Submitted by: Chair of the Assembly at the Request of the Mayor
Prepared by: Planning Department
For reading: October 10, 2006

See AO 2006-64(S-1)

ANCHORAGE, ALASKA
AO No. 2006-64(S)

AN ORDINANCE AMENDING ANCHORAGE MUNICIPAL CODE CHAPTERS 21.35, 21.40, 21.45, AND 21.50 TO ESTABLISH DESIGN, LOCATION, AND CONDITIONAL USE STANDARDS, AND SET THE MAXIMUM HEIGHT FOR HIGH VOLTAGE TRANSMISSION TOWERS.

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THE ANCHORAGE ASSEMBLY ORDAINS:

**Section 1.** Anchorage Municipal Code section 21.35.020 is hereby amended to read as follows (*the remainder of the section is not affected and therefore not set out)*:

**21.35.020 Definitions and rules of construction.**

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B. The following words, terms and phrases, when used in this title, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

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*Towers, high voltage transmission,* means structures used to support transmission conductors transmitting electric power over relatively long distances, usually from the central generating station to main substations. The towers are also used for electric power transmission from one substation to another for load sharing or system reliability. High voltage transmission conductors are designed to be capable of transmitting from 115 kilovolts and above.

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(GAAB 21.05.020; AO No. 77-355; AO No. 78-16; AO No. 78-28; AO No. 78-171; AO No. 78-231; AO No. 79-214; AO No. 80-42; AO No. 81-67(S); AO No. 81-97; AO No. 81-180; AO No. 82-54; AO No. 82-167; AO No. 83-91(S); AO No. 84-14; AO No. 84-52; AO No. 85-58; AO No. 85-159; AO No. 85-91, 10-1-85; AO No. 85-216; AO No. 86-19; AO No. 86-78; AO No. 86-90; AO No. 86-171; AO No. 88-172; AO No. 88-171(S-1), 12-31-88; AO No. 89-35, 4-7-89; AO No. 88-147(S-2); AO No. 90-50(S); AO No. 91-35; AO No. 90-152(S); AO No. 91-90(S); AO No. 91-184; AO No. 92-7(S-2); AO No. 92-26; AO No. 92-93; AO No. 92-128(S); AO No. 92-129(S); AO No. 93-58; AO No. 93-148, § 1, 11-16-93; AO No. 94-62, § 2, 4-12-94; AO No. 95-68(S-1), §§ 2, 3, 8-8-95; AO No. 95-173, § 1, 11-14-95; AO No. 96-41, § 1, 3-5-96; AO No. 96-131(S), § 1, 10-22-96; AO No. 98-106, § 1, 7-21-98; AO No. 98-160, § 3, 12-8-98; AO No. 99-62, § 2, 5-11-99; AO

No. 2000-119(S), § 8, 2-20-01; AO No. 2001-79(S), § 1, 5-8-01; AO No. 2001-80, § 1, 5-8-01; AO No. 2002-101(S), § 2, 4-9-02; AO No. 2002-109, § 2, 9-10-02; AO No. 2002-117, § 4, 1-28-03; AO No. 2003-62(S-1), § 3, 10-1-03; AO No. 2003-97, § 1, 9-30-03; AO No. 2003-132, § 1, 10-7-03; AO No. 2003-124(S), § 1, 1-20-04; AO. No. 2004-108(S), § 2, 10-26-04; AO No. 2005-9, § 1, 3-1-05)

*Editor's note*: The definition of fallout shelters contained in this section was formerly codified in the 1977 Code as the first sentence of subsection 21.45.060A.

*Cross references*: Definitions and rules of construction generally, § 1.05.020.

**Section 2.** Anchorage Municipal Code chapter 21.40 is amended in sections .020B., .030B., .040B., .045B., .050B., .060B., .070B., .080B., .090B., .100B., .110B., .115B., .117B., .120B., .130B., .140B.6., .145B., .150B.4., .160B., .170B., .180B., .190B., 200B., .210B., .220B., .230B., .240B., .260B., .270B., and .280B. to add the following under permitted principal uses and structures (*the remainder of the section is not affected and therefore not set out)*:

**Chapter 21.40 ZONING DISTRICTS***

***

*. Tower, high voltage transmission, maximum average tower height of seventy (70) feet above ground level. The average height shall be determined by adding the heights from ground level of all towers in a project and dividing by the total number of structures. The result shall be the "average tower height."

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**Section 3.** Anchorage Municipal Code chapter 21.40 is amended in sections .020D., .030D., .040D., .045D., .050D., .060D., .070D., .080D., .090D., .100D., .110D., .115D., .117D., .120D., .130D., .140D., .145D., .150D., .160D., .170D., .180D., .190D., .200D., .210D., .220D., .230D., .240D., .260D., .270D.2., and .280D., to add the following under conditional use (*the remainder of the section is not affected and therefore not set out)*:

**Chapter 21.40 ZONING DISTRICTS***

***

*. Tower, high voltage transmission, exceeding maximum average tower height of seventy (70) feet. Towers exceeding the maximum average of seventy (70) feet in height, existing prior to <**insert date of adoption of this ordinance**> may be replaced with a like tower, or a shorter tower, without the requirement for a conditional use.

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**Section 4.** Anchorage Municipal Code chapter 21.45 is amended to add a new section to read as follows:

**21.45.### Towers, high voltage transmission.**

A. *Purpose.* Electric energy is required to power electrical machines, devices and lighting in our society. Electrical energy most often must be transported in high voltages from remote generation plant locations to urban centers. The structures required to support high voltage electrical energy conductors are larger than usual distribution poles. The standards set forth in this section are intended to minimize the impact of transmission towers on neighborhoods and commercial developments to the greatest extent reasonable. It is understood utilities must construct facilities in compliance with the National Electrical Safety Code.

B. *Location.* The location of new transmission towers shall be in compliance with, and within existing or proposed transmission alignments or corridors identified in the latest version of the utility corridor plan. Deviations from the utility corridor plan shall require amendment to the plan before installation of any tower.

C. *Easement or right-of-way clearing.* Clearing and/or grubbing of vegetation within the easement or right-of-way shall be limited to minimum amount to allow for the safe installation of each transmission tower. Those easement or right-of-way areas to be cleared shall be replanted as set forth in paragraph D. below.

D. *Landscaping.* All areas cleared in conjunction with the installation of a tower shall be replanted with vegetation as follows:

1. Cleared areas originally planted by a public or private agency as part of an approved building permit, land use permit, or public facility project landscaping plan, shall be replaced in accordance with the plan, except as modified by the tower location(s). Approval of the revised landscape plan shall be by the Planning Department, except in cases where the Planning & Zoning Commission is the approving authority.

2. Cleared areas not previously landscaped shall be landscaped in accordance with the buffer landscaping standards. The Planning Department may approve alternative landscaping to meet the intent and intensity of buffer landscaping, except in cases where the Planning & Zoning Commission is the approving authority.

E. *Exemptions from landscaping.* Exemptions for the landscaping requirements may be granted by the Planning Director, if the utility shows there is a safety concern, the property owner does not grant authorization in which landscaping can be placed by the utility, or for other engineering or related issues.

F. *Structure design.* The color of the transmission tower structures shall be as neutral to the immediate surroundings as possible. The Planning Director shall approve the utility's proposed structure color, except in cases where the Planning & Zoning Commission is the approving authority.

**Section 5.** Anchorage Municipal Code chapter 21.50 is amended to add a new section to read as follows:

**21.50.### Conditional use standards -Towers, high voltage transmission.**

A. In addition to the standards in section 21.45.300, the approval of a conditional use application for transmission tower(s) exceeding the permitted height limit shall:

1. Determine proposed height of the tower(s) is the minimum required to meet safety requirements or terrain. It is understood, however, utilities must construct facilities in compliance with the National Electric Safety Code;

2. Identify the magnitude of the impact on any scenic view sheds and, if required, apply mitigation measures to reduce or eliminate negative impacts if necessary; and

3. Identify the magnitude of the aesthetic impact and relation of scale of the tower to abutting development and, if necessary, apply mitigation measures to reduce or eliminate negative impacts.

**Section 6.** For amendments approved in Sections 2 and 3 above, the Code Revisor is instructed to place the new section/subsection at the end of the list in the specified section/subsection, and to number the new section accordingly. For Section 3, the Code Revisor is instructed to insert the date of adoption of this ordinance.

**Section 7.** Projects with building or land use permits issued at the time of adoption of this ordinance shall not be subject to this ordinance.

**Section 8.** This ordinance shall be effective immediately upon its passage and approval by the Assembly.

PASSED AND APPROVED by the Anchorage Assembly this _____ day of _____, 2006.

_____
Chair of the Assembly

ATTEST:

_____
Municipal Clerk

# MUNICIPALITY OF ANCHORAGE
## Summary of Economic Effects -- General Government

AO Number: 2006-64(S) Title: Planning and Zoning Commission, Case 2006-074; recommendation of approval for an ordinance amending Anchorage Municipal Code Chapters 21.35, 21.40, 21.45, and 21.50 to establish design, location, and conditional use standards, and set the maximum height for high-voltage transmission towers.

Sponsor: Mayor
Preparing Agency: Planning
Others Impacted:

| *CHANGES IN EXPENDITURES AND REVENUES:* | (In Thousands of Dollars) | | | |
|---|---|---|---|---|
| | **FY06** | **FY07** | **FY08** | **FY09** |
| **Operating Expenditures** | | | | |
| 1000 Personal Services | | | | |
| 2000 Non-Labor | | | | |
| 3900 Contributions | | | | |
| 4000 Debt Service | | | | |
| **TOTAL DIRECT COSTS:** | $ - | $ - | $ - | $ - |
| Add: 6000 Charges from Others | | | | |
| Less: 7000 Charges to Others | | | | |
| **FUNCTION COST:** | $ - | $ - | $ - | $ - |
| **REVENUES:** | | | | |
| **CAPITAL:** | | | | |
| **POSITIONS: FT/PT and Temp** | | | | |

**PUBLIC SECTOR ECONOMIC EFFECTS:**

Approval of this ordinance should have no significant impact on the public sector.

**PRIVATE SECTOR ECONOMIC EFFECTS:**

Approval of the ordinance should have no significant economic impact on the private sector.

Prepared by: Jerry T. Weaver, Jr. Telephone: 343-7939

# MUNICIPALITY OF ANCHORAGE
# ASSEMBLY MEMORANDUM

No. AM 769-2006

Meeting Date: October 10, 2006

From: **MAYOR**

Subject: **AO 2006-64 (S): PLANNING AND ZONING COMMISSION RECOMMENDATION OF APPROVAL FOR AN ORDINANCE AMENDING ANCHORAGE MUNICIPAL CODE CHAPTERS 21.35, 21.40, 21.45, AND 21.50 TO ESTABLISH DESIGN, LOCATION, AND CONDITIONAL USE STANDARDS, AND SET THE MAXIMUM HEIGHT FOR HIGH- VOLTAGE TRANSMISSION TOWERS.**

The Planning Department prepared amendments to the Anchorage Municipal Code Title 21 *Land Use Planning* regarding definitions, standards for high voltage transmission towers, and conditional use requirements which were introduced at the April 18, 2006 Assembly meeting and sent to the Planning and Zoning Commission for review.

Currently, the land use codes do not address design, location, or height standards for transmission towers. In spring of this year, Chugach Electric Association (CEA) placed tall, high-voltage transmission towers along the East Northern Lights Boulevard right-of-way (ROW) to upgrade and replace smaller towers that had previously existed. The new towers were well over 70 feet in height. The new towers caused serious concern by the public and the Administration regarding the significant visual impacts caused to adjacent residents and travelers along East Northern Lights Boulevard.

After meeting with the affected utilities, some amendments were made to the original draft ordinance. One of these changes was to increase the permitted height to 70 feet to accommodate the safety requirements for the utilities. Other changes were made, including changing the wording on the capacity in the definition for these towers, ensuring there is a method to accommodate the utility when a tower is located on private property, and an easement is not granted for landscape maintenance capability, and wording changes to ensure the safety needs of the utility lines can be met.

This substitute ordinance sets supplementary district standards for clearing and landscaping, and requires new towers to only locate in corridors designated within the latest version of the utility corridor plan, as adopted by the Municipal Assembly.

If a utility wishes to install new transmission towers over 70 feet in height, they will be required to obtain conditional use approval from the Planning and Zoning Commission. In addition to the supplementary district standards, the applicant will ensure there are special safety/terrain requirements necessitating the height, and identify and mitigate aesthetic impacts. The impacts are not only of viewsheds, but of the color of the towers as well. The recently installed East Northern Lights Boulevard towers are rust in color, which makes them more obvious. The poles will be required, to the best extent possible, to blend in with their specific surroundings.

Requirements on design have also been included in this amended ordinance. The benefit of this ordinance is to allow for a public process which includes the Municipality and the Planning and Zoning Commission. This process can contribute to an informed decision on the most appropriate design for a needed transmission line that will minimize the impact of the facility to the extent most reasonable.

**THE ADMINISTRATION CONCURS WITH THE PLANNING AND ZONING COMMISSION RECOMMENDATION FOR AN ORDINANCE AMENDING ANCHORAGE MUNICIPAL CODE CHAPTERS 21.35, 21.40, 21.45, AND 21.50 TO ESTABLISH DESIGN, LOCATION, AND CONDITIONAL USE STANDARDS, AND SET THE MAXIMUM HEIGHT FOR HIGH- VOLTAGE TRANSMISSION TOWERS.**

| | |
|---|---|
| Prepared by: | Jerry T. Weaver Jr., Zoning Administrator, Planning Department |
| Concur: | Tom Nelson, Director, Planning Department |
| Concur: | Mary Jane Michael, Executive Director, Office of Economic and Community Development |
| Concur: | Denis C. LeBlanc, Municipal Manager |
| Respectfully submitted, | Mark Begich, Mayor |

DRAFT

**MUNICIPALITY OF ANCHORAGE**
**PLANNING AND ZONING COMMISSION RESOLUTION NO. 2006-051**

A RESOLUTION APPROVING AN AMENDMENT TO THE ANCHORAGE MUNICIPAL CODE CHAPTERS 21.35, 21.40, 21.45, AND 21.50 TO ESTABLISH DESIGN, LOCATION, AND CONDITIONAL USE STANDARDS, AND SET THE MAXIMUM HEIGHT FOR HIGH VOLTAGE TRANSMISSION TOWERS.

(Case 2006-074)

WHEREAS, a request has been received from the Mayor; and

WHEREAS, this ordinance amendment is deemed necessary to address the height and appearance of high voltage transmission towers as a result of a recent installation that caused concern among residents; and

WHEREAS, meetings were held with affected utilities to draft an ordinance amendment agreeable to all parties to the extent possible; and

WHEREAS, a public hearing was held on September 11, 2006.

NOW, THEREFORE, BE IT RESOLVED by the Municipal Planning and Zoning Commission that:

A. The Commission makes the following findings of fact:

1. Land use codes do not currently address design, location or height standards for high voltage transmission towers.

2. This ordinance amendment addresses concern over the placement of tall high voltage transmission towers along the East Northern Lights Boulevard right of way (ROW) to upgrade and replace smaller towers that had previously existed by Chugach Electric Association (CEA). The new towers were well over 70 feet in height. This caused serious concern by the public and the Administration regarding the significant visual impacts to adjacent residents and travelers along East Northern Lights Boulevard.

3. Meetings with affected utilities resulted in amendments to the original draft ordinance. One of these changes was to increase the permitted height to 70 feet to accommodate the safety requirements for the utilities. Other changes that were made included changing the wording on the capacity in the definition for these towers, ensuring that there is a method to accommodate the utility when a tower is located on private property and an easement is not granted for landscape maintenance capability, and wording changes to ensure that the safety needs of the utility lines can be met.

4. This ordinance sets supplementary district standards for clearing and landscaping, and requires new towers to only locate in corridors designated within the latest version of the utility corridor plan as adopted by the Municipal Assembly.

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5. Should a utility wish to install new transmission towers over 70 feet in height, they will be required to obtain conditional use approval from the Planning and Zoning Commission. In addition to the supplementary district standards, the applicant will have to ensure that there are special safety/terrain requirements necessitating the height, and identify and mitigate aesthetic impacts. These impacts concern not only viewsheds, but the color of the towers, as well. The poles will be required to blend in with their specific surroundings. Design requirements have also been included in this amended ordinance.

6. The Department has researched other communities' land use regulations regarding transmission towers. In this review, it was found that there are not many communities that regulate the towers through land use codes, but rather through state public utility regulatory commissions. This is currently how they are regulated in Anchorage. However, some communities did have local land use controls. These are relatively similar to those proposed in this draft ordinance, with the exception of varying height regulations.

7. The Regulatory Commission of Alaska is tasked with regulating many different types of public utilities in Alaska. This authority is not only over rates, but over line locations, local regulations, permits, and ordinances impacting facility installation. It is important to note that AS 42.05.641. *Regulation by municipality*, states that:

> *The commission's jurisdiction and authority extend to public utilities operating within a municipality, whether home rule or otherwise. In the event of a conflict between a certificate, order, decision, or regulation of the commission and a charter, permit, franchise, ordinance, rule, or regulation of such a local governmental entity, the certificate, order, decision, or regulation of the commission shall prevail.*

8. The benefit of this ordinance is to allow for a public process which includes the Municipality and the Planning and Zoning Commission. This process can contribute to an informed decision on the most appropriate design for a needed transmission line, that will minimize the impact of the facility to the extent most reasonable.

9. There was discussion pertaining to the threshold of kilovolts (115 KV vs 138 KV) carried by the transmission lines. The Commission acknowledges the Department's understanding that the public is concerned with the height and design of the towers rather than the kilovolts carried by the transmission lines. The Commission finds that all transmission towers over 70 feet in height shall undergo a conditional use process regardless of the type of lines being carried.

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10. The Commission notes that the ordinance is in response to vocal citizen discord with recent transmission line construction. It is in keeping with the Comprehensive Plan intent to respect the scenic values of the city, particularly views, natural settings, and neighborhoods. It also acknowledges the need for this vital infrastructure. The ordinance affords the public, the Municipality, and the Planning and Zoning Commission an opportunity to have input in minimizing the impact of these towers.

11. The Commission finds that the ordinance applies to all high voltage transmission towers.

B. The Commission recommends to the Anchorage Assembly approval of the draft ordinance prepared by Planning Department staff, with the following amendments:

1. The Commission notes that Section 5 had proposed alternative language from the utilities that would reduce the aesthetic mitigation required. The Commission concurred with the Department that the language in this section should remain as originally proposed.

2. Technical information such as electrical design and engineering would be supplied by the applicant and the Commission would decide whether or not to accept it.

PASSED AND APPROVED by the Municipal Planning and Zoning Commission on the 11th day of September 2006.

ADOPTED by the Anchorage Municipal Planning and Zoning Commission this _____ day of _____ 2006. If the secretary received a written request and intent to appeal, this written decision/resolution of the Planning and Zoning Commission is final and any party may appeal it within twenty (20) days to the Board of Adjustment pursuant to Anchorage Municipal Code 21.30.030 and Anchorage Municipal Code of Regulations 21.10.304. If the secretary did not receive a written request and intent to appeal within seven (7) calendar days of the date the decision was made on the record, September 11, 2006, then this written decision is final and not appealable to any other administrative body. Final administrative decisions with no further administrative remedy may be appealed to the Superior Court within thirty (30) days.

Tom Nelson
Secretary

Toni Jones
Vice Chair

Attachment A: Amended Draft Ordinance

AYE: Cotten, Pease, Gumennik, Jones, Isham, Wang
NAY: None

DRAFT

PASSED

**5. 2006-074** Municipality of Anchorage. An Ordinance amending Anchorage Municipal Code Chapters 21.35, 21.40, 21.45, and 21.50 to establish design, location, and conditional use to set the maximum height for High Voltage Transmission Towers.

Commissioner Isham chaired this case. Vice Chair Jones abstained due to a conflict of interest.

