
APPENDIX A: Water and Sewer Subplan Tables

**APPENDIX A-1: COMPLETED AND ONGOING PROJECTS
CAPITAL IMPROVEMENT AND INFRASTRUCTURE MASTER PLAN**

#	PROJECT: NAME, LOCATION, ETC	ATTRIBUTE:	JURISDICTION/ OWNER	MODE	SYSTEM/ SCALE	LOCATION	TYPE	PHASE	COST	CAPITAL PROGRAM	YEAR	FUND*	SCHEDULE	PURPOSE	REFERENCE/ SOURCE**	URGENCY (per Source)
		CODES:	ST = STATE CO = COUNTY CI = CITY AUTH = AUTHORITY PR = PRIVATE (EXPLAIN)	1 = WTP, WWTP, WELLS 2 = PIPE NETWORK/ CONVEYANCE 3 = WATER TANKS 4 = PUMP STATION 5 = CSO DISCHARGE	1 = REGIONAL SYSTEM/NETWORK OR SIGNIFICANCE 2 = LOCAL SYSTEM/ SIGNIFICANCE	CITY NEIGHBORHOOD	INF = INFRASTRUCTURE OPS = OPERATIONS/ SAFETY CAP = CAPACITY EN = ENHANCEMENT (EXPLAIN) ENV = ENVIRONMENTAL	1 = NEW IDEA, NEED, PLAN & CONCEPT 2 = PROPOSAL/ ENVIRONMENTAL DESIGN 3 = CONSTRUCTION 4 = BUILT	(KNOWN COST ESTIMATES, BY PHASE IF AVAILABLE) L following amount indicates loan	ST = STATE LA = LOCAL AID CO = COUNTY CI = CITY AU = AUTHORITY CAPITAL PROG. PR = PRIVATE (EXPLAIN) Bold indicates potential capital funding program		* Abbreviations can be found at bottom of table Bold indicates potential funding source	MILESTONES/DATES	INTENT/OBJECTIVES OF THE PROJECT	** Abbreviations can be found at bottom of table	A = REGULATORY MANDATE (HIGHEST PRIORITY) B = HEALTH & SAFETY (HIGHER) C = QUALITY/ RELIABILITY OF SERVICE (PRIORITY)
20	Broadway transmission main	Phase 1	CI	2	2	Bergen Square, Waterfront South	INF	4	\$3.2M	ST	2002	NJDEP -	COMPLETE	NJDEP mandate: Improve system efficiency/water quality	CCMP, CCCIP, CIPR, OPBR, Camden Water	A,C
		Kaighn Ave. to Gloucester City														
21	Conduct engineering evaluation of water mains in	Broadway	CI	2	2	Bergen Square and Lanning Square	INF	4	\$3.2M	ST	2002	NJDEP -	COMPLETE	Improve system efficiency/water quality	CCMP, CCCIP, CIPR, OPBR	C
22	Evaluate system upgrades necessary in	Broadway	CI	2	2	Waterfront South	INF	4	\$3.2M	ST	2002	NJDEP -	COMPLETE	Improve system efficiency/water quality	CCMP, CCCIP, CIPR, OPBR	C
23	Lead service line replacement		CI	2	2	Varies	INF	3	\$7M L (\$6.7M)	ST	2002	NJDEP - EIT	ONGOING	Improve system water quality	CCCIP, CIPR, OPBR, PIR, BR	C
24	Pursue engineering evaluation of water main distribution lines in	East State St.	CI	2	2	North Camden	INF	2,3	\$3M L	ST		NJDEP - WRL	Construction awarded to contractor	Improve system efficiency/water quality	CCMP, CIPR, OPBR, PIR, BR	b,c
25	Pursue engineering evaluation of water main distribution lines in	8th St.	CI	2	2	North Camden	INF	2,3	\$3M L	ST		NJDEP - WRL	Construction awarded to contractor	Improve system efficiency/water quality	CCMP, CIPR, OPBR, PIR, BR	b,c
26	Evaluate engineering options for water main supply upgrades to	Newton Ave.	CI	2	2	Gateway, Bergen Square, Lanning Square	INF	1,2,3	\$3M L	ST		NJDEP - WRL	Construction awarded to contractor	Improve system efficiency/water quality	CCMP, CIPR, OPBR, PIR, BR	b,c
27	Evaluate engineering options for water main supply upgrades to	Border St.	CI	2	2	Gateway	INF	2,3	\$3M L	ST		NJDEP - WRL	Construction awarded to contractor	Improve system efficiency/water quality	CIPR, OPBR, PIR, BR	b,c
28	Evaluate engineering options for water main supply upgrades to	Mt. Ephraim Ave.	CI	2	2	Gateway	INF	2,3	\$3M L	ST		NJDEP - WRL	Construction awarded to contractor	Improve system efficiency/water quality	CIPR, OPBR, PIR, BR	b,c
29	Evaluate engineering options for water main supply upgrades to	Whitman standpipe	CI	2	2	Gateway	INF	2,3	\$3M L	ST		NJDEP - WRL	Construction awarded to contractor	Improve system efficiency/water quality	CIPR, OPBR, PIR, BR	b,c
30	Evaluate engineering options for water main supply upgrades to	Federal St.	CI	2	2	CBD	INF	2,3	\$3M L	ST		NJDEP - WRL	Construction awarded to contractor	Improve system efficiency/water quality	CIPR, OPBR, PIR, BR	b,c
31	Upgrade neighborhood water system		CI	2	2	North Camden	INF	1,3	\$3M L	ST		NJDEP - WRL	Construction awarded to contractor	Improve system efficiency/water quality	CIPR, OPBR, PIR, BR, The North Camden Plan	b,c
32	Upgrade neighborhood water system		CI	2	2	Waterfront South	INF	1,4	\$3.2M	ST	2002	NJDEP -	Broadway main (Ph. 1) complete	Improve system efficiency/water quality	CCMP, CCCIP, CIPR, OPBR, Waterfront South	b,c
SEWER																
1	Interim and Long-Term Solids and Floatables Control Plan	Design	AUTH (CCMUA)	5	1	Cramer Hill	ENV	4	\$0.5M	AUTH (CCMUA)	2002		COMPLETE	Solids and floatables removal	CH2M, AK	A
		Design	CI	5	1	Varies	ENV	4	\$4M	ST	2003	NJ SIA	Design fee appropriated	Solids and floatables removal	CH2M, CDU	A
2		Construction	AUTH (CCMUA)	5	1	Cramer Hill	ENV	4	\$0.71M	AUTH (CCMUA)	2002		COMPLETE	Solids and floatables removal	CH2M, AK	A
3	Maintain and repair	Baldwin Point PS	AUTH (CCMUA)	4	1	Cramer Hill	INF, OPS, CAP	4		AUTH (CCMUA)	2002		COMPLETE	Improve system efficiency/performance	CCMP	b,c
4	Grit & screenings pad		CI	4	1	Other	OPS, ENV	3,4					Complete, but Camden Water will expand		CCCIP, Camden Water	B
5	Alarm panels		CI	4	1	Varies	OPS	4					COMPLETE	Improve on-site safety	CCCIP, Camden Water	B

