ALASKA LEGISLATURE COMMITTEE FILES 1991-1992 8672
7350 SENATE COMMUNITY & REGIONAL AFFAIRS

7-LS0892\G
Cramer
3/19/91

CS FOR SENATE BILL NO. 179 (CRA)

IN THE LEGISLATURE OF THE STATE OF ALASKA

SEVENTEENTH LEGISLATURE - FIRST SESSION

BY THE SENATE COMMUNITY AND REGIONAL AFFAIRS COMMITTEE

Offered:
Referred:
Funding Information: General Fund $112,372,017
Other Funds -0-
$112,372,017

Sponsor(s): SENATORS ADAMS, Hoffman, Shultz, Zharoff

A BILL

FOR AN ACT ENTITLED

"An Act making appropriations for water, sewer, and solid waste projects; and providing for an effective date."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** The sum of $38,915,197 is appropriated from the general fund to the Department of Environmental Conservation for payment as grants from the village safe water program (AS 46.07) to the following unincorporated communities and cities for the purposes and in the amounts stated:

COMMUNITY OR CITY	PURPOSE	ALLOCATION
City of Alakanuk	Honey bucket haul	$305,000
City of Deering	Water/sewer phase I	1,998,427
City of Koyuk	Piped water and sewer systems	1,200,000
City of Tuluksak	Water, sewer, and solid waste study	50,000
City of Stebbins	Honey bucket access road	38,000
City of Kotlik	Honey bucket cleanup	50,000
City of Chefornak	Water and sewer system	2,147,499

New Text Underlined [DELETED TEXT BRACKETED]

	WORK DRAFT	WORK DRAFT	WORK DRAFT
1	City of Hooper Bay	Water and sewer upgrade	990,000
2	City of St. Michael	Water tanker/fire truck/plumbing	300,000
3	City of Chevak	Sewer system rehabilitation	300,000
4	Chistochina	Chistochina safe water	25,000
5	City of Brevig Mission	Water and sewer design	150,000
6	City of Clarks Point	Extension of water and sewer	280,000
7	City of Lower Kalskag	Solid waste improvements	175,000
8	Nelchina	Waste transfer station and well	42,600
9	City of Nikolai	Water and sewer improvement project	500,000
10	City of Ouzinkie	Safewater relocation	200,000
11	City of Savoonga	Solid waste	750,000
12	Talkeetna	Talkeetna East Side sewer and water construction	3,100,000
13	Tanacross	Waster and sewer expansion and repair	200,000
14	City of White Mountain	Water and sewer	617,000
15	City of Kiana	Sewage treatment renovation	968,000
16	City of Golovin	Water and sewer progressive improvement	
17		plan phase 8	427,280
18	City of Kivalina	Water tank upgrade	900,000
19	City of Huslia	Sanitation improvements	500,000
20	City of Nulato	Water and sewer system phase III	2,382,000
21	City of Atka	Engineering evaluation water/sewer	100,000
22	City of Grayling	Gallery pump project	100,000
23	City of Ruby	Sanitary landfill	60,000
24	Birch Creek	Solid waste removal and relocation	10,000
25	Birch Creek	Tank rehabilitation	150,000
26	City of Thorne Bay	Sewer project	1,100,000
27	Takotna	Rehabilitation of sanitation facilities	225,000
28	Mt. Point	Mt. Point water and sewer project	2,524,000
29	City of Shageluk	Washeteria/water treatment plant renovation	300,000
30	City of Noorvik	Water and sewer upgrade	400,000
31	Minto	Solid waste site	150,000

	WORK DRAFT	WORK DRAFT	WORK DRAFT
1	Tyonek	Water and sewer phase III	742,000
2	Klukwan	Lagoon	389,000
3	City of Chignik	Sewer upgrade/drainfield replacement	200,000
4	City of Elim	Sewer line rehabilitation	431,000
5	City of Anderson	Septage disposal facility	300,000
6	Kokhanok	Water and sewer improvements	100,000
7	City of Larsen Bay	Water improvements	530,000
8	City of Manokotak	Water system improvements	300,000
9	City of New Stuyahok	Water sewer and solid waste	477,000
10	Noatak	Solid waste site	300,000
11	City of Port Lions	Water and sewer	250,000
12	City of Selawik	Storage/washeteria	800,000
13	South Nakenek	Septic tank project	581,000
14	City of Togiak	Togiak water and sewer construction	257,000
15	City of Unalakleet	Solid waste	1,414,000
16	Anchor Point	Watering point facility	68,000
17	City of Mekoryuk	Flush tank and haul demonstration project	180,000
18	City of Kotzebue	Sewer main rehabilitation	1,370,000
19	City of Kotzebue	Sewage lagoon upgrade	480,000
20	Glennallen	Sewer system	1,200,000
21	Healy Lake	Water/sewer project	92,000
22	Chenega	Solid waste disposal	383,891
23	Port Graham	Engineering design/study	75,000
24	City of Gambell	Water and sewer phase III	2,800,000
25	Gulkana	Rehabilitate water treatment plant and	
26		provide larger water storage tank	430,000
27	City of Shungnak	Solid waste improvements	120,000
28	Point Baker	Engineering feasibility study	25,000
29	City of Eek	Feasibility study - water well drilling	22,500
30	Northway	Water and sewer project	260,000
31	City of Bethel	Waste water treatment system improvements	623,000

* **Sec. 2.** The sum of $500,000 is appropriated from the general fund to the Department of Environmental Conservation for village water, sewer, and solid waste projects and for payment as grants under the village safe water program (AS 46.07) for village clinic water and sewer upgrade.

* **Sec. 3.** (a) The sum of $72,156,820 is appropriated from the general fund to the Department of Environmental Conservation for payment as grants under AS 46.03.030 (the 50 percent construction grant program) to the following municipalities for the purposes and in the amounts stated:

MUNICIPALITY	PURPOSE	ALLOCATION
City of Nome	Wastewater treatment facility	$1,332,000
City of Ketchikan	Primary sedimentation plant	521,000
City of Cordova	Sewer system improvements	301,000
City and Borough of Juneau	Mendenhall-JD sewage treatment plant improvements	405,000
City of Kenai	Wastewater treatment plant upgrade	250,000
City of Unalaska	Unalaska water project	1,250,000
Kenai Peninsula Borough	Seward and Soldotna, solid waste facilities	2,106,000
Bristol Bay Borough	King Salmon sewer	1,703,000
City of Haines	Wastewater (E.P.A. compliance)	1,000,000
City of Kodiak	Water filtration plant	8,190,000
City of Kake	Kake Gunnuck Creek - sewer project	515,000
City of Klawock	Sewer treatment plant and outfall	387,500
City of Seldovia	Water system upgrade	260,000
City of Ketchikan	Tongass/Water Street water main replacement phase II	1,250,000
City of Craig	Wastewater treatment plant	1,730,300
City of Klawock	Klawock Subdivision water and sewer	350,000
City of Kenai	Thompson Park sewer interceptor	900,000
City of Wrangell	Water main from upper reservoir to bypass lower reservoir	275,000
City of Wrangell	Water main extension to the airport	200,000
City of Homer	Port of Homer 30 acre sewer and water utility	225,000

WORK DRAFT		WORK DRAFT	WORK DRAFT
1	City of Sand Point	Nagai Avenue sewer	300,000
2	City of Valdez	Sewage dump station - small boat harbor	6,800
3	City of Valdez	Oil and grease separators for small	
4		boat harbor	27,500
5	City of Pelican	Continuation of sewer system	248,582
6	City of King Cove	Harbor water extension (phase I)	123,000
7	City of Skagway	Water storage tank	152,000
8	City of Hoonah	Garteeni Highway, water and sewer extension	212,500
9	City of North Pole	Northwest utility	1,770,000
10	City of Yakutat	Sewage treatment facility upgrade	450,000
11	City of Kenai	Thompson Park water and sewer main	600,000
12	City of Klawock	Klawock water source	75.000
13	City of Ketchikan	Bear Valley reservoir construction	950,000
14	City of Ketchikan	Jefferson/Madison Street water main replacement	200,000
15	City of Ketchikan	Tower Road water main replacement	500,000
16	City of Dillingham	Airport sewer project	175,000
17	Kodiak Island Borough	Water and sewer collection - Otmeloi subdivision	666,800
18	Kodiak Island Borough	Water and sewer collection - Kadiak subdivision	934,350
19	City of Ketchikan	Central waterfront development - sewer	
20		and water	129,250
21	City of North Pole	Baker/Northstar subdivision, water and sewer	2,290,000
22	City and Borough of Sitka	Inflow and infiltration reduction	1,000,000
23	Kodiak Island Borough	Monashka Bay water and sewer system design	550,000
24	Kodiak Island Borough	Womens Bay water and sewer system design	550,000
25	City of Wrangell	Church Street wood stave water main	
26		replacement	200,000
27	City of Wrangell	Water and sewer main replacement - Webber	
28		Street	50,000
29	Kodiak Island Borough	Kodiak land fill and material and leachate	
30		treatment	559,863
31	City of Sand Point	Sand Point landfill construction	300,000

City and Borough of Sitka	Comprehensive solid waste disposal	1,500,000
City of Valdez	Paved road to balefill	75,000
City of Dillingham	Landfill improvements	100,000
City of North Pole	Solid Waste incinerator	3,300,000
Kenai Peninsula Borough	Homer balefill improvements	820,000
Kenai Peninsula Borough	North borough transfer station	597,375
Municipality of Anchorage	Anchorage wastewater projects	5,338,500
Municipality of Anchorage	Anchorage water projects	1,544,500
Municipality of Anchorage	Anchorage regional landfill cell III	2,463,000
Municipality of Anchorage	Merrill Field landfill methane gas collection project	794,000
Municipality of Anchorage	Areawide water quality monitoring	100,000
Municipality of Anchorage	Oil/grease separator performance monitoring	25,000
Municipality of Anchorage	Storm drain monitoring and characterization	25,000
Municipality of Anchorage	Water quality public education	40,000
Municipality of Anchorage	Macroinvertebrate water quality assessment	20,000
City of Fairbanks	Ft. Wainwright interceptor rehabilitation - phase IIA	750,000
City of Fairbanks	Wastewater sludge landfill	6,750,000
City of Fairbanks	Waste heat exchanger - water	325,000
City of Fairbanks	Firewell improvements	125,000
City of Fairbanks	Lime stabilization	225,000
City and Borough of Juneau	Glacier Highway sewerage: Ross Way to Channel Drive	950,000
City and Borough of Juneau	Back Loop Road sewerage - design	600,000
City and Borough of Juneau	North Franklin sewer/storm drain separation	275,000
City and Borough of Juneau	Highlands sewer/storm drain separation	293,000
City and Borough of Juneau	Mountainside Estates - reservoir and pump station	1,250,000
City and Borough of Juneau	Back Loop sewerage - phase I	7,700,000

(b) The sum of $300,000 is appropriated from the general fund to the Department of

Environmental Conservation for payment as grants under AS 46.03.030 (the 50 percent construction grant program) for statewide community facility planning and design.

(c) The sum of $1,500,000 is appropriated from the general fund to the Department of Environmental Conservation for payment as grants under AS 46.03.030 (the 50 percent construction grant program) for community solid waste planning.

*** Sec. 4.** The appropriations made by this Act are for capital projects and lapse under AS 37.25.020.

*** Sec. 5.** This Act takes effect immediately under AS 01.10.070(c).

7-LS0892\J
Cramer
3/22/91

CS FOR SENATE BILL NO. 179 (CRA)

IN THE LEGISLATURE OF THE STATE OF ALASKA

SEVENTEENTH LEGISLATURE - FIRST SESSION

BY THE SENATE COMMUNITY AND REGIONAL AFFAIRS COMMITTEE

Offered:
Referred:
Funding Information: **General Fund $113,759,017**
Other Funds -0-
$113,759,017

Sponsor(s): SENATORS ADAMS, Hoffman, Shultz, Zharoff

A BILL

FOR AN ACT ENTITLED

"An Act making appropriations for water, sewer, and solid waste projects; and providing for an effective date."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** The sum of $39,302,197 is appropriated from the general fund to the Department of Environmental Conservation for payment as grants from the village safe water program (AS 46.07) to the following unincorporated communities and cities for the purposes and in the amounts stated:

COMMUNITY OR CITY	PURPOSE	ALLOCATION
City of Alakanuk	Honey bucket haul	$305,000
City of Koyuk	Piped water and sewer systems	1,200,000
City of Stebbins	Honey bucket access road	38,000
City of Deering	Water/sewer phase I	1,998,427
City of Tuluksak	Water, sewer, and solid waste study	50,000
City of Chevak	Sewer system rehabilitation	300,000
City of Hooper Bay	Water and sewer upgrade	990,000

	WORK DRAFT	WORK DRAFT	WORK DRAFT
1	City of Kotlik	Honey bucket cleanup	50,000
2	City of St. Michael	Water tanker/fire truck/plumbing	300,000
3	City of Chefornak	Water and sewer system	2,147,499
4	City of Marshall	Water system rehabilitation	350,000
5	City of Nikolai	Water and sewer improvement project	500,000
6	Tyonek	Water and sewer phase III	742,000
7	City of Huslia	Sanitation improvements	500,000
8	City of Bethel	Waste water treatment system improvements	623,000
9	City of White Mountain	Water and sewer	617,000
10	City of Thorne Bay	Sewer project	1,100,000
11	Mt. Point	Mt. Point water and sewer project	2,524,000
12	City of Anderson	Septage disposal facility	300,000
13	Glennallen	Sewer system	1,200,000
14	Anchor Point	Watering point facility	68,000
15	Klukwan	Lagoon	389,000
16	Talkeetna	Talkeetna East Side sewer and water construction	3,100,000
17	City of Noorvik	Water and sewer upgrade	400,000
18	Kokhanok	Water and sewer improvements	100,000
19	City of New Stuyahok	Water/sewer and solid waste	477,000
20	City of Selawik	Storage/washeteria	800,000
21	City of Togiak	Togiak water and sewer construction	257,000
22	City of Unalakleet	Solid waste	1,414,000
23	City of Gambell	Water and sewer phase III	2,800,000
24	City of Lower Kalskag	Solid waste improvements	175,000
25	City of Golovin	Water and sewer progressive improvement	
26		plan phase 8	427,280
27	City of Nulato	Water and sewer system phase III	2,382,000
28	City of Mekoryuk	Flush tank and haul demonstration project	180,000
29	City of Kotzebue	Sewer main rehabilitation	1,370,000
30	City of Kiana	Sewage treatment renovation	968,000
31	Takotna	Rehabilitation of sanitation facilities	225,000

	WORK DRAFT	WORK DRAFT	WORK DRAFT
1	City of Ruby	Sanitary landfill	60,000
2	City of Elim	Sewer line rehabilitation	431,000
3	City of Shageluk	Washeteria/water treatment plant renovation	300,000
4	City of Manokotak	Water system improvements	300,000
5	City of Port Lions	Water and sewer	250,000
6	Nelchina	Waste transfer station and well	42,600
7	City of Savoonga	Solid waste	750,000
8	City of Chignik	Sewer upgrade/drainfield replacement	200,000
9	City of Kotzebue	Sewage lagoon upgrade	480,000
10	Port Graham	Engineering design/study	75,000
11	City of Kivalina	Water tank upgrade	900,000
12	South Naknek	Septic tank project	581,000
13	Northway	Water and sewer project	260,000
14	City of Clarks Point	Extension of water and sewer	280,000
15	Healy Lake	Water/sewer project	92,000
16	Tanacross	Waster and sewer expansion and repair	200,000
17	City of Atka	Engineering evaluation water/sewer	100,000
18	City of Grayling	Gallery pump project	100,000
19	Birch Creek	Solid waste removal and relocation	10,000
20	Minto	Solid waste site	150,000
21	City of Larsen Bay	Water improvements	530,000
22	Noatak	Solid waste site	300,000
23	Chistochina	Chistochina safe water	25,000
24	Chenega	Solid waste disposal	383,891
25	City of Chevak	Laundry and sewer disposal lines	37,000
26	City of Shungnak	Solid waste improvements	120,000
27	Point Baker	Engineering feasibility study	25,000
28	City of Eek	Feasibility study - water well drilling	22,500
29	City of Brevig Mission	Water and sewer design	150,000
30	City of Ouzinkie	Safewater relocation	200,000
31	Gulkana	Rehabilitate water treatment plant and	

		provide larger water storage tank	430,000
	Birch Creek	Tank rehabilitation	150,000

* **Sec. 2.** The sum of $500,000 is appropriated from the general fund to the Department of Environmental Conservation for village water, sewer, and solid waste projects and for payment as grants under the village safe water program (AS 46.07) for village clinic water and sewer upgrade.