Staff member ANGELA CHAMBERS noted that this case was postponed in the past in order for the Municipality to meet with affected utility companies and work on technical issues. Land use codes do not currently address design, location, or height standards for transmission towers. In the spring of this year several replaced smaller towers on East Northern Lights Boulevard were replaced, which caused concern by the public and Administration with respect to visual impacts. The original draft of the ordinance provided a definition for towers and restricts the height of towers to 50 feet in all zoning districts except the PC district, which allows the property owner to set their own requirements. At the meeting with affected utilities several amendments were made to the original ordinance. One change is to increase the permitted height to 70 feet in order to accommodate safety requirements. Other changes included revised wording regarding capacity and the definition of towers and a method to accommodate the utility on private property where an easement is not granted for landscaping. If a utility does wish to install new towers over 70 feet in height in terms of the segment of that project, they will have to apply for a conditional use approval from the Planning and Zoning Commission. There are occasions, such as road crossings, where the height of certain poles will have to exceed 70 feet. For towers over 70 feet, the applicant must ensure that there are special terrain requirements or requirements necessitating the height, and they must mitigate aesthetic impacts. Poles will be required to blend in with their surroundings. The benefit of this ordinance

is to allow public process, including the Municipality and the Planning and Zoning Commission. This process can contribute to an informed decision on the most appropriate design for a transmission line that will also minimize the impact of the facility to the most reasonable extent.

MS. CHAMBERS noted that a revised draft ordinance was provided to the Commission this evening reflecting changes made after the most recent meeting with the utility companies. She explained that utility companies indicated there may be a desire to amend the definition for "high voltage transmission towers" to allow a higher amount of kilovolts (KV) to be transmitted. The Department does not support changing this language at this time. Ordinance Section 2 sets out high voltage transmission towers with a maximum average tower height of 70 feet as a by-right use. Section 3 outlines the conditional use. The Department agrees with utility companies on the change to Section 2 because it lends more clarity regarding how the average height will be determined. Section 4 contains a code notation with XXX; the correct section reference will be included in the final version of the ordinance. The supplementary standards contained in Section 4, AMC 21.45.300.A is a purpose statement to clarify the purpose of the towers and the purpose of the standards for transmission towers that are 70 feet or under, which is to minimize impacts on neighborhoods and commercial developments. The Department supports this language. There is a new AMC 21.45.300.D to address landscaping. This section allows the utility to go to the Planning Department for final review and approval of landscaping. This language also allows for an exemption in cases where the Planning and Zoning Commission has the approval authority. There were no changes to AMC 21.45.300.E. AMC 21.45.300.F deals with structure design and prescribes a neutral color. The Department supports this language. The Department does not support the changes to Section 5 that sets standards for conditional uses under AMC 21.50.330.A. Staff does support the language for this section as contained in the ordinance included in the packet on this case. MS. CHAMBERS reviewed the originally proposed five subsections of AMC 21.50.330.A that set out conditional use standards for high voltage transmission towers. The document laid on the table this evening contains three standards that the utility companies support. The utility companies want the onus to be on them to prove

up on these three items, rather than the Commission determining those items. The Department finds that the onus should be on the Commission to ensure that no additional mitigation is needed. MS. CHAMBERS noted that some utility companies would like to change Section 2 to allow the height of towers to be greater than 70 feet.

COMMISSIONER PEASE noted that she did not see a difference between the proposed ordinance in the packet and the one on the table this evening in terms of the voltage level shown in Section 1. MS. CHAMBERS indicated that not all utility companies objected, so the language was not changed in the version placed before the Commission this evening.

COMMISSIONER ISHAM asked if the document provided this evening is proposed by the utility companies. MS. CHAMBERS indicated this is the case.

The public hearing was opened.

PHIL STEYER, Director of Government Relations and Corporate Communications for Chugach Electric Association (CEA), voiced appreciation for the work of Staff on this ordinance. He stated CEA does things in response to customer needs; lines are built to service the needs of customers. When transmissions are built overhead, the height above the ground is driven by the height the wire must be, which is a safety requirement. Wire is suspended from poles and the number of poles and their height can vary. If there is longer distance between poles, the height of those poles must be increased to allow for the wire sagging. Shorter poles can be used, but more are required in order to keep the wire suspended the same height above the ground. He stated that the governance of CEA is concerned with the impacts that requirements have on rates. For code sections such as the one respecting landscaping, which has not been previously required, CEA enters with caution because the impact on rates is unknown. He noted regarding Section 5 that the concern of CEA is primarily with AMC 21.50.330.A.1, which he believed means it is the Commission's job to determine if the proposed heights meet minimum electrical requirements and were in compliance with the National Electrical Safety Code. CEA has proposed to do electrical design and bring that information to the Commission. He understood the perspective of the Department and, so long as the ordinance does not propose that electrical engineering would be done by the Commission, the language is acceptable.

He suggested that AMC 21.50.330.A.1 be amended to delete "the minimum required" and insert "appropriate."

KIM FLOYD, Manager of Government and Corporate Communications for Matanuska Electric Association (MEA), complimented Ms. Chambers and Mr. Nelson for the professional and collaborative environment experienced during development of this ordinance. She stated that MEA believes this ordinance should apply to high voltage transmission lines that exceed 138 KV. In most areas throughout the United States, 115 KV and 138 KV lines are considered sub transmission rather than high voltage transmission. She believed the intent of the ordinance is to address transmission voltages that require larger structures, such as 238 KV. It appears that most new transmission lines in Anchorage are designed to support high voltage transmission well beyond 138 KV. Because such lines are too powerful to feed directly into substations, the 115 KV and 138 KV lines that exist on shorter poles will be used to step down power from high voltage lines and will be considered sub transmission. MEA believes the ordinance would inadvertently trigger an otherwise unnecessary permitting process for sub transmission lines for smaller, non-controversial projects. She believed the real goal of the ordinance is to permit and monitor high voltage transmission towers and structures. She noted that as a member-owned cooperative, increases in costs might mean an increase in rates to MEA ratepayers.

CHRIS PETERSON, an engineer with Municipal Light & Power (ML&P), stated that the items of concern to his boss were addressed primarily in the draft ordinance distributed this evening. He stated that ML&P is always concerned with the cost to the ratepayer and this ordinance will increase those costs.

COMMISSIONER PEASE asked if there is a map or some other visual aid to help the Commission visualize which lines exceed 138 KV and which are lower. MS. FLOYD stated she did not have that information with her, but asked Ed Jenk with CEA to respond. ED JENK, Director of Engineering with CEA, stated there are facility maps that show the geographic location of transmission lines by voltage, which can be made available.

LINDA KOVAK with the Chugiak Community Council stated she met with ML&P on the upgrade that went through Chugiak and Birchwood and the community was shocked with the amount of grubbing that occurred and with the appearance of the

towers. She stated the towers are ugly in an urban setting and in a rural setting. The Council supports the ordinance to improve the design of the towers. On a persona note, she noticed there is a desire to increase the amount of kilovolts, but from the presentations of ML&P at her council meetings, she thought perhaps noise abatement should be considered because there is a potential for impact.

COMMISSIONER PEASE asked whether the issue of noise was discussed with the utility companies and could Ms. Chambers speak to any knowledge she has of the threshold of 115 KV versus 138 KV and the number of lines affected. MS. CHAMBERS indicated in response to the first issue that the only noise she hears in the area of her home at Tudor and Bragaw is from the substation itself, not from the various transmission lines. MR. NELSON stated regarding the second issue of kilovolt threshold that 115 KV is recommended because there are times that towers have to be higher not because of the line being hung on it, but because of the lines hung beneath it; the separation distances require a higher pole. The public's concern is with the height and design of the tower itself. Most people would be unable to tell the difference between a 115 KV, a 138 KV line, or a 238 KV. The Department felt it was appropriate that the ordinance require that all transmission towers over 70 feet in height undergo a conditional use process, regardless of the type of lines being carried. COMMISSIONER PEASE asked if the 115 KV threshold captures most lines. MR. NELSON replied that 115 KV captures the transmission lines; 69 KV are sub-transmission lines, which the code requires be placed underground. This ordinance is intended to capture transmission lines with tower heights over 70 feet.

The public hearing was closed.

COMMISSIONER PEASE moved for approval of the ordinance as provided to the Commission on pages 4 through 11 of the packet dated September 11, 2006. COMMISSIONER COTTEN seconded.

COMMISSIONER PEASE supported her motion, noting that this ordinance is in response to vocal citizen discord with recent transmission line construction. It is in keeping with the Comprehensive Plan intent to respect the scenic values of the city, particularly views, natural settings, and neighborhoods. It also acknowledges the need for this vital infrastructure. It affords the public an opportunity to have input into the construction of these towers. The intent of the Department is to apply this ordinance to all

transmission lines, with which she concurred. She noted that Staff had concern with Section 5. The proposed alternative language from utilities would soften the requirements on aesthetic mitigation to suggest mitigation measures rather than apply them. She further understood the language to read that the technical information would come from applicants and the Commission would decide whether or not to accept it.

MS. CHAMBERS noted that the only disagreement Staff had with the revised ordinance laid on the table this evening was with respect to Section 5. COMMISSIONER PEASE explained she had understood that Staff had three objections to the version laid on the table this evening. MS. CHAMBERS clarified that there was only one disagreement, that being the proposed changes to Section 5. COMMISSIONER PEASE clarified that she had intended her motion to support the Staff recommendation, which would be the revised version. She withdrew her motion.

COMMISSIONER PEASE moved to adopt the ordinance provided by Staff this evening, with the exception of Section 5, which will be the original language proposed by Staff in the packet dated September 11, 2006. COMMISSIONER COTTEN seconded.

COMMISSIONER ISHAM supported the motion, finding that Staff had worked with the utility companies to develop an ordinance with which there is agreement. He agreed with the Department that Section 5 should be worded as originally proposed.

AYE: Cotten, Pease, Gumennik, Isham, Wang
NAY: None
ABSTAIN: Jones

PASSED

**6. 2006-123** Municipality of Anchorage. An Ordinance of the Anchorage Municipal Assembly amending Anchorage Municipal Code Section 21.15.012.B, Administrative Variance for minor dimensional errors; regarding maximum lot coverage of all buildings in the R-2A, R-2D and R-2M zoning districts.

VICE CHAIR JONES resumed the Chair.

G.5.

**MUNICIPALITY OF ANCHORAGE**
**PLANNING DEPARTMENT**
**MEMORANDUM**

**DATE:** September 11, Postponed From June 5 and July 10, 2006

**TO:** Planning and Zoning Commission

**THRU:** Tom Nelson, Director, Planning Department

**THRU:** Jerry T. Weaver, Jr., Division Administrator

**FROM:** Angela C. Chambers, AICP, Senior Planner

**SUBJECT:** 2006-074 An Ordinance Amending AMC Title 21 Regarding High voltage Transmission Tower Regulations

**PROPOSED REQUEST:**

The Municipality has prepared an amendment to the Anchorage Municipal Code Title 21 *Land Use Planning* regarding definitions and standards for high voltage transmission towers.

**BACKGROUND AND DISCUSSION**

Currently the land use codes do not address design, location or height standards for these transmission towers. In spring of this year, Chugach Electric Association (CEA) placed tall high voltage transmission towers along the East Northern Lights Boulevard right of way (ROW) to upgrade and replace smaller towers that had previously existed. The new towers were well over 70 feet in height. This caused serious concern by the public and the Administration regarding the significant visual impacts caused to adjacent residents and travelers along East Northern Lights Boulevard.

Originally, this ordinance provided a definition for these towers and restricts the height of the towers to 50 feet in height in all zoning districts except for the Planned Community (PC) district, which allows the petitioner to set their own zoning requirements.

After meeting with affected utilities, some amendments were made to the original draft ordinance. One of these changes was to increase the permitted height to 70 feet to accommodate the safety requirements for the utilities. Other changes that were made included changing the wording on the capacity in the definition for these towers, ensuring that there is a method to

accommodate the utility when a tower is located on private property and an easement is not granted for landscape maintenance capability, and wording changes to ensure that the safety needs of the utility lines can be met.

This draft ordinance sets supplementary district standards for clearing and landscaping, and requires new towers to only locate in corridors designated within the latest version of the utility corridor plan, as adopted by the Municipal Assembly.

If a utility wishes to install new transmission towers over 70 feet in height, they will be required to obtain conditional use approval from the Planning and Zoning Commission. In addition to the supplementary district standards, the applicant will have to ensure that there are special safety/terrain requirements necessitating the height, and identify and mitigate aesthetic impacts. The impacts are not only of viewsheds, but of the color of the towers, as well. The recently installed East Northern Lights Boulevard towers were rust in color, which makes them more obvious. The poles will be required to blend in with their specific surroundings. Requirements on design have also been included in this amended ordinance.

The Department has researched other communities' land use regulations regarding transmission towers. In this review, it was found that there are not many communities that regulate the towers through land use codes, but rather through state public utility regulatory commissions. This is currently how they are regulated in Anchorage. However, some communities did have local land use controls. These are relatively similar to those proposed in this draft ordinance, with the exception of varying height regulations. These regulations are attached to this report.

The Regulatory Commission of Alaska is tasked with regulating many different types of public utilities in Alaska. This authority is not only over rates, but over line locations, local regulations, permits, and ordinances impacting facility installation. It is important to note that AS 42.05.641. *Regulation by municipality,* states that:

> The commission's jurisdiction and authority extend to public utilities operating within a municipality, whether home rule or otherwise. In the event of a conflict between a certificate, order, decision, or regulation of the commission and a charter, permit, franchise, ordinance, rule, or regulation of such a local governmental entity, the certificate, order, decision, or regulation of the commission shall prevail.

The benefit of this ordinance is to allow for a public process which includes the Municipality and the Planning and Zoning Commission. This process can contribute to an an informed decision on the most appropriate design for a

needed transmission line, that will minimize the impact of the facility to the extent most reasonable.

**RECOMMENDATION:**

The Department recommends approval of the amended ordinance, dated August 23, 2006, as written.

Submitted by: Chair of the Assembly at the Request of the Mayor
Prepared by: Planning Department
For reading: <Day/Month>, 2006

ANCHORAGE, ALASKA
AO No. 2006-64

AN ORDINANCE AMENDING ANCHORAGE MUNICIPAL CODE CHAPTERS 21.35, 21.40, 21.45, AND 21.50 TO ESTABLISH DESIGN, LOCATION, AND CONDITIONAL USE STANDARDS, AND SET THE MAXIMUM HEIGHT FOR HIGH VOLTAGE TRANSMISSION TOWERS.

THE ANCHORAGE ASSEMBLY ORDAINS:

**Section 1.** Anchorage Municipal Code section 21.35.020 is hereby amended to read as follows (*the remainder of the section is not affected and therefore not set out)*:

**21.35.020 Definitions and rules of construction.**

***

B. The following words, terms and phrases, when used in this title, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

***

*Towers, high voltage transmission,* means structures used to support transmission conductors transmitting electric power over relatively long distances, usually from the central generating station to main substations. The towers are also used for electric power transmission from one substation to another for load sharing or system reliability. High voltage transmission conductors are designed to be capable of transmitting from 115 kilovolts and above.

***

(GAAB 21.05.020; AO No. 77-355; AO No. 78-16; AO No. 78-28; AO No. 78-171; AO No. 78-231; AO No. 79-214; AO No. 80-42; AO No. 81-67(S); AO No. 81-97; AO No. 81-180; AO No. 82-54; AO No. 82-167; AO No. 83-91(S); AO No. 84-14; AO No. 84-52; AO No. 85-58; AO No. 85-159; AO No. 85-91, 10-1-85; AO No. 85-216; AO No. 86-19; AO No. 86-78; AO No. 86-90; AO No. 86-171; AO No. 88-172; AO No. 88-171(S-1), 12-31-88; AO No. 89-35, 4-7-89; AO No. 88-147(S-2); AO No. 90-50(S); AO No. 91-35; AO No. 90-152(S); AO No. 91-90(S); AO No. 91-184; AO No. 92-7(S-2); AO No. 92-26; AO No. 92-93; AO No. 92-128(S); AO No. 92-129(S); AO No. 93-58; AO No. 93-148, § 1, 11-16-93; AO No. 94-62, § 2, 4-12-94; AO No. 95-68(S-1), §§ 2, 3, 8-8-95; AO No. 95-173, § 1, 11-14-95; AO No. 96-41, § 1, 3-5-96; AO No. 96-131(S), § 1, 10-22-96; AO No. 98-106, § 1, 7-21-98; AO No. 98-160, § 3, 12-8-98; AO No. 99-62, § 2, 5-11-99; AO No. 2000-119(S), § 8, 2-20-01; AO No. 2001-79(S), § 1, 5-8-01; AO No. 2001-80, § 1, 5-8-01; AO No. 2002-101(S), § 2, 4-9-02; AO No. 2002-109, § 2, 9-10-02; AO No. 2002-117, § 4, 1-28-03; AO No. 2003-62(S-1), § 3, 10-1-03; AO No. 2003-97, § 1, 9-30-03; AO No. 2003-132, § 1, 10-7-03; AO No. 2003-124(S), § 1, 1-20-04; AO. No. 2004-108(S), § 2, 10-26-04; AO No. 2005-9, § 1, 3-1-05)

*Editor's note*: The definition of fallout shelters contained in this section was formerly codified in the 1977 Code as the first sentence of subsection 21.45.060A.

*Cross references*: Definitions and rules of construction generally, § 1.05.020.

**Section 2.** Anchorage Municipal Code chapter 21.40 is amended in sections .020B., .030B., .040B., .045B., .050B., .060B., .070B., .080B., .090B., .100B., .110B., .115B., .117B., .120B., .130B., .140B.6., .145B., .150B.4., .160B., .170B., .180B., .190B., 200B., .210B., .220B., .230B., .240B., .260B., .270B., and .280B. to add the following under permitted principal uses and structures (*the remainder of the section is not affected and therefore not set out)*:

***

*. Tower, high voltage transmission, maximum average tower height of 70 feet.

***

**Section 3.** Anchorage Municipal Code chapter 21.40 is amended in sections .020D., .030D., .040D., .045D., .050D., .060D., .070D., .080D., .090D., .100D., .110D., .115D., .117D., .120D., .130D., .140D., .145D., .150D., .160D., .170D., .180D., .190D., .200D., .210D., .220D., .230D., .240D., .260D., .270D.2., and .280D., to add the following under conditional use (*the remainder of the section is not affected and therefore not set out)*:

***

*. Tower, high voltage transmission, exceeding maximum average tower height of 70 feet. Towers exceeding the maximum average of 70 feet in height that existed prior to <insert date of adoption of this ordinance> may be replaced with a like tower or a shorter tower without the requirement for a conditional use.

***

**Section 4.** Anchorage Municipal Code chapter 21.45 is amended to add a new section 21.45.300 to read as follows:

**21.45.300 Towers, high voltage transmission.**

A. *Purpose.* Electric energy is required to power electrical machines, devices and lighting in our society. Electrical energy most often must be transported in high voltages from remote generation plant locations to urban centers. The structures required to support high voltage electrical energy conductors are taller and more massive than usual utility poles. These structures may be out of scale with abutting development, especially in the residential areas. Installation of such structures may disrupt the fabric of residential neighborhoods or commercial development by the destruction of natural and planted vegetation or by substantially altering the scenic view shed. The standards set forth in this section are intended to avoid or minimize the identified negative impacts to the greatest extent reasonable. It is understood that utilities must construct facilities in compliance with the National Electric Safety Code.

B. *Location.* The location of new transmission towers shall be in compliance with, and within existing or proposed transmission alignments or corridors identified in the latest

version of the utility corridor plan. Deviations from the utility corridor plan shall require amendment to the plan before installation of any tower.

C. *Easement or right-of-way clearing.* Clearing and/or grubbing of vegetation within the easement or right-of-way shall be limited to minimum amount to allow for the safe installation of each transmission tower. Those easement or right-of-way areas to be cleared shall be replanted as set forth in paragraph D. below.

D. *Landscaping.* All areas cleared in conjunction with the installation of a tower shall be replanted with vegetation as follows:

1. Cleared areas originally planted by a public or private agency as part of an approved building permit, land use permit, or public facility project landscaping plan, shall be replaced in accordance with the plan, except as modified by the tower location(s). Approval of the revised landscape plan shall be by the same decision-maker as the original plan.

2. Cleared areas not previously landscaped shall be landscaped in accordance with the buffer landscaping standards. The Urban Design Commission may approve alternative landscaping to meet the intent and intensity of buffer landscaping.

E. *Exemptions from landscaping.* Exemptions for the landscaping requirements may be granted by the Planning Director if the utility can show that there is a safety concern, that the property owner will not grant authorization in which landscaping can be placed by the utility, or for other engineering or related issues.

F. *Structure design.* The color of the transmission tower structures shall be as neutral to the immediate surroundings as possible.

