: 3/1/13

[Signature]
(District Attorney)

Date: 3/4/13

[Signature]
(Finance Director)

Date: 3/6/13

Board Action Taken:

Motion: _____

1) _____
2) _____

Aye/Nay

(Vote Recorded By)

Carson City Public Works Capital Improvement Plan FY2014-2018

	Fund	FY 2013-14	FY 2014-15	FY 2015-16	FY2016-17	FY2017-18	TOTAL
Wastewater							
WWTP CIP (see WWTP CIP)	515	4,298,600	10,315,965	12,059,728	4,890,554	5,509,141	37,073,988
Pumps/Motors Replacement Program	515	150,000	150,000	175,000	200,000	200,000	875,000
Facility Maintenance Program	515	100,000	100,000	100,000	100,000	100,000	500,000
WWTP Specialized Equipment Replacement	515	60,000	60,000	60,000	60,000	60,000	300,000
SCADA Antenna	515	35,000					35,000
Sewer							
Sewer Line Replacement/Rehabilitation (see PW Sewer)	515	663,694	663,694	663,694	663,694	663,694	3,318,470
Slip Lining Manholes/Mains Citywide Maintenance Program	515	150,000	150,000	150,000	150,000	150,000	750,000
Equipment Replacement Program-Sewer/Wastewater (see Fleet)	515	215,000	17,000	64,000	-	225,680	521,680
Empire Lift Station Rehabilitaion	515	140,000					140,000
Riverview Lift Station-Reconstruction	515				1,600,000		1,600,000
Morgan Mill Lift Station-Reconstruction	515					2,000,000	2,000,000
South Lift Station Rehabilitaion	515				85,000		85,000
North Lift Station Rehabilitaion	515					60,000	60,000
Reclaimed System							
Air release repair and rehabilitation	515	30,000	30,000	30,000	30,000	30,000	150,000
Rehabilitate clay-val at Upper Centenial, Edmonds and Effluent Building	515	20,000					20,000
Rehabilitate joint couplings	515	50,000	50,000	50,000	50,000	50,000	250,000
Replace air compressors and rehab difuser system at Brunswick	515		100,000		200,000		300,000
Rehabilitate reservior at Eagle Valley Golf Course	515			25,000			25,000
Golf Course Reclaimed Maintenance System Improvements	515	75,000	75,000	75,000	75,000	75,000	375,000
Wastewater Total	515	5,987,294	11,711,659	13,452,422	8,104,248	9,123,515	48,379,138