* **Sec. 3.** (a) The sum of $72,156,820 is appropriated from the general fund to the Department of Environmental Conservation for payment as grants under AS 46.03.030 (the 50 percent construction grant program) to the following municipalities for the purposes and in the amounts stated:

MUNICIPALITY	PURPOSE	ALLOCATION
City of Nome	Wastewater treatment facility	$1,332,000
City of Ketchikan	Primary sedimentation plant	521,000
City of Cordova	Sewer system improvements	301,000
City and Borough of Juneau	Mendenhall-JD sewage treatment plant improvements	405,000
City of Kenai	Wastewater treatment plant upgrade	250,000
City of Unalaska	Unalaska water project	1,250,000
Kenai Peninsula Borough	Seward and Soldotna, solid waste facilities	2,106,000
Bristol Bay Borough	King Salmon sewer	1,703,000
City of Haines	Wastewater (E.P.A. compliance)	1,000,000
City of Kodiak	Water filtration plant	8,190,000
City of Kake	Kake Gunnuck Creek - sewer project	515,000
City of Klawock	Sewer treatment plant and outfall	387,500
City of Seldovia	Water system upgrade	260,000
City of Ketchikan	Tongass/Water Street water main replacement phase II	1,250,000
City of Craig	Wastewater treatment plant	1,730,300
City of Klawock	Klawock Subdivision water and sewer	350,000
City of Kenai	Thompson Park sewer interceptor	900,000
City of Wrangell	Water main from upper reservoir to bypass	

		lower reservoir	275,000
	City of Wrangell	Water main extension to the airport	200,000
	City of Homer	Port of Homer 30 acre sewer and water utility	225,000
	City of Sand Point	Nagai Avenue sewer	300,000
	City of Valdez	Sewage dump station - small boat harbor	6,800
	City of Valdez	Oil and grease separators for small	
		boat harbor	27,500
	City of Pelican	Continuation of sewer system	248,582
	City of King Cove	Harbor water extension (phase I)	123,000
	City of Skagway	Water storage tank	152,000
	City of Hoonah	Garteeni Highway, water and sewer extension	212,500
	City of North Pole	Northwest utility	1,770,000
	City of Yakutat	Sewage treatment facility upgrade	450,000
	City of Kenai	Thompson Park water and sewer main	600,000
	City of Klawock	Klawock water source	75,000
	City of Ketchikan	Bear Valley reservoir construction	950,000
	City of Ketchikan	Jefferson/Madison Street water main replacement	200,000
	City of Ketchikan	Tower Road water main replacement	500,000
	City of Dillingham	Airport sewer project	175,000
	Kodiak Island Borough	Water and sewer collection - Otmeloi subdivision	666,800
	Kodiak Island Borough	Water and sewer collection - Kadiak subdivision	934,350
	City of Ketchikan	Central waterfront development - sewer	
		and water	129,250
	City of North Pole	Baker/Northstar subdivision, water and sewer	2,290,000
	City and Borough of Sitka	Inflow and infiltration reduction	1,000,000
	Kodiak Island Borough	Monashka Bay water and sewer system design	550,000
	Kodiak Island Borough	Womens Bay water and sewer system design	550,000
	City of Wrangell	Church Street wood stave water main	
		replacement	200,000
	City of Wrangell	Water and sewer main replacement - Webber	
		Street	50,000

1	Kodiak Island Borough	Kodiak land fill and material and leachate	
2		treatment	559,863
3	City of Sand Point	Sand Point landfill construction	300,000
4	City and Borough of Sitka	Comprehensive solid waste disposal	1,500,000
5	City of Valdez	Paved road to balefill	75,000
6	City of Dillingham	Landfill improvements	100,000
7	City of North Pole	Solid Waste incinerator	3,300,000
8	Kenai Peninsula Borough	Homer balefill improvements	820,000
9	Kenai Peninsula Borough	North borough transfer station	597,375
10	Municipality of Anchorage	Anchorage wastewater projects	5,338,500
11	Municipality of Anchorage	Anchorage water projects	1,544,500
12	Municipality of Anchorage	Anchorage regional landfill cell III	2,463,000
13	Municipality of Anchorage	Merrill Field landfill methane gas	
14		collection project	794,000
15	Municipality of Anchorage	Areawide water quality monitoring	100,000
16	Municipality of Anchorage	Oil/grease separator performance monitoring	25,000
17	Municipality of Anchorage	Storm drain monitoring and characterization	25,000
18	Municipality of Anchorage	Water quality public education	40,000
19	Municipality of Anchorage	Macroinvertebrate water quality assessment	20,000
20	City of Fairbanks	Ft. Wainwright interceptor rehabilitation -	
21		phase IIA	750,000
22	City of Fairbanks	Wastewater sludge landfill	6,750,000
23	City of Fairbanks	Waste neat exchanger - water	325,000
24	City of Fairbanks	Firewell improvements	125,000
25	City of Fairbanks	Lime stabilization	225,000
26	City and Borough of Juneau	Glacier Highway sewerage: Ross Way to	
27		Channel Drive	950,000
28	City and Borough of Juneau	Back Loop Road sewerage - design	600,000
29	City and Borough of Juneau	North Franklin sewer/storm drain separation	275,000
30	City and Borough of Juneau	Highlands sewer/storm drain separation	293,000
31	City and Borough of Juneau	Mountainside Estates - reservoir and	

	pump station	1,250,000
City and Borough of Juneau	Back Loop sewerage - phase I	7,700,000

(b) The sum of $300,000 is appropriated from the general fund to the Department of Environmental Conservation for payment as grants under AS 46.03.030 (the 50 percent construction grant program) for statewide community facility planning and design.

(c) The sum of $1,500,000 is appropriated from the general fund to the Department of Environmental Conservation for payment as grants under AS 46.03.030 (the 50 percent construction grant program) for community solid waste planning.

* **Sec. 4.** The appropriations made by this Act are for capital projects and lapse under AS 37.25.020.

* **Sec. 5.** This Act takes effect immediately under AS 01.10.070(c).

(PROPOSED)

	DEP. OF ENVIRONMENTAL CONSERVATION		
	DISTRIBUTION OF $16MILLION CAPITAL BUDGET		
	2/19/91		
STATEWIDE	CIP RECEIPTS	$550,000	
	ADEC 50% MATCHING GRANT REQUESTS FOR FY 92		
Community	Project	Grant Amount	Cum Grants
Nome	Wastewater Treatment Facility	$1,330,000	$1,330,000
Ketchikan	Primary Sedimentation Plant	$520,000	$1,850,000
Cordova	Sewer System Improvements	$300,000	$2,150,000
Juneau	Mendenhall-JD Sewage Treatment Plant Improvements	$400,000	$2,550,000
Kenai	Wastewater Treatment Plant Upgrade	$250,000	$2,800,000
Unalaska	Unalaska Water Project	$1,000,000	$3,800,000
Kenai Peninsula Borough	Seward and Soldotna, Solid Waste Facilities	$1,000,000	$4,800,000
Statewide	Community Facility Planning & Design (see note)	$300,000	$5,100,000
Bristol Bay Borough	King Salmon Sewer	$1,600,000	$6,700,000
Haines	Wastewater (E.P.A. Compliance)	$1,000,000	$7,700,000
Anchorage	Water, Wastewater & Solid Waste	$1,000,000	$8,700,000
Fairbanks	Ft. Wainwright Interceptor	$750,000	$9,450,000
	VILLAGE SAFE WATER GRANT REQUESTS		
Community	Project	Grant Amount	Cum Grants
Kanuk	Honey Bucket Haul	$305,000	$305,000
Koyuk	Piped Water and Sewer Systems	$1,200,000	$1,505,000
Stebbins	Honey Bucket Access Road	$38,000	$1,543,000
Deering	Water/Sewer Phase I	$1,998,427	$3,541,427
Tuluksak	Water, Sewer & Solid Waste Study	$50,000	$3,591,427
Nikolai	Water and Sewer Improvement Project	$500,000	$4,091,427
Tyonek	Water & Sewer Phase III	$742,000	$4,833,427
Huslia	Sanitation Improvements	$500,000	$5,333,427
Kotlik	Honey Bucket Cleanup	$50,000	$5,383,427
Statewide	Village clinic water/sewer upgrade	$500,000	$5,883,427
White Mountain	Water and Sewer	$617,000	$6,500,427
STATE WIDE	Solid waste planning projects	$300,000	
	NOTE:		
	EXAMPLES OF FACILITY PRE-CONSTRUCTION PROJECTS		
Ketchikan Public Utilities	Water & Filtration Treatment Plant	$35,000	$35,000
Yakutat	Sewage Treatment Facility Upgrade	$50,000	$85,000
Cordova	Water Supply Improvements	$150,000	$235,000
Wrangell	Comprehensive Water Study	$40,000	$275,000
Sitka	Drinking WaterTreatment Evaluation	$25,000	$300,000

ADEC 50% MATCHING GRANT REQUESTS FOR FY 92

Community	Project Name	Grant Request	Cum. Request
I. FEDERAL MATCH PROJECTS.			
Nome	Wastewater Treatment Facility	$1,332,000	$1,332,000
Ketchikan	Primary Sedimentation Plant	$521,000	$1,853,000
Cordova	Sewer System Improvements	$301,000	$2,154,000
Juneau	Mendenhall-JD Sewage Treatment Plant Improvements	$405,000	$2,559,000
II. CURRENTLY UNDER CONSTRUCTION WITH ADEC FUNDING (NEEDED TO COMPLETE)			
Kenai	Wastewater Treatment Plant Upgrade	$250,000	$250,000
Unalaska	Unalaska Water Project	$1,250,000	$1,500,000
Kenai Peninsula Borough	Seward and Soldotna, Solid Waste Facilities	$2,106,000	$3,606,000
III. PRECONSTRUCTION			
Statewide	Community Facility Planning & Design	$500,000	$500,000
IV. WATER & SEWER			
Bristol Bay Borough	King Salmon Sewer	$1,703,000	$1,703,000
Haines	Wastewater (E.P.A. Compliance)	$1,000,000	$2,703,000
Kodiak	Water FiltrationPlant	$8,190,000	$10,893,000
Kake	Kake Gunnuck Creek - Sewer Project	$515,000	$11,408,000
Klawock	STP & Outfall	$387,500	$11,795,500
Seldovia	Water System Upgrade	$260,000	$12,305,500
Ketchikan Public Utilities	Tongass/Water Street Water Main Replacement Phase II	$1,250,000	$13,555,500
Craig	Wastewater Treatment Plant	$1,730,300	$15,285,800
Klawock	Klawock Subdivision Water & Sewer	$350,000	$15,635,800
Kenai	Thompson Park Sewer Interceptor	$900,000	$16,535,800
Wrangell	Water Main from Upper Reservoir to bypass Lower Reservo	$275,000	$16,810,800
Wrangell	Water Main extension to the Airport	$200,000	$17,010,800
Homer	Port of Homer 30 Acre Sewer & Water Utility	$225,000	$17,235,800
Sand Point	Nagai Avenue Sewer	$300,000	$17,535,800
Valdez	Sewage Dump Station - Small Boat Harbor	$6,800	$17,542,600
Valdez	Oil and Grease Separators for Small Boat Harbor	$27,500	$17,570,100
Pelican	Continuation of Sewer System	$248,582	$17,818,682
King Cove	Harbor Water Extension (Phase I)	$123,000	$17,941,682
Skagway	Water Storage Tank	$152,000	$18,093,682
Hoonah	Garteeni Hwy, W & S Extension	$212,500	$18,306,182
North Pole	Northwest Utility	$1,770,000	$20,076,182
Yakutat	Sewage Treatment Facility Upgrade	$450,000	$20,526,182
Kenai	Thompson Park Water and Sewer Main	$600,000	$21,126,182
Klawock	Klawock Water Source	$75,000	$21,201,182
Ketchikan Public Utilities	Bear Valley Reservoir Construction	$950,000	$22,151,182
Ketchikan Public Utilities	Jefferson/Madison Street Water Main Replacement	$200,000	$22,351,182
Ketchikan Public Utilities	Tower Road Water Main Replacement	$500,000	$22,851,182
Dillingham	Airport Sewer Project	$175,000	$23,026,182

ADEC 50% MATCHING GRANT REQUESTS FOR FY 92

Community	Project Name	Grant Request	Cum. Request
Kodiak Island Borough	Service District No. 1 Project No. 85-3(B)	$666,800	$23,692,982
Kodiak Island Borough	Service District No. 1 Project No. 86-1	$934,350	$24,627,332
Ketchikan	Central Waterfront Development - Sewer and Water	$129,250	$24,756,582
North Pole	Baker/Northstar Subdivision W & S.	$2,290,000	$27,046,582
Sitka	Inflow & Infiltration Reduction	$1,000,000	$28,046,582
Kodiak Island Borough	Monashka Bay Water and Sewer System Design	$550,000	$28,596,582
Kodiak Island Borough	Womens Bay Water and Sewer System Design	$550,000	$29,146,582
Wrangell	Church Street Wood Stave Water Main Replacement	$200,000	$29,346,582
Wrangell	Water and Sewer Main Replacement - Webber Street	$50,000	$29,396,582
V. SOLID WASTE			
Kodiak Island Borough	Kodiak Landfill and Material and Leachate Treatment	$559,863	$559,863
Sand Point	Sand Point Landfill Construction	$300,000	$859,863
Sitka	Comprehensive Solid Waste Disposal	$1,500,000	$2,359,863
Valdez	Paved Road to Balefill	$75,000	$2,434,863
Dillingham	Landfill Improvements	$100,000	$2,534,863
North Pole	Solid Waste Incinerator	$3,300,000	$5,834,863
Kenai Peninsula Borough	Homer Balefill Improvements	$820,000	$6,654,863
Kenai Peninsula Borough	North Borough Transfer Station	$597,375	$7,252,238
VI. ANCHORAGE **			
Anchorage	Anchorage Wastewater Projects	$5,338,500	$5,338,500
Anchorage	Anchorage Water Projects	$1,544,500	$6,883,000
Anchorage	Anchorage Regional Landfill Cell III	$2,463,000	$9,346,000
Anchorage	Merrill Field Landfill Methane Gas Collection Project	$794,000	$10,140,000
Anchorage	Areawide Water Quality Monitoring	$100,000	$10,240,000
Anchorage	Oil/Grease Separator Performance Monitoring	$25,000	$10,265,000
Anchorage	Storm Drain Monitoring and Characterization	$25,000	$10,290,000
Anchorage	Water Quality Public Education	$40,000	$10,330,000
Anchorage	Macroinvertebrate Water Quality Assessment	$20,000	$10,350,000
VII. FAIRBANKS **			
Fairbanks	Ft. Wainwright Interceptor Rehabilitation - IIA	$750,000	$750,000
Fairbanks	Wastewater Sludge Landfill	$6,750,000	$7,500,000
Fairbanks	Waste Heat Exchanger - Water	$325,000	$7,825,000
Fairbanks	Firewell Improvements	$125,000	$7,950,000
Fairbanks	Lime Stabilization	$225,000	$8,175,000
VIII. JUNEAU **			
Juneau	Glacier Highway Sewerage: Ross Way-Channel Drive	$950,000	$950,000
Juneau	Back Loop Road Sewerage-Design	$600,000	$1,550,000
Juneau	North Franklin Sewer/Storm Drain Separation	$275,000	$1,825,000
Juneau	Highlands Sewer/Storm Drain Separation	$293,000	$2,118,000
Juneau	Mountainside Estates-Reservoir & Pump Station	$1,250,000	$3,368,000
Juneau	Back Loop Sewerage - Phase I	$7,700,000	$11,068,000
IX. STATEWIDE SOLID WASTE			
	Community Solid Waste Planning Grants	$1,500,000	$1,500,000