**Section 5.** Anchorage Municipal Code chapter 21.50 is amended to add a new section 21.50.330 to read as follows:

**21.50.330 Conditional use standards -Towers, high voltage transmission.**

A. In addition to the standards in section 21.45.300, the approval of a conditional use application for transmission tower(s) exceeding the permitted height limit shall:

1. Determine proposed height of the tower(s) is the minimum required to meet safety requirements or terrain, however it is understood that utilities must construct facilities in compliance with the National Electric Safety Code.;

2. Identify the magnitude of the impact on any scenic view sheds and, if required, apply mitigation measures to reduce or eliminate negative impacts if necessary;

3. Identify the magnitude of the aesthetic impact and relation of scale of the tower to abutting development and, if necessary, apply mitigation measures to reduce or eliminate negative impacts.

**Section 6.** For amendments approved in Sections 2 and 3 above, the Code Revisor is instructed to place the new section/subsection at the end of the list in the specified section/subsection, and to number the new section accordingly.

**Section 7.** Permitted projects that are already under construction shall not be subject to this ordinance.

**Section 8.** This ordinance shall be effective immediately upon its passage and approval by the Assembly.

PASSED AND APPROVED by the Anchorage Assembly this _____ day of _____, 2006.

_____
Chair of the Assembly

ATTEST:

_____
Municipal Clerk

Submitted by: Chair of the Assembly at the Request of the Mayor
Prepared by: Planning Department
For reading:

ANCHORAGE, ALASKA
AO No. 2006-_____

AN ORDINANCE AMENDING ANCHORAGE MUNICIPAL CODE CHAPTERS 21.35, 21.40, 21.45, AND 21.50 TO ESTABLISH DESIGN, LOCATION, AND CONDITIONAL USE STANDARDS, AND SET THE MAXIMUM HEIGHT FOR HIGH VOLTAGE TRANSMISSION TOWERS.

THE ANCHORAGE ASSEMBLY ORDAINS:

**Section 1.** Anchorage Municipal Code section 21.35.020 is hereby amended to read as follows (*the remainder of the section is not affected and therefore not set out*):

**21.35.020 Definitions and rules of construction.**

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B. The following words, terms and phrases, when used in this title, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

***

*Towers, high voltage transmission,* means structures used to support transmission conductors transmitting electric power over relatively long distances, usually from the central generating station to main substations. The towers are also used for electric power transmission from one substation to another for load sharing or system reliability. High voltage transmission conductors are designed to be capable of transmitting between 115 and 765 kilovolts of energy.

***

(GAAB 21.05.020; AO No. 77-355; AO No. 78-16; AO No. 78-28; AO No. 78-171; AO No. 78-231; AO No. 79-214; AO No. 80-42; AO No. 81-67(S); AO No. 81-97; AO No. 81-180; AO No. 82-54; AO No. 82-167; AO No. 83-91(S); AO No. 84-14; AO No. 84-52; AO No. 85-58; AO No. 85-159; AO No. 85-91, 10-1-85; AO No. 85-216; AO No. 86-19; AO No. 86-78; AO No. 86-90; AO No. 86-171; AO No. 88-172; AO No. 88-171(S-1), 12-31-88; AO No. 89-35, 4-7-89; AO No. 88-147(S-2); AO No. 90-50(S); AO No. 91-35; AO No. 90-152(S); AO No. 91-90(S); AO No. 91-184; AO No. 92-7(S-2); AO No. 92-26; AO No. 92-93; AO No. 92-128(S); AO No. 92-129(S); AO No. 93-58; AO No. 93-148, § 1, 11-16-93; AO No. 94-62, § 2, 4-12-94; AO No. 95-68(S-1), §§ 2, 3, 8-8-95; AO No. 95-173, § 1, 11-14-95; AO No. 96-41, § 1, 3-5-96; AO No. 96-131(S), § 1, 10-22-96; AO No. 98-106, § 1, 7-21-98; AO No. 98-160, § 3, 12-8-98; AO No. 99-62, § 2, 5-11-99; AO No. 2000-119(S), § 8, 2-20-01; AO No. 2001-79(S), § 1, 5-8-01; AO No. 2001-80, § 1, 5-8-01; AO No. 2002-101(S), § 2, 4-9-02; AO No. 2002-109, § 2, 9-10-02; AO No. 2002-117, § 4, 1-28-03; AO No. 2003-62(S-1), § 3, 10-1-03; AO No. 2003-97, § 1, 9-30-03; AO No. 2003-132, § 1, 10-7-03; AO No. 2003-124(S), § 1, 1-20-04; AO. No. 2004-108(S), § 2, 10-26-04; AO No. 2005-9, § 1, 3-1-05)

*Editor's note*: The definition of fallout shelters contained in this section was formerly codified in the 1977 Code as the first sentence of subsection 21.45.060A.

*Cross references*: Definitions and rules of construction generally, § 1.05.020.

**Section 2.** Anchorage Municipal Code chapter 21.40 is amended in sections .020B., .030B., .040B., .045B., .050B., .060B., .070B., .080B., .090B., .100B., .110B., .115B., .117B., .120B., .130B., .140B.6., .145B., .150B.4., .160B., .170B., .180B., .190B., 200B., .210B., .220B., .230B., .240B., .260B., .270B., and .280B. to add the following under permitted principal uses and structures (*the remainder of the section is not affected and therefore not set out)*:

***

*. Tower, high voltage transmission, maximum 50 feet in height.

***

**Section 3.** Anchorage Municipal Code chapter 21.40 is amended in sections .020D., .030D., .040D., .045D., .050D., .060D., .070D., .080D., .090D., .100D., .110D., .115D., .117D., .120D., .130D., .140D., .145D., .150D., .160D., .170D., .180D., .190D., .200D., .210D., .220D., .230D., .240D., .260D., .270D.2., and .280D., to add the following under conditional use (*the remainder of the section is not affected and therefore not set out)*:

***

*. Tower, high voltage transmission, exceeding 50 feet in height.

***

**Section 4.** Anchorage Municipal Code chapter 21.45 is amended to add a new section 21.45.300 to read as follows:

**21.45.300 Towers, high voltage transmission.**

A. *Purpose.* Electric energy is required to power electrical machines, devices and lighting in our society. Electrical energy most often must be transported in high voltages from remote generation plant locations to urban centers. The structures required to support high voltage electrical energy conductors are taller and more massive than usual utility poles. These structures may be out of scale with abutting development, especially in the residential areas. Installation of such structures may disrupt the fabric of residential neighborhoods or commercial development by the destruction of natural and planted vegetation or by substantially altering the scenic view shed. The standards set forth in this section are intended to minimize the identified negative impacts to the greatest extent feasible.

B. *Location.* The location of the transmission towers shall be within a corridor identified in the latest version of the utility corridor plan. Deviations from the utility corridor plan shall require amendment to the plan before installation of any tower.

C. *Easement or right-of-way clearing.* Clearing and/or grubbing of vegetation within the easement or right-of-way shall be limited to minimum amount to allow for the safe

installation of each transmission tower. Those easement or right-of-way areas to be cleared shall be replanted as set forth in paragraph D. below.

D. *Landscaping.* All areas cleared in conjunction with the installation of a tower shall be replanted with environmentally appropriate vegetation and as follows:

1. Cleared areas originally planted by a public or private agency as part of an approved building permit, land use permit, or public facility project landscaping plan, shall be replaced in accordance with the plan, except as modified by the tower location(s). Approval of the revised landscape plan shall be by the same decision-maker as the original plan.

2. Cleared areas not previously landscaped shall be landscaped in accordance with the buffer landscaping standards. The Urban Design Commission may approve alternative landscaping to meet the intent and intensity of buffer landscaping.

**Section 5.** Anchorage Municipal Code chapter 21.50 is amended to add a new section 21.50.330 to read as follows:

**21.50.330 Conditional use standards -Towers, high voltage transmission.**

A. In addition to the standards in section 21.45.300, the approval of a conditional use application for transmission tower(s) exceeding the permitted height limit shall:

1. Determine proposed height of the tower(s) is the minimum required to meet safety requirements or terrain;

2. Identify the magnitude of the impact on any scenic view sheds and, if required, apply mitigation measures to reduce or eliminate negative impacts;

3. Identify the magnitude of the aesthetic impact and relation of scale of the tower to abutting and nearby development and, if required, apply mitigation measures to reduce or eliminate negative impacts;

4. Determine if the proposed landscaping plans associated with the tower(s) installation adequately meet the buffer landscaping standard; and

5. The Planning and Zoning Commission may require a financial guarantee to ensure compliance with the approval of the conditional use.

**Section 6.** For amendments approved in Sections 2 and 3 above, the Code Revisor is instructed to place the new section/subsection at the end of the list in the specified section/subsection, and to number the new section accordingly.

**Section 7.** This ordinance shall be effective immediately upon its passage and approval by the Assembly.

PASSED AND APPROVED by the Anchorage Assembly this _____ day of _____, 2006.

_____
Chair of the Assembly

ATTEST:

_____
Municipal Clerk

✣ Sec. 42.05.251. Use of streets in municipalities.

Public utilities have the right to a permit to use public streets, alleys, and other public ways of a municipality upon payment of a reasonable permit fee and on reasonable terms and conditions and with reasonable exceptions the municipality requires. The fee may not exceed the actual cost to the municipality of the utility's use of the public way and of administering the permit program. A dispute as to whether fees, terms, conditions, or exceptions are reasonable shall be decided by the commission. The commission may require a utility to add the amount of any permit fee paid as a pro rata surcharge to its bills for service rendered at locations within the boundaries of any municipality that requires payment of a permit fee.

Sec. 42.05.291. Standards of service and facilities.

(a) Each public utility shall furnish and maintain adequate, efficient, and safe service and facilities. This service shall be reasonably continuous and without unreasonable interruption or delay.

(b) Subject to the provisions of this chapter and the regulations or orders of the commission, a public utility may establish reasonable rules and regulations governing the conditions under which it will render service.

(c) The commission may upon its own motion or upon complaint, after providing reasonable notice and opportunity for hearing, adopt as to service and facilities, including the crossing of facilities, just and reasonable standards, classifications, regulations, and practices to be furnished, imposed, observed, and followed by public utilities; adopt adequate and reasonable standards for the measurement of quantity, quality, pressure, initial voltage, or other conditions pertaining to the supply of the service of public utilities; adopt reasonable regulations for the examination and testing of the service, and for the measurement of it; adopt or approve reasonable regulations, specifications, and standards to secure the accuracy of meters and appliances for measurement; and provide for the examination and testing of appliances used for the measurement of a service of a public utility. In doing so, the commission shall conform to the standard practices of the industry.

(d) If the commission upon its own motion or upon complaint, after providing reasonable notice and opportunity for hearing, finds that the service or facilities of a public utility are unreasonable, unsafe, inadequate, insufficient, or unreasonably discriminatory, or otherwise in violation of this chapter, the commission shall prescribe, by regulation or order, the reasonable, safe, adequate, sufficient service or facilities to be observed, furnished, enforced, or employed, including all repairs, changes, alterations, extensions, substitutions, or improvements in facilities that are reasonably necessary and proper for the safety, accommodation, and convenience of the public.

Sec. 42.05.381. Rates to be just and reasonable.

(a) All rates demanded or received by a public utility, or by any two or more public utilities jointly, for a service furnished or to be furnished shall be just and reasonable; however, a rate may not include an allowance for costs of political contributions, or public relations except for reasonable amounts spent for

(1) energy conservation efforts;

(2) public information designed to promote more efficient use of the utility's facilities or services or to protect the physical plant of the utility;

(3) informing shareholders and members of a cooperative of meetings of the utility and encouraging attendance; or

(4) emergency situations to the extent and under the circumstances authorized by the commission for good cause shown.

(b) In establishing the revenue requirements of a municipally owned and operated utility the municipality is entitled to include a reasonable rate of return.

(c) A utility, whether subject to regulation by the commission or exempt from regulation, may not charge a fee for connection to, disconnection from, or transfer of services in an amount in excess of the actual cost to the utility of performing the service plus a profit at a reasonable percentage of that cost not to exceed the percentage established by the commission by regulation.

(d) A utility shall provide for a reduced fee or surcharge for standby water for fire protection systems approved under AS 18.70.081 which use hydraulic sprinklers.

(e) The commission shall adopt regulations for electric cooperatives and for local exchange telephone utilities setting a range for adjustment of rates by a simplified rate filing procedure. A cooperative or telephone utility may apply for permission to adjust its rates over a period of time under the simplified rate filing procedure regulations. The commission shall grant the application if the cooperative or telephone utility satisfies the requirements of the regulations. The commission may review implementation of the simplified rate filing procedure at reasonable intervals and may revoke permission to use the procedure or require modification of the rates to correct an error.

(f) A local exchange telephone utility may adjust its rates in conformance with changes in jurisdictional cost allocation factors required by either the Federal Communications Commission or the Regulatory Commission of Alaska upon a showing to the Regulatory Commission of Alaska of

(1) the order requiring the change in allocation factors;

(2) the aggregate shift in revenue requirement, segregated by service classes or categories, caused by the change in allocation factors; and



(3) the rate adjustment required to conform to the required shift in local revenue requirement.

allow the public utility to recover these fees through a periodic fuel surcharge rate adjustment.

(h) An electric or telephone utility that has overhead utility distribution lines and that provides services in a municipality with a population of more than 200,000 must spend at least one percent of the utility's annual gross revenue from retail customers in that municipality to place existing overhead utility distribution lines in that municipality underground. In determining the annual gross revenue under this subsection, only revenue derived from the utility's distribution lines in the municipality shall be considered.

(i) An electric or telephone utility that is implementing a program to place existing overhead utility distribution lines located in a municipality underground may amend its rates for services provided to customers in the municipality to enable the utility to recover the full actual cost of placing the lines underground. Notwithstanding AS 42.05.411 - 42.05.431, an amendment to a utility's rates under this subsection is not subject to commission review or approval. A utility amending its rates under this subsection shall notify the commission of the amendment. This subsection applies to an undergrounding program to the extent that the costs do not exceed two percent of the utility's annual gross revenue. If an undergrounding program's costs exceed two percent, the commission may regulate rate increases proposed for the recovery of the amount above two percent.

(j) When an electric utility or a telephone utility is implementing a program to place existing overhead utility distribution lines located in a municipality underground, any other overhead line or cable in the same location shall be placed underground at the same time. Each entity whose lines or cables are placed underground shall pay the cost of placing its own lines or cables underground.

Sec. 42.05.641. Regulation by municipality.

The commission's jurisdiction and authority extend to public utilities operating within a municipality, whether home rule or otherwise. In the event of a conflict between a certificate, order, decision, or regulation of the commission and a charter, permit, franchise, ordinance, rule, or regulation of such a local governmental entity, the certificate, order, decision, or regulation of the commission shall prevail.

# UNDERGROUND UTILITIES IMPLEMENTATION PLAN

Prepared by:

Besse, Epps, and Potts

and

Community Planning Department

December, 1985

Adopted February 18, 1986
(AR 86-14)

# UNDERGROUND UTILITIES IMPLEMENTATION PLAN

Prepared by:

Besse, Epps, and Potts

and

Community Planning Department

December, 1985

Adopted February 18, 1986
(AR 86-14)

# UNDERGROUND UTILITIES IMPLEMENTATION PLAN

## 1.0 PLAN SCOPE AND PURPOSE

This Plan identifies utilities to be placed underground under the provisions of Title 21, Chapter 90, of the Anchorage Municipal Code. Commonly termed the "Underground Utility Ordinance," this section of the Code requires the underground placement of all new distribution utilities as well as the undergrounding of existing overhead distribution facilities in sites known as "target areas". The Underground Utility Ordinance was passed by the Municipal Assembly on May, 1984 (AO No. 84-52). This ordinance, through the two year plan it requires, also coordinates the preparation of capital improvement programs and budgets of the various affected public and private entities.

The Underground Utility Ordinance attempts to fulfill these public policies objectives:

- To improve the aesthetics of the Greater Anchorage Area by undergrounding overhead utilities;
- To maximize the efficiency of utility installations;
- To improve public health and safety by undergrounding of overhead electrical, telephone, CATV and communication distribution conductors.

The Utility Implementation Plan (UIP) is the two-year program of projects for the undergrounding of nonconforming (overhead) utility facilities within target areas. Target areas include specific, concentrated areas of employment; major commercial corridors; parks, public recreation use areas, and sites of scenic interest; and Municipal road improvement projects. Nonconforming utilities placed underground within these areas do so with up to 4 percent of the annual gross revenues derived from service connections. By concentrating the expenditure of funds for the undergrounding of facilities within specific areas, the Utility Implementation Plan (UIP) is intended to improve aesthetics within high use, high visibility areas and corridors.

The UIP fulfills the broader policy objectives stated above as well as ensuring the following objectives:

- To develop maximum coordination between Municipal and State governments, private agencies, and the

public in assuring that future utilities will be placed underground

- To provide a systematic approach to the underground placement of existing overhead utility lines.

- To ensure, through the concentrating of utility undergrounding projects within target areas, that the greatest possible return for revenues expended will be achieved.

The Underground Utility Ordinance also requires that the Community Planning Department prepare the two-year UIP, in cooperation with the affected public and private utilities and other entities. This is the first such plan implementing the requirements of this ordinance.

## 2.0 DEFINITION OF TARGET AREAS

The target areas designated under 21.90.060 of the Underground Utility Ordinance determine the location for the underground placement of nonconforming utility distribution lines. The designation of these locations constitutes the expression of public policy as to which areas of the community should utilize the expenditure of funds for utility undergrounding. The Utility Implementation Plan derives projects from these target areas.

The following are the target areas identified in the Utility Underground Ordinance:

A. Areas

1. Anchorage Central Business District - 3rd Avenue to 10th Avenue and "L" Street to Ingra Street

2. Anchorage Midtown Area - New Seward Highway to Minnesota Drive, Tudor Road to Fireweed Lane

3. Eagle River Business District -

West Boundary - New Glenn Highway
North Boundary - North Eagle River Access Road
East Boundary - Aurora Street extended to Old Glenn Highway
South Boundary - Old Glenn Highway

B. Park, Recreational Use and Scenic Interest Areas

1. Delaney Park

2. McKinley View Park

3. Other Parks, Recreational & Scenic Interest Areas

C. Streets and Highways

1. Municipal and State Street construction projects, except as provided under Section 21.90.010 (E).

D. Major Commercial Corridors

1. Old Seward Highway

2. Ingra-Gambell - 9th Avenue to Fireweed Lane

3. Northern Lights Boulevard - Benson Boulevard Couplet

4. Muldoon-Tudor Road - Glenn Highway to New Seward Highway

5. Boniface Parkway - 30th Avenue to Glenn Highway

6. Spenard Road

E. Areas of Overhead Distribution Duplication Caused by Utility Mergers

## 3.0 PROJECT SELECTION CRITERIA

The Utility Underground Ordinance (21.90.060.B.) identifies criteria to be used by the Community Planning Department, affected agencies and utilities, and Assembly in developing and reviewing target area designations. Criteria for the selection of projects in the two-year Utility Implementation Plan must also be based upon these factors, according to this ordinance. These criteria have been further elaborated in the UIP to include the following:

- Whether areas of concentrated overhead distribution facilities exist which present problems of public safety or outage/system reliability.

- Whether areas of duplicative overhead utilities exist which have resulted from the recent service area boundary settlement between Chugach Electric and Municipal Light and Power.

## 4.0 PROPOSED PROJECTS OF TWO-YEAR UTILITY IMPLEMENTATION PLAN

The projects designated here have been selected from the target areas specified under 21.90.060.B. of the Utility Underground Ordinance, and are based upon the criteria specified in that ordinance and in section 3.0 of this Plan. These projects are to utilize the funds designated under 21.90.070.

Detailed information on the proposed projects is contained in Tables 1 and 2. These tables depict the location, justification, affected utilities, time schedule, and cost estimate of the projects proposed for the years 1985/1986 and 1986/1987 respectively. Figures 2 and 3 show the proposed project locations.

The proposed sequence of projects exceeds the annual expenditure limits (four percent of gross revenues from service connections) specified in the Underground Utility Ordinance. Affected utilities may select projects from these tables without further administrative review by the Community Planning Department. Project expenditures may be less than 4 percent of gross revenues in the first year of projects, and the total project expenditures over the two-year period of the Plan shall be not greater than 4 percent of the total available revenues for the two year period affected by the plan.

## 4.1 PROJECT TIME AND BOUNDARY EXTENSION

Although projects are scheduled for completion in the indicated time frames, an individual project's completion may be extended beyond the bi-annual planning period. This could occur as a result of unforeseen project delays or changes in project scope. In such instances, the project would then be shifted to budget years beyond the period of this plan, and contained in subsequent two-year implementation plans. The intent is to continue uncompleted projects to finalization under respective two-year implementation plans.