Wastewater Project Element	Total Project Cost	Year in which the project is required	Project Duration (Up to 5 Years)*	Fiscal Year Beginning in				
				2013	2014	2015	2016	2017
	\$							
PRELIMINARY TREATMENT				--	--	--	--	--
NORTH LIFT								
North lift submersible pumps w/VFD (MCCs, Structural & Elec Mods)	1,239,000	2020	3	--	--	--	--	--
Septage receiving station	517,000	2028	2	--	--	--	--	--
HEADWORKS								
Headworks rehabilitation	952,000	2014	2	285,600	666,400	--	--	--
New screen and washer/compactor (Screen No 2)	536,000	2020	1	--	--	--	--	--
Headworks pumping (4th Archimedes Pump)	274,000	2028	2	--	--	--	--	--
Archimedes pumps replacement program	822,000	2020	3	--	--	--	--	--
ODOR CONTROL								
Cover headworks and grit basin openings	411,000	2017	2	--	--	--	123,300	287,700
Primary clarifier covers	419,000	2017	2	--	--	--	125,700	293,300
Headworks/primary odor control facility	2,460,000	2017	3	--	--	246,000	1,107,000	1,107,000
PRIMARY TREATMENT								
Primary sludge pump station rehab (pumps and piping)	278,000	2017	1	--	--	--	--	278,000
Fixed primary sludge blanket level reading	45,000	2017	1	--	--	--	--	45,000
Primary clarifier maintenance (re-level weirs - recast mechanism)	467,000	2017	2	--	--	--	140,100	326,900
Primary clarifier No. 3	1,735,000	2028	2	--	--	--	--	--
Primary sludge pump station modifications	288,000	2028	2	--	--	--	--	--
SECONDARY TREATMENT								
AERATED POND								
Line aerated pond for storage	228,000	2020	1	--	--	--	--	--
TRICKLING FILTERS								
Trickling filter demolition	731,000	2020	1	--	--	--	--	--
AERATION BASINS								
Aeration Basins (3)	5,047,000	2015	3	504,700	2,271,150	2,271,150	--	--
Distribution structures	526,000	2015	3	52,600	236,700	236,700	--	--
Blower/MCC building	2,629,000	2015	3	262,900	1,183,050	1,183,050	--	--
Aeration Basin (1)	1,683,000	2028	3	--	--	--	--	--
Aeration Basins (6)	10,094,000	2038	5	--	--	--	--	--
Distribution structures	779,000	2038	5	--	--	--	--	--
Blower/MCC building	5,257,000	2038	5	--	--	--	--	--
SECONDARY CLARIFIERS								
Secondary clarifier rehabilitation (2)	3,364,000	2015	3	336,400	1,513,800	1,513,800	--	--
Secondary scum pumping station	404,000	2015	1	--	--	404,000	--	--
New secondary clarifier (1)	2,734,000	2015	2	--	820,200	1,913,800	--	--
New secondary clarifier (1)	2,734,000	2028	2	--	--	--	--	--
Secondary clarifier (6)	13,668,000	2038	5	--	--	--	--	--
SECONDARY TREATMENT PUMPING								
Intermediate pumping station rehabilitation (replace pumps)	631,000	2015	4	157,750	157,750	157,750	--	--
Intermediate pumping station modifications (piping)	51,000	2015	2	--	15,300	35,700	--	--
Secondary sludge pumping modifications	1,471,000	2015	4	367,750	367,750	367,750	--	--
RAS meter vault	1,138,000	2028	2	--	--	--	--	--
New RAS/WAS pump station	3,154,000	2038	3	--	--	--	--	--
TERTIARY TREATMENT								
TERTIARY FILTERS								
Reroute backwash to 5th Street	151,000	2015	1	--	--	151,000	--	--
Repair sodium hypochlorite tank and foundation (cracking)	123,000	2013	1	123,000	--	--	--	--
Tertiary filter module No. 4	1,300,000	2028	3	--	--	--	--	--
Tertiary filter module No. 5	1,300,000	2038	3	--	--	--	--	--
Tertiary filter pump	135,000	2014	1	--	135,000	--	--	--
Rehabilitate flash mixer at sand filter	18,000	2014	1	--	18,000	--	--	--
Sand filter cover replacement	24,000	2014	1	--	24,000	--	--	--
Rehabilitate compressor #1 and #2 at sand filters	50,000	2014	1	--	50,000	--	--	--
Media replacement program	200,000	2020	1	--	--	--	--	--
DISINFECTION								
Chlorine Residual Analyzer	53,000	2015	1	--	--	53,000	--	--
Chlorine contact basin No. 3 & 4	1,733,000	2028	3	--	--	--	--	--
EFFLUENT PUMP STATION								
Pump station modifications	2,019,000	2018	3	--	201,900	908,550	908,550	--

SOLIDS HANDLING**DIGESTERS**

Digester rehabilitation	5,345,000	2017	5	1,069,000	1,069,000	1,069,000	1,069,000	1,069,000
Digester No. 3 retrofit	631,000	2020	2	—	—	—	—	—
Digested sludge storage	1,516,000	2020	2	—	—	—	—	—
Digester control room	2,181,000	2020	2	—	—	—	—	—

DAF

Cover DAF structures	65,000	2017	2	—	—	—	19,500	45,500
DAF thickener No.1 modifications	145,000	2017	1	—	—	—	—	145,000