** NOTE: In prior years, a single appropriation was made for Anchorage, Fairbanks and Juneau, allowing them to set their own internal priorities

VSW Projects Receiving Consideration Under the Public Health Scoring Criteria

City	Projects	Grant Request
Alakanuk	Honey Bucket Haul	$305,000
Deering	Water/Sewer Phase I	$1,998,427
Koyuk	Piped Water and Sewer Systems	$1,200,000
Tuluksak	Water, Sewer & Solid Waste Study	$50,000
Stebbins	Honey Bucket Access Road	$38,000
Kotlik	Honey Bucket Cleanup	$50,000
Chefornak	Water & Sewer System	$2,147,499
Hooper Bay	Water & Sewer Upgrade	$880,000
St. Michael	Water tanker/fire truck/ appurtances	$300,000
Chevak	Sewer upgrade	$300,000
Statewide	Village clinic water/sewer upgrade	$500,000
	Sub-Total for Class IA1	**$7,876,926**
Bethel	Wastewater treatment system improvements	$623,000
Northway	Sanitation facilities upgrade	$260,000
Chistochina	Chistochina Safewater	$25,000
Brevig Mission	Water and Sewer Design	$150,000
Clarks Point	Extension of Water and Sewer	$280,000
Lower Kalskag	Solid Waste Improvements	$175,000
Nelchina/Mendeltna Corporation	Waste Transfer Station & Well	$42,600
Nikolai	Water and Sewer Improvement Project	$500,000
Ouzinkie	Safewater Relocation	$200,000
Savoonga	Solid Waste	$750,000
Matanuska-Susitna Borough	Talkeetna East Side Sewer and Water Construction	$3,100,000
Tanacross	Water & Sewer Expansion & Repair	$200,000
White Mountain	Water and Sewer	$517,000
Klana	Sewage Treatment Renovation	$968,000
Golovin	Water and Sewer Progressive Improvements Plan Ph. 8	$427,280
Kivalina	Water Tank Upgrade	$900,000
Huslia	Sanitation Improvements	$500,000
Nulato	Water & Sewer System Phase III	$2,382,000
Atka	Engr Evaluation Water/Sewer	$100,000
Grayling	Gallery Pump Project	$100,000
Ruby	Sanitary Landfill	$60,000
Birch Creek	Solid Waste Removal & Relocation	$10,000
Birch Creek	Tank Rehabilitation	$150,000
Thorne Bay	Sewer Project	$1,100,000
Takotna	Rehab of Sanitation Facilities	$225,000
Ketchikan Gateway Bor.	Mt. Point Water & Sewer Project	$2,524,000
Shageluk	Washeteria/Water Treatment Plant Renovation	$300,000
Noorvik	Water & Sewer Upgrade	$400,000
Minto	Solid Waste Site	$150,000
Tyonek	Water & Sewer Phase III	$742,000
Klukwan	Lagoon	$389,000
Chignik	Sewer Upgrade/Drainfield Replacement	$200,000
Elim	Sewer Ocean Outfall Line Rehab	$431,000
Anderson	Septage Disposal Facility	$300,000
Kokhonak	Water & Sewer Improvements	$100,000
Larsen Bay	Water Improvements	$530,000

City	Projects	Grant Request
Manokotak	Water System Improvements	$300,000
New Stuyahok	Water Sewer & Solid Waste	$477,000
Noatak	Solid Waste Site	$300,000
Port Lions	Water & Sewer	$250,000
Selawik	Storage/Washeteria	$800,000
South Naknek	Septic Tank Project	$581,000
Togiak	Togiak Water & Sewer Const.	$257,000
Unalakleet	Solid Waste	$1,414,000
Anchor Point	Watering Point Facility	$68,000
Mekoryuk	Flush Tank and Haul Demonstration Project	$180,000
Kotzebue	Sewer Main Rehab	$1,370,000
Kotzebue	Sewage Lagoon Upgrade	$480,000
Glennallen	Sewer System	$1,200,000
Healy Lake Village	Water/Sewer Project	$92,000
Chenega Bay	Solid Waste Disposal	$383,891
Port Graham	Engr Design/Study	$75,000
Gambell	Water & Sewer Phase III	$2,800,000
Gulkana	Water & Sewer	
Chevak	Laundry & Sewer Disposal Lines	$37,000
Shungnak	Solid Waste Improvements	$120,000
Point Baker	Engineering Feasibility Study	$25,000
Eek	Feasibility Study-Water Well Drilling	$22,500
Northway	sanitation facility upgrade	$260,000
	Sub-Total for Class IA2	**$31,143,271**
Bethel	Wastewater Treatment System Improvements	$623,000
Kobuk	Water, Sewer & Solid Waste	$1,500,000
Scammon Bay	Village Safe Water	$150,000
Stevens Village	Washeteria Upgrade	$400,000
St. Michael	Phase II Washeteria	$474,200
Kaltag	Water and Sewer Extension	$217,380
Coffman Cove	Water and Sewer Construction	$800,000
Metlakatla	Water Tank & Feeder Lines Replacement	$584,200
Emmonak	Sewer and Water Expansion	$1,000,000
Kasaan	Water Supply Improvements- Phase I	$306,000
Venetie	Washeteria Rehab	$1,470,000
Kotzebue	Sanitary Landfill Study	$150,000
Teller	Safe Water/Sewer/Solid Waste	$200,000
Eagle Village	Washeteria, Lagoon & Water Project	$1,800,000
Toksook Bay	Water Supply Improvements Project	$550,000
Ambler	Water and Sewer Lines	$150,000
Eek	Washeteria Upgrade	$8,122
	Sub Total for Class IA3	**$10,182,902**

Matching Grant Projects Receiving Consideration Under the Public Health Scoring Criteria

City	Projects	Grant Request
Kodiak	Water FiltrationPlant	$6,182,500
Ketchikan Public Utilities	Water & Filtration Treatment Plant	$35,000
	Sub Total for Class IA1	**$6,217,500**

Seldovia	Water System Upgrade		$260,000
		Sub Total for Class IA2	**$260,000**

SB 179

ANALYSIS OF COMMUNITIES SERVED BY THE RMW PROGRAM

Community	Project	Allocation
Alakanuk	Honey bucket haul	$305,000
Deering	Water/sewer phase I	$1,998,427
Koyuk	Piped water and sewer system	$1,200,000
Tuluksak	Water, sewer, and solid waste study	$50,000
Stebbins	Honey bucket access road	$38,000
Kotlik	Honey bucket cleanup	$50,000
Chefornak	Water and sewer system	$2,147,499
Hooper Bay	Water and sewer upgrade	$990,000
St. Michael	Water tanker/fire truck/plumbing	$300,000
Chevak	Sewer system rehabilitation	$300,000
Chistochina	Chistochina safe water	$25,000
Brevig Mission	Water and sewer design	$150,000
Clarks Point	Extension of water and sewer	$280,000
Lower Kalskag	Solid waste improvements	$175,000
Nelchina	Waste transfer station and well	$42,600
Nikolai	Water and sewer improvements project	$500,000
Ouzinkie	Safewater relocation	$200,000
Savoonga	Solid waste	$750,000
Talkeetna	Talkeetna East Side sewer and water cons	$3,100,000
Tanacross	Water and sewer expansion and repair	$200,000
White Mountain	Water and sewer	$617,000
Kiana	Sewage treatment renovation	$968,000
Golovin	Water and Sewer progressive improvements phase 8	$427,280
Kivalina	Water tank upgrade	$900,000
Huslia	Sanitation Improvements	$500,000
Nulato	Water and sewer system phase III	$2,382,000
Atka	Engineering evaluation water/sewer	$100,000
Grayling	Gallery pump project	$100,000
Ruby	Sanitary landfill	$60,000
Birch Creek	Solid waste removal and relocation	$10,000
Birch Creek	Tank rehabilitation	$150,000
Thorne Bay	Sewer project	$1,100,000
Takotna	Rehabilitation of sanitation facilities	$225,000
Mt. Point	Mt. Point water and sewer project	$2,524,000
Shageluk	Washeteria/water treatment plt. renovati	$300,000
Noorvik	Water and sewer upgrade	$400,000
Minto	Solid waste site	$150,000
Tyonek	Water and sewer phase III	$742,000
Klukwan	Lagoon	$389,000
Chignik	Sewer upgrade/drainfield replacement	$200,000

=communities served by a Remote Maintenance Worker

Elim	Sewer line rehabilitation	$431,000
Anderson	Septage disposal facility	$300,000
Kokhanok	Water and sewer improvements	$100,000
Larsen Bay	Water improvements	$530,000
Manokotak	Water system improvements	$300,000
New Stuyahok	Water sewer and solid waste	$477,000
Noatak	Solid waste site	$300,000
Port Lions	Water and sewer	$250,000
Selawik	Storage/washeteria	$800,000
South Nakenek	Sep c tank project	$581,000
Toglak	To k water and sewer construction	$257,000
Unalakleet	Sol waste	$1,414,000
Anchor Point	Watering point facility	$68,000
Mekoryuk	Flush tank and haul demonstration project	$180,000
Kotzebue	Sewage main rehabilitation	$1,370,000
Kotzebue	Sewage lagoon upgrade	$480,000
Glennallen	Sewer system	$1,200,000
Healy Lake	Water/sewer project	$92,000
Chenega	Solid waste disposal	$383,891
Port Graham	Engineering design/study	$75,000
Gambell	Water and sewer phase III	$2,800,000
Gulkana	Rehabilitate water treatment plant and provide larger water storage tank	$430,000
Shungnak	Solid waste improvements	$120,000
Point Baker	Engineering feasibility study	$25,000
Eek	Feasibility study-water well drilling	$22,500
Northway	Water and sewer project	$260,000
Bethel	Waste water treatment syst. improvement	$623,000

=communities served by a Remote Maintenance Worker

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL QUALITY

SURFACE WATER TREATMENT RULE

Senate Community and Regional Affairs Committee requested information on the Surface Water Treatment Rule. The following is a summary of the Rule and its effect in Alaska.

HISTORY

In 1986, Congress unanimously passed the Safe Drinking Water Act amendments that directed EPA to develop more extensive drinking water regulations, including the Surface Water Treatment Rule. Congress was responding to the continued occurrence of waterborne disease outbreaks in water systems that met the old standards: the conclusion was that better treatment was necessary to control microbiological contamination of drinking water.

The new federal Surface Water Treatment Rule (SWTR) became effective on December 31, 1990. It affects all water systems that use surface water, or ground water subject to contamination by surface water. Alaska's public water systems are subject to the same regulations as the rest of the U.S. The rule requires nearly all surface water systems to filter and disinfect the water they serve to the public.

REASON FOR THE RULE

Depending on what is in it, contaminated surface water can cause illnesses such as mild to severe stomach and intestinal problems, giardiasis ("beaver fever") and hepatitis. A disease outbreak in Missouri last winter demonstrated that microbiological contamination of a public water supply can have very severe consequences: in a town of 2200 people, 240 became ill, 34 had to be hospitalized, and three died.

Disease-causing organisms can be distributed by humans and by wild animals. The high potential for contamination of surface waters is emphasized in the advice we routinely give to travellers and backpackers: all are warned not to drink surface water in Alaska without first boiling it, or if boiling is not possible, at least filtering it and adding a disinfectant. The SWTR essentially gives the public a similar margin of safety from their public water supplies by requiring filtration and disinfection.

EFFECT ON ALASKAN WATER SYSTEMS

Most surface water and shallow groundwater systems in Alaska depend exclusively on chlorine disinfection to kill disease-causing organisms. Unfortunately, disinfection systems are not totally reliable. Most disease outbreaks end up being traced to a failure or irregularity in disinfection.

Villages Served by Remote Maintenance Worker Program
(By Regional Health Corporations)

Bristol Bay Area Health Corporation

Chignik Bay	Dillingham	Ivanof Bay	Perryville
Chignik Lagoon	Ekwok	Koliganek	South Naknek
Chignik Lake	Goodnews Bay	Manokotak	Togiak
Clark's Point	Igiugig	Naknek	Twin Hills
New Stuyahok			

Tanana Chiefs Corporation

Alatna	Chalkyitsik	Huslia	Nikolai	Kaltag
Northway	Takotna	Circle	Allakaket	Dot Lake
Koyukuk	Nulato	Tanacross	Beaver	Eagle
Manley	Rampart	Tetlin	Hughes	Minto
Ruby	Venetie	Birch Creek		
Stevens Village		Arctic Village		

Southeast Alaska Regional Health Corporation

Angoon	Kake	Port Protection
Craig	Kasaan	Port Alexander
Klawock	Saxman	Klukwan
Thorne Bay	Hoonah	Hydaburg
Yakutat		

Norton Sound Health Corporation

Gambell	Shaktoolik	Wales	Savoonga
Golovin	Shishmaref	Diomede	Brevig Mission
Koyuk	Stebbins	Unalakleet	Elim
St. Michael	Teller	White Mountain	

Yukon Kuskokwim Health Corporation

Napakiak	Oscarville	Akiak	Kasigluk
Napaskiak	Tuluksak	Atmautluak	St. Mary's
Kwethluk	Akiachak	Nunapitchuk	Sheldon's Point
Alakanuk	Pilot Station	Emmonak	Kotlik
Marshall	Pitkas Point	Russian Mission	
Mountain Village			

Maniilaq Association

Ambler	Kivalina	Point Hope
Buckland	Kobuk	Selawik
Deering	Noatak	Shungnak
Kiana	Noorvik	

CORRECTION

THIS DOCUMENT
HAS BEEN REPHOTOGRAPHED
TO ASSURE LEGIBILITY

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL QUALITY

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filtration **and** disinfection to improve the reliability of drinking water systems. Filtration works by removing organisms, while disinfection works by inactivating organisms. Together, they provide a substantial margin of safety to keep disease-causing organisms out of public water supplies. In order to provide reliably safe water, nearly all surface water supplies in Alaska will have to install or upgrade filtration facilities. The deadline for installing appropriate filtration is June 1993, but the rule allows for extensions of this date where compelling factors make it impossible to meet the deadline. An extension to the deadline must be part of a compliance agreement with interim milestones of progress. DEC will work with water systems that need to apply to EPA for extensions.

SMALL VS. LARGE WATER SYSTEMS AND THE SWTR

The SWTR specifies four acceptable filtration methods. These methods are commonly used by medium and large water systems. Consequently, their effectiveness is well documented and understood. The rule also contains a category called "alternative technology". This allows the State to work with small and very small water systems to find affordable technology that is consistently effective and easily maintained.

DEC recognizes the special needs of Alaska's small and remote water systems. As a first step to meeting those needs, DEC held a 2-day conference in Anchorage in February, devoted to the SWTR and small system technology. It was attended by DEC engineers, Public Health Service engineers, water system operators and consultants. HDR/Ott Engineering and the Water Quality Association provided technical information on existing technology that could be adapted for cost-effective operation in very small systems. Cartridge filters and bag filters are promising alternatives because they are reliable and simple; very small units are widely used for single household applications so they were designed with simplicity in mind.

DEC engineers will not impose unreasonable treatment methods on small systems. If there are no reasonable filtration options available for a particular system at this time, DEC will assist the water system in requesting an extension to the filtration deadline from EPA.