Economics and technical requirements may require the extension of undergrounding overhead distribution facilities beyond a target area boundary. If this is necessary, the utility shall be credited for that part of the extension directly related and necessary to the undergrounding project within the target area. This amount can be used towards fulfillment of the four percent of gross revenue requirement of the Utility Ordinance.

## 4.2 MONITORING OF PROJECTS

The utilities affected by this Plan with projects specified in Tables 1 and 2 shall submit information to the Community Planning Department describing the status of projects for which they are responsible. This information shall be submitted on the first day of May, July, and September, and shall identify the location, type of project, actual and projected funding, status of construction, and expected date(s) of completion. The utility shall also provide an annual report to the Department and containing an evaluation of the past year's undergrounding projects. This report shall compare funds expended to anticipated construction pursuant to the plan summarizing this information. This information may be consolidated with any other information required under this Plan. The annual report shall be provided by the Community Planning Department to the Planning and Zoning Commission and Municipal Assembly.

## 5.0 PLAN REVISION

In cooperation with affected private and public utilities, the Utility Implementation Plan shall be revised every two years by the Department Community Planning. This revision shall coincide with the budget cycle of affected agencies, and the process of plan review and revision shall generally follow the procedures established in Appendix A.

Revisions to this plan shall be based upon the target area designations and project selection criteria established in 21.90.080. Emphasis shall be placed upon the completion of projects initiated in previous two-year Utility Implementation Plans.

Agencies and utilities that may be affected in subsequent plan revisions include:

- Municipal Light and Power
- Chugach Electric Association
- EnStar
- Multivisions
- Anchorage Telephone Utility
- State of Alaska Department of Transportation, Utilities Section
- Municipality of Anchorage, Department of Public Works
- Municipality of Anchorage, Department of Parks and Recreation
- Anchorage Water and Waste Water Utility

- Municipality of Anchorage, Property and Facility Management
- Matanuska Electric Association
- Matanuska Telephone Association

These agencies and utilities shall provide to the Community Planning Department such information as is necessary to prepare UIP revisions. The Department is authorized to prepare forms requiring specific project data from affected utilities necessary for such revisions. Information provided to the Department shall include at least the following:

- Preliminary project description, location or project limits
- Schedule, to include start of design, project start-up, anticipated completion
- Estimated cost
- Information relative to a joint project (such as street, highway or urban renewal) that could reduce total project costs)
- Status of current undergrounding projects
- A 100 scale map showing proposed project location
- Adverse environmental impacts
- Information relative to the possibility of a joint trench installation

The total project list submitted by an affected utility may total as much as 150 percent of that physically and financially possible within the upcoming two year period of the Plan. The Department may reject projects that do not conform to the standards of 21.90.060. Up to 150 percent of the projected revenues stipulated in 21.90.070 may be designated as projects in subsequent plan revisions. This programming amount is intended to allow flexibility in the selection of actual projects and recognizes the inherent problems of project construction forced by material shortages, labor disputes and funding shortfalls.

Table 1 - 1985/1986

September 1985

| | LOCATION | JUSTIFICATION | UTILITIES INVOLVED | ESTIMATED COST | TIME SCHEDULE | STATUS |
|---|---|---|---|---|---|---|
| 1. | North side of Park Strip, 9th Avenue, "L" Street to "P" Street | B - Undergrounding Overhead Street Light Circuit | Electric/Telephone Municipal Light & Power<br>Anch. Telephone Utility | 200,000<br>5,000 | 1985 | Under Design |
| 2. | 10th Avenue - North side of 10th Avenue, "L" Street to "I" St. | B - Undergrounding Overhead Street Light Circuit | Electric - Municipal L&P | 50,000 | 1985 | Under Design |
| 3. | McKinley View Park | B - Undergrounding Overhead Elec., & Telephone Dist Circuits | Electric - Municipal L&P<br>Telephone - Anch T. U. | 250,000<br>23,500 | 1985 | Under Contract |
| 4. | North side of 9th "L" Street to "P" St. | B - Undergrounding Overhead Street Light Circuit | Electric/Telephone Municipal Light & Power<br>Anch. Telephone Utility | 75,000<br>95,000 | 1985 | Under Design |
| 5. | Old Seward Highway 32nd Ave. to 37th Ave. | E - Undergrounding Overhead Dist. System | Electric - Municipal L&P | 85,000 | 1985 | Under Const. |
| 6. | East Anchorage - Glacier Street to Pine 22nd Ave. to 24th Ave. | E - Undergrounding Overhead Dist. System | Electric - Municipal L&P<br>Telephone - Anch T. U. | 60,000<br>9,000 | 1985 | Under Design |
| 7. | 3rd Avenue - Post Road to Reeve Boulevard | C - Undergrounding Dist. System | Electric - Municipal L&P | 400,000 | 1985 | Under Design |
| 8. | Benson Blvd./Northern Lights Blvd. Couplet - La Touche to Lake Otis | D - U. of Overhead St. Light Circuits | Electric - Municipal L&P<br>Municipal Light & Power | 100,000 | 1985 | In Planning Phase |

Table 1 - 1985/1986

September 1985

| LOCATION | JUSTIFICATION | UTILITIES INVOLVED | ESTIMATED COST | TIME SCHEDULE | STATUS |
|---|---|---|---|---|---|
| 9. Abbott Road - Birch Road to West side of Service High School | D - U. of Overhead Dist. System | Electric - Chugach E. A. | 140,000 | 1986 | Under Design |
| 10. West 80th - Sand Lake Road to Sand Lake | B - U. of Overhead Dist. System | Electric - Chugach E. A.<br>Telephone - Anch. T. U. | 105,600<br>97,600 | 1986 | Under Design |
| 11. Caravel Drive - Raspberry to 72nd Ave. | C - U. of Overhead Dist. System | Electric - Chugach E. A. | 21,850 | 1985 | Under Design |
| 12. Lore Road - West of Lake Otis Parkway - .32 miles | C - U. of Overhead Dist. System | Electric - Chucach E. A.<br>Telephone - Anch. T. U. | 91,260<br>27,000 | 1986 | Under Design |
| 13. "E" Street, 8/9 Alley to 10/11 Alley | A-1-U. of Overhead Electrical Dist. System | Electric - Municipal L&P | 100,000 | 1985 | Under Design |
| 14. Rowan Avenue, Larkspur Circle South 830 Ft. | D - U. of Overhead Elec. & Telephone Distribution | Electric - Anch. T. U. | 14,500 | 1985 | |

LEGEND

A-1 CBD
A-2 Mid-Town
A-3 Eagle River CBD
B Parks
C Streets & Highways
D Major Commercial Corridors
E Areas of Elimination of Overhead Duplication

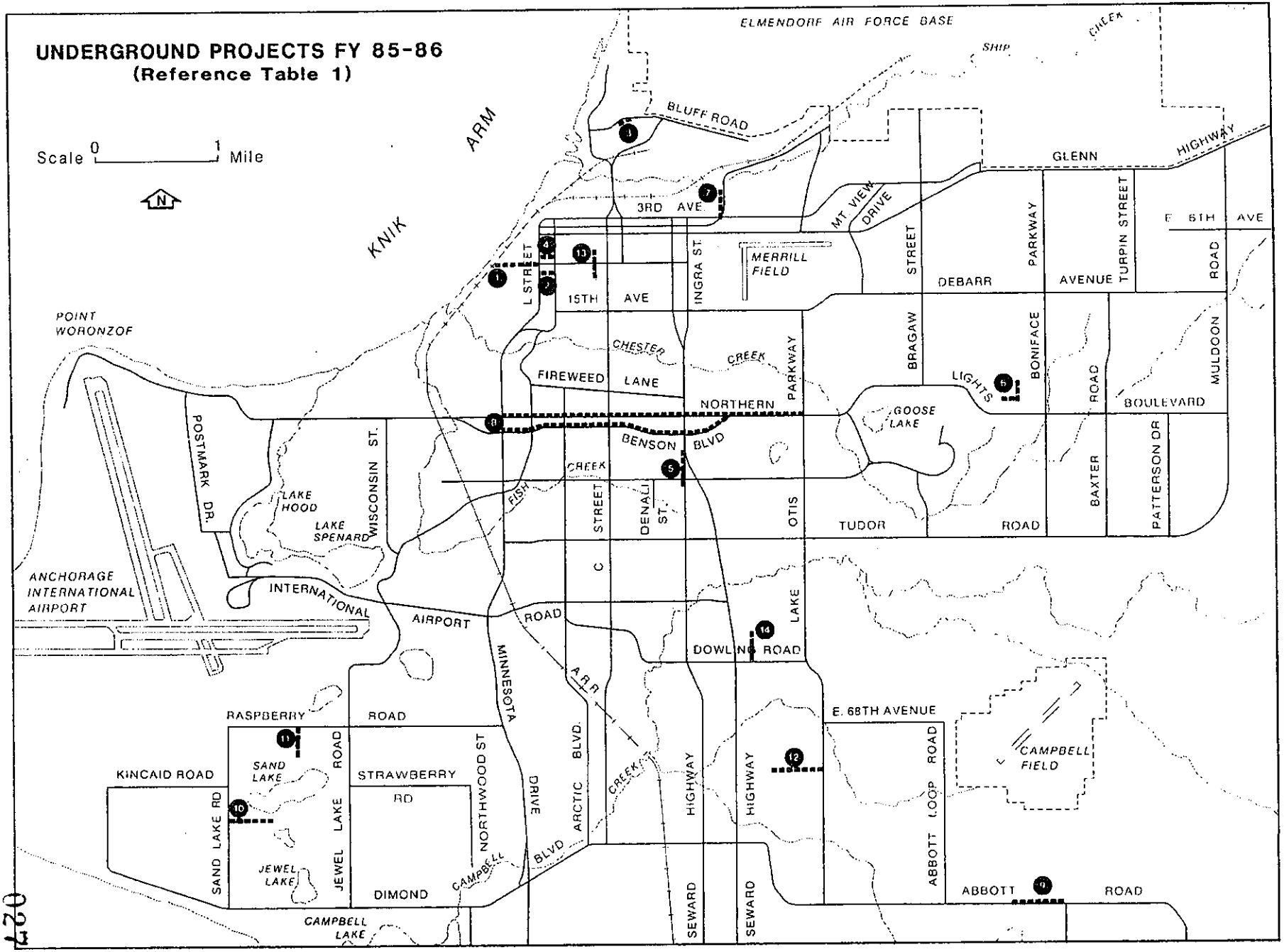

UNDERGROUND PROJECTS FY 85-86
(Reference Table 1)
Scale 0 1 Mile
N
ELMENDORF AIR FORCE BASE
KNIK ARM
BLUFF ROAD
GLENN HIGHWAY
3RD AVE
MT VIEW DRIVE
E 6TH AVE
L STREET
15TH AVE
INGRA ST.
MERRILL FIELD
DEBARR
PARKWAY
AVENUE
TURPIN STREET
ROAD
POINT WORONZOF
CHESTER CREEK
FIREWEED LANE
BRAGAW STREET
BONIFACE PARKWAY
LIGHTS
MULDOON BOULEVARD
NORTHERN LIGHTS BLVD
GOOSE LAKE
BENSON BLVD
POSTMARK DR.
LAKE HOOD
LAKE SPENARD
WISCONSIN ST.
FISH CREEK
C STREET
DENALI ST.
OTIS
TUDOR ROAD
BAXTER
PATTERSON DR
ANCHORAGE INTERNATIONAL AIRPORT
INTERNATIONAL AIRPORT ROAD
DOWLING ROAD
LAKE
RASPBERRY ROAD
MINNESOTA DRIVE
ARCTIC BLVD.
CHESTER CREEK
E. 68TH AVENUE
CAMPBELL FIELD
KINCAID ROAD
SAND LAKE
SAND LAKE RD
JEWEL LAKE
JEWEL LAKE ROAD
STRAWBERRY RD
NORTHWOOD ST
DIMOND BLVD
CAMPBELL LAKE
HIGHWAY
SEWARD
ABBOTT LOOP ROAD
ABBOTT ROAD

Table 2 - 1986/1987 September 1985

| | LOCATION | JUSTIFICATION | UTILITIES INVOLVED | ESTIMATED COST | TIME SCHEDULE | STATUS |
|---|---|---|---|---|---|---|
| 1. | 72nd Avenue - Abbott Loop to Lake Otis Pkwy | C - Undergrounding Overhead Dist. System | Electric - Chugach E. A.<br>Telephone - Anch. T. U. | 269,590<br>260,000 | 1987 | In Planning Phase |
| 2. | 10th Avenue - South side "I" St. to "E" St | B - Undergrounding Overhead Dist. System | Electric - Municipal L&P<br>Telephone - Anch. T. U. | 450,000<br>33,600 | 1986 | In Planning Phase |
| 3. | Ingra - Fireweed Lane to 13th Avenue | D - Undergrounding Overhead Dist. System | Electric - DOT/PF | 100,000 | 1986 | In Planning Phase |
| 4. | 3rd Avenue - "A" St. to "C" St. - "C" St. to 3rd to 4th Avenue | A-1 - U. Grounding Overhead Dist. System | Electric - Municipal L&P | 100,000 | 1986 | In Planning Phase |
| 5. | West side of N. Lights Blvd./Boniface to Russian Jack Park | C - Undergrounding Overhead Dist. System | Electric - Municipal L&P<br>Telephone - Anch. T. U. | 700,000<br>32,500 | 1986 | In Planning Phase |
| 6. | 6/7 Alley - "A" St. to Cordova | A-1 - U. Grounding Overhead Tele. Circuits | Telephone - Anch. T. U.<br>Electric - Municipal L&P | 72,000<br>200,000 | 1986 | In Planning Phase |
| 7. | 7/8 Alley - "A" St. to Cordova | A-1 - U. Grounding Overhead Tele. Circuits | Telephone - Anch. T. U.<br>Electric - Municipal L&P | 72,000<br>200,000 | 1986 | In Planning Phase |

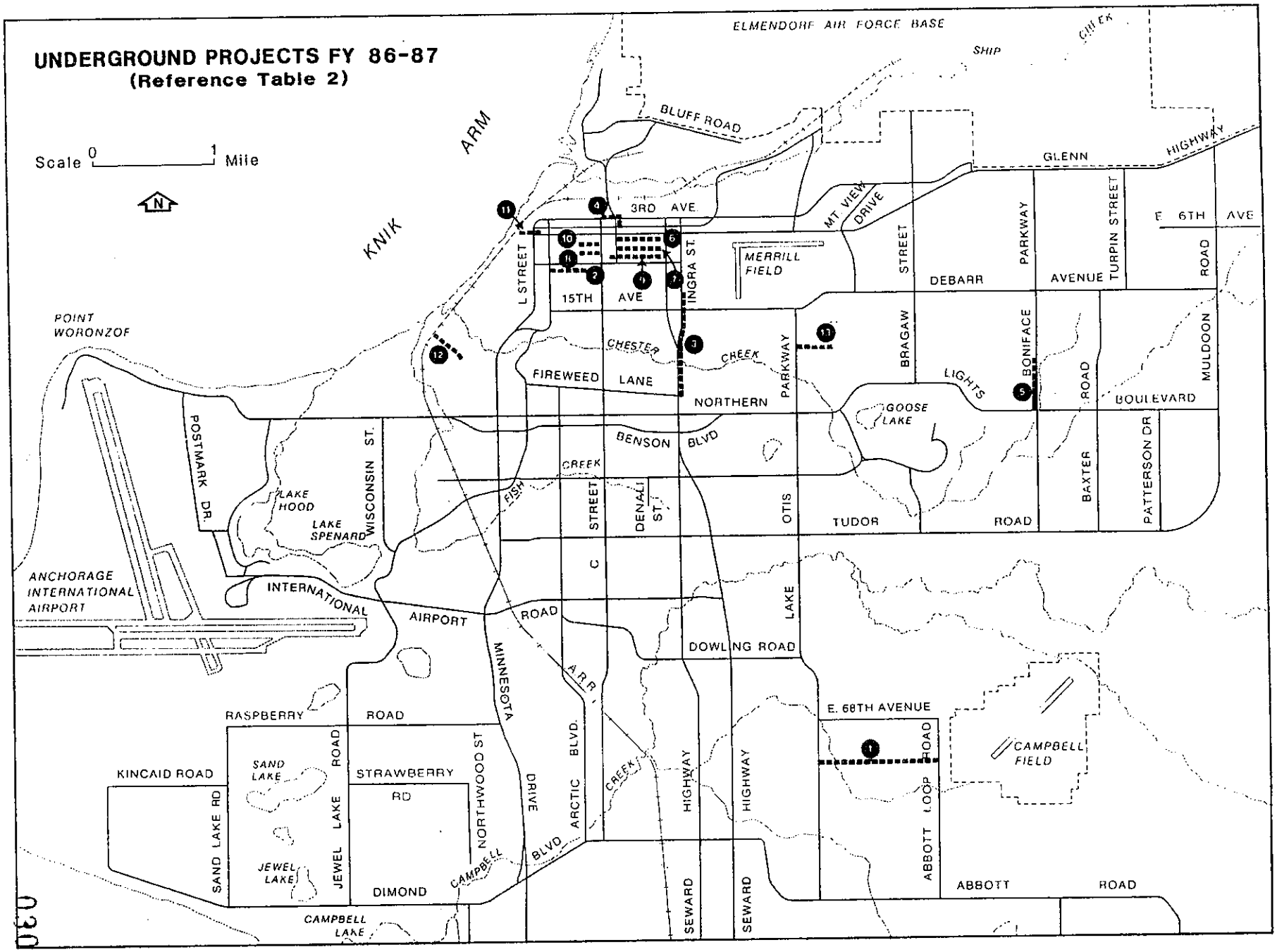
Table 2 - 1986/1987

September 1985

| | LOCATION | JUSTIFICATION | UTILITIES INVOLVED | ESTIMATED COST | TIME SCHEDULE | STATUS |
|---|---|---|---|---|---|---|
| 8. | 8/9 Alley - "E" St. to "C" Street | A-1 - U. Grounding Overhead Tele. Circuits | Telephone - Anch. T. U.<br>Electric - Municipal L&P | 20,000<br>150,000 | 1986 | In Planning Phase |
| 9. | 8/9 Alley - "B" St. to Cordova | A-1 - U. Grounding Overhead Tele. Circuits | Telephone - Anch. T. U.<br>Electric - Municipal L&P | 20,000<br>200,000 | 1986 | In Planning Phase |
| 10. | 7/8 Alley, "E" Street to "G" Street | A-1-U. Grounding Overhead Utilities | Electric - Municipal L&P<br>Telephone - Anch. T. U. | 75,000<br>5,000 | 1986 | In Planning Phase |
| 11. | 5th Avenue, "K" Street to "M" Street | A-1-U. Grounding Overhead Utilities | Electric - Municipal L&P | 100,000 | 1986 | In Planning |
| 12. | Forest Park/Hillcrest | A-1-U. Grounding Overhead Utilities | Electric - Municipal L&P | 150,0001 | 1986 | |
| 13. | 20th Avenue - Lake Otis to Alder | E - U. Grounding Overhead Telephone | Telephone - Anch. T. U. | 46,000 | 1986 | |

LEGEND

A-1 CBD
A-2 Mid-Town
A-3 Eagle River CBD
B Parks
C Streets & Highways
D Major Commercial Corridors
E Areas of Elimination of Overhead Duplication


UNDERGROUND PROJECTS FY 86-87
(Reference Table 2)
Scale 0 1 Mile
N
ELMENDORF AIR FORCE BASE
SHIP CREEK
BLUFF ROAD
KNIK ARM
GLENN HIGHWAY
3RD AVE.
MT VIEW DRIVE
E 6TH AVE
L STREET
15TH AVE
INGRA ST.
MERRILL FIELD
DEBARR ROAD
PARKWAY
AVENUE
TURPIN STREET
MULDOON ROAD
BOULEVARD
POINT WORONZOF
CHESTER CREEK
FIREWEED LANE
NORTHERN LIGHTS BLVD
BRAGAW STREET
BONIFACE PARKWAY
GOOSE LAKE
BAXTER ROAD
PATTERSON DR
BENSON BLVD
POSTMARK DR.
LAKE HOOD
LAKE SPENARD
WISCONSIN ST.
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C STREET
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OTIS
TUDOR ROAD
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LAKE
MINNESOTA DRIVE
A.R.R.
E. 68TH AVENUE
CAMPBELL FIELD
ABBOTT LOOP ROAD
ABBOTT ROAD
RASPBERRY ROAD
KINCAID ROAD
SAND LAKE
SAND LAKE RD
JEWEL LAKE ROAD
JEWEL LAKE
STRAWBERRY RD
DIMOND
NORTHWOOD ST
CAMPBELL BLVD.
ARCTIC BLVD.
CAMPBELL CREEK
HIGHWAY
SEWARD
CAMPBELL LAKE

APPENDIX "A"
UNDERGROUND UTILITY IMPLEMENTATION PLAN REVISION PROCESS

## 1.0 PLAN REVISION TIMELINE

The following budget cycle and time line for plan development is recommended (dates provided are general guidelines and may vary from year to year):

Dec. 15 Community Planning Department Begins Planning Process by Providing Notice of First Coordination Meeting Set for January 15.