DEWATERING

Repair odor control system	94,000	2013	1	94,000	—	—	—	—
Polymer mix equipment replacement - dewatering	315,000	2017	1	—	—	—	—	315,000
Rehabilitate Centrifuge #1	94,000	2014	1	—	94,000	—	—	—
Two New Centrifuges	1,493,000	2022	2	—	—	—	—	—

GENERAL PLANT OPERATIONS**PLANT WATER SYSTEM**

Plant water system rehabilitation	419,000	2014	2	125,700	293,300	—	—	—
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GENERAL PLANT

Major access roads asphalt repairs	631,000	2020	5	—	—	—	126,200	126,200
Secondary power source to plant	1,597,000	2020	2	—	—	—	—	—
Install permanent discharge line at electrical vault and upgrade sump pump	21,000	2013	1	21,000	—	—	—	—
Upgrades to offsite communications	42,000	2014	1	—	42,000	—	—	—

ELECTRICAL

Rehabilitation of plant back up generator	42,000	2013	1	42,000	—	—	—	—
Low voltage transformer T2 and switchgear	1,011,000	2027	2	—	—	—	—	—
Electrical rehabilitation program	4,281,000	2017	5	856,200	856,200	856,200	856,200	856,200

COGENERATION

Cogeneration	2,797,000	2038	2	—	—	—	—	—
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* Two year projects are divided into 30 and 70 percent

Three year projects are divided into 10, 45, and 45 percent

Four and Five year are divided into equal parts

Total	4,298,600	10,015,500	11,367,450	4,475,550	4,894,800
Inflated \$ (3%/year)	4,298,600	10,315,965	12,059,728	4,890,554	5,509,141
	0	300,465	692,278	415,004	614,341
Cumulative	4,298,600	14,314,100	25,681,550	30,157,100	35,051,900
Inflated \$ (3%/year)	4,298,600	14,614,565	26,674,293	31,564,847	37,073,988

Sewer Line Replacement/Rehabilitation

	Fund	Cost
4th to Richmond	515	91,000
Adeline-Mountain to Division	515	106,000
Albany to 4th	515	69,000
Ann-Minnesota to Carson	515	120,000
Bunker Hill to Washington St.	515	29,000
California-Colorado to Industrial	515	140,000
Carson-Proctor to Musser	515	19,000
Carson-Spear to Telegraph	515	21,000
Clear Creek Avenue Sewer	515	1,550,000
Curry North to Robinson	515	15,000
Division-Bath To William	515	204,000
Division-Winnie to Bath	515	142,000
Fleischmann Line	515	93,000
Fleischmann-Mountain to Lane	515	62,000
Harbin-Telegraph to Musser	515	44,000
Idaho-Colorado to Manhole	515	29,000
Jeanell	515	62,000
Lane Cir. to Long St.	515	31,000
Long-Curry to Stewart	515	152,000
Hilside to Long St.	515	12,000
Meyers-Division to Nevada	515	17,000
Miller St. to Division	515	17,000
Musser-Mountain to Carson	515	190,000
Nevada-Bath to Long	515	80,000
Nevada-Long to Fleischmann	515	81,000
Nevada-Meyers to Bath	515	112,000
Ormsby to King	515	46,000
Park-Nevada to Carson	515	42,000
Pittman to King	515	52,000
Pine View to Division	515	16,000
Pratt-Robinson to Musser	515	89,000
Richmond to 4th	515	69,000
Robinson-Mountain to Carson	515	188,000
Russett-Jeanell to Winnie	515	31,000
Sierra Circle to Long St.	515	31,000
Sophia-Minnesota to Carson St.	515	120,000
Spear-Division to Carson	515	76,000
Spear-Mountain to Minnesota	515	89,000
Tacoma-King to 4th	515	68,000
Telegraph-Elizabeth to Minnesota	515	58,000
Utah-S. end to Industrial	515	96,000
William-Minnesota to Nevada	515	58,000

Total	\$4,617,000
Design, etc@15%	\$692,550
Total	\$5,309,550
Annually/ 8 Yrs	\$663,694