Villages Served by Remote Maintenance Worker Program
(By Regional Health Corporations)

Bristol Bay Area Health Corporation

Chignik Bay	Dillingham	Ivanof Bay	Perryville
Chignik Lagoon	Ekwok	Koliganek	South Naknek
Chignik Lake	Goodnews Bay	Manokotak	Togiak
Clark's Point	Igiugig	Naknek	Twin Hills
New Stuyahok			

Tanana Chiefs Corporation

Alatna	Chalkyitsik	Huslia	Nikolai	Kaltag
Northway	Takotna	Circle	Allakaket	Dot Lake
Koyukuk	Nulato	Tanacross	Beaver	Eagle
Manley	Rampart	Tetlin	Hughes	Minto
Ruby	Venetie	Birch Creek		
Stevens Village		Arctic Village		

Southeast Alaska Regional Health Corporation

Angoon	Kake	Port Protection
Craig	Kasaan	Port Alexander
Klawock	Saxman	Klukwan
Thorne Bay	Hoonah	Hydaburg
Yakutat		

Norton Sound Health Corporation

Gambell	Shaktoolik	Wales	Savoonga
Golovin	Shishmaref	Diomede	Brevig Mission
Koyuk	Stebbins	Unalakleet	Elim
St. Michael	Teller	White Mountain	

Yukon Kuskokwim Health Corporation

Napakiak	Oscarville	Akiak	Kasigluk
Napaskiak	Tuluksak	Atmautluak	St. Mary's
Kwethluk	Akiachak	Nunapitchuk	Sheldon's Point
Alakanuk	Pilot Station	Emmonak	Kotlik
Marshall	Pitkas Point	Russian Mission	
Mountain Village			

Maniilaq Association

Ambler	Kivalina	Point Hope
Buckland	Kobuk	Selawik
Deering	Noatak	Shungnak
Kiana	Noorvik	

STATE OF ALASKA

WALTER J. HICKEL, GOVERNOR

DEPT. OF ENVIRONMENTAL CONSERVATION

COMMISSIONER'S OFFICE
P.O. BOX O, JUNEAU, AK 99811-1800

Telephone:
(907) 465-2600

FAX:
(907) 586-1391

March 21, 1991

The Honorable Steve Frank
Alaska State Senate
P.O. Box V
Juneau, AK 99811

Dear Senator Frank:

Several members of the Alaska Legislature have asked about the Department of Environmental Conservation's (DEC) role in follow-up action to the contamination problem discovered in the City of Marshall's water system.

The enclosed chronological listing of activities may be helpful in understanding the serious nature of this problem, and the process the Public Health Service (PHS) and the DEC is following in dealing with this problem.

The summary also explains the limitation of the use of the Oil and Hazardous Substance Release Response Fund (the so-called "470 Fund"). The DEC will use the Fund for investigation and clean-up. However, the 470 Fund has a specific statutory prohibition as to capital projects.

If you have any questions regarding the action being taken in this or similar problems, please let me know.

Sincerely,

John A. Sandor
Commissioner

JAS:mlc

STATE OF ALASKA

WALTER J. HICKEL, GOVERNOR

DEPT. OF ENVIRONMENTAL CONSERVATION

OFFICE OF THE COMMISSIONER
P.O. BOX 0, JUNEAU, AK 99811-1800

TELEPHONE NO.
(907) 465-2600

March 21, 1991

The Honorable Georgianna Lincoln
Alaska House of Representatives
P.O. Box V
Juneau, AK 99811

Dear Representative Lincoln:

I have received a copy of your letter to Governor Hickel dated March 19, 1991 regarding the City of Marshall's water system. I feel it is important to clarify a number of the issues you raised.

Past Activities. DEC was first notified of a metal taste in the water on December 12, 1990. On December 18, the department received the results of its water samples indicating benzene contamination. A health advisory was immediately issued.

DEC and PHS personnel met over the next few days to discuss the problem and identify the potential sources of the contamination. The City Manager agreed to have the fuel lines pressure tested.

Between December 26 and January 2, DEC personnel attempted to fly into Marshall, however poor weather in Bethel cancelled the flights. On January 3, we received notification from PHS that they would not perform any cleanup work.

On January 4, a meeting was held in Anchorage to discuss federal grant funds. DEC personnel were joined by people from PHS, the Yukon-Kuskokwim Health Corporation, Lower Kuskokwim School District (LKSD) and the Department of Agriculture. The representative from the City of Marshall who was expected did not show up.

On January 7, grant information was faxed to the City Manager. Included were guidelines for required engineering cost estimates. DEC personnel reviewed the application with the City Manager and provided him with a contact at LKSD from whom

he could obtain a listing of interested engineering firms. The City Manager was also given a list of firms who do fuel line pressure testing.

Between January 8 and 11, there were daily contacts between DEC and the City about the grant application. On January 14, DEC personnel travelled to Marshall and inspected the fuel tanks and pumps. No sign of significant contamination was found. DEC personnel also took this opportunity to again work with the City Manager on completing the grant application.

On January 17, the Department of Agriculture received the grant application from Marshall. $350,000 was requested and a 30 to 45 day response time from Washington D.C. was expected. On January 18, DEC and PHS discussed what actions PHS would take relating to design work for filtration and limited plumbing work the would be associated with cleaning the system.

On January 18, DEC coordinated with the City Manager and school principal to establish a temporary watering point. This has been completed. Continued work in Marshall led to the discovery of eight abandoned wells, one of which is currently being developed cooperatively by PHS and the Remote Maintenance Worker. All of this information has been previously provided to your staff.

On February 19, DEC personnel met with representatives of the City, the village corporation, PHS and Tim Troll to further discuss the needs of Marshall's residents and DEC's investigation into the contamination source, which appears to be leaking fuel lines. A follow-up letter to Mr. Troll dated March 5 was copied to you.

As stated in that letter, PHS and DEC are continuing to do investigatory work in order to determine the extent of the contamination. However, as you know, the weather may hinder our ability to begin remediation at this time.

Short Term Solutions. In the short term, we felt it was critical to develop an alternative water source. As stated above, that has been done. We have talked with Richard Oney, Marshall's City Manager on the status of the watering point. He said it is functional and being used by the residents. It did freeze once when someone mistakenly attached a garden hose to it. Without the hose, it does not freeze.

Investigation. We will use the Oil and Hazardous Substance Release Response Fund (the so-called "470 Fund") to do the investigation in order to determine the exact extent and source of the contamination. Right now, our target date for beginning this investigation is the end of April if the weather is cooperative. Once the source is identified, we will know who the responsible party is and will look to them for cleanup costs. If the responsible party is unable or unwilling to undertake this activity, this department will.

Long Term Solutions. The 470 Fund has a specific statutory prohibition as to capital projects. A new drinking water source cannot be established using that money. Instead, a legislative appropriation may be required. It may also be possible that PHS will either fund or assist with the funding of the construction.

We are continuing to look at the different design options in order to come up with a cost estimate for the new water system. It is our intent to meet the community's functional needs as well as ensure safe drinking water for its residents. We also must ensure that the new water source will not become contaminated. Therefore, until we are certain as to the extent of the contamination and all its sources, we cannot finalize a new water source design. However, our preliminary reviews indicate a cost of approximately $500,000 for a new water source that can be tied into the community's existing system.

Representative Lincoln, I understand you want your constituents to have a new drinking water source as quickly as possible. So do I. But, we must all recognize that soil and groundwater contamination is difficult to deal with, particularly in the winter. Information on the extent of the contamination and its sources cannot be reliably obtained. As I have said, it is critical to have the best information we can in order to protect the integrity of the new water source.

I believe the actions taken by DEC staff were reasonable and in good faith. Please rest assured we will continue to work with the various government agencies and the citizens of Marshall. I also invite you to call me anytime with your questions or concerns.

Sincerely,

John A. Sandor
Commissioner

cc: Walter J. Hickel, Governor

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DIVISION OF ENVIRONMENTAL QUALITY

MARSHALL WATER SYSTEM

(March 21, 1991)

PHASE 1 *Develop a Temporary Water System (PHS)*

- o Public Health Service (PHS) temporary safe watering point developed--"Head Start Well"
- o Eight gallons per minute...tests to date indicate no contamination
- o Temporary watering point operational today at temperature of +15 degrees F
- o Freezing problems occurred when someone connected hose to spigot causing system to freeze
- o PHS to complete construction this week
- o DEC to continue water testing monthly

PHASE 2 *Analysis and Definition of Contamination (DEC-EQ)*

- o DEC term contractor funded with Response Funds will begin drilling exploratory wells by May 1
- o DEC conducts sample testing as wells are drilled
- o Contamination mapping/characterization completed by June 1

PHASE 3 *Develop a New Water Source (DEC-VSW/PHS)*

- o DEC Village Safe Water (VSW) and PHS begin construction by July 1
- o DEC-VSW and PHS complete construction by September 1

PHASE 4 *Clean Up Contamination*

- o Contamination ranked by DEC with other sites by threat posed to health and environment by July 1
- o Cleanup proceeds in accordance with ranking with respect to other contaminated sites and funding availability

Other Notes

- o Phase 3 is contingent upon funding. A grant application has been submitted to the Department of Agriculture for $350,000. A $500,000 general fund appropriation is required in case funding is not available from the Department of Agriculture, or the amount is insufficient.

PUBLIC HEALTH AND SANITATION RELATED TO DRINKING WATER AND WASTE DISPOSAL IN ALASKA

INTRODUCTION

Winblad et. al. (1980) concluded their review on sanitation and disease in developing countries with the following remarks:

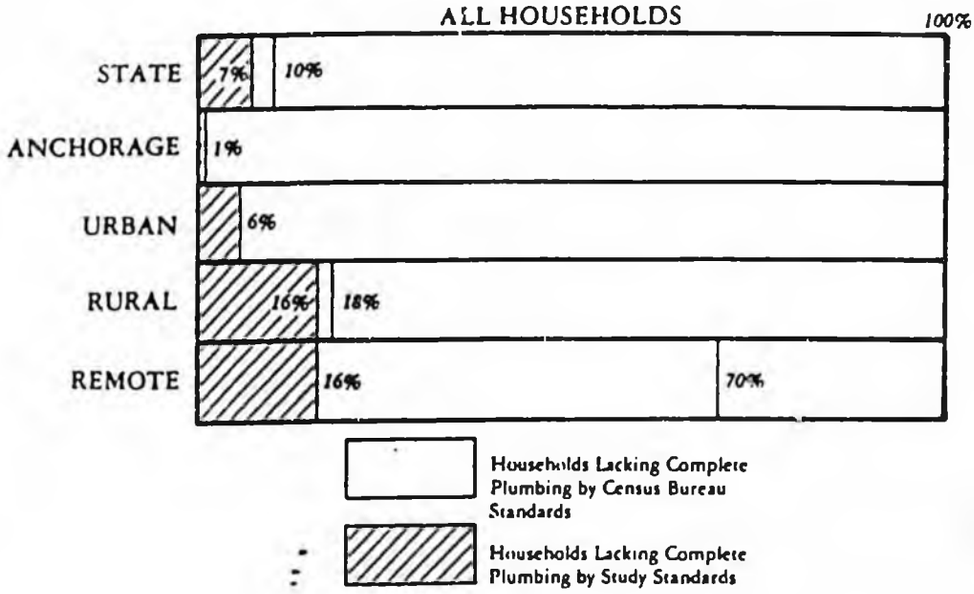
> There are no shortcuts to improved public health in developing countries. Vaccination, chemotherapy and insecticides are in most cases of limited value. Lasting results can only be achieved with the gernal introduction of satisfactory systems of water supply, waste-water disposal and sanitation together with intensive health education campaigns.

Comparison of Alaska to developing countries in the area of sanitation and public health reveals many similarities. Alaska finds itself in the position of rapid growth and economic development while attempting to bring up to date its drinking water supplies and waste disposal facilities. Without the necessary utility development, the public health of Alaskan cities will be adversely impacted, through unnecessary and often costly exposure to disease.

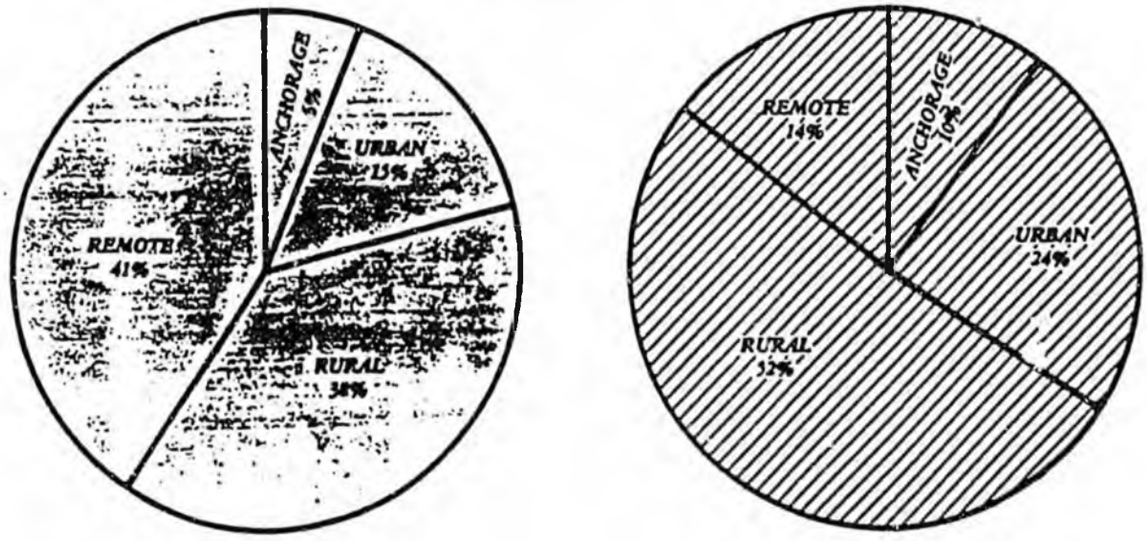
WATER AND HEALTH

Water and health are closely connected; in fact, the World Health Organization (WHO) has estimated that 80 percent of the world's disease and illness is due to contaminated water. Water can cause intestinal and parasite infection either by contamination, as in the case of drinking water supplies, or by providing an environment in which disease carriers can flourish. Lack of

PROPORTION OF HOUSEHOLDS LACKING COMPLETE PLUMBING WITHIN THE STATE AND REGIONS



DISTRIBUTION OF HOUSEHOLDS LACKING COMPLETE PLUMBING AMONG REGIONS



CENSUS BUREAU STANDARDS
(Represents shaded and hatched areas in above bar chart)

STUDY STANDARDS
(Represents hatched areas in above bar chart)

FIGURE 1

HOUSING WITH ADEQUATE PLUMBING

water results in a poor standard of personal hygiene, which in turn leads to the transmission of infection by means of unwashed hands, crockery, etc. Water-associated infective diseases can be classified under four categories:

1. Infections spread through water supplies -- waterborne diseases (tylphoid, cholera).
2. Diseases due to lack of water for personal hygiene -- water-washed diseases (scabies, trachoma).
3. Infections transmitted by aquatic invertebrate animals -- water-based diseases (schistosomiasis, guinea worm).
4. Infections spread by insects that depend on water -- water-related insect vectors (malaria, sleeping sickness).

To these must also be added a further group of infections associated with defective sanitation (hookworm). The more common water-associated diseases and their sources are shown

TABLE I
WATER RELATED DISEASES WITH THEIR WATER ASSOCIATIONS AND PATHOGENIC AGENTS[1]

Water-Related Disease	Pathogenic Agent
Amoebic dysentery	C
Ascariasis	D
Bacillary dysentery	A
Balantidiasis	C
Cholera	A
Diarrhoeal disease	H
Enteroviruses (some)	B
Gastroenteritis	H
Giardiasis	C
Hepatitis (infectious)	B
Leptospirosis	E
Paratyphoid	A
Tularaemia	A
Typhoid	A
Conjunctivitis	H
Leprosy	A
Louse-borne relapsing fevers	E
Scabies	H
Skin sepsis and ulcers	H
Tinea	F
Trachoma	B
Flea/louse/tick/mite-borne typhus	G
Yaws	E
Clonorchiasis	D
Diphyllobothriasis	D
Fasciolopsiasis	D
Guinea worm	D
Paragonimiasis	D
Schistosomiasis	D
Arboviral infections (some)	B
Dengue	B
Filariasis	D
Malaria	C
Onchocerciasis	D
Trypanosomiasis	C
Yellow Fever	B

A = bacteria; B = virus; C = protozoa D = helminth;
E = spirochaete; F = fungus; G = rickettsiae; H = miscellaneous

COMMON WATER-ASSOCIATED DISEASES AND THEIR CHARACTERISTICS

Water-borne or water-washed

Diarrhoeal diseasses are caused variously by bacteria, viruses, and protozoa, and together make up the most common group of water-associated diseases in tropical countries. There can be few of us who have not as some time experienced a mild form of this complaint.