Matters for affected agencies to prepare:

- Status report on past year's projects
- Changes in planning or project scope
- Projects requiring special coordination
- Preliminary project list for upcoming season and next year
- Suggested projects or problem areas needing attention

Jan. 15. First Coordination Meeting

- All affected agencies present
- Goal is to provide general planning and project direction
- Set up final project list for current year and preliminary project list for next year
- Request agencies provide cost estimate revisions on current year projects, if necessary, and preliminary cost estimates on next year's projects
- Set second coordination meeting for February 15 - Request the agencies to provide data for submittal on this date

Feb. 15 Second Coordination Meeting

- Review information provided by agencies and set project list, schedule and cost criteria for current year's projects
- Review information provided by agencies and set preliminary project list, schedule and cost criteria for following year projects
- Complete project listing noted above and request further information from agencies by March 1

Mar. 15 Community Planning Department Submits to Agencies the Currenty Year's Project List with Schedule

- Community Planning Department submits to agencies the proposed project list for completion in following years

Apr. 15 Underground Plan Submitted to Planning and Zoning for Action and to Assembly for Formal Approval

bp20/hgl

Submitted by: Chairman of the Assembly
At the Request of the Mayor
Prepared by: Department of Community Planning
For reading: January 28, 1986

2-18-86

ANCHORAGE, ALASKA
AR NO. 86-14

A RESOLUTION ADOPTING THE UNDERGROUND UTILITIES IMPLEMENTATION PLAN AS A BASIS FOR THE UNDERGROUNDING OF UTILITY DISTRIBUTION LINES.

---

WHEREAS, the Utility Undergrounding Ordinance, passed in April, 1985, provides that utility distribution lines shall be placed underground according to a ten year plan developed by the Department of Community Planning, and

WHEREAS, the ordinance provides that utilities shall spend a certain proportion of their gross revenues derived from service connections to comply with the provisions of the Utility Implementation Plan, and

WHEREAS, the Utility Implementation Plan provides an improved definition for the boundaries of target areas which should result in the more effective allocation of monies for utility undergrounding, and

WHEREAS, the Utility Implementation Plan provides a schedule of projects from the various affected agencies and utilities identified according to location, time, time schedule and cost, and

WHEREAS, the Utility Implementation Plan provides an effective basis for the undergrounding of important, existing distribution lines over a two year implementation period, and

WHEREAS, the Planning and Zoning Commission recommended the adoption of the Utility Implementation Plan by the Assembly.

NOW, THEREFORE, the Anchorage Assembly resolves that the Utility Implementation Plan be adopted.

PASSED AND APPROVED by the Anchorage Assembly this 18th day of February, 1986.

Chairman

ATTEST:

Municipal Clerk

bp21/harl

AM 90-86

# 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

# UTILITY CORRIDOR PLAN

**Department of Economic Development and Planning**
Paula P. Easley, Director

Adopted February 27, 1990
A O No. 90-13 (S)

Prepared under the direction of:
Bruce Phelps, Manager
Comprehensive Planning Division
632 W. 6th Avenue, Fifth Floor
Anchorage, AK 99501

# UTILITY CORRIDOR PLAN

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## LIST OF APPENDICES


Appendix A Utility System Descriptions

Appendix B Plan Amendment Process

Appendix C Specific Corridor Descriptions

Appendix D Assembly Ordinance No. 90-13(S)

# I. PLANNED FACILITIES, CORRIDOR WIDTH REQUIREMENTS, AND RELATED PLANS

In order to develop a utility corridor plan, it is necessary to examine the location of both existing and planned utility systems, the engineering, environmental, and social factors affecting the development of these systems, and transmission corridor width requirements.

## 1. PLANNED UTILITY TRANSMISSION IMPROVEMENTS

Utility services--including electricity, gas, water, sewer, and communication services--are provided by various public and private companies throughout the municipality. A brief overview of how each utility system works is presented in Appendix A. As mentioned previously, because of the insufficiency of information related to planned utility improvements, and due to the impact of these systems within the more densely built-up areas of the community, this plan focuses on the Eagle River and Anchorage Bowl areas. The following discussion describes the existing and planned utility systems which will have significant easement and/or right-of-way needs in the next 10 to 15 years. Existing transmission facilities are shown on Maps 1-1 through 1-3. Maps 1-4 and 1-5 depict the improvements within the Anchorage Bowl area; Map 1-6 identifies water, gas, and electrical facility improvements within the north Anchorage area.

### Anchorage Municipal Light and Power

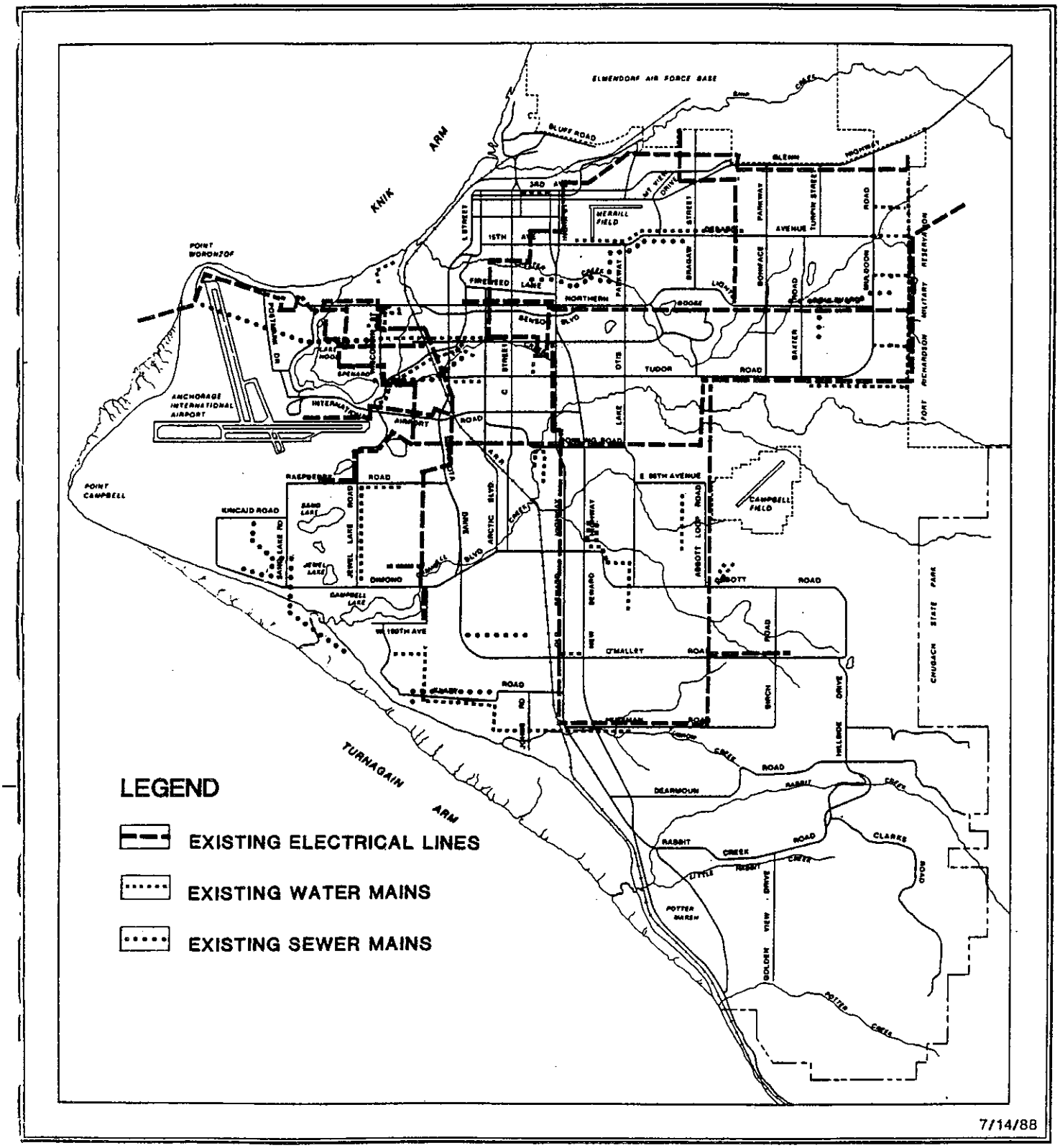
Anchorage Municipal Light and Power (ML&P) provides electricity to that portion of the Anchorage Bowl which generally coincides with the old Anchorage city limits. Most of the existing transmission system is at 115KV. ML&P is currently involved in a program to upgrade portions of its older 34.5KV transmission grid to 115KV. Table 1-1 identifies the various upgrading and new facility improvements. The facilities identified in this table are derived from an ML&P transmission corridor assessment.

### Chugach Electric Association

The Chugach Electric Association (CEA) serves the remainder of the Anchorage Bowl not serviced by ML&P. It also serves Girdwood and parts of the Kenai Peninsula. CEA also provides wholesale power to the Homer Electric Association, the City of Seward for resale to their retail customers, and to the Matanuska Electric Association.

MAP 1-1

# EXISTING UTILITY TRANSMISSION FACILITIES



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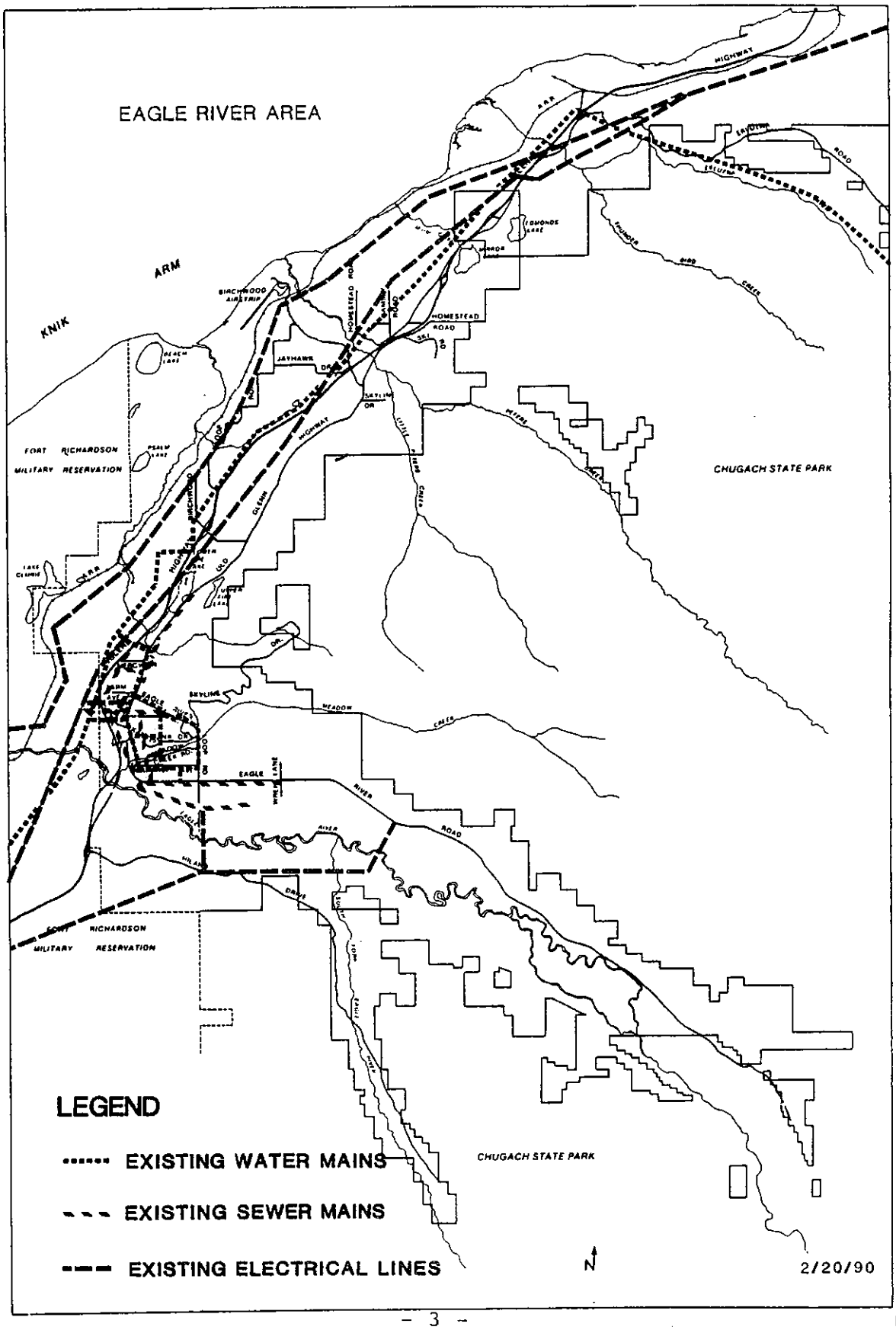
MAP 1-2

# EXISTING UTILITY TRANSMISSION FACILITIES



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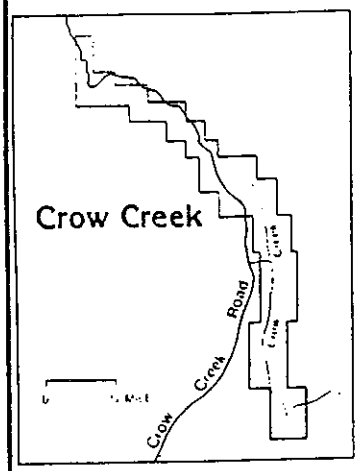
MAP 1-3

# Girdwood

## EXISTING SEWER TRANSMISSION FACILITIES




Crow Creek Road
Girdwood Airstrip
Crow Creek
Highlower Rd
Mt. Hood Dr
Alyeska Highway
Davos Rd
Alberta Ave
Edelweiss Rd
Alpina Way
Alta Dr
Timberline Drive
Alyeska Ave
California Creek
Juniper Drive
Alyeska Highway
Hottentot Mine Rd
Jewel Mine Rd
Sprout Rd
Glacier Creek
Virgin Creek
Seward Highway
ARR
Turnagain Arm

**LEGEND**

EXISTING SEWER MAINS

0 ½ MILE

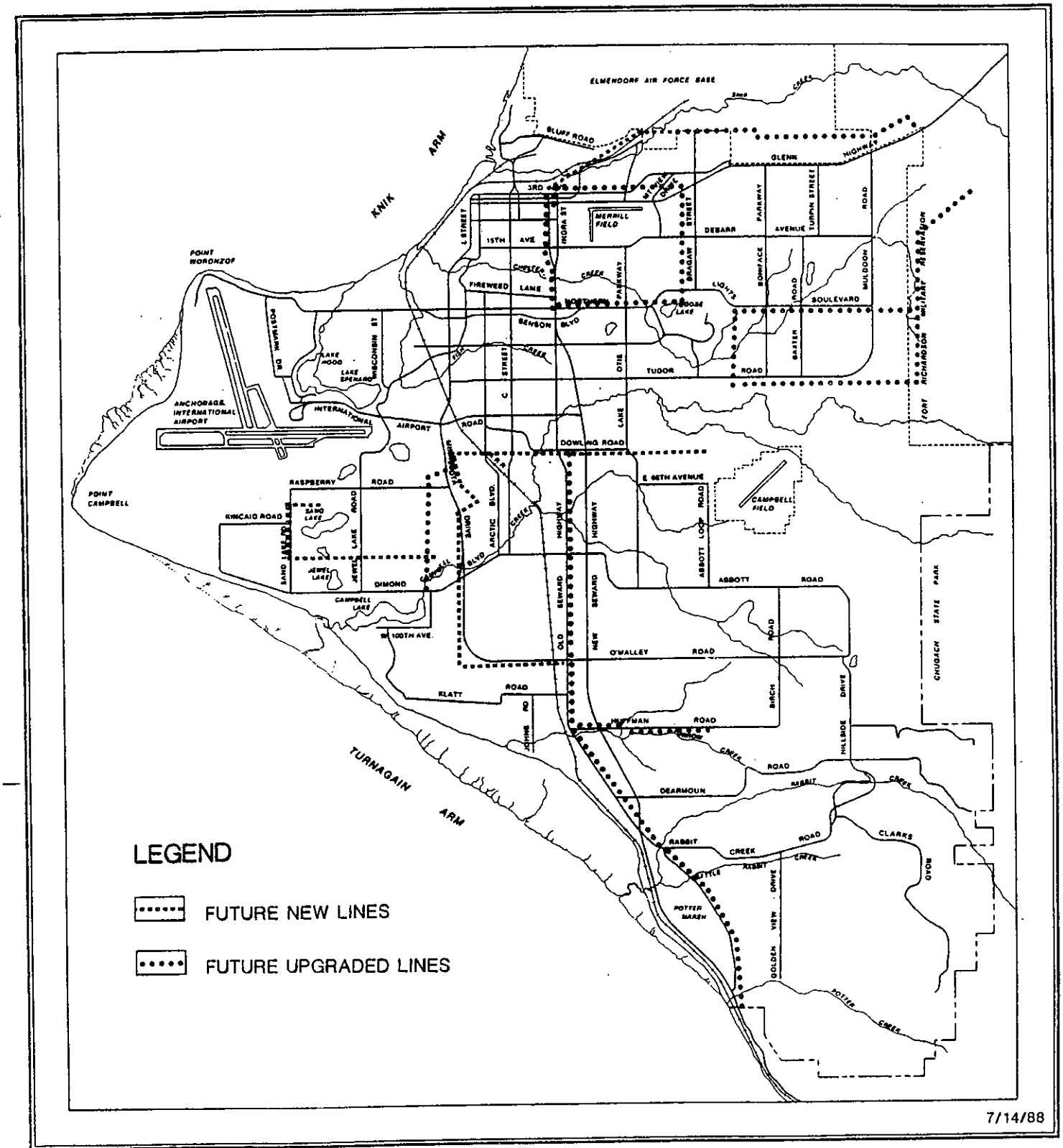
2/20/90



1140

MAP 1-4

# PROPOSED ELECTRIC TRANSMISSION FACILITIES

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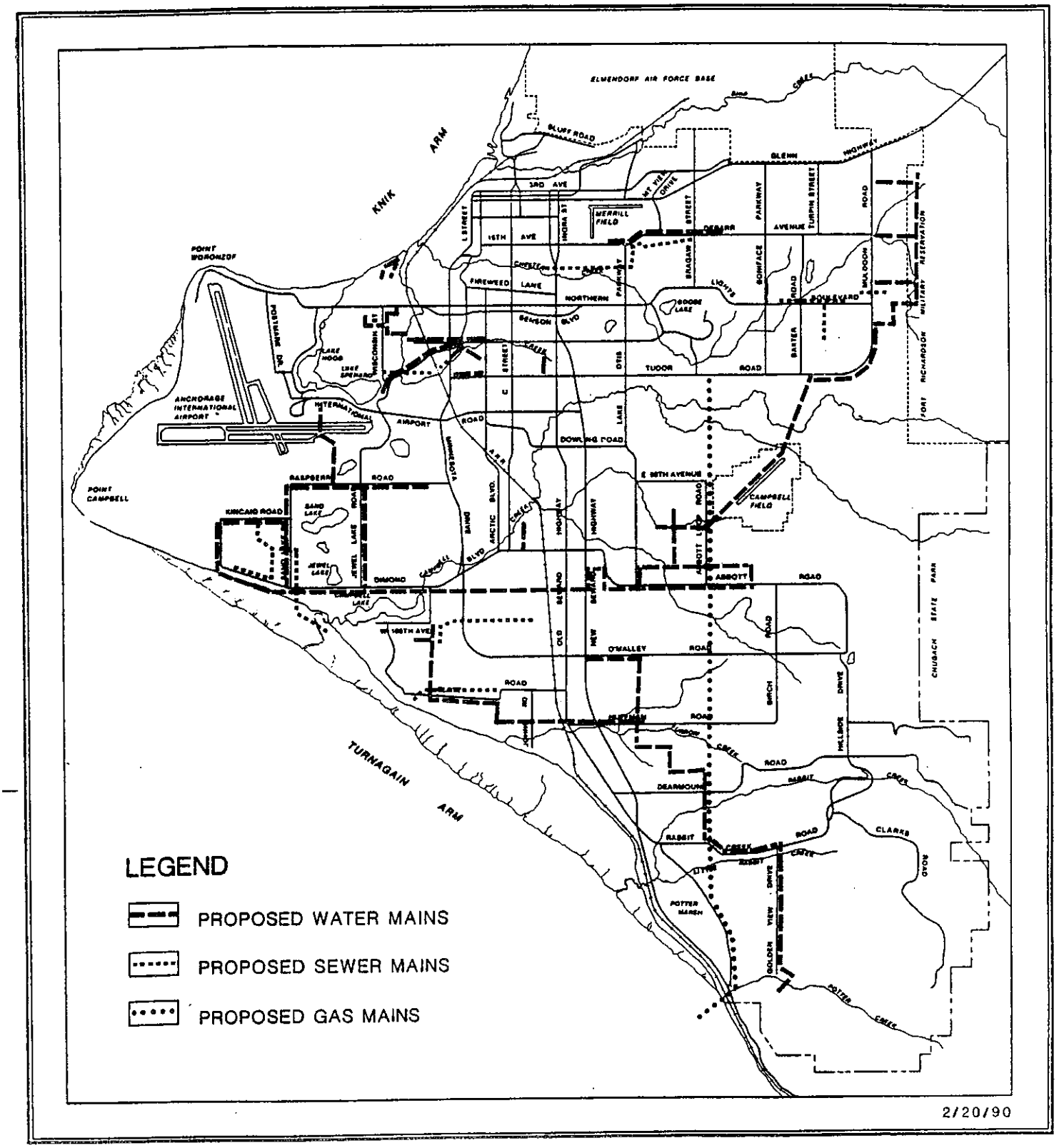
MAP 1-5

