4.6 Public Services and Utilities

4.6.1 Introduction

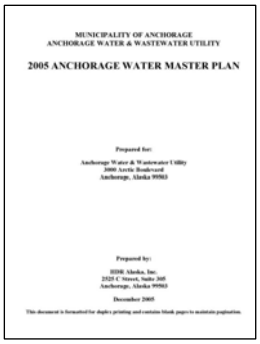
As the population in West Anchorage increases, so will the demands on public utilities such as electricity, solid waste, telecommunications, recycling, water, and wastewater. Specific planning objectives from *Anchorage 2020* and the *WADP* recommend targeted investments in infrastructure to support transit corridors, mixed-use development, and higher housing densities. Concerns regarding the supply and affordability of Southcentral Alaska energy and global climate change are also causing residents to pay more attention to energy conservation measures. The Municipality of Anchorage, the State of Alaska, and the utility companies must target the funds available for infrastructure investments and keep potential implications for operation and maintenance costs in mind.

The MOA must prioritize future infrastructure improvements consistent with *Anchorage 2020* and updated demographic data. For those utilities and public services that the MOA does not directly control, officials must coordinate closely to insure efficient infrastructure access and networks.

4.6.2 Functional Plans and Programs

Functional plans play a key role in the planning fabric of the Municipality. These are typically bowl-wide, single-focus plans that apply public funds to address a specific planning topic (e.g., parks, trails, and streets). They are typically prepared with substantial public outreach and reflect broad community input. Following are descriptions of the key functional plans that relate to park, recreation, and open space issues in West Anchorage.

2005 Anchorage Water Master Plan


MUNICIPALITY OF ANCHORAGE
ANCHORAGE WATER & WASTEWATER UTILITY

2005 ANCHORAGE WATER MASTER PLAN

Prepared for:
Anchorage Water & Wastewater Utility
3000 Arctic Boulevard
Anchorage, Alaska 99503

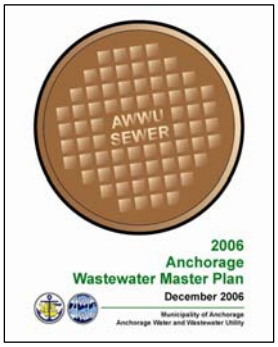
Prepared by:
HDR Alaska, Inc.
2525 C Street, Suite 305
Anchorage, Alaska 99503

December 2005

This document is formatted for duplex printing and contains blank pages to maintain pagination.

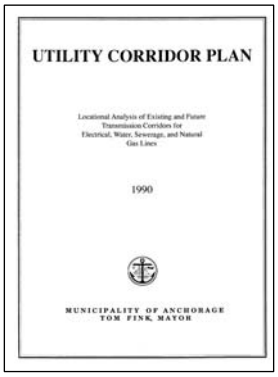
The 2005 *Anchorage Water Master Plan* (WMP) provides a 25-year guide for future expansion of and modifications to the Anchorage Water and Wastewater Utility (AWWU) water system. It describes the condition of the AWWU water system, projects future water needs, analyzes system deficiencies, recommends system improvements, and provides a schedule for implementation through the MOA Capital Improvements Program (CIP). The CIP is prepared over a six-year horizon to accommodate the planning, design, and construction of needed facilities.

2006 Anchorage Wastewater Master Plan



The *2006 Anchorage Wastewater Master Plan* (WWMP) is a 25-year comprehensive plan for AWWU to maintain and expand sewer service for the entire MOA. Using population projections, the LUPM from *Anchorage 2020* (Exhibit 3-1), and customer demand, the WWMP describes the collection network, interceptors, and the wastewater treatment facility (Asplund Plant west of the airport at Point Woronzof) that would accommodate new growth in West Anchorage.

1990 MOA Utility Corridor Plan


UTILITY CORRIDOR PLAN

Locational Analysis of Existing and Future Transmission Corridors for Electrical, Water, Sewerage, and Natural Gas Lines

1990

MUNICIPALITY OF ANCHORAGE
TOM FINK, MAYOR

The 1990 *Utility Corridor Plan: Locational Analysis of Existing and Future Transmission Corridors for Electrical, Water, Sewerage, and Natural Gas Lines* examines the location of existing and planned utility systems, factors affecting the development of these systems, and transmission corridor width requirements (ROWs). These include Municipal Light and Power, Chugach Electric Association, and Anchorage Water and Wastewater Utility. This document is quite dated with reference to utilities that no longer exist, but the transmission lines are still relevant.