In addition to the endemic water-borne diseases mentioned above, there are also serious epidemic diseases, such as typhoid and cholera, which are associated with contaminated water and can cause high local death rates.

Water-washed diseases

This category might better be described as water-unwashed diseases. Lack of water for purposes of hygiene leads to the transmission of eye infections, such as trachoma, which may produce partial or even complete blindness. Skin complaints are also widespread where adequate water for washing is not available.

Water-based diseases

These are all due to worm infections. One of these, Schistosoma, makes use of a snail host and has a somewhat complicated life cycle; the guinea worm, another common infection, requires a small crustacean as its host.

Schistosomiasis or bilharzia is a disease caused by a parasitic worm or blood fluke, which enters the human through the skin from infected water.

Water-related insect vectors

Malaria, a disease producing an acute fever, is transmitted by the bite of an infected mosquito. The larvae of the mosquito live in stagnant water. Filariasis is also spread by mosquito. The worms obstruct the lymphatic system causing fluid to accumulate in the legs and external genital organs, sometimes with the bizarre results suggested by its alternative name, elephantiasis.

Diseases due to defective sanitation

These diseases include hookworm and roundworm. Hookworms exist in damp soil, for example around wells, and can penetrate the skin to enter the system. They cause major blood loss and can lead to anaemia. Roundworms can be transmitted by, for example, dirty food; the effect is to divert food from the victim.

BENEFITS AND COSTS OF GOOD SANITATION FACILITIES

Most of the benefits of sewerage schemes are not directly quantifiable. In brief, they can be divided into two categories, private and external benefits. Private benefits include:

1. Convenience of having a waterborne waste disposal unit in the home;
2. Improved household hygiene;
3. Reduced health hazards;
4. Property value appreciation; and
5. Reduction in space required for sewage disposal on the property by alternative means such as septic tanks.

External benefits include:

1. Improvements in the urban environment by removal of the sight and smell of sewage at the soil surface and in canals;
2. Benefits to public health;
3. Reduced downstream river pollution;
4. Increased potential for tourism;
5. Introduction of new technologies with spinoff benefits of training, experience, and employment generation;
6. Institutional development; and
7. Water pollution monitoring, legislation, and enforcement programs usually initiated in parallel with major wastewater collection investments.

Ill-health costs foregone

These may be grouped into costs due to: 1) premature loss of life; 2) loss of productivity; 3) treatment; and 4) measures taken in avoiding the disease. A fifth and important loss of productivity is more difficult to estimate but included here as 5) debility losses.

As Alaska becomes more densely populated, the unavailability of adequate sanitation facilities can scarcely be hidden. The presence of fecal material or standing pools of sewage where water is available, and swarms of flies readily identify a breakdown in our society's responsibility to its members. The proximity of these sites to homes where people eat and children play assures the spread of enteric disease and provides a setting for explosive outbreaks when Hepatitis A may be passing through.

The argument as to whether the absence of proper water supply is of greater significance than the absence of adequate sanitation facilities in determining the health of a population will not easily be resolved, nor need it be. The absence of either will assure the spread of disease. In fact, the provision of water supply in the absence of adequate excreta disposal facilties may exacerbate the situation by assuring easier and wider spread of human waste. The desire for a water service does not flow from an appreciation that a proper water service would improve health. Rather, water is, and is perceived to be, an essential utility necessary for life itself.

Therefore, while it is not likely that a community will opt for improved sanitation ahead of water supply, the commitment should be made to both at the same time. Such commitments have been made in word but not yet in deed.

Water supply and sanitation facilities are often not yet available to our people in rural areas, villages, and in some urban areas.

ALASKA'S FUNDING OF SANITATION PROJECTS

Since 1970, Alaska has spent close to $500 million in providing basic sanitation services in the State. The U.S. Public Health Service estimates it would take an additional $200 million to meet the needs of rural Alaska alone.

For the last three years, 70 percent of the money appropriated by the State has been for sanitation projects in what could be classified as urban areas, and only 30 percent has been spent in rural communities.

A 1982 Alaska Statewide Housing Study prepared by the Department of Community and Regional Affairs defines adequate plumbing on a regional bases as:

Metropolitan and urban - Facilities including hot and cold water piped to a kitchen sink and bathtub or shower, and a flush toilet.

Rural - Facilities including hot and cold water piped to a kitchen sink and bathtub or shower and a human waste disposal system.

Remote - A human waste disposal system and source of potable water.

The study results are presented in Figure 1. While only one percent of of Anchorage homes lack adequate plumbing, seventy percent of remote/rural hom lack adequate plumbing.

INCIDENCE OF DISEASE IN ALASKA

Let's look at one type of waterborne disease currently identified in some of our remote villages -- Hepatitis A. The method of transmission is from person to person by the fecal-oral route. Common outbreaks in the Norton Sound villages of Stebbins and St. Michaels have been related to contaminated water and unsanitary conditions. Where environmental sanitation is poor, infection is common at an early age.

Physicians working at the Norton Sound Regional Hospital in Nome are worried these outbreaks will continue unless better sanitation facilities are made available to these people.

It i oth interesting and sad that studies suggest a diminishing frequency in the contiguous states but on the increase in remote Alaskan villages.

approx 20

4-0

4-0

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DIVISION OF FACILITY CONSTRUCTION & OPERATION

COMMUNITY REQUESTS CAPITAL PROJECTS

PRIORITY CRITERIA SYSTEM

(4-1)

(4-1)

CRITERIA SYSTEM
ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
CAPITAL PROJECTS
SFY 92

VILLAGE SAFE WATER PROGRAM

I. Problem Addressed

A. Public Health

1. A documented existing human disease event exists (documented by a recognized public health organization and confirmed by ADEC.) Construction of this facility will correct the existing problem. 500

2. Current conditions are sufficiently severe that a disease event should have taken place but it has not yet happened. 200

3. Conditions do not yet exist for a disease event to take place. However, development in the project area suggests that such events will most likely occur in the near future if this project is not constructed. 100

B. Environmental

1. A documented existing pollution event has taken place and construction of this facility will correct the existing problem. 300

2. Current conditions are sufficiently severe that a pollution event should have taken place but it has not yet happened. 200

3. Conditions do not yet exist for a pollution event to take place. However, development in the project area suggests that such events will most likely occur in the near future if this project is not constructed. 100

4. An esthetic pollution problem needs correcting. 25

C. Public Safety

1. The project is needed to provide public protection against fire or animal threats at landfills. Protection is to serve an existing population. 100

2. The project is needed to provide public protection against fire or animal attacks. Protection is to serve a projected population. 50

(4-2)

II. Project Development Status

A.	Engineering plans and specifications have been prepared.	75
B.	Feasibility study or facility plan has been prepared.	45
C.	Comprehensive study has been prepared which addresses the need for project among other community needs.	20
D.	No documentation has been prepared.	0

III.	Matching Funds Available	Points
A.	Matching funds are currently available. (Bonding issue passed, several fund appropriation)	100
B.	Matching funds are not currently available but source has been identified appropriate legal action has been initiated to serve funds. (bond issue not voted on yet, but approved by local authority; loan applied for and money appropriated but not yet delivered to City.	40
IV.	Operational and maintenance costs have been considered and are either nonexistent or a source of funds has been identified to pay for them.	50
V.	Phased or Segmented Project	
A.	Part of project is already started. This phase is needed to make the project functional.	50
B.	Project is composed of more than one segment. This segment is needed to meet the water quality or public health intent of the plan but is not necessary to make the project functional.	25
VII.	Effect on Other Projects. Project needs to be accomplished in conjunction with another project to reduce overall cost to State (paving, etc.).	15

(4-3)

(4-3)

CRITERIA SYSTEM
ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
CAPITAL PROJECTS
50% MATCHING GRANTS FY 92

CRITERIA SYSTEM - WATER

Public Health Threat

A documented human disease event exists	150
Existing water quality exceeds standards	100

Public Safety

public fire protection for existing population	50
public fire protection for future population	20

Project Status

engineering plans approved	50
engineering plans available	40
management and implementation plan approved	30
feasibility study complete	20

Compliance

NOV for existing facility	50
under compliance order for existing facility	40
existing facility cannot meet permit conditions	20
existing facility has nuisance problems	10

Community Support

Community's number one capital budget request	40

Funding

Local funding of fifty-percent match in place	50

Operation and Maintenance

User fees approved by community	30
Operation and maintenance costs estimated	20

CRITERIA SYSTEM - WATER
Page 2

Cost/Population Benefitted

Low	< 400	40
Medium	400 - 4000	30
High	> 4000	20

Effect on other projects

Part of another project to reduce overall costs ie - paving or resurfacing	30
Completes a phase of an existing project	20

(4-5)

(4-5)

CRITERIA SYSTEM
ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
CAPITAL PROJECTS
50% MATCHING GRANTS FY 92

CRITERIA SYSTEM - WASTEWATER

Public Health Threat	
A documented human disease event exists	150
Environmental Threat	
A documented pollution event exists	100
Development suggests pollution will occur	50
Project Status	
engineering plans approved	50
engineering plans available	40
management and implementation plan approved	30
feasibility study complete	20
Compliance	
NOV for existing facility	50
under compliance order for existing facility	40
existing facility cannot meet permit conditions	20
existing facility has nuisance problems	10
Community Support	
Community's number one capital budget request	40
Funding	
Local funding of fifty-percent match in place	50
Operation and Maintenance	
User fees approved by community	30
Operation and maintenance costs estimated	20

4-6

CRITERIA SYSTEM - WASTEWATER
Page 2

Cost/Population Benefitted

Low	< 400	40
Medium	400 - 4000	30
High	> 4000	20

Effect on other projects

Part of another project to reduce overall cost ie - paving or resurfacing	30
Completes a phase of an existing project	20

4-7

CRITERIA SYSTEM
ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
CAPITAL PROJECTS
50% MATCHING GRANTS FY 92

CRITERIA SYSTEM - SOLID WASTE

Environmental/Public Health Threat

A documented human disease event has occurred due to solid waste management practices	150
A documented pollution event has occurred from leachate, smoke or litter	100
Human/animal encounters are frequent	50

Project Status

engineering plans approved	50
engineering plans available	40
management & implementation plan approved	30
feasibility study complete	20

Compliance

NOV for existing facility	50
under compliance order for existing facility	40
existing facility cannot meet permit conditions	20
existing facility has nuisance problems (bears, rats, wind blown litter, fires, etc.)	10

Type of Project (more than one item can score)

project includes reduction, recovery or separation	50
project combines more than one community	30

Community Support

Community's number one capital budget request	40

Funding

Local funding of fifty-percent match in place	50

CRITERIA SYSTEM - SOLID WASTE
Page 2

Operation and Maintenance

User fees approved by community	30
Operation and maintenance costs estimated	20

Cost/Population Benefitted

Low	< 400	40
Medium	400 - 4000	30
High	> 4000	20

4-9

CRITERIA SYSTEM FOR DISTRIBUTION OF ALASKA CLEAN WATER FUND LOANS

SCORING OF PROJECTS

Project priority rankings are determined according to the following categories. Appropriate points are assigned to arrive at a point total and priority ranking for each project.

CRITERIA SYSTEM

1. READINESS TO PROCEED

a)	The community needs loan funding to complete a project already started which has already completed the environmental assessment process.	45
b)	The community has completed a facility plan and an environmental assessment has been published.	30
c)	The community has completed a facility plan and an environmental assessment has been prepared but not published.	15

2. COMMUNITY'S ABILITY TO REPAY LOAN

a)	The community has identified a viable source for repaying a loan.	5

3. TYPE OF PROJECT

a)	Initial phase(s) of treatment discharging into marine waters required to protect public health or achieve water quality standards; secondary treatment for discharge into fresh water; or any treatment required prior to discharge to groundwater (no existing sewage treatment facilities).	30
b)	Rehabilitation or expansion of treatment facilities or correction of infiltration/inflow of sewage collection systems where existing conditions are disrupting the efficiency of existing treatment facilities.	25
c)	Correction of infiltration/inflow of sewage collection systems where the required corrections are done in conjunction with a new treatment facility.	20
d)	Construction of new interceptor sewers, pump stations, and appurtenances.	15
e)	Upgrading existing treatment facilities to secondary or advanced wastewater treatment levels when required for reasons other than meeting water quality standards or the protection of public health.	5

4. USE OF RECEIVING WATER

This project will eliminate the adverse effect. (Score from highest point value only).

a)	Freshwater/Groundwater		
	1)	Drinking and food processing	10
	2)	Propagation of fish & shellfish as a food source	5
	3)	Water contact recreation	2
b)	Marine Water/Estuaries		
	1)	Propagation of fish & shellfish as a food source	5
	2)	Water contact recreation	2

5. LOAN COST/POPULATION BENEFITTED

a)	Low cost/population ratio	0-400	10
b)	Moderate cost/population ratio	401-4000	6
c)	High cost/population ratio	>4000	2

6. WATER QUALITY EFFECTS

a)	Project necessary to treat or eliminate a discharge contributing to a documented violation of Alaska Water Quality Standards. Documentation means a report has been provided showing the results of a water quality sample which violates a water quality standard. A treatment plant which is overloaded is presumed to violate water quality standards.	10
b)	Project necessary to minimize or eliminate documented contamination of groundwater or surface waters resulting from subsurface sewage disposal systems.	7
c)	Project will result in measurable enhancement of water quality but is not required to meet Alaska Water Quality Standards.	4
d)	Project necessary to prevent potential water pollution problems or where environment may be adversely affected due to the impact of accelerated development or industrial growth.	2

(4-11)

(4-11)

ENCLOSURE 3

PRIORITY LIST PROCEDURES
ALASKA CLEAN WATER FUND
FEDERAL LOAN PROGRAM

The Alaska Clean Water Fund program offers low interest loans to communities for the planning, design, and construction of publicly owned wastewater treatment facilities. During the next three years, the program will received federal grant monies to capitalize the Fund. The following procedures outline the processes the program uses to determine which projects will receive limited loan monies.

CRITERIA SYSTEM: During each funding cycle, a loan priority list is developed to determine the relative ranking of projects based on: (a) project type, (b) readiness to proceed, (c) the current use of receiving water, (d) the ratio of loan amount to population benefitted, (e) the effect of the project on water quality, and (f) the community's ability to repay a loan. The criteria system for ranking Alaska Clean Water Fund projects is detailed on the following page.

BYPASS OF PROJECTS: Eighty-three percent of the Alaska Clean Water Fund is capitalized by the federal government. If the State does not enter into loan agreements equal to each year's grant within a specified time, we lose the grant. Therefore, if it appears a community will not be ready to enter into a loan agreement within the time frame necessary to ensure the fund does not loose federal capitalization monies, their project will be bypassed. The next project on the list which is ready to proceed in a timely manner will be offered a loan.

If available funds are insufficient to meet a community's project financing needs, and the lack of funding will keep the project from proceeding in a timely manner, the project will be bypassed. The next project on the list which will be ready to proceed using the limited available funds will be offered a loan.

TIE SCORES: If two projects are equal in scoring, the following sequence will be used to differentiate between them:

1. If one project requires an earlier construction date as a result of a compliance agreement or other legal order form EPA or ADEC, that project will be placed ahead of the other.

2. The project with an earlier anticipated date for submitting a completed application will be placed ahead of the other.

3. If one project is already under construction and has already undergone the required environmental review, that project will be placed ahead of the other.

4. If both projects are from the same community, the community may decide which project should be placed ahead of the other.

5. The individual scores from each criteria category will be compared, beginning with category 1 and continuing until a difference is found. The project with the highest score in the individual category will be placed first.

The criteria system and priority list are subject to public review and comment. Public review is announced through individual mailings to communities and public notices in the newspapers of appropriate cities.