# PROPOSED WATER, SEWER & GAS FACILITIES



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MAP 1-6

# PROPOSED ELECTRIC TRANSMISSION , WATER & SEWER FACILITIES

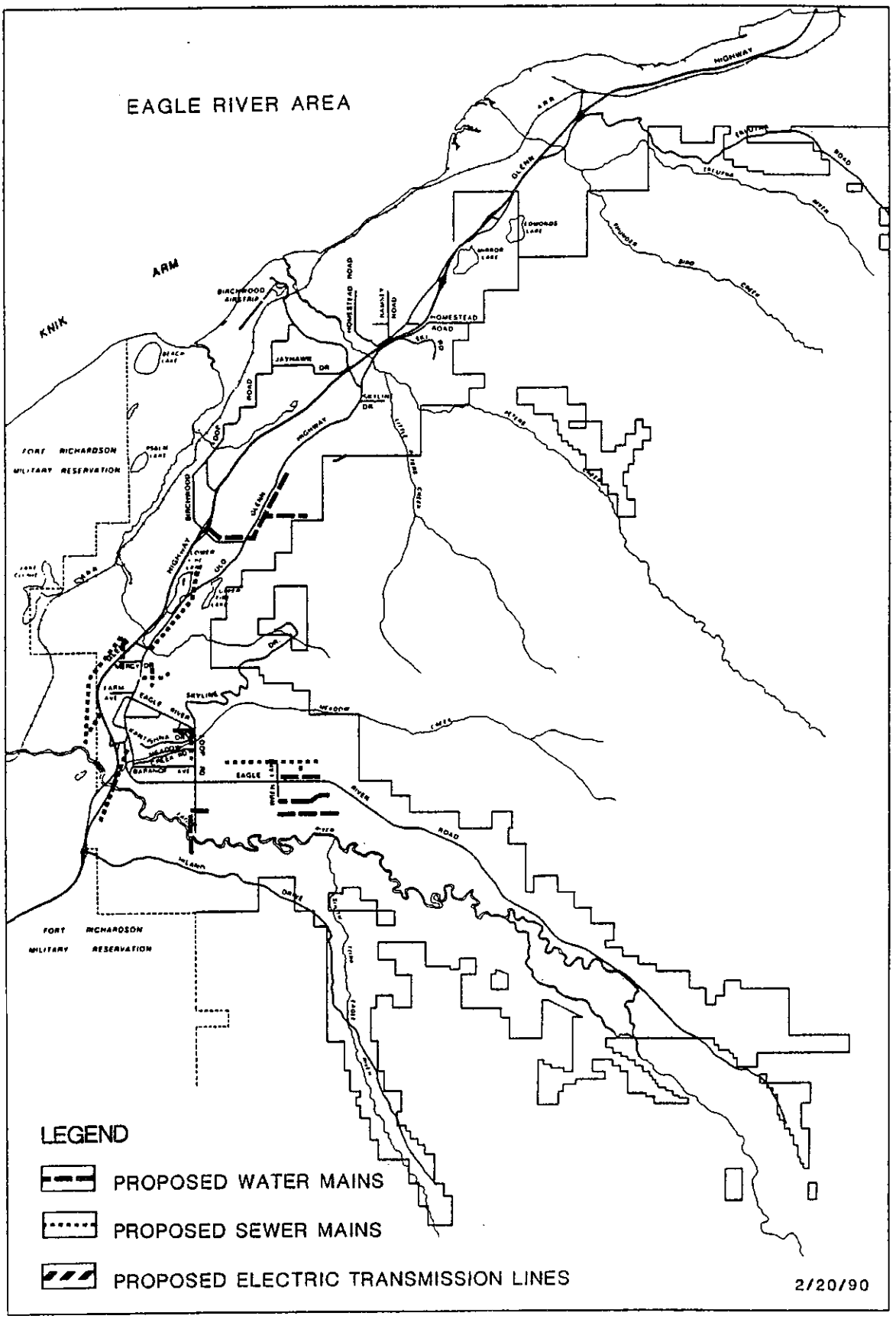




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TABLE 1-1

PLANNED ELECTRIC TRANSMISSION FACILITIES: ANCHORAGE BOWL

| Type of Improvement | Voltage (KV) Current | Future | Alignment (generally) | Termini Start | End | Entity |
|---|---|---|---|---|---|---|
| Upgrade | 115 | 230 | Oilwell Road | Taylor St. | Bartlett H.S. | ML&P |
| Upgrade | 35 | 115 | Alignment follows Bragaw, E. Northern Lights, Gambell, 1st Avenue | | | ML&P |
| Upgrade | 115 | 230 | Alignment follows along E. Northern Lights from Pine St. to Muldoon Rd. | APA Anchorage Substation | Military reservation | ML&P |
| New | | 230 | Alignment generally follows Port Rd. | Reeve | Ingra | ML&P |
| Upgrade | | 138 | Old Seward | E. Dowling | Huffman | CEA |
| New | 138 | Add 138KV | E. Dowling | Bragaw (extended) | International | CEA |
| Upgrade | 115 | 230 | Alignment follows current 230/115 KV transmission line within military reservation and Far North Park | University | -- | CEA |
| New | | 138 | Alignment follows Minnesota Bypass | Minnesota | Raspberry | CEA |
| New | | Add 138KV | Huffman | Old Seward | Bragaw | CEA |
| New | | 138 | Old Seward | Huffman | Turnagain Arm | CEA |

The projects identified in Table 1-1 are derived from a recently completed utility transmission study prepared for CEA. Fairly extensive upgrading improvements, as well as new 138KV facilities, have been projected in order to provide operational redundancy and uniformity of coverage throughout their service area. In addition, certain 230KV major transmission facilities are identified to accommodate forecasted power needs for the Anchorage area and for utilities north of Anchorage.

Matanuska Electric Association

The Matanuska-Susitna Borough and Eagle River area receive electric power from Matanuska Electric Association (MEA). This rural electric cooperative purchases approximately 94% of its power from CEA and 6% of its power from the Alaska Power Administration.

Table 1-2 shows planned new facilities and upgrades in the Chugiak/Eagle River area. A 115KV transmission line has recently been extended from the AEA line up the Eagle River Valley to the Briggs Substation in the Eagle River Valley. According to MEA staff, extensions of the current transmission system are anticipated within their service area, corresponding to the rate and location of service area growth. However, the alignments of these transmission facilities are not yet known, although a long-range transmission and distribution plan is being developed. This plan is intended to identify the approximate locations of future electrical transmission facilities in the Eagle River/Chugiak/Birchwood areas.

Alaska Power Administration

The Alaska Power Administration (APA), a federal agency, operates the Eklutna power plant and wholesales electricity to ML&P, CEA, and MEA. Power from the Eklutna plant is transmitted to Anchorage via a 115KV line which generally parallels the Glenn Highway to a point one mile east of Muldoon Road. From this point, it turns south until reaching what would be the east extension of Northern Lights Boulevard, where it turns west to the substation near Northern Lights Boulevard and Wesleyan Drive.

The APA and the electric utilities in Anchorage are in agreement that the APA Anchorage substation site is a major and essential consideration in any future bulk-power substation and/or switchyard planned in future years. This substation site is the termination and junction point of several major transmission circuits in the north Anchorage area.

Alaska Energy Authority

The Alaska Energy Authority (AEA) is a state agency which finances and develops power projects. There are no AEA pro-

TABLE 1-2

PLANNED NEW FACILITIES AND UPGRADES: CHUGIAK/EAGLE RIVER
Water Transmission Facilities

| Improvement Type | Facility | Diameter | Alignment | Terminus | | Entity |
|---|---|---|---|---|---|---|
| | | | | Begin | End | |
| Transmission Main | New | 12" | Ptarmigan Blvd. | Eagle River Lane | Frary Homestead | AWWU |
| Transmission Main | New | 12" | Raven Drive | Eagle River Lane | Melody Lane | AWWU |
| Transmission Main | New | 12" | Eagle River Loop Rd. | Parkview Terrace | Eagle River | AWWU |
| Transmission Main | New | 24" & 12" | N. Eagle River Access | N. Eagle River Access | Lower Fire Lake | AWWU |
| Transmission Main | New | 16" & 12" | Birchwood Loop | Birchwood Loop | Old Glenn Hwy. | AWWU |
| Transmission Main | New | 12" | Birchwood Loop | Birchwood Loop at Glenn Hwy. | Old Birchwood Lp. | AWWU |
| Transmission Main | New | 12" | Birchwood Loop | Birchwood Loop | Sabo Drive | AWWU |
| Transmission Main | New | 12" | Blue Spruce Lane | Hillcrest Drive | James Way | AWWU |
| Transmission Main | New | 16" | Eagle River Road | Eagle River Road | Parkview Terrace | AWWU |

Sewer Facilities

| Improvement Type | Facility | Diameter | Alignment | Terminus | | Entity |
|---|---|---|---|---|---|---|
| | | | | Begin | End | |
| Interceptor | New | 24" & 16" | N. Eagle River Access | N. Eagle River Access | New Birchwood Lp. | AWWU |
| Trunk | New | 12" | Glenn Highway | S. Eagle River Access | Eagle River | AWWU |
| Trunk | New | 16" | Citation Road | Eagle River Loop | Eagle River Lane | AWWU |
| Trunk | New | 12" | Eaglewood Subd. | Eaglewood Subd. | Frary Homestead | AWWU |

Electrical Transmission Facilities

| Improvement Type | Voltage (KV) | | Alignment | Terminus | | Entity |
|---|---|---|---|---|---|---|
| | Current | Future | | Begin | End | |
| Existing | 115KV | 115KV | So. Eagle River Lp. | Parkview Terrace | Briggs 115KV | MEA |
| Existing | 115KV | 115KV | Southside Eagle River | Glenn Highway | Eagle River Rd. | MEA |
| Existing | 115KV | 230KV | W. Glenn Highway | Eklutna Project | Anchorage | APA |
| Existing | 115KV | 230KV | W. Glenn Highway | Anchorage | Palmer (MEA) | MEA |

jects currently serving the municipality. According to AEA staff, an Anchorage to Soldotna transmission line will probably be constructed within the next ten years. It is possible that this transmission line may be terminated at either the Chugach substation, at the International station, or at the Chugach substation on Huffman Road.

## Enstar

Enstar provides natural gas directly to customers and to electric companies for power generation. Service is provided to the Anchorage Bowl via transmission facilities from the Kenai Peninsula across Turnagain Arm to Potter. The transmission line splits at Potter and serves Anchorage via Hillside Drive, Abbott Loop/Bragaw, and a line that roughly follows the Alaska Railroad right-of-way. Service to Eagle River is currently provided by a distribution-size line. Continued growth in the current service area will eventually require the construction of two additional transmission lines: a 16-inch pipeline from Potter to the City Gate station at Tudor and Bragaw, and a line to increase the capacity to Eagle River and to the Mat-Su Borough boundary. Map 1-5 depicts planned improvements.

## Water and Sewer

Water and sewer transmission lines are usually located within the paved portion of the municipal street right-of-way, according to local design specifications. However, certain major lines may be located outside these locations, particularly if road right-of-way is state owned, unavailable, or if severe topographic constraints exist. The majority of the planned water and sewer improvements do not coincide with other existing/proposed utility extensions, and therefore do not lend themselves to the utility corridor concept. Table 1-3 lists these improvements; planned projects are depicted on Map 1-5. The sewerage and water master plans of the Anchorage Water and Wastewater Utility (AWWU) formed the basis for the alignment recommendations contained in this plan.

## Telecommunications

Telephone and cable television transmissions occur through facilities (cables) that are considerably smaller than other transmission facilities. The installation of these systems usually takes place in combination with other types of utility systems, especially underground electric. While having the option to use utility corridors, these facilities are normally coordinated with other utilities and are not further considered in this plan.

TABLE 1-3

PLANNED NEW FACILITIES AND UPGRADES: ANCHORAGE BOWL
WATER TRANSMISSION FACILITIES

| Improvement Type | Facility | Diameter | Alignment | Terminus Begin | Terminus End | Entity |
|---|---|---|---|---|---|---|
| Transmission Main | New | 48" | military boundary/ Muldoon | Ship Creek ERS | Tudor | AWWU |
| Transmission Main | New | 42" | Campbell Field Rd. | Tudor | Abbott | AWWU |
| Transmission Main | New | 16" | Abbott Road | Service High | Lake Otis | AWWU |
| Transmission Main | New | 36" | 92nd Ave. | N. Seward Hwy. | King Street | AWWU |
| Transmission Main | New | 30" | 92nd Ave. | King Street | Sand Lake Rd. | AWWU |
| Transmission Main | New | 30" | Sand Lake Gravel Pits | Sand Lake Rd. | Raspberry Rd. | AWWU |
| Transmission Main | New | 16" | Sand Lake Rd. | Dimond Blvd. | Raspberry Rd. | AWWU |
| Transmission Main | New | 12" 24" | Jewel Lake Rd. | Dimond Blvd. | Int'l Arpt. Rd. | AWWU |
| Transmission Main | New | 16" | Klatt/Victor Rds. | Huffman Rd. | Bayshore Dr. Gebhart Dr. | AWWU |
| Transmission Main | New | 16" | O'Malley Rd. | Lake Otis | Old Seward | AWWU |
| Transmission Main | New | 16" 24" | Bragaw/Rabbit Creek/ Potter Valley | Huffman Rd. | Potter Valley | AWWU |
| Transmission Main | New | 24" | Spenard Rd. | 36th/Arctic | Spenard/Jewel Lake Rds. | AWWU |

SEWER TRANSMISSION FACILITIES

| Improvement Type | Facility | Diameter | Alignment | Terminus Begin | Terminus End | Entity |
|---|---|---|---|---|---|---|
| Interceptor | New | 24" | Campbell Cr. Tide Flats | Campbell Cr. | Dimond | AWWU |
| Interceptor | New | 30" | Sand Lake Gravel Pits | Dimond Blvd. | Kincaid Rd. | AWWU |
| Trunk | New | 24" | 104th Ave. | Coronado Rd. | Minnesota | AWWU |
| Trunk | New | 16" | DeBarr/Chester Cr. | Columbine St. | 21st Ave. | AWWU |
| Fish Creek Trunk | New | 30" | Tudor Rd. | 36th Ave. | Lakeshore Dr. | AWWU |

## 2. TRANSMISSION CORRIDOR WIDTHS

### Definition of Transmission Corridor and Typical Corridor Widths

A transmission corridor is defined as a right-of-way or easement, of a varied width, set aside for the placement of facilities for the conveyance of high-voltage electric energy, natural gas, petroleum products, water, wastewater, and communication signals. The general right-of-way requirements for such facilities are described in Table 1-4. These dimensions are applied in this plan in order to establish the required width of transmission corridors.

As indicated in this table, right-of-way (ROW) widths vary by type of facility and are dependent on specific site characteristics.[1,2]

The right-of-way for each utility, given in Table 1-4, reflects the needs of utilities to initially construct and subsequently maintain installed facilities. The widths necessary for electric transmission facilities reflect somewhat different requirements. Their right-of-way widths are designed to ensure that maintenance activities are permitted and, should the conductors break or structures fail, that no buildings are positioned underneath.

Where possible, and not in conflict with major road improvements identified in adopted plans, it is typical for each of these types of utilities to use portions or all of the available road right-of-way for these easements. Underground facilities may typically locate within or at the edge of the road right-of-way. Overhead electric facilities are often positioned at the outer edge of the road right-of-way. As depicted in Figure 1-1, these features may occur within the area reserved for slope easements, landscaping, and utilities. This diagram is taken from municipal road design standards. The effect of inclusion within the road right-of-way is to reduce the need for exclusive easements for utilities

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1 Electric utilities will sometimes encounter unique situations which may require right-of-way or easement widths which are not necessarily identical to those given in Table 1-4. Changes in the National Electric Safety Code, OSHA, and state statutes may also require different right-of-way or easement requirements in the future. These changes will be reflected in future revisions of this plan, should they occur.

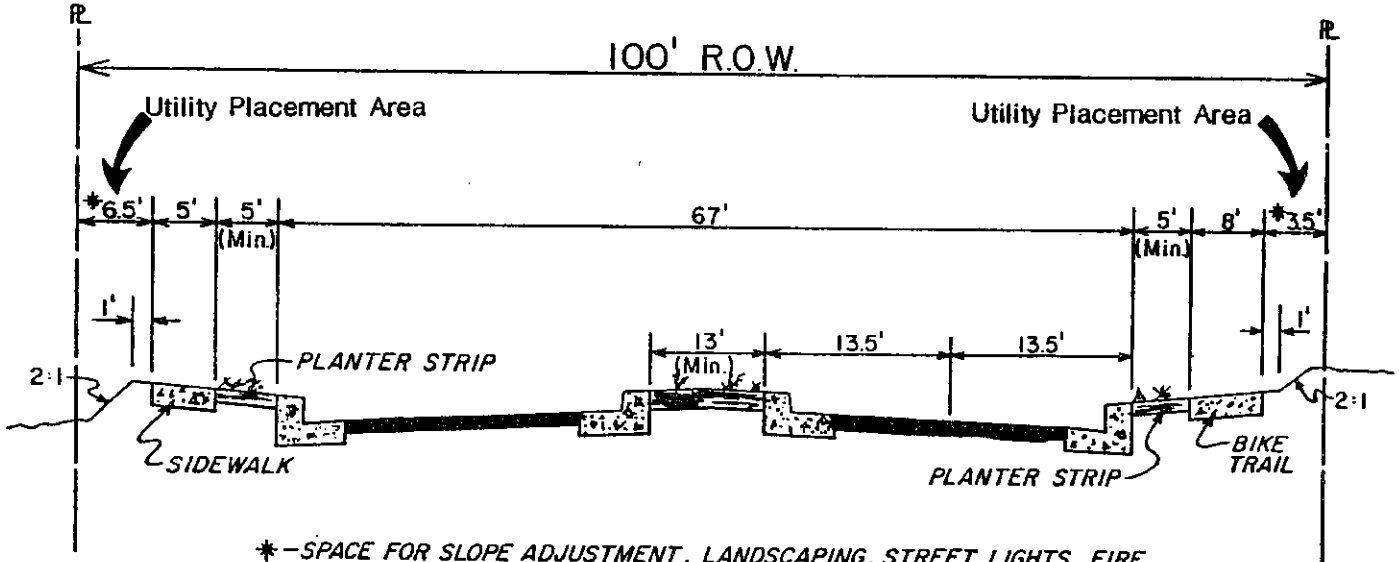
2 It should also be emphasized that these dimensions are minimum widths. Somewhat greater widths may be necessary in order to provide sufficient clearance of wooded areas.