Alaska Pollution Discharge Elimination System Permit


United States Environmental Protection Agency
Region 10
1200 Sixth Avenue, Suite 900
Seattle, Washington 98101

Authorization to Discharge Under the
National Pollutant Discharge Elimination System

In compliance with the provisions of the Clean Water Act, 33 U.S.C. §1251 et seq., as amended by the Water Quality Act of 1987, P.L. 100-4, the "Act",

the Municipality of Anchorage and
the Alaska Department of Transportation and Public Facilities
(hereinafter "permittees")

are authorized to discharge from all municipal separate storm sewer system (MS4) outfalls existing as of the effective date of this permit located in the State of Alaska by the United States which include Cook Inlet, Eklutna River, Edmonds Creek, Monk Creek, Mirror Creek, Peters Creek, Five Creek, Eagle River, Meadow Creek, South Fork Eagle River, Ship Creek, Chester Creek, North Fork Chester Creek, Middle Fork Chester Creek, South Fork Chester Creek, Fish Creek, Campbell Creek, North Fork Campbell Creek, South Fork Campbell Creek, Little Campbell Creek, Craig Creek, Furrow Creek, Hood Creek, Little Survival Creek, Rabbit Creek, Little Rabbit Creek, Potter Creek, Bird Creek, Indian Creek, and Glacier Creek, their tributaries, associated lake systems, and wetlands located within the corporate boundary of the Municipality of Anchorage, in accordance with the conditions set forth herein.

This permit shall become effective February 1, 2010.

This permit and the authorization to discharge shall expire at midnight, January 31, 2015.

The permittees shall reapply for permit reissuance on or before August 4, 2014, (180 days before the expiration of this permit, if the permittees intend to continue operations and discharges from the MS4s beyond the term of this permit.

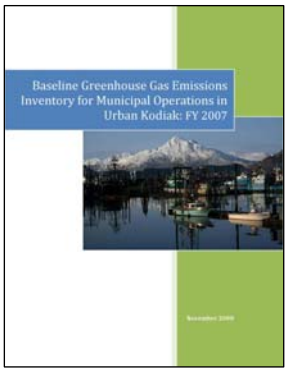
Signed this 2 1/th day of [illegible] 2009.

Michael A. Bussell, Director
Office of Water and Watersheds, Region 10
U.S. Environmental Protection Agency

The Alaska Pollution Discharge Elimination System Permit (APDES) administered by Alaska Department of Environmental Conservation (ADEC) is effective February 1, 2010, and good through January 2015. It allows the MOA to discharge storm waters into U.S. waters (streams and Cook Inlet). The permit contains some of the following program requirements that complement objectives of the *West Anchorage District Plan*:

- Reduce pollutants entering water bodies to the maximum extent practicable: construction site runoff control program, street sweeping, permanent controls at redevelopment or new development sites
- Green infrastructure/low-impact development (LID) strategy and pilot projects – at least one of the five pilot projects will be in West Anchorage because of the targeted watersheds.
- Watershed planning – Complete at least two individual watershed plans that describe opportunities for storm water infiltration, evapotranspiration, or other site-based LID practices. Each plan should discuss the principles of: minimizing impervious surfaces; preserve, protect, create, and restore ecologically sensitive areas, disconnect discharges (e.g., parking lots) to surface waters; avoid modification of streams; preserve vegetation; and preserve un-compacted native soils.
- Inventory and map industrial and commercial facilities that contribute substantial pollutant load.
- Inventory and map all snow disposal sites that discharge directly to receiving waters in order to evaluate whether to regulate private snow disposal sites.
- Sweep all municipal- and state-owned streets three times each year.

Anchorage Baseline Greenhouse Gas Emissions Inventory



As a signatory to the Local Governments for Sustainability strategy, the MOA joined thousands of communities working toward the Kyoto Protocol carbon emission reduction targets. The MOA conducted a *Baseline Greenhouse Gas Emissions Inventory* in 2008, which created metrics to help track energy conservation efforts. The Mayor's Energy Task Force was created, but there is nothing available online about whether they have created policy recommendations or a "*climate action plan*" (described in Objective #3).

4.6.3 Discussion and Recommendations

Utilities Objective #1

Plan for and provide functional public infrastructure that addresses current and future needs.

The functional plans described in Section 4.6.2 use the *Anchorage 2020* land use policy map and current demographic projections, as well as on-the-ground demand from residential and business customers, to expand utility service within their approved service boundaries.

Key water or sewer extension projects described in the *Anchorage Water Master Plan* and the *Anchorage Wastewater Master Plan* included are shown in Table 4.6-1.