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DIVISION OF FACILITY CONSTRUCTION & OPERATION

COMMUNITY REQUESTS CAPITAL PROJECTS

PRIORITY CRITERIA SYSTEM

CRITERIA SYSTEM
ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
CAPITAL PROJECTS
SFY 92

VILLAGE SAFE WATER PROGRAM

I. Problem Addressed

A. Public Health

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3.	Conditions do not yet exist for a disease event to take place. However, development in the project area suggests that such events will most likely occur in the near future if this project is not constructed.	100

B. Environmental

1.	A documented existing pollution event has taken place and construction of this facility will correct the existing problem.	300
2.	Current conditions are sufficiently severe that a pollution event should have taken place but it has not yet happened.	200
3.	Conditions do not yet exist for a pollution event to take place. However, development in the project area suggests that such events will most likely occur in the near future if this project is not constructed.	100
4.	An esthetic pollution problem needs correcting.	25

C. Public Safety

1.	The project is needed to provide public protection against fire or animal threats at landfills. Protection is to serve an existing population.	100
2.	The project is needed to provide public protection against fire or animal attacks. Protection is to serve a projected population.	50

WATER, SEWER and SANITATION IN ALASKA NATIVE VILLAGES: PROBLEMS AND RECOMMENDATIONS

ALASKA NATIVE HEALTH BOARD
January 1991

INTRODUCTION

In any discussion of health problems in rural Alaskan communities, the issue of water and sewer inevitably comes up. Residents of both remote villages and larger rural communities consistently describe adequate water and sewer as a top priority and persistent problem. The problem exists not just in village households, but in the local health clinics. **In a recent survey, 15 percent of the clinics in the Village Built Clinic Program were noted as having inadequate water and sewer systems.**

Without adequate sanitation facilities, personal hygiene in a closely populated village area is difficult. The lack of facilities to properly dispose of human waste, combined with minimal quantities of safe water for drinking and washing, results in a threat to public health.

Village residents have experienced a number of communicable disease outbreaks which are directly related to poor sanitation. An example is the recent epidemic of Hepatitis A throughout rural villages. The highest number of cases reported are in the Yukon-Kuskokwim Delta region, where sanitation conditions are among the worst in the nation. In the Maniilaq region, the top three diagnoses for outpatient visits—otitis media, strep throat, and bronhitis—are all hygiene-related.

Local governments are also under increasing pressure from the federal government to improve water quality. **The Alaska Area Native Health Service states that 165 of the 180 villages being served by their sanitation program have systems which are not in compliance with federal or state sanitation codes.** Of the 50 states, Alaska ranks last in drinking water quality testing compliance. Yet at the same time that compliance is being emphasized, many village governments are struggling, often unsuccessfully, to pay for proper operation and maintenance of existing water and sewer facilities.

While money to build new facilities or repair/replace existing ones is important, it is not the entire solution to the problem. An important component often overlooked is the continued operation, maintenance, and management of the water and sewer systems. All too often, a multi-million dollar facility is built, only to break down due to operator error or lack of maintenance. Villages are given the responsibility of ownership but typically lack the funds to hire a trained and certified operator or pay for maintenance. The result is often a return to substandard sanitation and/or costly repairs or replacement.

BACKGROUND

Federal Involvement

Sanitation has been recognized as a serious problem in Alaskan bush communities since the 1950s. At the federal level, Public Law 86-121, the Indian Sanitation Facilities Construction Act, was enacted in 1959. This act gave the Indian Health Service (IHS) the authority to plan, design, and construct sanitation facilities for Indians and Alaska Natives. In Alaska, funding to implement P.L. 86-121 comes through the Alaska Area Native Health Service (AANHS). In addition, water and sewer construction projects are sometimes included in HUD's Indian Housing Program through the Regional Housing Authorities.

State Involvement – Village Safe Water Program

The State of Alaska has also played a major role in improving water and sewer facilities in rural Alaska, typically through the Village Safe Water (VSW) Program within the Department of Environmental Conservation (DEC). During the oil boom of the early 1980s, many village water and sewer projects were built using funds from the VSW Program.

The first step used by the VSW Program to secure project funding is to administer a questionnaire to each rural community. These typically have an 80 percent response rate. During October of each year, the questionnaires are scored using a capital projects ranking criteria and placed in a priority listing.

The criteria consider health need, pollution problems, planning status, confidence in supporting documentation, federal contributions, local priorities, and other factors. If the community does not consider this project their number 1 priority, the rating is usually not high enough for funding consideration. The questionnaires and priority ranking are reviewed with AANHS to check coordination, confirm data, and secure commitments for match funding on some projects.

Recommendations are then made to the Governor's office, which in turn will submit a proposed budget to the Legislature. The Legislature is then free to add, subtract, and/or make its own project lists. Once legislation is signed, final funding distribution through the VSW Program usually begins in August.

Many water and sewer projects are in fact cooperative ventures involving the state and AANHS. The VSW Program and the Environmental Health and Engineering branch of AANHS enjoy a close and productive working relationship, sharing data and pooling resources. If a particular project is judged a priority by both agencies, they will often collaborate in the planning, design, and construction of facilities. The other party involved in a water and sewer construction project is, of course, the local village government, which will take over ownership and management of the program upon completion.

CURRENT CONDITIONS / UNMET NEED

Plumbing (In)adequacy

Despite advances in arctic construction technology, considerable investment on the part of state and federal agencies in village sanitation projects, and significant improvements in rural water and sewer systems in the last 30 years, the majority of Alaskan villages still have substandard sanitation systems.

AANHS has defined five levels of water and sewer systems. These are:

- Level 5 – No water or sewer facilities
- Level 4 – Simple watering point/pit privy or honey bucket bunkers
- Level 3 – Central facility (washeteria)/central waste dump station
- Level 2 – Piped water in the home/piped waste disposal in home and treatment provided—minor deficiencies present
- Level 1 – Same as Level 2, but well operated

Only Levels 1 and 2 meet the U.S. Census definition of plumbing adequacy. By this definition, only 61 villages out of a total of 140 surveyed in 1990 have adequate plumbing. Sixty-six were served by community washeterias (Level 3), with residents hauling water to and waste from their homes. Eleven had only watering points and pit privies (Level 4).

Village Health Clinics

At the heart of the health care system in Native communities is the village health clinic. Community Health Aides manage the clinics and are the primary providers for their people, responding to emergencies, dealing with disease outbreaks and injuries, and providing preventive health care.

Almost all the village clinics in the state are leased by the Indian Health Service through the Village Built Clinic (VBC) Program, administered by AANHS. The owner of the clinic—typically the regional health corporation, IRA council, or village council—is responsible for maintenance and repair of the facility as well as utilities and insurance. Most clinics occupy free-standing structures, while some share space with other community programs under a common roof.

AANHS has established health standards for the village-built clinics and periodically inspects the facilities to determine if they are meeting the standards. AANHS Circular No. 89-50 states that facilities determined to be non-compliant will be given the opportunity to make improvements. The circular also states that if conditions are judged to constitute a health hazard, a written recommendation to amend or discontinue the lease contract will be made.

During the summer of 1990, IHS Service Unit Sanitarians assessed the condition of all 164 clinics in the VBC Program. Their conclusion was that 22 clinics require complete replacement and 47 clinics require major renovations or additions to meet the VBC standards. Twenty-four of the clinics were noted as having inadequate water or sewer systems.

RECOMMENDATIONS

New Construction

AANHS estimates that it would cost $1.2 billion to provide all rural Alaskan communities with piped water and sewer (Level 1 standard). However, any increase in the level of service can provide an accompanying increase in health benefits. Significant improvements in sanitation could be made just by bringing all communities at Levels 4 and 5 up to Level 3 (washeteria/central dump station).

Washeterias contain clothes washing and drying facilities, men's and women's showers, toilets, and watering points from which safe water can be carried to the homes for drinking and cooking. Because they use coin-operated equipment, washeterias help generate the income needed to pay for operation and maintenance. Additional watering points for summer use can also be provided throughout a community at little additional cost.

Alaska Native Health Board recommends that piped water and sewer systems be constructed for all villages where the village has a track record of good management, and where village residents have named piped water and sewer as a top priority. **All villages who meet these criteria should have piped water and sewer (Level 1) within the next ten years.**

All other villages not currently up to a Level 3 standard should be brought to that level within the next four years.

Repair/Replacement

All village water and sewer facilities previously built but currently inoperable or operating at decreased capacity due to equipment failure should be repaired or replaced, as necessary.

Alaska Native Health Board also supports additional funding for the Remote Maintenance Worker program. ADEC has not provided adequate funds for RMWs for several years. Expansion of the RMW program is also needed. Currently eight remote maintenance workers, employed by Native non-profits, provide assistance to village water and sewer operators. AANHS supports four technical maintenance advisors to work with the state-funded RMWs. Engineers at AANHS report that the program is

very successful, providing savings to the State many times over what the program costs to operate. Recommendations have been made to add RMWs in Bethel, Aniak, and Kodiak. Alaska Native Health Board supports this recommendation as a minimum expansion of the program.

The State of Alaska also funds 16 sanitarian positions. However, almost all of these positions are in larger population centers such as Anchorage and Juneau. **Alaska Native Health Board supports increasing the number of sanitarians to work primarily in the villages and rural hub communities.** These individuals would work closely with the village leaders, water and sewer operators, and health providers to encourage proper maintenance and optimum use of water and sewer systems. **The emphasis for sanitarians should be on providing support** rather than serving a regulatory ("police") function. Ideally, the sanitarians would be Natives who are familiar with the unique culture, traditions, and conditions of village Alaska.

Training

Training is an integral component of successful operation, maintenance, and management of a water and sewer system. Historically, the State DEC has neglected training while emphasizing regulation. Such neglect is partly responsible for the deterioration and failure of many village water and sewer operations. **Some investment in training and technical assistance could save the State hundreds of millions of dollars in repair and replacement costs.**

Alaska Native Health Board strongly supports increased efforts to provide training to water and sewer operators, remote maintenance workers, and sanitarians, with an emphasis on Native recruitment. Training for some workers should include development of business management skills. When properly trained operators are holding down full-time, well-paid positions and have the support of other professionals, the rate of failure in rural water and sewer systems will drop drastically.

Village Clinics

All village health clinics should have piped water and sewer. Health providers who are trying to control outbreaks of infectious disease must be able to wash their hands frequently in clean water, and dispose of human waste safely. Yet substandard conditions in village clinics are common. Staff with the Village Built Clinic Program report that several clinics have been warned in the past that they must improve their sanitation or risk losing their lease with IHS. All too often, stop-gap measures are used when major renovation is really needed.

A recent report produced by the Village Built Clinic Program describes 22 clinics in need of complete replacement. Obviously, all of these clinics should be rebuilt to include running water and sewer. In some cases it may make sense to build them adjacent to the local washeteria or school so they can share the same water/sewer system. The report also describes 47 clinics that require major renovation. Where necessary,

renovation should include installing water/sewer systems that provide the highest possible level of service. Support should also be provided to Community Health Aides to keep water and sewer systems functioning properly.

CONCLUSION

In the last decade of the 20th century, piped water and sewer is something which the vast majority of Americans, including urban Alaskans, take for granted, enjoying positive health benefits as well as convenience. In Native villages throughout Alaska, this is not the case.

Positive strides were made during the "oil boom" years to improve the situation in rural Alaska, but funding still fell short of need. In villages where water and sewer systems were built, the need for ongoing operation and maintenance was often not adequately addressed, leading to system breakdowns.

The State of Alaska, in Fiscal Year 1991, is in the unexpected position of having a large surplus of funds, and the Governor has indicated support for capital improvement projects. It is hard to think of a more worthy cause than the health and well-being of rural Alaskans who comprise nearly one third of the state's population. Water and sewer construction and renovation, combined with improvements in operator training and facilities maintenance, would make a tremendous different in improving the quality of life in Native communities.

Following the recommendations presented here would benefit Native people both directly, in terms of health promotion and disease prevention; and indirectly, by encouraging economic development. Construction projects employ large numbers of Alaskans. Rural Alaskans, in particular, are in desperate need of work. With an emphasis on Native recruitment and training, rural residents would also see improved job opportunities for facilities operators, remote maintenance workers, and sanitarians. A matching grant program for operation and maintenance would encourage local responsibility and help ensure that the benefits of water and sewer construction are lasting. Emphasis on operation and maintenance would also protect the State's investment.

The Alaska Native Health Board and regional health organizations recognize the important role that Native people must play in determining their own future. We are eager to facilitate communication between village residents and State personnel to encourage the necessary support and commitment of those who own and operate the water and sewer facilities. We ask that the State, in turn, renew its commitment to provide for the health needs of all Alaskans by providing funding and support for improved water and sewer in rural Alaskan communities.

SUMMARY OF RECOMMENDATIONS REGARDING VILLAGE WATER AND SEWER

ALASKA NATIVE HEALTH BOARD
January 1991

1. All villages which have a track record of good management and which have named piped water and sewer as a top priority should have piped water and sewer (Level 1) within the next ten years.

2. All other villages not currently up to a Level 3 standard (washeteria/central dump station) should be brought to that level within the next four years.

3. All village water and sewer facilities previously built but currently inoperable or operating at decreased capacity due to equipment failure should be repaired or replaced, as necessary, with steps taken to ensure proper operation and maintenance following repair.

4. The State of Alaska should implement a matching grant program to assist rural communities with water and sewer expenses. The matching grant program would match local user fee collections. It would include annual reviews of sanitation facilities and technical assistance to participating communities. A 1-year pilot program, possibly in the Northwest Arctic Borough, should be implemented in FY 1992.

5. Adequate funding should be provided to ADEC for the Remote Maintenance Worker program. In addition, the program should be expanded to provide RMWs for Bethel, Aniak, and Kodiak, at a minimum.

6. The number of state-funded sanitarians should be increased to provide assistance in villages and rural hub communities, with emphasis on support rather than regulation.

7. Greatly increased efforts are needed to provide training for water and sewer operators, remote maintenance workers, and sanitarians, with an emphasis on Native recruitment.

8. All village health clinics should have piped water and sewer within the next four years. Assistance should be provided to villages to repair, renovate, or replace clinics currently out of compliance with federal and state standards. Installation of piped water and sewer systems should accompany replacement or renovation.