TABLE 1-4

Right-of-Way and Easement Widths
Transmission Corridors

| Facility Type | Facility Characteristics | Dimension Surface | Aerial |
|---|---|---|---|
| Electrical | 115kv - 138kv single and double circuit | 30 feet | 30 feet** |
| | 230kv - 345kv* single and double circuit | 50 feet | 30 feet** |
| | (* rural areas only) | | |
| | (** beyond each outside boundary of the surface easement) | | |
| Natural Gas | 4" dia. to 20" dia. high pressure (single main) | 30 feet | |
| | 4" dia. to 20" dia. high pressure (double main) | 50 feet | |
| Sewers (Trunk and Interceptors) | 12" dia. - 72" dia. | 30 feet | |
| | 72' dia. - 96" dia. | 50 feet | |
| Petroleum Products | 4" dia. - 20" dia. | 20 feet | |
| | >20" dia. | 50 feet | |
| Water (Transmission) | 12" dia. - 54" dia. | 30 feet | |
| | >54" dia. | 50 feet | |

FIGURE: 1-1




*—SPACE FOR SLOPE ADJUSTMENT, LANDSCAPING, STREET LIGHTS, FIRE HYDRANTS, CLUSTER MAILBOXES, BUS TURNOUTS, UTILITIES, AND RETAINING WALLS. ADDITIONAL EASEMENTS GENERALLY REQUIRED FOR BUS TURNOUTS, INTERSECTION WIDENING, SLOPE ADJUSTMENT, AND OFFSET SIDEWALKS AND BIKE TRAILS.

# MAJOR URBAN ARTERIAL - CLASS III (DIVIDED)

## 4 LANES, NO PARKING

SOURCE: Municipal Road Design Standands

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on adjacent private property. In the case of electric utilities, almost one-half of the required easement width can be reduced by positioning the electrical utility at the edge of the road right-of-way.

The variety of ways that electrical facilities are installed can be best described through a series of diagrams.[1] Figure 1-2 depicts where utility facilities may be sited for a typical residential collector. If right-of-way is sufficient, the electric transmission utility (138KV) may be positioned at the outer edge of the road right-of-way, while cantilever construction design is often used where right-of-way is insufficient. In the latter situation, the utility is positioned over the road right-of-way rather than using an area within private property. Figure 1-3 shows an example of the placement of utilities along a major arterial. It also shows what a double circuit looks like as well as a single circuit associated with an underbuilt distribution line, which in this case is 12.5KV. Finally, Figure 1-4 shows a somewhat unusual situation where the amount of road right-of-way is extensive. The utility is located in this diagram at the outer edge of the road right-of-way, which is the preferred siting of electrical transmission facilities. A large, high-voltage 230KV facility is also depicted in this figure.

Where conditions permit, the practice of developing a shared road/utility use area is an effective way to develop an integrated utility/transportation system and to significantly reduce overall (utility) easement requirements. In fact, public use easements which establish right-of-way are often designed for public services such as roads and utility lines.

The actual positioning of electrical utility lines vis-a-vis roads is, however, a complicated process. It involves:

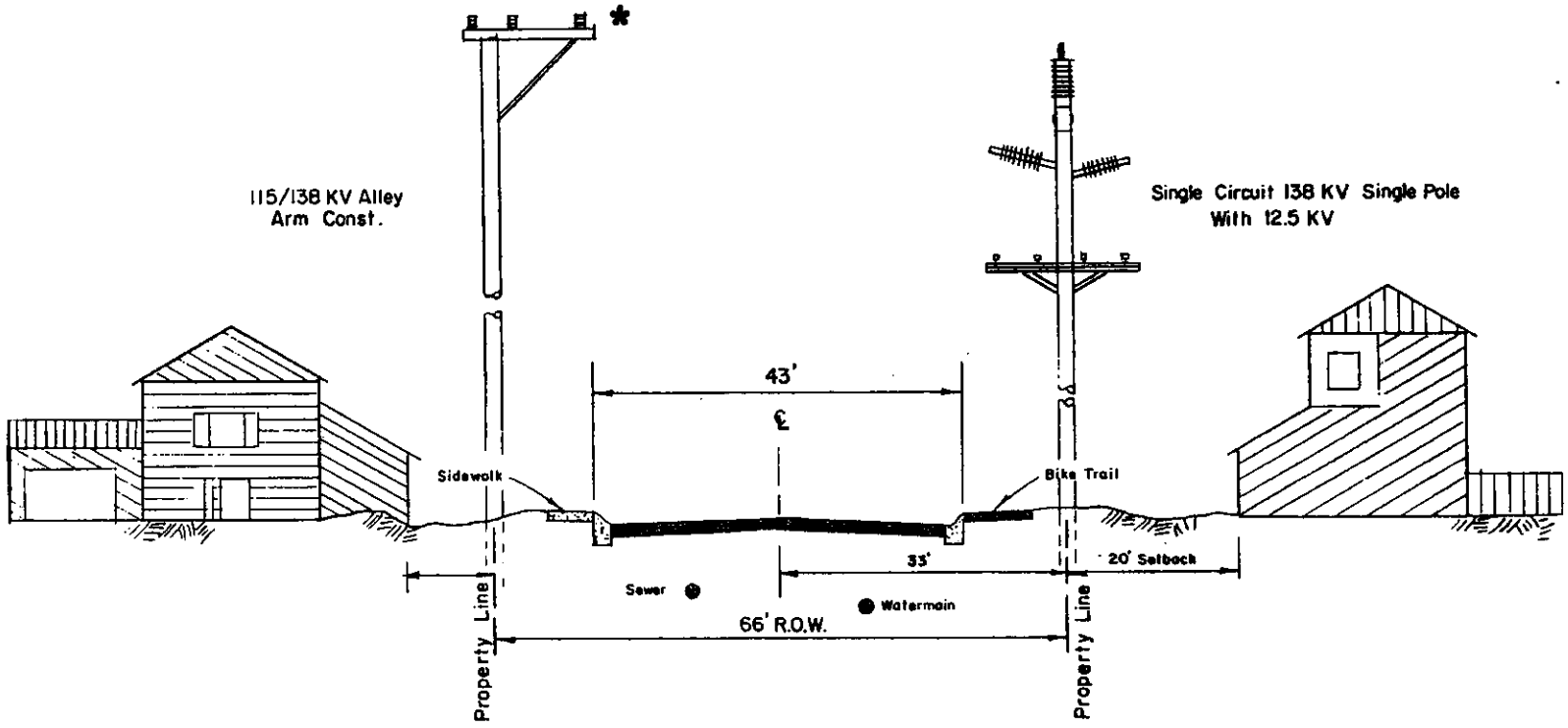
- considerations of whether future road widenings will occur and, if so, to what extent;

- conflicting municipal and state statutes that may or may not provide for the reimbursement of utility relocations with road widenings; and

---

1 It should be noted that these diagrams do not necessarily reflect preferred design requirements. The actual utility-corridor design must be determined on a case-by-case basis, reflecting national technical standards, available easements and rights-of-way, planned road improvements, and other safety and design standards. These diagrams reflect municipal road design standards; they do not represent state or federal standards.

FIGURE: 1-2




# COLLECTOR - CLASS I C
# W/ PARKING BOTH SIDES

NOTE: Poles 50' to 70' tall

*Alley arm not a preferred structure type.

SOURCE: Municipal Road Design Standards

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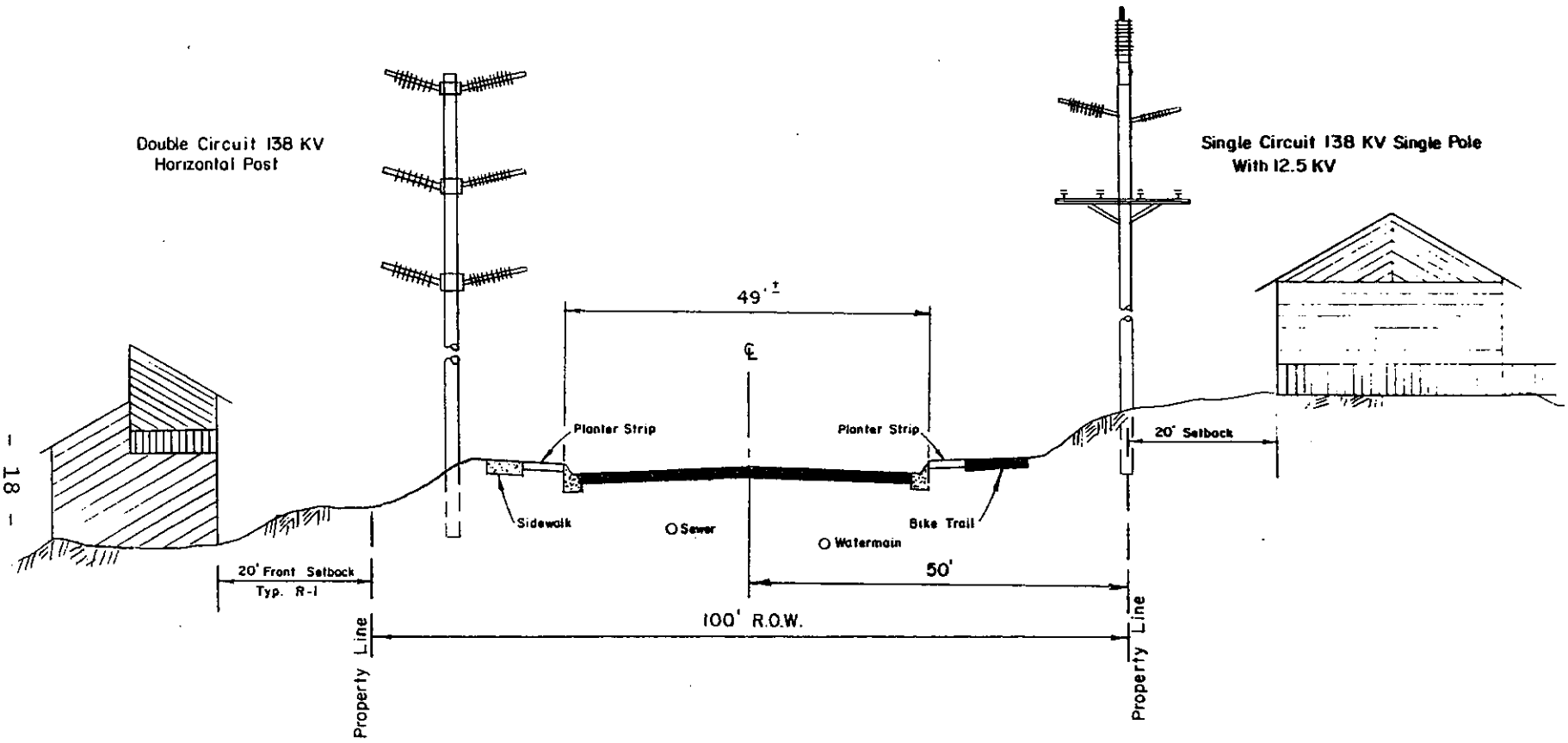
FIGURE: 1-3




# MAJOR ARTERIAL - CLASS III B (UNDIVIDED)
# 4 LANES, NO PARKING

NOTE: Poles 50' to 70' tall

SOURCE: Municipal Road Design Standards.

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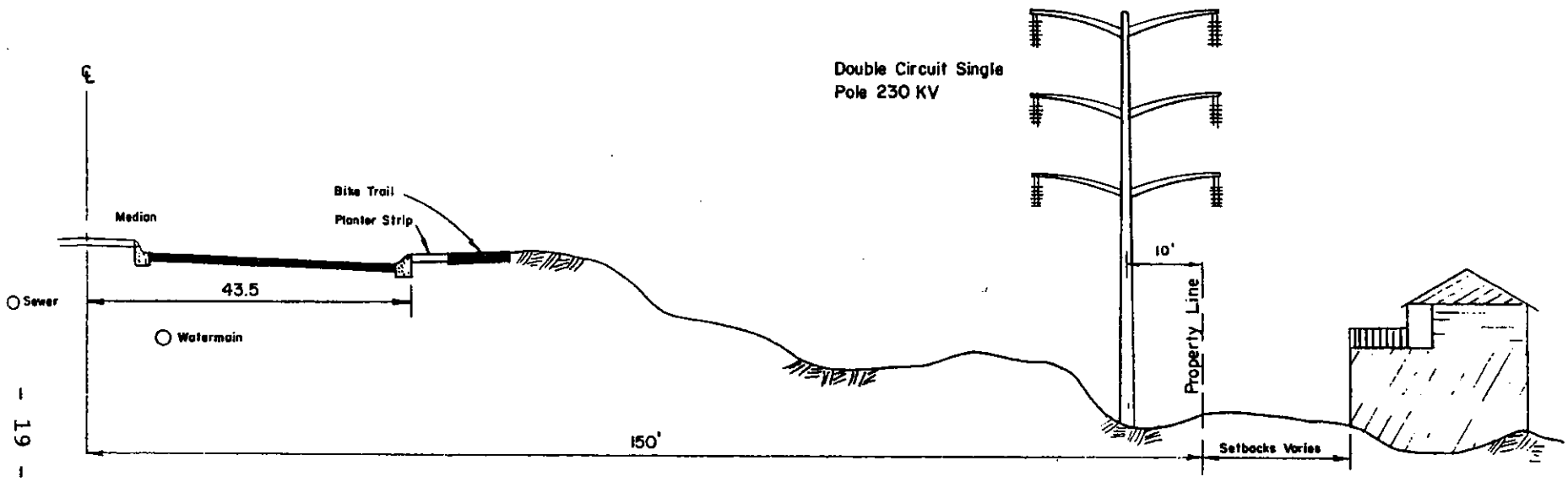
FIGURE: 1-4




# MAJOR ARTERIAL - CLASS III A (DIVIDED)
# 6 LANES NO PARKING

NOTES: 1. Poles 50' to70' tall
2. 1/2 of 300' R.O.W. shown

SOURCE: Municipal Road Design Standands

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- the effects of Anchorage Municipal Code 21.90, which requires the undergrounding of utility distribution lines under certain conditions as part of a road improvement project.

The recommendations in the report attempt to develop a balance between the desire to develop corridors, or areas, of compatible road/utility development, while reflecting the oftentimes conflicting legal, engineering, and cost considerations of road and electrical utility agencies.

## Specialized Easement Types and Reduction in Right-of-Way Requirements: Electric Transmission Facilities

Although the other utilities have fairly uniform, non-varying requirements for rights-of-way (depending on the type and size of facility), electrical transmission facilities are not so standardized. Aerial easements (as opposed to ground easements) may be utilized and corridor right-of-way requirements may be reduced through the use of both aerial easements and certain design techniques.

1. Aerial Easements

   Aerial easements can be used in association with or separate from surface easements for electrical transmission lines. An aerial easement is described as a rectangular (or other shaped) block of airspace above real property that encompasses the electrical transmission facility. It is designed to ensure that private permanent or temporary structures do not physically extend into this airspace zone, and thereby avoid contact with energized electrical transmission or distribution lines. Aerial easements are utilized where it is not necessary to obtain surface easements because physical installation of the pole and conductors can be accommodated through the use of existing rights-of-way or existing easements. They are typically used in densely built-up areas where platting has already occurred and the ground easement has not been secured at the time of platting.[1] When used in that fashion, they may be incorporated within a road improvement so that one-half of the required right-of-way

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1 Airspace permits for aerial easements over state rights-of-way must be obtained from the Alaska Department of Transportation and Public Facilities (ADOT/PF). Generally, air space permits will not be granted if roadway facilities are not fully constructed in accordance with planned transportation improvements.

lies within the public easement while one-half occurs within private property, but at some distance above ground level. This tends to be an effective design technique since most non-residental sites are developed with the parking area adjacent to the public right-of-way, while structures that could interfere with electrical facilities are usually located between the parking area and the rear property line. An example of an aerial easement is depicted in Figure 1-5.

2. Reduction of Right-of-Way Requirements

The right-of-way requirements of electrical transmission facilities may be reduced through the use of cantilever or "alley-arm" tower construction. The typical wooden or metal single-pole construction requires space on both sides of the pole, to encompass the area underneath the transmission conductors. Cantilever construction can preclude or greatly minimize the need to acquire easements on private land by using a single span for the transmission lines; these are positioned over the public right-of-way (see Figure 1-2). This technique is used in densely built-up areas where acquisition costs are excessive or where structures are presently located within an area where a ground or aerial easement would have otherwise been required. The cantilever construction technique is, however, more expensive and structurally less desirable than the normal tower construction method(s).[1]

Because of the various means that electrical transmission facilities can be designed or accommodated by either surface or aerial easements, specific right-of-way requirements cannot be said to exist. Rather, the type of technique utilized will depend on whether the area (affected by a new electrical facility) is vacant, unplatted land; vacant, platted land; or built-up platted land. It will also depend on whether available road right-of-way exists or not. Within built-up areas, transmission facilities use road rights-of-way whenever

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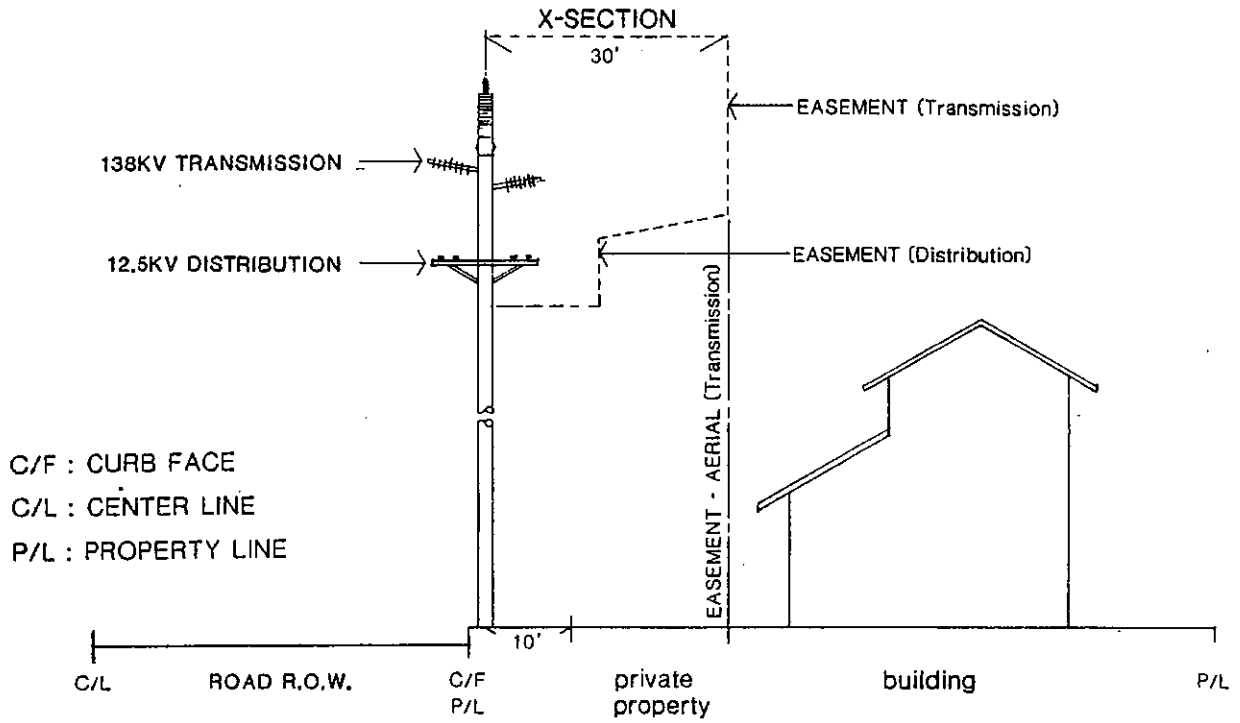
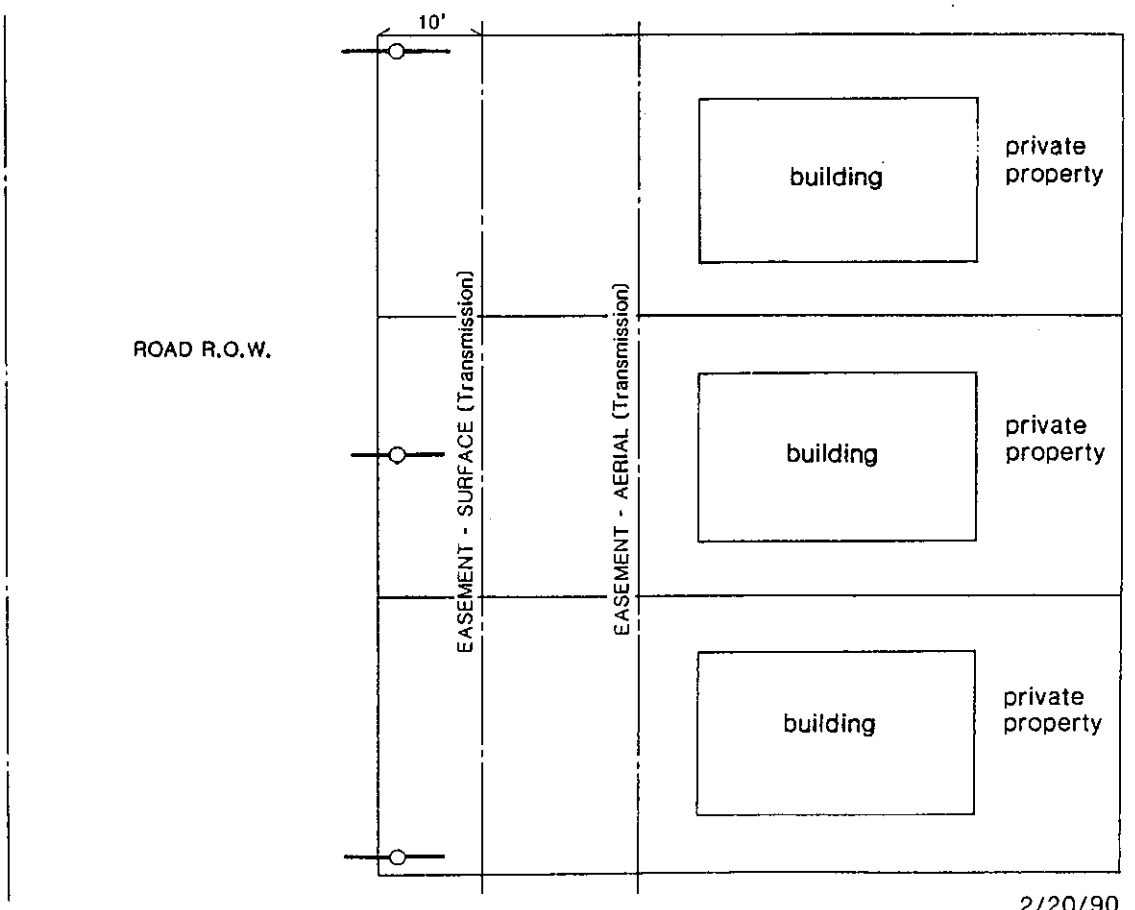
1 It should be noted that it is not the practice of any of the three Anchorage-area electric utilities to use "alley-arm" construction techniques for transmission circuits. Additionally, the use of cantilevered construction for wood pole installations is considered appropriate for only certain situations.