Table 4.6-1
West Anchorage – AWWU Key Future Trunk Extensions

Line Extension	Description	Purpose
SEWER EXTENSIONS		
W 80th Trunk Extension Projects 109 and 126	The extension of sewer trunk lines to on West 80th Avenue near Sand Lake Road.	Serve new residential growth areas.
Kincaid Road Sewer Extension Project 129	Construction of pump station, pipe extension, and pipe replacement on and around Kincaid Road.	Follows the water transmission main to serve new residential growth areas.
Sand Lake Area Sewer Extension Project 110	Extension of sewer on West Dimond Boulevard near Sand Lake Road.	Serve new residential growth areas.
A-4-A Minnesota-Raspberry Sewer Project 128	Extension of sewer trunk lines to service the industrial area at the NW corner of Minnesota Drive and Raspberry Road.	Meet industrial growth capacity.
WATER EXTENSIONS		
West Airpark Water Extension Project 35 and 103	Extension of water from Point Woronzof Road and Kincaid Road. Requires extension through TSAIA property.	Loops the Sand Lake water system.

Airport Water and Sewer Plans

The connection of public to private water and wastewater lines within the TSAIA boundaries has been a piecemeal effort. The preparation of an airport water and sewer master plan would identify future line alignments as they relate to AWWU (MOA) master plans.

Utilities Objective #2

Construct utilities for maximum operational efficiency and consolidate facilities where practical.

Telecommunications

The co-location of multiple telecommunication providers' equipment on one telephone pole is encouraged by the MOA. Tower construction is regulated by AMC 21.45.265 and tower height is restricted by zoning districts to minimize visual and aircraft obstructions.

Solid Waste

The MOA should continue its efforts towards zero waste goals. At the time of this plan, comingling of trash with recyclables was infeasible because of operation conflicts and market conditions. The *WADP* recommends that Solid Waste Services (SWS) maintain this as a long-term goal.

Utilities Objective #3

Provide sustainable energy options to meet increasing electricity demands.

The *WADP* Land Use Plan promotes an efficient transportation system that aims to reduce energy consumption. Commercial and residential infill promoted by the *WADP* indirectly ties to a long-term decrease in electricity demand. The *WADP* does not preclude future renewable energy projects through zoning or land uses. The Fire Island Wind Project is permitted and has secured a ROW through the Anchorage Wildlife Refuge, but the ROW through state airport land (to eventually connect to the existing grid) is not determined at this time.

The MOA should support incentives for businesses and residences that promote waste reduction, energy conservation, and pollution prevention. Home energy rebates, weatherization incentives, and loan programs are also strategies that could be considered to assist with residents' concerns. The revised Title 21 allows wind power on individual lots. Any new construction identified in the MOA Capital Improvement Program should include energy efficiency requirements.

The MOA should continue its efforts to write the *Anchorage Climate Action Plan* for GHG reduction policies because implementation would result in carbon as well as cost savings. Actions already underway that may contribute to meeting a GHG reduction target include completion of the light emitting diode (LED) street lighting conversion; creation a "regional transit authority," implementation of the bicycle and pedestrian plans; expansion of the SWS curbside recycling program, creation of school recycling programs; and Leadership in Energy and Environmental Design (LEED) standard requirements for new construction.

All of these activities could occur in West Anchorage and are supported by the land uses described in Section 4.1.

Utilities Objective #4

Ensure a safe and reliable public drinking water supply.

On-Site Water and Wastewater

Sand Lake will continue to see some new residential developments served by on-site water and wastewater because there are not significant density increases proposed in the LUPM. Anchorage Municipal Code Chapter 15.65, Title 21, and the LUPM establish minimum lot sizes necessary to efficiently operate on-site wastewater disposal systems (40,000 square feet or larger depending on topography/slope, surface water setbacks, and other constraints) without compromising future adjacent on-site systems.

West Anchorage residents expressed a goal to avoid future on-site water and wastewater issues in West Anchorage. Some sections of West Anchorage have shown moderate nitrate levels in groundwater, but not in violation of EPA standards. Arsenic is naturally occurring in some wells, in some cases in high concentrations, due to arsenic-bearing minerals in Anchorage soils and bedrock. Affordable water treatment filters can be used where arsenic levels are too high (in relation to new, lower arsenic water standards).

Currently, when a single-family house is sold, the owner must demonstrate that the on-site water/wastewater systems are working properly. The MOA ordinance requires that ADEC conducts an inspection for the Certificates of On-Site Systems Approval (COSA). ADEC does not require a COSA for multi-family or industrial/commercial facilities with on-site water and wastewater. If authority for all on-site drinking water and wastewater systems were transferred to the MOA, there would be a more comprehensive and timely inspection regime to monitor and protect groundwater quality.