5-15-91

VSW Projects Receiving Consideration Under the Public Health Scoring Criteria

City	Projects	Grant Request
Alakanuk	Honey Bucket Haul	$305,000
Deering	Water/Sewer Phase I	$1,998,427
Koyuk	Piped Water and Sewer Systems	$1,200,000
Tuluksak	Water, Sewer & Solid Waste Study	$50,000
Stebbins	Honey Bucket Access Road	$38,000
Kotlik	Honey Bucket Cleanup	$50,000
Chefornak	Water & Sewer System	$2,147,499
Hooper Bay	Water & Sewer Upgrade	$990,000
St. Michael	Water tanker/fire truck/ appurtances	$300,000
Chevak	Sewer upgrade	$300,000
Statewide	Village clinic water/sewer upgrade	$500,000
	Sub-Total for Class IA1	**$7,878,926**
Bethel	Wastewater treatment system improvements	$623,000
Northway	Sanitation facilities upgrade	$260,000
Chistochina	Chistochina Safewater	$25,000
Brevig Mission	Water and Sewer Design	$150,000
Clarks Point	Extension of Water and Sewer	$280,000
Lower Kalskag	Solid Waste Improvements	$175,000
Nelchina/Mendeltna Corporation	Waste Transfer Station & Well	$42,600
Nikolai	Water and Sewer Improvement Project	$500,000
Ouzinkie	Safewater Relocation	$200,000
Savoonga	Solid Waste	$750,000
Matanuska-Susitna Borough	Talkeetna East Side Sewer and Water Construction	$3,100,000
Tanacross	Water & Sewer Expansion & Repair	$200,000
White Mountain	Water and Sewer	$617,000
Klana	Sewage Treatment Renovation	$968,000
Golovin	Water and Sewer Progressive Improvements Plan Ph. 2	$427,280
Kivalina	Water Tank Upgrade	$900,000
Huslia	Sanitation Improvements	$500,000
Nulato	Water & Sewer System Phase III	$2,382,000
Atka	Engr Evaluation Water/Sewer	$100,000
Grayling	Gallery Pump Project	$100,000
Ruby	Sanitary Landfill	$60,000
Birch Creek	Solid Waste Removal & Relocation	$10,000
Birch Creek	Tank Rehabilitation	$150,000
Thorne Bay	Sewer Project	$1,100,000
Takotna	Rehab of Sanitation Facilities	$225,000
Ketchikan Gateway Bor.	Mt. Point Water & Sewer Project	$2,524,000
Shageluk	Washeteria/Water Treatment Plant Renovation	$300,000
Noorvik	Water & Sewer Upgrade	$400,000
Minto	Solid Waste Site	$150,000
Tyonek	Water & Sewer Phase III	$742,000
Klukwan	Lagoon	$389,000
Chignik	Sewer Upgrade/Drainfield Replacement	$200,000
Elim	Sewer Ocean Outfall Line Rehab	$431,000
Anderson	Septage Disposal Facility	$300,000
Kokhonak	Water & Sewer Improvements	$100,000
Larsen Bay	Water Improvements	$530,000

City	Projects	Grant Request
Manokotak	Water System Improvements	$300,000
New Stuyahok	Water Sewer & Solid Waste	$477,000
Noatak	Solid Waste Site	$300,000
Port Lions	Water & Sewer	$250,000
Selawik	Storage/Washeteria	$800,000
South Naknek	Septic Tank Project	$581,000
Togiak	Togiak Water & Sewer Const.	$257,000
Unalakleet	Solid Waste	$1,414,000
Anchor Point	Watering Point Facility	$68,000
Mekoryuk	Flush Tank and Haul Demonstration Project	$180,000
Kotzebue	Sewer Main Rehab	$1,370,000
Kotzebue	Sewage Lagoon Upgrade	$480,000
Glennallen	Sewer System	$1,200,000
Healy Lake Village	Water/Sewer Project	$92,000
Chenega Bay	Solid Waste Disposal	$383,391
Port Graham	Engr Design/Study	$75,000
Gambell	Water & Sewer Phase III	$2,800,000
Gulkana	Water & Sewer	
Chevak	Laundry & Sewer Disposal Lines	$37,000
Shungnak	Solid Waste Improvements	$120,000
Point Baker	Engineering Feasibility Study	$25,000
Eek	Feasibility Study-Water Well Drilling	$22,500
Northway	sanitation facility upgrade	$260,000
	Sub-Total for Class IA2	**$31,143,271**
Bethel	Wastewater Treatment System Improvements	$623,000
Kobuk	Water, Sewer & Solid Waste	$1,500,000
Scammon Bay	Village Safe Water	$150,000
Stevens Village	Washeteria Upgrade	$400,000
St. Michael	Phase II Washeteria	$474,200
Kaltag	Water and Sewer Extension	$217,380
Coffman Cove	Water and Sewer Construction	$800,000
Metlakatla	Water Tank & Feeder Lines Replacement	$584,200
Emmonak	Sewer and Water Expansion	$1,000,000
Kasaan	Water Supply Improvements- Phase I	$306,000
Venetie	Washeteria Rehab	$1,470,000
Kotzebue	Sanitary Landfill Study	$150,000
Teller	Safe Water/Sewer/Solid Waste	$200,000
Eagle Village	Washeteria, Lagoon & Water Project	$1,800,000
Toksook Bay	Water Supply Improvements Project	$550,000
Ambler	Water and Sewer Lines	$150,000
Eek	Washeteria Upgrade	$8,122
	Sub Total for Class IA3	**$10,182,902**

Matching Grant Projects Receiving Consideration Under the Public Health Scoring Criteria

City	Projects	Grant Request
Kodiak	Water Filtration Plant	$6,182,500
Ketchikan Public Utilities	Water & Filtration Treatment Plant	$35,000
	Sub Total for Class IA1	**$6,217,500**

Seldovia	Water System Upgrade		$260,000
		Sub Total for Class IA2	**$260,000**

3/19/91

ADEC 50% MATCHING GRANT REQUESTS FOR FY 92

Community	Project Name	Grant Request	Cum. Request
I. FEDERAL MATCH PROJECTS.			
Nome	Wastewater Treatment Facility	$1,332,000	$1,332,000
Ketchikan	Primary Sedimentation Plant	$521,000	$1,853,000
Cordova	Sewer System Improvements	$301,000	$2,154,000
Juneau	Mendenhall-JD Sewage Treatment Plant Improvements	$405,000	$2,559,000
II. CURRENTLY UNDER CONSTRUCTION WITH ADEC FUNDING (NEEDED TO COMPLETE)			
Kenai	Wastewater Treatment Plant Upgrade	$250,000	$250,000
Unalaska	Unalaska Water Project	$1,250,000	$1,500,000
Kenai Peninsula Borough	Seward and Soldotna, Solid Waste Facilities	$2,106,000	$3,606,000
III. PRECONSTRUCTION			
Statewide	Community Facility Planning & Design	$500,000	$500,000
IV. WATER & SEWER			
Bristol Bay Borough	King Salmon Sewer	$1,703,000	$1,703,000
Haines	Wastewater (E.P.A. Compliance)	$1,000,000	$2,703,000
Kodiak	Water FiltrationPlant	$8,190,000	$10,893,000
Kake	Kake Gunnuck Creek - Sewer Project	$515,000	$11,408,000
Klawock	STP & Outfall	$387,500	$11,795,500
Seldovia	Water System Upgrade	$260,000	$12,305,500
Ketchikan Public Utilities	Tongass/Water Street Water Main Replacement Phase II	$1,250,000	$13,555,500
Craig	Wastewater Treatment Plant	$1,730,300	$15,285,800
Klawock	Klawock Subdivision Water & Sewer	$350,000	$15,635,800
Kenai	Thompson Park Sewer Interceptor	$900,000	$16,535,800
Wrangell	Water Main from Upper Reservoir to bypass Lower Reservo	$275,000	$16,810,800
Wrangell	Water Main extension to the Airport	$200,000	$17,010,800
Homer	Port of Homer 30 Acre Sewer & Water Utility	$225,000	$17,235,800
Sand Point	Nagai Avenue Sewer	$300,000	$17,535,800
Valdez	Sewage Dump Station - Small Boat Harbor	$6,800	$17,542,600
Valdez	Oil and Grease Separators for Small Boat Harbor	$27,500	$17,570,100
Pelican	Continuation of Sewer System	$248,582	$17,818,682
King Cove	Harbor Water Extension (Phase I)	$123,000	$17,941,682
Skagway	Water Storage Tank	$152,000	$18,093,682
Hoonah	Garteeni Hwy. W & S Extension	$212,500	$18,306,182
North Pole	Northwest Utility	$1,770,000	$20,076,182
Yakutat	Sewage Treatment Facility Upgrade	$450,000	$20,526,182
Kenai	Thompson Park Water and Sewer Main	$600,000	$21,126,182
Klawock	Klawock Water Source	$75,000	$21,201,182
Ketchikan Public Utilities	Bear Valley Reservoir Construction	$950,000	$22,151,182
Ketchikan Public Utilities	Jefferson/Madison Street Water Main Replacement	$200,000	$22,351,182
Ketchikan Public Utilities	Tower Road Water Main Replacement	$500,000	$22,851,182
Dillingham	Airport Sewer Project	$175,000	$23,026,182
Kodiak Island Borough	Service District No. 1 Project No. 85-3(B)	$666,800	$23,692,982

ADEC 50% MATCHING GRANT REQUESTS FOR FY 92

Community	Project Name	Grant Request	Cum. Request
Kodiak Island Borough	Service District No. 1 Project No. 86-1	$934,350	$24,627,332
Ketchikan	Central Waterfront Development - Sewer and Water	$129,250	$24,756,582
North Pole	Baker/Northstar Subdivision W & S.	$2,290,000	$27,046,582
Sitka	Inflow & Infiltration Reduction	$1,000,000	$28,046,582
Kodiak Island Borough	Monashka Bay Water and Sewer System Design	$550,000	$28,596,582
Kodiak Island Borough	Womens Bay Water and Sewer System Design	$550,000	$29,146,582
Wrangell	Church Street Wood Stave Water Main Replacement	$200,000	$29,346,582
Wrangell	Water and Sewer Main Replacement - Webber Street	$50,000	$29,396,582
Wrangell	Peninsula Street Asbestos Water Main Replacement	$15,000	$29,411,582
V. SOLID WASTE			
Kodiak Island Borough	Kodiak Landfill and Material and Leachate Treatment	$559,863	$559,863
Sand Point	Sand Point Landfill Construction	$300,000	$859,863
Sitka	Comprehensive Solid Waste Disposal	$1,500,000	$2,359,863
Valdez	Paved Road to Balefill	$75,000	$2,434,863
Dillingham	Landfill Improvements	$100,000	$2,534,863
North Pole	Solid Waste Incinerator	$3,300,000	$5,834,863
Kenai Peninsula Borough	Homer Balefill Improvements	$820,000	$6,654,863
Kenai Peninsula Borough	North Borough Transfer Station	$597,375	$7,252,238
VI. ANCHORAGE **			
Anchorage	Anchorage Wastewater Projects	$5,338,500	$5,338,500
Anchorage	Anchorage Water Projects	$1,544,500	$6,883,000
Anchorage	Anchorage Regional Landfill Cell III	$2,463,000	$9,346,000
Anchorage	Merrill Field Landfill Methane Gas Collection Project	$794,000	$10,140,000
Anchorage	Areawide Water Quality Monitoring	$100,000	$10,240,000
Anchorage	Oil/Grease Separator Performance Monitoring	$25,000	$10,265,000
Anchorage	Storm Drain Monitoring and Characterization	$25,000	$10,290,000
Anchorage	Water Quality Public Education	$40,000	$10,330,000
Anchorage	Macroinvertebrate Water Quality Assessment	$20,000	$10,350,000
VII. FAIRBANKS **			
Fairbanks	Ft. Wainwright Interceptor Rehabilitation - IIA	$750,000	$750,000
Fairbanks	Wastewater Sludge Landfill	$6,750,000	$7,500,000
Fairbanks	Waste Heat Exchanger - Water	$325,000	$7,825,000
Fairbanks	Firewell Improvements	$125,000	$7,950,000
Fairbanks	Lime Stabilization	$225,000	$8,175,000
VIII. JUNEAU **			
Juneau	Glacier Highway Sewerage: Ross Way-Channel Drive	$950,000	$950,000
Juneau	Back Loop Road Sewerage-Design	$600,000	$1,550,000
Juneau	North Franklin Sewer/Storm Drain Separation	$275,000	$1,825,000
Juneau	Highlands Sewer/Storm Drain Separation	$293,000	$2,118,000
Juneau	Mountainside Estates-Reservoir & Pump Station	$1,250,000	$3,368,000
Juneau	Back Loop Sewerage - Phase I	$7,700,000	$11,068,000
IX. STATEWIDE SOLID WASTE			
	Community Solid Waste Planning Grants	$1,500,000	$1,500,000

** NOTE: In prior years, a single appropriation was made for Anchorage, Fairbanks and Juneau, allowing them to set their own internal priorities

(3-1)

(3-1)

FEDERAL MATCHING FUNDS PROJECTS

ADEC 50% MATCHING GRANTS PROGRAM

5-Mar-91

Community	Project Name	ADEC 50% Grant Request	Expected Federal Funding
Nome	Wastewater Treatment Facility	$1,332,000	$2,800,000
Ketchikan	Primary Sedimentation Plant	$521,000	$2,465,000
Cordova	Sewer System Improvements	$301,000	$1,900,000
Juneau	Mendenhall-JD Sewage Treatment Imp	$405,000	$5,655,000
Kake	Gunnuck Creek Sewer Project	$515,000	$260,000
Klawock	Sewage Treatment Plant & Outfall	$387,500	$75,000
Craig	Wastewater Treatment Plant	$1,730,300	$700,000
Klawock	Klawock Subdivision Water & Sewer	$350,000	$700,000
Hoonah	Garteeni Highway W & S Extension	$212,500	$75,000
Klawock	Water Source Development	$75,000	unknown
	TOTAL	$5,829,300	$14,630,000

VILLAGE SAFE WATER MATCHING PROJECTS

Community	Project Name	Grant Request	Federal Funding
Chevak	Sewer upgrade	$300,000	$7,500
Klukwan	Lagoon	$389,000	$175,000
Kasaan	Water Supply Improvements- Phase I	$306,000	$75,000
Tanacross	Water & Sewer Expansion & Repair	$200,000	$850,000
Kiana	Sewage Treatment Renovation	$968,000	$584,000
Noorvik	Water & Sewer Upgrade	$400,000	$480,000
Selawik	Storage/Washeteria	$800,000	$1,420,000
Koyuk	Piped Water and Sewer Systems	$1,200,000	$1,200,000
White Mountain	Water and Sewer	$617,000	$2,517,000
Gambell	Water & Sewer Phase III	$2,800,000	$1,035,000
Chevak	Laundry & Sewer Disposal Lines	$37,000	$8,000
Nikolai	Water and Sewer Improvement Project	$500,000	$800,000
Stevens Village	Washeteria Upgrade	$400,000	$200,000
Kaltag	Water and Sewer Extension	$217,380	$125,000
Huslia	Sanitation Improvements	$500,000	$1,000,000
Shageluk	Washeteria/Water Treatment Plant Ren	$300,000	$600,000
Tyonek	Water & Sewer Phase III	$742,000	$912,000
Venetie	Washeteria Rehab	$1,470,000	$600,000
Mekoryuk	Flush Tank and Haul Demonstration Pr	$180,000	$50,000
Chefornak	Water & Sewer System	$2,147,499	$500,000
Kokhonak	Water & Sewer Improvements	$100,000	$181,500
Manokotak	Water System Improvements	$300,000	$487,000
New Stuyahok	Water Sewer & Solid Waste	$477,000	$200,000
Togiak	Togiak Water & Sewer Const.	$257,000	$350,000
Larsen Bay	Water Improvements	$530,000	$100,000
	TOTAL	$16,137,879	$14,457,000

	A	B	C	D	E	F
1	YEAR	DEC - 50%	DEC -VSW	TOTAL -DEC	DIRECT -DOA	TOTAL STATE
2	70	$8,000,000	$3,000,000	$11,000,000		$11,000,000
3	72	$32,000,000	$1,000,000	$33,000,000		$33,000,000
4	76	$29,500,000	$1,500,000	$31,000,000		$31,000,000
5	78	$19,890,000	$7,750,000	$27,640,000		$27,640,000
6	80	$23,000,000	$10,000,000	$33,000,000		$33,000,000
7	82	$9,359,000	$1,608,900	$10,967,900		$10,967,900
8	83	$4,590,000	$515,000	$5,105,000	$26,441,700	$31,546,700
9	84	$19,302,969	$690,610	$19,993,579	$108,587,100	$128,580,679
10	85	$15,700,000	$7,972,000	$23,672,000	$132,501,525	$156,173,525
11	86	$1,923,100	$1,219,000	$3,042,100	$25,115,300	$28,157,400
12	87	$14,880,650	$9,794,060	$24,674,710	$45,964,182	$70,638,892
13	88	$5,980,300	$5,623,200	$11,603,500	$4,311,500	$15,915,000
14	89	$11,795,000	$5,367,475	$16,162,475	$9,643,300	$27,805,775
15	90	$7,050,000	$7,791,100	$14,841,100	$12,215,008	$27,056,108
16	91	$7,490,000	$7,829,265	$15,319,265	$9,783,500	$25,102,765
17	TOTAL	$210,361,019	$72,660,610	$283,021,629	$374,563,115	$657,584,744
18						

3-18-91

VSW Projects Receiving Consideration Under the Public Health Scoring Criteria
3/18/91