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#	PROJECT: NAME, LOCATION, ETC	ATTRIBUTE:	JURISDICTION/ OWNER	MODE	SYSTEM/ SCALE	LOCATION	TYPE	PHASE	COST	CAPITAL PROGRAM	YEAR	FUND*	SCHEDULE	PURPOSE	REFERENCE/ SOURCE**	URGENCY (per Source)
		CODES:	ST = STATE CO = COUNTY CI = CITY AUTH = AUTHORITY PR = PRIVATE (EXPLAIN)	1 = WTP, WWTP, WELLS 2 = PIPE NETWORK/ CONVEYANCE 3 = WATER TANKS 4 = PUMP STATION 5 = CSO DISCHARGE	1 = REGIONAL SYSTEM/NETWORK OR SIGNIFICANCE 2 = LOCAL SYSTEM/ SIGNIFICANCE	CITY NEIGHBORHOOD	INF = INFRASTRUCTURE OPS = OPERATIONS/ SAFETY CAP = CAPACITY EN = ENHANCEMENT (EXPLAIN) ENV = ENVIRONMENTAL	1 = NEW IDEA, NEED, PLAN & CONCEPT 2 = PROPOSAL/ ENVIRONMENTAL DESIGN 3 = CONSTRUCTION 4 = BUILT	(KNOWN COST ESTIMATES, BY PHASE IF AVAILABLE) L following amount indicates loan	ST = STATE LA = LOCAL AID CO = COUNTY CI = CITY AU = AUTHORITY CAPITAL PROG. PR = PRIVATE (EXPLAIN) Bold indicates potential capital funding program		* Abbreviations can be found at bottom of table Bold indicates potential funding source	MILESTONES/DATES	INTENT/OBJECTIVES OF THE PROJECT	** Abbreviations can be found at bottom of table	A = REGULATORY MANDATE (HIGHEST PRIORITY) B = HEALTH & SAFETY (HIGHER) C = QUALITY/ RELIABILITY OF SERVICE (PRIORITY)
11	Replace 4th St. sewers in specific locations	CI	2	1	North Camden	INF	4	\$17.1M L	ST	2003	NJDEP - CWT	Complete Sept. 2003	Upgrade existing sewer system	CCCIP, CIPR, PIR, OPBR, BR	b,c	
12	Maintain 2nd St. sewer line	CI	2	1	Central Waterfront, Cooper-Grant, CBD	INF	4	\$17.1M L	ST	2003	NJDEP - CWT	Complete Sept. 2003	Upgrade existing sewer system	CCCIP, CIPR, PIR, OPBR, BR	b,c	
13	Upgrade and maintain Tuckahoe Road sewer lines	CI	2	1	Fairview	INF	2	\$2.9M	ST		NJDEP -	Begin construction Sept. 2003	Upgrade existing sewer system	CCCIP, CIPR	b,c	
14	Upgrade sewer system on 4th St. between Grant and York	CI	2	1	North Camden	INF	4	\$17.1M L	ST	2003	NJDEP - CWT	Complete Sept. 2003	Upgrade existing sewer system	The North Camden Plan	b,c	
15	Upgrade sewer system on Grant St. between 3rd and 5th	CI	2	1	North Camden	INF	4	\$17.1M L	ST	2003	NJDEP - CWT	Complete Sept. 2003	Upgrade existing sewer system	The North Camden Plan	b,c	
16	Hydraulic modeling and sewer drawings	CI, AUTH (CCMUA)	1,2,4,5	1	Varies	INF, OPS, CAP	4						Improve system efficiency/performance	CCCIP	C	

*** Funding Abbreviations**

EIT = NJ ENVIRONMENTAL INFRASTRUCTURE TRUST FUND
 WRL = WATER SUPPLY REHABILITATION LOAN
 CWT = CLEAN WATER TRUST
 SIAA = STATE INFRASTRUCTURE IMPROVEMENT ACT PROGRAM
 EDA = ECONOMIC DEVELOPMENT AUTHORITY GRANT

**** Resource Abbreviations**

CCCIP = CAMDEN CITY CAPITAL IMPROVEMENT PLAN FOR THE WATER SYSTEM AND WASTEWATER COLLECTION SYSTEM
 CCMP = CITY OF CAMDEN MASTER PLAN
 CIPR = CAMDEN DEPARTMENT OF UTILITIES CAPITAL IMPROVEMENTS PROJECT REPORT
 PIR = CAMDEN DEPARTMENT OF UTILITIES PROJECT INFORMATION REPORT
 OPBR = CAMDEN DEPARTMENT OF UTILITIES OVERALL PROJECT BACKGROUND REPORT
 BR = CAMDEN DEPARTMENT OF UTILITIES PROJECT BACKGROUND REPORTS
 MEMO = NJDEP MEMO DATED 30 OCTOBER 1994
 CH2M = SEWAGE INFRASTRUCTURE IMPROVEMENT ACT PLANNING STUDY - FINAL REPORT
 Main Street Study = MAIN STREET A STUDY TO DETERMINE THE NEED FOR REDEVELOPMENT
 Camden Water = INFORMATION GATHERED FROM A MEETING WITH CAMDEN WATER ON 8 JANUARY 2003
 Camden Water memo = MEMO FROM CAMDEN WATER TO PAUL REDMAN DATED 30 MAY 2001
 Baldwin's Run Flood Study = PRELIMINARY ENGINEERING ANALYSIS FOR STORMWATER STUDY FOR EDA FUNDING, BALDWIN'S RUN DRAINAGE BASIN, CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY
 NJDEP = INFORMATION GATHERED FROM A MEETING WITH NJDEP ON 16 JANUARY 2003
 EW = INFORMATION GATHERED FROM A MEETING WITH ED WILLIAMS (CAMDEN) ON 14 JANUARY 2003
 FPS = DRINKING WATER STATE REVOLVING FUND FINAL PRIORITY SYSTEM, INTENDED USE PLAN, PROJECT PRIORITY LIST, AND RESPONSE DOCUMENT
 AK = INFORMATION GATHERED FROM DISCUSSIONS WITH ANDREW KRICUN (CCMUA)
 CDU = INFORMATION OBTAINED FROM THE CITY OF CAMDEN DEPARTMENT OF UTILITIES

**APPENDIX A-2: PROPOSED PROJECTS
CAPITAL IMPROVEMENT AND INFRASTRUCTURE MASTER PLAN**

ATTRIBUTE CODES:	JURISDICTION/ OWNER	MODE	SYSTEM/ SCALE	LOCATION	TYPE	PHASE	COST	CAPITAL PROGRAM	YEAR	FUND*	SCHEDULE	PURPOSE	REFERENCE/ SOURCE**	URGENCY (per Source)		
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1	New elevated storage tank	Fairview Tank	CI	3	2	Fairview	CAP	1		ST		NJDEP		NJDEP mandate; Improve system capacity/pressure	CCCIP, MEMO, Camden Water	A
2	Kaighn Ave. tank improvements		CI	3	2	Central Waterfront	CAP	1,4					Inspection complete, but no work has been done	NJDEP mandate; Improve system capacity/pressure	MEMO, Camden Water	A
3	30-in water main rehabilitation	Phase 2 - To be determined	CI	2	2	Varies	INF	1	\$3M	ST		NJDEP -		NJDEP mandate; Improve system efficiency/water	CIPR, MEMO, CDU	A
4	Ongoing distribution upgrades	Fire hydrants and valves	CI	2	2	Varies	INF	2,3,4			ONGOING		ONGOING	Improve system efficiency/water quality	Camden Water, Waterfront South	c
5		Various	CI	2	2	Varies	INF	1		ST		NJDEP	To be determined	Improve system efficiency/water quality	CCCIP	c
6	Loop dead-end water mains		CI	2	2	Varies	INF	1	\$5.5 M	ST		NJDEP		Improve system efficiency/pressure	NJDEP	b
7	Puchack WTP		CI	1	1	Other	CAP	2	\$27M	ST		NJDEP		NJDEP mandate; Improve system capacity	NJDEP, MEMO	A
8	Repainting of pressure filters		CI	1	2	Parkside, Other	OPS	1	\$0.15M	ST		NJDEP		Improve system quality/pressure	NJDEP	c
9	Pursue engineering evaluation of water main distribution lines in	Elm St.	CI	2	2	North Camden	INF	1		ST		NJDEP		Improve system efficiency/water quality	CCMP	b,c
10	Pursue engineering evaluation of water main distribution lines in	Erie St.	CI	2	2	North Camden	INF	1		ST		NJDEP		Improve system efficiency/water quality	CCMP	b,c
11	Pursue engineering evaluation of water main distribution lines in	Front St.	CI	2	2	North Camden	INF	1		ST		NJDEP		Improve system efficiency/water quality	CCMP	b,c
12	Upgrade local distribution lines as part of redevelopment		CI	2	2	Varies	INF	1		PR (DEVELOPER)		PRIVATE		Improve system efficiency/water quality	CCMP, Waterfront South, The North Camden Plan, Main Street Study	b,c
13	Conduct engineering evaluation of water main distribution lines in	Penn St.	CI	2	2	Central Waterfront, Cooper-Grant, CBD	INF	1		ST		NJDEP		Improve system efficiency/water quality	CCMP	b,c
14	Conduct engineering evaluation of water main distribution lines in	2nd St.	CI	2	2	Central Waterfront, Cooper-Grant, CBD, Bergen Square, Lanning Square	INF	1		ST		NJDEP		Improve system efficiency/water quality	CCMP	b,c
15	Continue maintenance of main distribution system in	River Ave.	CI	2	2	Cramer Hill	INF	1		ST		NJDEP		Improve system efficiency/water quality	CCMP	b,c
16	Upgrade local distribution lines along	Federal St. near 17th St.	CI	2	2	Marlton	INF	1		ST		NJDEP		Improve system efficiency/water quality	CCMP	b,c
17	Repair main distribution line in	27th St.	CI	2	2	Stockton	INF	1		ST		NJDEP		Improve system efficiency/water quality	CCMP	b,c
18	Evaluate maintenance needs for water distribution system with NJAWC at	Federal St.	CI	2	2	Rosedale/Dudley	INF	1		ST		NJDEP		Improve system efficiency/water quality	CCMP	b,c
19	Evaluate maintenance needs for water distribution system with NJAWC at	30th St.	CI	2	2	Rosedale/Dudley	INF	1		ST		NJDEP		Improve system efficiency/water quality	CCMP	b,c
20	Evaluate system upgrades necessary in	4th St.	CI	2	2	Waterfront South	INF	1		ST		NJDEP		Improve system efficiency/water quality	CCMP	b,c
21	Maintain water line distribution in	8th St.	CI	2	2	Liberty Park, Centerville, Morgan Village	INF	1		ST		NJDEP		Improve system efficiency/water quality	CCMP	b,c
22	Continue repair of main water line distribution network for	Ferry Ave./ Chelton Ave.	CI	2	2	Morgan Village	INF	1		ST		NJDEP		Improve system efficiency/water quality	CCMP	b,c
23	Continue maintenance of water line main in	Morgan Blvd. along Octagon and Atlanta lines	CI	2	2	Fairview	INF	1		ST		NJDEP		Improve system efficiency/water quality	CCMP	b,c