City	Projects	Grant Request	Class
Alakanuk	Honey Bucket Haul	$305,000	IA1
Koyuk	Piped Water and Sewer Systems	$1,200,000	IA1
Stebbins	Honey Bucket Access Road	$38,000	IA1
Deering	Water/Sewer Phase I	$1,998,427	IA1
Tuluksak	Water, Sewer & Solid Waste Study	$50,000	IA1
Chevak	Sewer upgrade	$300,000	IA1
Hooper Bay	Water & Sewer Upgrade	$990,000	IA1
Kotlik	Honey Bucket Cleanup	$50,000	IA1
St. Michael	Water tanker/fire truck/ appurtances	$300,000	IA1
Statewide	Village clinic water/sewer upgrade	$500,000	IA1
Chefornak	Water & Sewer System	$2,147,499	IA1
	Sub-Total for Class IA1	$7,878,926	
Nikolai	Water and Sewer Improvement Project	$500,000	IA2
Tyonek	Water & Sewer Phase III	$742,000	IA2
Huslia	Sanitation Improvements	$500,000	IA2
Bethel	Wastewater Treatment System Improvements	$623,000	IA2
White Mountain	Water and Sewer	$617,000	IA2
Thorne Bay	Sewer Project	$1,100,000	IA2
Ketchikan Gateway Bor.	Mt. Point Water & Sewer Project	$2,524,000	IA2
Anderson	Septage Disposal Facility	$300,000	IA2
Glennallen	Sewer System	$1,200,000	IA2
Anchor Point	Watering Point Facility	$68,000	IA2
Klukwan	Lagoon	$389,000	IA2
Matanuska-Susitna Borough	Talkeetna East Side Sewer and Water Construction	$3,100,000	IA2
Noorvik	Water & Sewer Upgrade	$400,000	IA2
Kokhonak	Water & Sewer Improvements	$100,000	IA2
New Stuyahok	Water Sewer & Solid Waste	$477,000	IA2
Selawik	Storage/Washateria	$800,000	IA2
Togiak	Togiak Water & Sewer Const.	$257,000	IA2
Unalakleet	Solid Waste	$1,414,000	IA2
Gambell	Water & Sewer Phase III	$2,800,000	IA2
Lower Kalskag	Solid Waste Improvements	$175,000	IA2
Golovin	Water and Sewer Progressive Improvements Plan Ph. 8.	$427,280	IA2
Nulato	Water & Sewer System Phase III	$2,382,000	IA2
Mekoryuk	Flush Tank and Haul Demonstration Project	$180,000	IA2
Kotzebue	Sewer Main Rehab	$1,370,000	IA2
Kiana	Sewage Treatment Renovation	$968,000	IA2
Takotna	Rehab of Sanitation Facilities	$225,000	IA2
Ruby	Sanitary Landfill	$60,000	IA2
Elim	Sewer Ocean Outfall Line Rehab	$431,000	IA2
Shageluk	Washeteria/Water Treatment Plant Renovation	$300,000	IA2
Manokotak	Water System Improvements	$300,000	IA2
Port Lions	Water & Sewer	$250,000	IA2
Nelchina/Mendelna Corporation	Waste Transfer Station & Well	$42,600	IA2
Savoonga	Solid Waste	$750,000	IA2
Chignik	Sewer Upgrade/Drainfield Replacement	$200,000	IA2
Kotzebue	Sewage Lagoon Upgrade	$480,000	IA2
Port Graham	Engr Design/Study	$75,000	IA2
Kivalina	Water Tank Upgrade	$900,000	IA2
South Naknek	Septic Tank Project	$581,000	IA2
Northway	Sanitation facility upgrade	$260,000	IA2
Clarks Point	Extension of Water and Sewer	$280,000	IA2

City	Projects	Grant Request	Class
Healy Lake Village	Water/Sewer Project	$92,000	IA2
Tanacross	Water & Sewer Expansion & Repair	$200,000	IA2
Atka	Engr Evaluation Water/Sewer	$100,000	IA2
Grayling	Gallery Pump Project	$100,000	IA2
Birch Creek	Solid Waste Removal & Relocation	$10,000	IA2
Minto	Solid Waste Site	$150,000	IA2
Larsen Bay	Water Improvements	$530,000	IA2
Noatak	Solid Waste Site	$300,000	IA2
Chistochina	Chistochina Safewater	$25,000	IA2
Chenega Bay	Solid Waste Disposal	$383,891	IA2
Chevak	Laundry & Sewer Disposal Lines	$37,000	IA2
Shungnak	Solid Waste Improvements	$120,000	IA2
Point Baker	Engineering Feasibility Study	$25,000	IA2
Eek	Feasibility Study-Water Well Drilling	$22,500	IA2
Brevig Mission	Water and Sewer Design	$150,000	IA2
Ouzinkie	Safewater Relocation	$200,000	IA2
Gulkana	Water & Sewer		IA2
Birch Creek	Tank Rehabilitation	$150,000	IA2
	Sub-Total for Class IA2	$31,143,271	
Emmonak	Sewer and Water Expansion	$1,000,000	IA3
Kaltag	Water and Sewer Extension	$217,380	IA3
Coffman Cove	Water and Sewer Construction	$800,000	IA3
Kotzebue	Sanitary Landfill Study	$150,000	IA3
St. Michael	Phase II Washeteria	$474,200	IA3
Kasaan	Water Supply Improvements- Phase I	$306,000	IA3
Tuksook Bay	Water Supply Improvements Project	$550,000	IA3
Stevens Village	Washeteria Upgrade	$400,000	IA3
Kobuk	Water, Sewer & Solid Waste	$1,500,000	IA3
Scammon Bay	Village Safe Water	$150,000	IA3
Meulakatla	Water Tank & Feeder Lines Replacement	$584,200	IA3
Teller	Safe Water/Sewer/Solid Waste	$200,000	IA3
Eagle Village	Washeteria, Lagoon & Water Project	$1,600,000	IA3
Ambler	Water and Sewer Lines	$150,000	IA3
Venetie	Washeteria Rehab	$1,470,000	IA3
Eek	Washeteria Upgrade	$8,122	IA3
	Sub-Total for Class IA3	$9,559,902	

MATCHING GRANTS PROJECTS

City	Projects	Grant Request	
Kodiak	Water FiltrationPlant	$8,190,000	IA1
Ketchikan Public Utilities	Water & Filtration Treatment Plant	$35,000	IA1
	Sub Total for Class IA1	$8,225,000	
Seldovia	Water System Upgrade	$260,000	IA2
	Sub Total for Class IA2	$260,000	

Organization of Chart

The chart is arranged in order as follows:

The two programs, Village Safe Water and 50% municipal matching grants program are listed separately. Within each program projects are arranged by classification of health problem, i.e., IA1, IA2, IA3

DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL QUALITY
MARSHALL WATER SYSTEM
(March 21, 1991)

PHASE 1 *Develop a Temporary Water System (PHS)*

- o Public Health Service (PHS) temporary safe watering point developed--"Head Start Well"
- o Temporary watering point operational today at temperature of +15 degrees F
- o Freezing problems occurred when someone connected hose to spigot causing system to freeze
- o PHS to complete construction this week
- o DEC to continue water testing monthly

PHASE 2 *Analysis and Definition of Contamination (DEC-EQ)*

- o DEC term contractor funded with Response Funds will begin drilling exploratory wells by May 1
- o DEC conducts sample testing as wells are drilled
- o Contamination mapping/characterization completed by June 1

PHASE 3 *Develop a New Water Source (DEC-VSW/PHS)*

- o DEC Village Safe Water (VSW) and PHS begin construction by July 1
- o DEC-VSW and PHS complete construction by September 1

PHASE 4 *Clean Up Contamination*

- o Contamination ranked by DEC with other sites by threat posed to health and environment by July 1
- o Cleanup proceeds in accordance with ranking with respect to other contaminated sites and funding availability

Other Notes

- o Phase 3 is contingent upon funding. A grant application has been submitted to the Department of Agriculture for $350,000. A $500,000 general fund appropriation is required in case funding is not available from the Department of Agriculture, or the amount is insufficient.

DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL QUALITY
MARSHALL WATER SYSTEM
(March 21, 1991)

December 1990

12 Initial contact indicating unusual taste
18 Preliminary testing results indicate benzene contamination
18 City issues health advisory
19 Samples obtained by PHS
20 Letter to City Manager, Mr. Richard Oney, summarizing taken and needed actions--reemphasizes health advisory
21 Sample obtained by PHS
24 Attempt to contact Marshall--no answer village or school
24 DEC meets with PHS to investigate treatment options
26 DEC investigating potential sources of contamination, weather aborts attempted site visit

January 1991

4 Interagency meeting to identify funding sources--FHA through Department of Agriculture identified
7 FHA grant application forwarded to City Manager
8-11 Assist City Manager in completing grant application
14 DEC staff to Marshall to further investigate and assist with grant application
17 Department of Agriculture receives grant application and contacts DEC
18 Meet with PHS on interim watering point, identify abandoned wells for testing

February 1991

6-19 Work shifts to establishing immediate interim safe water source
19 Meeting with agencies and City on interim water source

March 1991

8 Test results received indicating temporary water supply safe, water available to residents
8-21 System freezes as a result of tampering
12 DEC issues additional health advisory indicating continuing restricted water uses
21 PHS completing well building--safe water remains available

Final Report

ON THE IMPACT OF MARPOL ANNEX V UPON SOLID WASTE DISPOSAL FACILITIES OF COASTAL ALASKAN COMMUNITIES

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For

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Anchorage, Alaska 99501

Funded under Grant NA-88-ABD-00002 from the

United States Department of Commerce
National Oceanic and Atmospheric Administration
Marine Entanglement Research Program
7600 Sand Point Way, N.E.
Bin C15700
Seattle, Washington 98115

October 1989

EXECUTIVE SUMMARY

On the Impact of MARPOL Annex V upon Solid Waste Disposal Facilities of Coastal Alaskan Communities

Coastal communities of Unalaska, Kodiak, and Bristol Bay host large fleets of fishing vessels, seafood processing plants, and related support industries. With new MARPOL rules requiring boat operators to bring more garbage ashore, the impacts to these communities' solid waste handling and disposal facilities may be considerable. Because on-shore impact depends greatly upon to what degree larger vessels install shipboard incinerators, the impact is difficult to project.

Already these communities generate more garbage on a per capita basis than the average lower 48 towns. Many vessels have already been bringing their wastes ashore in anticipation of MARPOL. Unalaska's garbage generation rate has recently jumped to 540% higher than the national norm.

The solid waste arriving at coastal landfills has a greater materials recycling value and heat content than average municipal wastes. Unalaska's waste has an estimated heat content almost equal to that of some Alaskan coal.

The Unalaska landfill has nearly reached capacity, with three to five years left. The baler/landfills at Kodiak and Bristol Bay can expect lifetimes of 15 to 30 years.

Recommendations (abbreviated):

1. Unalaska should begin an engineering feasibility study to evaluate incinerator disposal with energy recovery. The study should concentrate on needs of energy customers and incinerator specifications.
2. A regional solid waste collection and management study should be undertaken for the Bristol Bay area. The collection costs and area-wide recycling and hazardous waste reduction programs should receive detailed attention.

LIST OF TABLES AND FIGJRES

CORRECTION

THIS DOCUMENT
HAS BEEN REPHOTOGRAPHED
TO ASSURE LEGIBILITY

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On the Impact of MARPOL Annex V upon
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1.0 INTRODUCTION

New federal rules now require boat operators to bring their garbage ashore. This report concerns itself with the impact of this increase in garbage upon coastal Alaska fishing communities.

Three such communities were chosen -- Unalaska/Dutch Harbor, Kodiak, and Bristol Bay Borough. Each has different fishing seasons and fleets and different types and amounts of garbage.

Unalaska/Dutch Harbor serves as an international base of operations for factory trawlers that harvest and process bottomfish. About 40 of these 150 to 300 foot long vessels make several hundred deliveries to Unalaska/Dutch Harbor yearly. From 30 to 90 crew spend from 20 to 50 days at sea on a typical factory trawler. Other vessels from 12 foreign countries routinely tie up to nearly 20 docks in the area.

Kodiak hosts more of a resident fleet of medium and smaller multi-fishery vessels. Crabbers from 75 to 150 feet long carry a crew of five to eight for up to month long voyages. About 300 salmon purse seiners work out of Kodiak, averaging four crew members and four months at sea.

Bristol Bay witnesses an annual invasion of salmon gillnetters. Beginning in late May, nearly two thousand 30+ foot boats appear, each with a crew of two or three. After late July, few boats remain.

This report has been primarily written for city officials: the harbor masters and public works directors who receive the first impacts from garbage brought ashore. They provide the dockside dumpsters and contend with the increased volume of garbage.

Information in this report will also be of value to administrators, engineers, and planners who manage garbage handling and disposal. Those concerned include --

-- fishermen, boat operators, and processors who generate the garbage;

-- city officials who collect and dispose of it and who attempt to comply with complicated and changing environmental regulations; and

-- state officials who regulate garbage and fund construction of garbage handling facilities.

2.0 PURPOSE AND APPROACH

Purposes of this project, as outlined in the Request for Proposals [Ref 1] and further elaborated upon in the Proposal [Ref 2], included evaluation of

impacts to garbage handling and disposal facilities at Unalaska, Kodiak, and Bristol Bay;

possibilities for regional solutions to handle solid waste problems of many communities; and

funding sources that focus on user fees and governmental grant programs.

We also proposed to study various options for waste recycling and disposal in coastal communities, including pros and cons, and capital and operating costs. The impacts of new federal and state laws on these options would be addressed.

We approached the project in several manners and from several different angles.

To evaluate the impacts to the communities, we visited Unalaska/Dutch Harbor, Kodiak, and Naknek, interviewed both harbor masters and local solid waste officials, and inspected disposal sites. This enabled us to estimate current amounts and types of waste materials at these communities.

Solid waste operating,labor, and cost data from other coastal communities were obtained directly from those towns and from state agency records. Details of options for disposal of solid waste by incineration, compacting, recycling, and landfilling were obtained and evaluated.

To predict increased garbage volumes from fishing groups, questionnaires were sent to various industry representatives and the information returned was analyzed and digested. To gain further information from the fishing groups, we successfully urged the Coast Guard to hold MARPOL public hearings in Seattle to allow for Pacific and Alaskan fisheries input to the rule making process. By these methods, we estimated the amounts and types of waste materials that would be brought ashore with implementation of MARPOL Annex V.

3.0 BACKGROUND

Plastics disposal at sea has caught our attention. Almost every national magazine has displayed cover photos and featured articles lamenting our plastic laden beaches. Hideous images of gulls strangled by plastic six-pack yokes and of seals entangled in plastic fishing net haunt the classrooms of our schools. Plastic syringes float in our harbors. Plastic bags seize boat propellers and clog cooling water intakes. Discarded nets drown diving sea birds for years. Our outrage has led to laws controlling waste disposal at sea. Congress has also authorized money to study and mitigate these problems.

The NOAA Marine Entanglement Research Program allocates its funding in three general areas: 1) studies on impacts to marine life, 2) education to prevent disposal of garbage at sea, and 3) mitigation of the impacts. NOAA, the National Oceanic and Atmospheric Administration, has spent almost a million dollars a year along these lines. This project falls into the mitigation area, along with studies of on-board disposal methods, cleanup projects on beaches, research on plastics that degrade upon exposure to sunlight, and research on recycling of plastics.

The NOAA focus on the ports' role in implementing MARPOL began with case studies in Newport, Oregon from January 1987 through March 1988. [Ref 3] Careful records of the type and volume of garbage returned to shore were kept. Successful recycling programs were initiated. Public awareness programs made it all work effectively.

In continuing to evaluate ports' abilities to implement MARPOL, NOAA became concerned about MARPOL impact on remote ports with little solid waste management capacity and high vessel traffic. In 1988, NOAA funded a report "On the Effects of MARPOL Annex V on the Ports of Kodiak and Unalaska." [Ref 4] The present report follows up some of the recommendations of the 1988 study. The 1988 study projected trends in fishing activity and other vessels using these ports and estimated the garbage generation rates by various fishing fleets and by various other types of vessels.