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24	Repair water main network at Whitman St.	CI	2	2	Whitman Park	INF	1			ST		NJDEP	Improve system efficiency/water quality	CCMP	b,c
25	Repair water main network at Haddon Ave.	CI	2	2	Whitman Park	INF	1			ST		NJDEP	Improve system efficiency/water quality	CCMP	b,c
26	Repair water main network at Sheridan St.	CI	2	2	Whitman Park	INF	1			ST		NJDEP	Improve system efficiency/water quality	CCMP	b,c
27	Maintain and repair water main system at Empire St.	CI	2	2	Parkside	INF	1			ST		NJDEP	Improve system efficiency/water quality	CCMP	b,c
28	Maintain and repair water main system at Walnut St.	CI	2	2	Parkside	INF	1			ST		NJDEP	Improve system efficiency/water quality	CCMP	b,c
29	Maintain and repair water main system at Haddon Ave. to Mt. Ephraim main water line supply system	CI	2	2	Parkside	INF	1			ST		NJDEP	Improve system efficiency/water quality	CCMP	b,c
30	Upgrade water system in Main St. corridor	CI	2	2	North Camden	INF	1			ST		NJDEP	Improve system efficiency/water quality	Main Street Study	b,c
31	Hydraulic model & study	CI	1,2,3	2	Varies	INF, OPS, CAP	1			ST		NJDEP	Prioritize and size system improvements	CCCIP	B
32	Leak detection survey	CI	2	2	Varies	INF, OPS, CAP	1			ST		NJDEP	Improve system efficiency	CCCIP	A
SEWER															
1	Interim and Long-Term Solid and Floatables Control Plan	Design	CI	5	1	Varies	ENV	2	\$4.2M	ST	ONGOING	NJDEP - SIIA	NJDEP mandate	CH2M, NJDEP	A
2	Control of CSO discharges	Construction	CI	5	1	Varies	ENV	2	\$58.7M	ST		NJDEP - SIIA	NJDEP mandate	CH2M, NJDEP	A
3	Miscellaneous CSO improvements	CI, AUTH (CCMUA)	CI	5	1	Varies	ENV	2,4	\$4.2M	ST, AUTH (CCMUA)	Design ONGOING		NJDEP mandate	CCCIP, AK	A
4	Upgrade or rehabilitate all City-owned pump stations	CI	4	1	Varies	INF, OPS, CAP	1			ST		NJDEP	Improve system efficiency/performance	CCCIP	B
5	Repair and upgrade	Arch St. PS	CI	4	1	Central Waterfront, Cooper-Grant	INF, OPS, CAP	1	\$0.9M	ST		NJDEP	Improve system efficiency/performance	Camden Water memo	b,c
6	Repair and upgrade or replace	City Line PS (Ferry Ave. PS)	CI	4	1	Whitman Park	INF, OPS, CAP	1		ST		NJDEP - SRF	Improve system efficiency/performance	CCMP, NJDEP	b,c
7	Repair and upgrade	Baird Blvd. PS	CI	4	1	Marlton	INF, OPS, CAP	1		ST		NJDEP	Improve system efficiency/performance	CCMP, Camden Water memo, NJDEP	b,c
8	Repair and upgrade	Federal St. PS	CI	4	1	Marlton	INF, OPS, CAP	1		ST		NJDEP	Improve system efficiency/performance	CCMP, Camden Water memo, NJDEP	b,c
9	Repair and upgrade	Pine St. PS	CI	4	1	Gateway	INF, OPS, CAP	1		ST		NJDEP	Improve system efficiency/performance	Camden Water memo	b,c
10	Repair and upgrade	Fairview PS	CI	4	1	Fairview	INF, OPS, CAP	1		ST		NJDEP	Improve system efficiency/performance	Camden Water memo	b,c
11	Repair and upgrade	Mt. Ephraim Ave. PS	CI	4	1	Morgan Village	INF, OPS, CAP	1		ST		NJDEP	Improve system efficiency/performance	CCMP, Camden Water memo	b,c
12	Repair and upgrade	State St. PS	CI	4	1	Cramer Hill	INF, OPS, CAP	1		ST		NJDEP	Improve system efficiency/performance	Camden Water memo	b,c
13	Repair and upgrade	Morgan Blvd. PS	CI	4	1	Waterfront South	INF, OPS, CAP	1		ST		NJDEP	Improve system efficiency/performance	Camden Water memo	b,c
14	Replace Morton Blvd. PS sewage ejector	CI	4	1	Morgan Village	ENV	1			ST		NJDEP	Improve system efficiency/performance	CCCIP, Camden Water	A
15	Upgrade Pine St. PS transformers	CI	4	1	Parkside	ENV	1			ST		NJDEP	Improve environmental quality	CCCIP, Camden Water	A
16	Roofs & exterior walls	CI	4	1	Varies	OPS	1			ST		NJDEP	Improve worker safety	CCCIP, Camden Water	A
17	Automatic mechanically cleaned screens	CI	4	1	Varies	OPS, CAP	1			ST		NJDEP	Improve system efficiency/performance	CCCIP, Camden Water	A
18	Ventilation systems	CI	4	1	Varies	OPS	3,4			ONGOING	ONGOING		Improve worker safety	CCCIP, Camden Water, CH2M	A
19	Emergency generators	CI	4	1	Varies	OPS	1			ST		NJDEP	Improve system efficiency/performance	CCCIP, Camden Water, CH2M	A

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21	Pumps, motors, & VFDs	CI	4	1	Varies	OPS, CAP	2,3,4			ONGOING	ONGOING	Improve system efficiency/performance	CCCIP, Camden Water	B
22	Electrical & safety	CI	4	1	Varies	OPS	3,4			ONGOING	ONGOING	Improve worker safety	CCCIP, Camden Water	B
23	Doors & windows	CI	4	1	Varies	OPS	2,3,4			ONGOING	ONGOING	Improve on-site safety	CCCIP, Camden Water	C
24	Security & grounds	CI	4	1	Varies	OPS	2,3,4			ONGOING	ONGOING	Improve worker/on-site safety	CCCIP, Camden Water	C
25	Building interior areas	CI	4	1	Varies	OPS	2,3,4			ONGOING	ONGOING	Improve worker safety	CCCIP, Camden Water	C
26	Valves & piping	CI	4	1	Varies	OPS, CAP	1	ST		NJDEP		Improve system efficiency/performance	CCCIP, Camden Water	C
27	Sump pumps	CI	4	1	Varies	CAP	1	ST		NJDEP		Improve system efficiency/performance	CCCIP, Camden Water	C
28	Continue CCTV program	PR (Camden Water)	2	1	Varies	INF	1,2,3,4	AUTH (Camden Water)	ONGOING		ONGOING	Document sewer conditions	Camden Water, CDU	b,c
29	Manhole & catch basin replacement	CI	2	1	Varies	INF	2,3,4					Improve system efficiency; safety	CCCIP	A
30	Evaluate East State St. sewer line maintenance program	CI	2	1	North Camden	INF	1	ST		NJDEP		Improve system efficiency/performance	CCMP	b,c
31	Evaluate 10th St. for infiltration and deterioration	CI	2	1	North Camden	INF, CAP	1	ST		NJDEP		Improve system efficiency/performance	CCMP	b,c
32	Reline 72" sewer line in Front St.	CI	2	1	North Camden	INF, CAP, ENV	1	ST		NJDEP		Upgrade existing sewer system	CCMP	b,c
33	Upgrade sewer line at 7th St.	CI	2	1	Bergen Square and Lanning Square	INF	1	ST		NJDEP		Upgrade existing sewer system	CCMP	b,c
34	Upgrade sewer line at Pine St.	CI	2	1	Bergen Square and Lanning Square	INF	1	ST		NJDEP		Upgrade existing sewer system	CCMP	b,c
35	Maintain sewer lines in Newton Ave.	CI	2	1	Gateway	INF	1	ST		NJDEP		Upgrade existing sewer system	CCMP	b,c
36	Maintain sewer lines in Memorial Ave.	CI	2	1	Gateway	INF	1	ST		NJDEP		Upgrade existing sewer system	CCMP	b,c
37	Maintain and repair sewer line in Harrison Ave.	CI	2	1	Cramer Hill	INF	1	ST		NJDEP		Upgrade existing sewer system	CCMP	b,c
38	Rebuild sewer collection network along Federal St.	CI	2	1	Marlton	INF	1	ST		NJDEP		Upgrade existing sewer system	CCMP	b,c
39	Maintain sewer lines in Ferry Ave. network	CI	2	1	Waterfront South	INF	1	ST		NJDEP		Upgrade existing sewer system	CCMP	b,c
40	Maintain sewer lines in 4th St. network	CI	2	1	Waterfront South	INF	1	ST		NJDEP		Upgrade existing sewer system	CCMP	b,c
41	Reline 48" sewer line in Division St.	CI	2	1	Waterfront South	INF	1	ST		NJDEP		Upgrade existing sewer system	CCMP	b,c
42	Maintain Ferry Ave. line	CI	2	1	Morgan Village	INF	1	ST		NJDEP		Upgrade existing sewer system	CCMP	b,c
43	Maintain Mt Ephraim sewer line	CI	2	1	Morgan Village	INF	1	ST		NJDEP		Upgrade existing sewer system	CCMP	b,c
44	Upgrade and maintain Morgan Blvd. sewer lines	CI	2	1	Fairview	INF	1	ST		NJDEP		Upgrade existing sewer system	CCMP	b,c
45	Maintain and repair Ferry Ave. sewer line	CI	2	1	Whitman Park	INF	1	ST		NJDEP		Upgrade existing sewer system	CCMP	b,c
46	Maintain and repair Pine St. sewer line	CI	2	1	Parkside	INF	1	ST		NJDEP		Upgrade existing sewer system	CCMP	b,c
47	Upgrade sewer system in Main St. corridor	CI	2	1	North Camden	INF	1	ST		NJDEP		Upgrade existing sewer system	Main Street Study	b,c
48	Repair local sewer system as part of redevelopment	CI	2	1	Varies	INF	1,2,3,4	ST, PR (DEVELOPER)		NJDEP, PRIVATE		Upgrade existing sewer system	CCMP, Waterfront South	b,c
49	Create separate storm and sanitary lines as part of redevelopment	CI	2	1	Gateway, Cramer Hill, Rosedale/Dudley, Waterfront South, Central Waterfront, Cooper-Grant, CBD	INF, CAP, ENV	1	ST, PR (DEVELOPER)		NJDEP, PRIVATE		Upgrade existing sewer system	CCMP	a,b,c

APPENDIX A-2: PROPOSED PROJECTS CAPITAL IMPROVEMENT AND INFRASTRUCTURE MASTER PLAN

ATTRIBUTE	JURISDICTION/ OWNER	MODE	SYSTEM/ SCALE	LOCATION	TYPE	PHASE	COST	CAPITAL PROGRAM	YEAR	FUND*	SCHEDULE	PURPOSE	REFERENCE/ SOURCE**	URGENCY (per Source)
CODES:	ST = STATE CO = COUNTY CI = CITY AUTH = AUTHORITY PR = PRIVATE (EXPLAIN)	1 = WTP, WWTP, WELLS 2 = PIPE NETWORK/ CONVEYANCE 3 = WATER TANKS 4 = PUMP STATION 5 = CSO DISCHARGE	1 = REGIONAL SYSTEM/ NETWORK OR SIGNIFICANCE 2 = LOCAL SYSTEM/ SIGNIFICANCE	CITY NEIGHBORHOOD	INF = INFRASTRUCTURE OPS = OPERATIONS/ SAFETY CAP = CAPACITY EN = ENHANCEMENT (EXPLAIN) ENV = ENVIRONMENTAL	1 = NEW IDEA, NEED, PLAN & CONCEPT 2 = PROPOSAL/ ENVIRONMENTAL DESIGN 3 = CONSTRUCTION 4 = BUILT	(KNOWN COST ESTIMATES, BY PHASE IF AVAILABLE) L following amount indicates loan	ST = STATE LA = LOCAL AID CO = COUNTY CI = CITY AU = AUTHORITY CAPITAL PROG. PR = PRIVATE (EXPLAIN) Bold indicates potential capital funding program		* Abbreviations can be found at bottom of table Bold indicates potential funding source	MILESTONES/DATES	INTENT/OBJECTIVES OF THE PROJECT	** Abbreviations can be found at bottom of table	A = REGULATORY MANDATE (HIGHEST PRIORITY) B = HEALTH & SAFETY (HIGHER PRIORITY) C = QUALITY/ RELIABILITY OF SERVICE (PRIORITY)
#	PROJECT: NAME, LOCATION, ETC													

DRAINAGE & FLOODING															
1	Examine alternatives to correct flooding along Admiral Wilson Blvd.	ST	2	1	Marlton	INF, CAP, ENV	2	\$14.5M	ST		NJDOT	Develop final scope Jan. 2004; Begin construction March 2006	Eliminate/reduce flooding occurrence	CCMP, NJDOT Project Briefing Paper	b
2	Resolve flooding near 34th St. and Westfield Ave.	CI	2	1	Cramer Hill, Rosedale/Dudley, Stockton, Other	INF, CAP, ENV	2		ST		NJDEP		Eliminate/reduce flooding occurrence	CCMP, CIPR	b
3	Construct retention basin to correct flooding at River Ave. between 29th and 30th St.	CI, CO, ST	2	1	Cramer Hill	INF, CAP, ENV	2	\$1M	CI, CO, ST		NJDEP		Eliminate/reduce flooding occurrence	CCMP, FMAS	b
4	Correct flooding at Kaighn Ave. and 10th St.	CI	2	1	Gateway	INF, CAP, ENV	1		ST		NJDEP		Eliminate/reduce flooding occurrence	CCMP	b
5	Correct flooding at 7th St. and Linden St.	CI	2	1	North Camden	INF, CAP, ENV	1		ST		NJDEP		Eliminate/reduce flooding occurrence	CCMP	b
6	Resolve flooding at I-676 and Atlantic Ave.	ST	2	1	Waterfront South, Bergen Square, Gateway, Liberty Park	INF, CAP, ENV	2	\$2.5M	ST		NJDOT	Develop final scope Spring 2003; Design Spring 2006; Begin construction Summer 2006	Eliminate/reduce flooding occurrence	NJDOT Project Briefing Paper	b
7	Resolve flooding at Westfield Ave. and 33rd St.	CI	2	1	Cramer Hill	INF, CAP	2	\$2.5M	CI, ST, FEDERAL		NJEDA	Application for federal assistance submitted 9	Eliminate/reduce flooding occurrence	Baldwin's Run Flood Study	b
8	Resolve flooding at High Street and 33rd St.	CI	2	1	Centerville	INF, CAP, ENV	1		ST		NJDEP		Eliminate/reduce flooding occurrence	EW	b
9	Correct flooding in Centerville	CI	2	1	Centerville	INF, CAP, ENV	1		ST		NJDEP		Eliminate/reduce flooding occurrence	EW	b
10	Rehabilitate flooded portion of Famham Park	CI	2	1	Parkside	INF, CAP, ENV	1		ST		NJDEP		Increase green/open space	Camden Greenways	b
11	Repair or replace storm drains	CI	2	1	Waterfront South, Rosedale/Dudley	INF, CAP, ENV	1		ST		NJDEP, PRIVATE		Upgrade existing storm system	CCMP, Waterfront South	b

* **Funding Abbreviations**
EIT = NJ ENVIRONMENTAL INFRASTRUCTURE TRUST FUND
WRL = WATER SUPPLY REHABILITATION LOAN
CWT = CLEAN WATER TRUST
SIA = STATE INFRASTRUCTURE IMPROVEMENT ACT PROGRAM
EDA = ECONOMIC DEVELOPMENT AUTHORITY GRANT

** **Resource Abbreviations**
CCIP = CAMDEN CITY CAPITAL IMPROVEMENT PLAN FOR THE WATER SYSTEM AND WASTEWATER COLLECTION SYSTEM
CCMP = CITY OF CAMDEN MASTER PLAN
CIPR = CAMDEN DEPARTMENT OF UTILITIES CAPITAL IMPROVEMENTS PROJECT REPORT
PIR = CAMDEN DEPARTMENT OF UTILITIES PROJECT INFORMATION REPORT
OPBR = CAMDEN DEPARTMENT OF UTILITIES OVERALL PROJECT BACKGROUND REPORT
BR = CAMDEN DEPARTMENT OF UTILITIES PROJECT BACKGROUND REPORTS
MEMO = NJDEP MEMO DATED 30 OCTOBER 1994
CH2M = SEWAGE INFRASTRUCTURE IMPROVEMENT ACT PLANNING STUDY - FINAL REPORT
Main Street Study = MAIN STREET A STUDY TO DETERMINE THE NEED FOR REDEVELOPMENT
Camden Water = INFORMATION GATHERED FROM A MEETING WITH CAMDEN WATER ON 8 JANUARY 2003
Camden Water memo = MEMO FROM CAMDEN WATER TO PAUL REDMAN DATED 30 MAY 2001
Baldwin's Run Flood Study = PRELIMINARY ENGINEERING ANALYSIS FOR STORMWATER STUDY FOR EDA FUNDING, BALDWIN'S RUN DRAINAGE BASIN, CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY
NJDEP = INFORMATION GATHERED FROM THE NJDEP
EW = INFORMATION GATHERED FROM A MEETING WITH ED WILLIAMS (CAMDEN) ON 14 JANUARY 2003
FPS = DRINKING WATER STATE REVOLVING FUND FINAL PRIORITY SYSTEM, INTENDED USE PLAN, PROJECT PRIORITY LIST, AND RESPONSE DOCUMENT
AK = INFORMATION GATHERED FROM DISCUSSIONS WITH ANDREW KRICUN (CCMUA)
CDU = INFORMATION OBTAINED FROM THE CITY OF CAMDEN DEPARTMENT OF UTILITIES
FMAS = FLOODING MITIGATION ALTERNATIVES STUDY, VON NEIDA PARK/CRAMER HILL, CITY OF CAMDEN CAMDEN COUNTY, NJ

**APPENDIX A-3: PRIORITY WATER AND SEWER PROJECTS
CAPITAL IMPROVEMENT AND INFRASTRUCTURE MASTER PLAN**

Priority Project	Amount	Unit Cost	Total Cost	Potential Funding Source*
WATER SYSTEM				
1 Fairview Water Tank	1 LS	\$ 3,500,000 /LS ¹	\$ 3,500,000	ERB, CDBG, PWDF
2 Replace old fire hydrants	115 HYD	\$ 2,500 /HYD ²	\$ 287,500	ERB, CDBG, PWDF
3 Hydrant installation at dead-end water mains	7 HYD	\$ 2,500 /LF ³	\$ 17,500	ERB, CDBG, PWDF
4 Localized water main rehabilitation/reconstruction	20,000 FT	\$ 350 /LF ⁴	\$ 7,000,000	ERB, CDBG, PWDF
5 Leak detection survey	1 LS	\$ 40,000 /LS ⁵	\$ 40,000	ERB, CAMDEN WATER
TOTAL			\$ 10,845,000	

2004	2005	2006	2007	2008	TOTAL
\$ 3,500,000	\$ -	\$ -	\$ -	\$ -	\$ 3,500,000
\$ 287,500	\$ -	\$ -	\$ -	\$ -	\$ 287,500
\$ 17,500	\$ -	\$ -	\$ -	\$ -	\$ 17,500
\$ -	\$ 1,750,000	\$ 1,750,000	\$ 1,750,000	\$ 1,750,000	\$ 7,000,000
\$ 40,000	\$ -	\$ -	\$ -	\$ -	\$ 40,000
\$ 3,845,000	\$ 1,750,000	\$ 1,750,000	\$ 1,750,000	\$ 1,750,000	\$ 10,845,000

SEWER SYSTEM					
1 CSO discharge control	Construction	28 CSO	\$ 750,000 /CSO ⁶	\$ 21,000,000	NJ SIIA, ERB, CDBG, PWDF, CCMUA
2 Repair PS	Arch St. PS	1 LS	\$ 900,000 /LS ⁷	\$ 900,000	CCMUA
	City Line (Ferry Ave.) PS				
	Baird Blvd. PS				
	Federal St. PS				
Repair PS	Fairview PS	1 LS	\$ 225,000 /LS ⁸	\$ 225,000	CCMUA
	Pine St. PS	1 LS	\$ 225,000 /LS ⁸	\$ 225,000	CCMUA
	Mt. Ephraim Ave. PS	1 LS	\$ 225,000 /LS ⁸	\$ 225,000	CCMUA
	State St. PS	1 LS	\$ 225,000 /LS ⁸	\$ 225,000	CCMUA
Repair/replace Morgan Blvd. sewage ejector		1 LS	\$ 75,000 /LS ⁹	\$ 75,000	CCMUA
3 Localized sewer rehabilitation/reconstruction		25,000 FT	\$ 550 /LF ¹⁰	\$ 13,750,000	ERB, CDBG, PWDF
4 Sewer main CCTV program		1 LS	\$ 500,000 /LS ¹¹	\$ 500,000	ERB, CAMDEN WATER
TOTAL			\$ 37,125,000		

\$ -	\$ 21,000,000	\$ -	\$ -	\$ -	\$ 21,000,000
\$ 900,000	\$ -	\$ -	\$ -	\$ -	\$ 900,000
\$ 225,000	\$ -	\$ -	\$ -	\$ -	\$ 225,000
\$ 225,000	\$ -	\$ -	\$ -	\$ -	\$ 225,000
\$ 225,000	\$ -	\$ -	\$ -	\$ -	\$ 225,000
\$ 225,000	\$ -	\$ -	\$ -	\$ -	\$ 225,000
\$ 75,000	\$ -	\$ -	\$ -	\$ -	\$ 75,000
\$ -	\$ 3,437,500	\$ 3,437,500	\$ 3,437,500	\$ 3,437,500	\$ 13,750,000
\$ 250,000	\$ 250,000	\$ -	\$ -	\$ -	\$ 500,000
\$ 2,125,000	\$ 24,687,500	\$ 3,437,500	\$ 3,437,500	\$ 3,437,500	\$ 37,125,000

GRAND TOTAL

\$47,970,000

APPENDIX A-3: PRIORITY WATER AND SEWER PROJECTS CAPITAL IMPROVEMENT AND INFRASTRUCTURE MASTER PLAN

Unit Cost Information Source

- 1 = Camden Department of Utilities
- 2 = Camden Water
- 3 = Camden Department of Utilities, Cooper's Ferry Development Authority
- 4 = Camden Department of Utilities, Cooper's Ferry Development Authority
- 5 = Discussions with contractors
- 6 = NJDEP, CH2MHill
- 7 = NJDEP
- 8 = NJDEP
- 9 = Camden City Capital Improvement Plan for the Water System and Wastewater Collection System
- 10 = Camden Department of Utilities
- 11 = Discussion with contractors

* Potential Funding Source

- ERB = ECONOMIC REVIEW BOARD
- NJ SRF = NEW JERSEY STATE REVOLVING FUND
- NJ SIIA = NEW JERSEY SEWER INFRASTRUCTURE IMPROVEMENT ACT
- NJDOT = NEW JERSEY DEPARTMENT OF TRANSPORTATION
- CDBG = USHUD COMMUNITY DEVELOPMENT BLOCK GRANT
- PWDF = USEDPA PUBLIC WORKS AND DEVELOPMENT FACILITIES PROGRAM
- CCMUA = CAMDEN COUNTY MUNICIPAL UTILITIES AUTHORITY

PROGRAMS AND STUDIES

WATER SYSTEM

- | | |
|---|---|
| 1 | Water valve inventory and assessment |
| 2 | Hydraulic model & study of water system |

SEWER SYSTEM

- | | |
|---|---|
| 1 | Expand existing inlet and street cleaning program |
| 2 | Stabilize abandoned sites |
| 3 | Feasibility study for Phase 2 CSO Long-Term Control Plan compliance |

GENERAL RECOMMENDATIONS

- | | |
|---|---|
| 1 | Developer's on-site stormwater systems shall conform to NPDES BMPs |
| 2 | Operations coordination between City, Camden Water, and CCMUA for regulators |
| 3 | Increase coordination within City organizations (Dept. of Utilities, Dept. of Public Works, Planning Board) |
| 4 | Developer's responsibility to replace existing water mains and laterals for all new development (along entire frontage) |
| 5 | Developer's responsibility to replace existing sewer mains and laterals for all new development (along entire frontage) |
| 6 | Developer's responsibility to separate storm/sanitary lines along waterfront redevelopment |
| 7 | Demolition of any existing structure shall include removal of water and sewer laterals (along entire frontage) |