FIGURE: 1-5

# AERIAL EASEMENT



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possible because of the absence of practicable or economically justifiable alternatives.[1] The alternative ways that electrical transmission lines can be positioned are described in Figure 1-6.

## 3. RELATED PLANS

### Official Streets and Highways Plan

The Official Streets and Highways Plan (OSHP) describes the existing and proposed vehicular transportation system for the municipality. The OSHP identifies the location and design width of those major streets and highways required to accommodate the needs of the community in years to come. Because it establishes specific right-of-way and structure setback requirements, and identifies future road improvements, this plan can, in part, be used as a basis for the siting and design of new utility transmission facilities. To the extent practicable, new utilities should follow the roadway alignments of this plan. It should be noted that utilities located along specific roadways under state jurisdiction which are controlled access (such as a freeway) must be placed outside the controlled access right-of-way. The widths of the various classifications of collector and arterial streets are given in Table 1-5, and increase with the level of functional classification. The outer edge of this right-of-way is often used for slope easements, landscaping, and utilities. A cross-section of an urban major arterial, corresponding to municipal design specifications, is included in Figure 1-1, and shows this outer easement area.

### Long Range Transportation Plan

The Long Range Transportation Plan is that document within the Anchorage Bowl and Eagle River areas that specifies necessary transportation improvements, including roads, needed to accommodate the expected transportation needs through the year 2010. This plan identifies the principal arterial, expressway, and freeway facilities to serve the Anchorage and Eagle River areas, and identifies the general development requirements of these facilities. The Utility

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1 In instances where the road construction agency is required by statute to relocate existing utility lines, the inclusion of the utility line as part of the road project increases the size of the right-of-way, often resulting in considerably greater road construction costs.

TABLE 1-5

Right-of-Way Standards

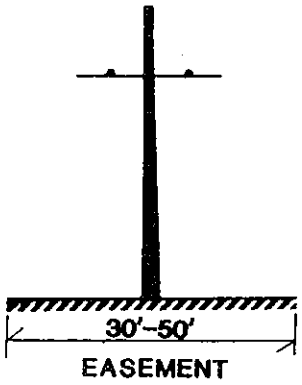
| Facility Type | Street Class | Number of Lanes | Minimum R-O-W Width | Average Daily Traffic (a) |
|---|---|---|---|---|
| Freeway | V | Variable | 150'(b) | Over 40,000 |
| Expressway | IV | 4-6 | 130' | Over 20,000 |
| Major Arterial | | | | |
| Divided (c) | III | 4 | 100' | Over 20,000 |
| | IIIA | 4-6 | 130' | Over 20,000 |
| Undivided | IIIB | 4 | 100' | Over 20,000 |
| | IIIC(d) | 4 | 60' | Over 20,000 |
| Minor Arterial | II | 2-4 | 80' | 10,000-20,000 |
| | IIA(d) | 2-4 | 60' | 10,000-10,000 |
| Collector | | | | |
| Residential | I | 2 | 80' | 2,000-10,000 |
| Industrial/Commercial | IA | 2-4 | 80' | 2,000-10,000 |
| Neighborhood | IB(e) | 2 | 70' | 2,000-10,000 |
| Neighborhood | IC | 2 | 60' | 2,000-10,000 |
| Local (f) | -- | 2 | 50'-60' | Less than 2,000 |

(a) Average number of vehicle trips per day.
(b) Does not include right-of-way required for frontage roads or interchanges.
(c) Width of divider strip may vary.
(d) Classification applicable only in area bounded by and including L Street, 3rd Avenue, Karluk Street, and 15th Avenue.
(e) Minimum 70' right-of-way required if direct driveway access is permitted.
(f) Includes Country Lanes. See also Title 21, Subdivision Street Standards.

SOURCE: Official Streets and Highways Plan.

FIGURE: 1-6

# ALTERNATE EASEMENTS & DESIGN CONFIGURATIONS

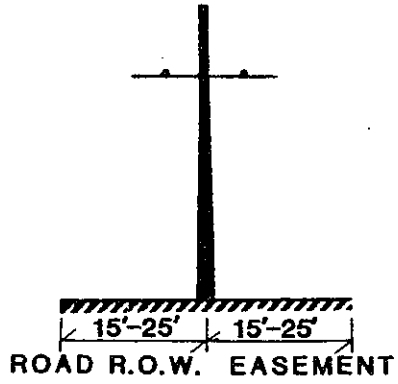



**EXAMPLE A:**

VACANT, UNPLATTED - WITHOUT ROAD R.O.W.

230KV: 50'

115-138KV: 30'




**EXAMPLE D:**

VACANT, PLATTED - WITH ROAD R.O.W.

230KV: 25'

115-138KV: 15'

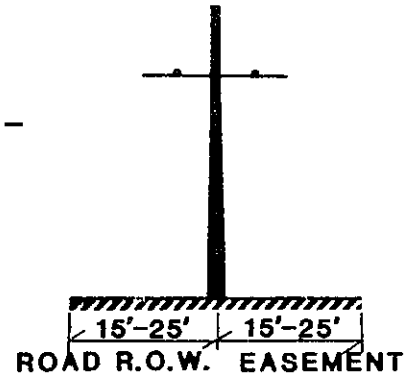


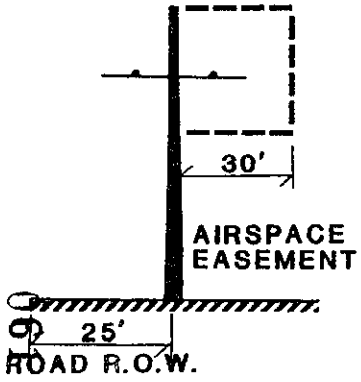
**EXAMPLE B:**

VACANT, UNPLATTED - WITH ROAD R.O.W.

230KV: 25'

115-138KV: 15'



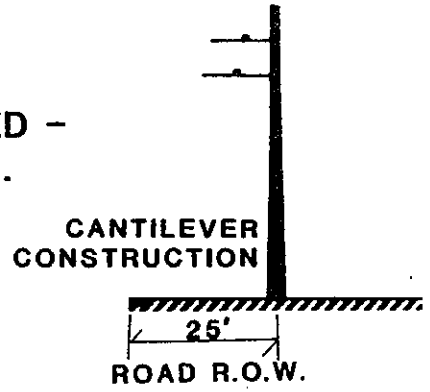




**EXAMPLE C:**

VACANT, PLATTED - WITH ROAD R.O.W.

**EXAMPLE E:**

BUILD-UP, PLATTED - WITH ROAD R.O.W.

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Corridor Plan and Long Range Transportation Plan are important, interrelated documents, with the Long Range Transportation Plan identifying the major areas of road improvements and the Utility Corridor Plan identifying the locations of future utility transmission facilities. The siting of utility transmission facilities within or adjacent to road rights-of-way vary depending on municipal or state jurisdiction and with engineering road design standards. Considerations affecting this siting are described within the UCP, Chapter 4.

Transportation Improvement Plan

This document programs the expenditure of federal and state funds for road improvements as well as other transportation improvements within the Anchorage area. It is recommended that the Transportation Improvement Plan be reviewed by the utilities on an annual basis in order to increase the understanding of forthcoming road projects and to ensure improved design and timing issues between the utilities, the municipality, and the Alaska Department of Transportation and Public Facilities.

Areawide Trails Plan

The Areawide Trails Plan identifies a trail system for the municipality. The joint use of rights-of-way for bike trails and utility lines is advantageous for both in some areas. This is particularly true when bike trails, utility lines, and roads coincide. Opportunities for trail extensions and greenbelt connections may be offered in certain instances by transmission corridors beyond roadways as well. Any joint use of trail with utility systems requires meeting certain industry safety considerations. Any joint use of trail with utility systems requires meeting certain industry safety considerations.

The joint use of rights-of-way for utilities and trails other than bikeways is not identified in this plan. Other trails, including dog sled trails, nature trails, and others are usually developed in parks, but may also be developed within the easement/right-of-way of facilities described in this plan.

The types of bike trails appropriate for use within a shared right-of-way with utility lines include the following:

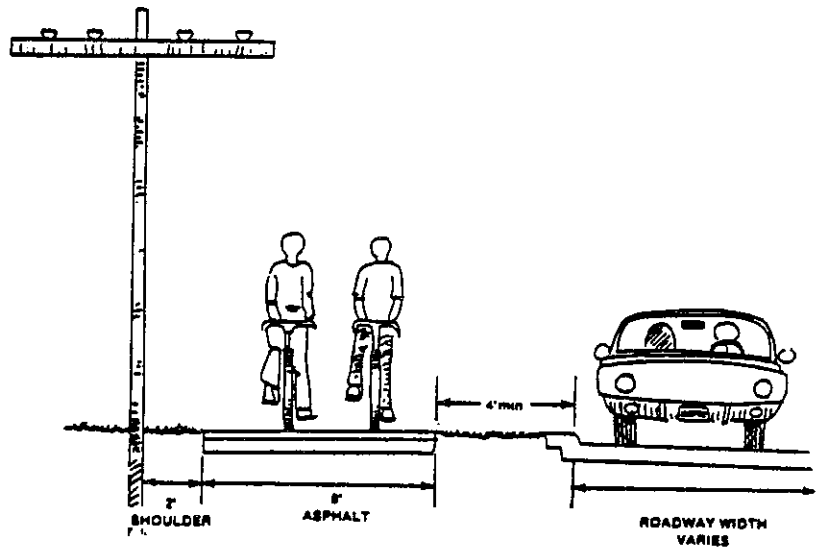
Type I Trail: trails separated from the main stream of motorized traffic by a minimum of 12 feet, including independent trails through greenbelts and parks;

Type III Trail: trails that use part of the roadway (i.e., bike lanes on road shoulders).

Figures 1-7 and 1-8 show how a bikeway and a subtransmission line could possibly be accommodated in the same right-of-way. Since Figure 1-7 would result in the requirement for an additional 20 feet of air easement or right-of-way into private property from the position of the existing structure, Figure 1-8 is most compatible with the joint use corridor concept.

FIGURE: 1-8

## Joint Use Corridor
## Utility Line/Road/Class I Bikeway

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## II. IMPLEMENTATION AUTHORITIES

The utility right-of-way requirements identified in the previous section are secured through a variety of public land regulation, private acquisition procedures, or can be reduced by certain design strategies.

### 1. LAND USE REGULATIONS

#### Road Right-of-Way

As described, many utilities are often incorporated within road rights-of-way. Utilities may use municipal road rights-of-way under the authority of either Anchorage Municipal Code 21.45.140 or Anchorage Municipal Code 24.60. The former provides sufficient area for the development of a road cross-section that encompasses an area for utilities, either within the road prism or within the right-of-way at the edge of the road and adjacent to private property. The latter gives the authority to the municipal department of Public Works to authorize the placement of a utility within a municipal road right-of-way through the issuance of a permit authorizing the specific terms of the utility installation. Importantly, the utility may be forced to relocate at its expense if municipal road construction or any other authorized construction requires the removal and relocation of the utility. The only instances where the Public Works Department is required to reimburse a utility that is relocated include:

- Where the utility was installed under a valid permit or agreement between the department and the utility that expressly provided for the distribution of costs of relocation between the two parties.

- Where the provisions of AMC 21.90.080 apply; this relates to the reimbursement of relocated utility facilities as part of road projects affected by the provisions of the Utility Undergrounding Ordinance.

Outside of major roadways identified for reconstruction or upgrade in AMATS planning documents, it has been difficult to foresee the need for road widening at the time of initial utility placement, and the provisions of AMC 24.60 have not been applied.

Different reimbursement policies and authorities apply to road projects under the jurisdiction of the State of Alaska Department of Transportation and Public Facilities. Alaska Statute 19.25.020 and .040 require the state to reimburse utilities affected by any change, removal, or relocation caused by highway construction if the utility permit allowing

said utility was issued more than five years before the highway contract for the road improvement. For this reason, the costs of utility relocations are generally an expense of the road construction if it is a state project--in contrast to municipal policy, which required these costs to (generally) be borne by the affected utility. A permit must be obtained from the department for any utility work within a state right-of-way pursuant to Section 17 of the Alaska Administrative Code (AAC), Chapter 25.

Private Property Areas

Where private property must be used for utility purposes, these areas have been reserved at the time of platting through the dedication of utility easements. Under AMC 21.80.050, the platting authority may "...require the dedication of utility easements when a utility company demonstrates a specific need for them." This section of the code indicates, however, that "...whenever possible, utilities shall be placed in dedicated rights-of-way." Interestingly, this code section sets dimensional requirements of a limited amount, and for only side and rear yards.

## 2. ACQUISITION OF EASEMENTS

When platting has already occurred, or when an additional, exclusive utility area is required, easements may be secured from property owner(s). Such easements may be either aerial or surface, and may be secured either through voluntary donation by the private property owner or through fee simple acquisition by the utility.

## 3. DESIGN

In those instances where it is not possible to secure an easement, where structures have already been constructed within private property, or where certain design objectives are to be realized, cantilever construction may be used. However, it should be noted that cantilever construction is not a desirable form, particularly when double circuiting must be used, because of the difficulty of maintenance work on the lines. As explained, such construction utilizes the road right-of-way in order to minimize easement requirements and impacts to adjacent, developed properties. A related technique involves the use of double-circuits; this entails the installation of two otherwise separate circuits on a single, common utility pole. This technique may be combined with cantilever tower construction to further reduce utility right-of-way needs. It should be noted that this practice is at the expense of system reliability and is generally avoided by the electric utilities unless no other alternative exists.

The use of these implementation strategies is directly related to the types of right-of-way requirements and constraints discussed in the previous section. Table 2-1 describes the principle authorities used in the majority of utility placement situations.

**TABLE 2-1**

**Relationship of Municipal Implementation Authorities to Land Use Types**

| Land Attributes | AMC 24.60 | AMC 21.80 | Easement Acquisition |
|---|---|---|---|
| Vacant, unplatted w/o road ROW | | X | |
| Vacant, unplatted with road ROW | X | X[1] | |
| Vacant, platted w/o road ROW | | | X |
| Vacant, platted with road ROW | X | | X[1] |
| Built-up, platted w/o road ROW | | | X[1] |
| Built-up, platted with road ROW | X | | X[1] |

Notes

1 Assumes part of easement within private property.

## III. SITING AND DESIGN CONSIDERATIONS

The siting of utility facilities depends upon factors related to engineering feasibility, technical, environmental, and economic considerations, such as the location of load centers, and system reliability. These factors, in varying degrees, are used to determine whether separate or joint utility corridors should be developed, and to identify the location of future utility corridor routes.

### 1. ENGINEERING CONSIDERATIONS

Ideal routes for both electrical transmission lines and gas pipelines are straight lines. Such ideal routes save materials and reduce construction costs. Moreover, these routes minimize power losses for electrical lines and pumping costs for pipelines. However, actual corridor routes frequently depart from this ideal. Further, considerations of engineering compatibility must be assessed when utility systems are placed in joint use corridors.

Electrical transmission lines are often built in mountainous terrain, across ravines and rivers, in marked departure from an ideal route. This can be done only when the transmission line towers are located on stable ground and are designed to withstand climatic extremes.

Pipeline corridors require a graded right-of-way as a construction area for the entire distance. Thus, rocky soils, faults, landslide areas, canyons, and rivers which can be bridged by electrical transmission lines are generally avoided for pipelines. These requirements can mean that parallel joint use corridors are not feasible if the engineering conflicts are severe enough. Because of the more restrictive siting requirements of pipeline corridors, pipeline engineering is the first consideration in joint use electrical transmission line/pipeline corridors.

### 2. TECHNICAL CONSIDERATIONS

High-voltage electric transmission lines have the greatest effect on other utility systems, and hence pose the greatest problems for joint right-of-way usage. As illustrated in Table 3-1, the number of hazards (e.g., shock and fire/explosion), potential construction damage, nuisance (e.g., radio interference and noise), and degree of system reliability is more adverse when other systems are influenced by powerlines. Though gas pipelines and highways produce problems for other systems, the effect is not as great as it is for powerlines. Also, system effects are not reversible. Placing an electric transmission line in a corridor along an existing gas pipeline presents greater problems

and hazards than placing a pipeline along an already existing powerline due to possible pipeline damage from the installation of tower footings.

Powerlines can induce currents in metallic objects adjacent to the line. This effect is particularly prominent in corridors with long parallels. In addition to causing communication interference, audible crackling noise, and shock hazards, electric transmission lines can contribute to the corrosion of buried pipelines and cable sheaths under certain conditions. Finally, "fault currents" can flow to the ground from the powerlines (e.g., through lightning strikes) and move along the pipeline or buried cable, resulting in equipment damage and possible pipeline rupture which can lead to ignition and shock hazard (Department of the Interior, 1975). Other authorities feel that these severe effects are very rare or may not occur at all given the relatively low-voltage electric transmission lines employed in Anchorage.

**TABLE 3-1**

**SYSTEM INTERACTIONS WITHIN JOINT RIGHTS-OF-WAY**

| System Effects Upon | Elec. Tran. | Gas Pipeline | Highways |
|---|---|---|---|
| Electrical Transmission | R<br>H-S | H-M | R |
| Gas Pipelines | D<br>H-G | H-G | H-S |
| Highways | N<br>H-M | H-S<br>N | H-S<br>N |

Legend:

Type of Influence
H- Safety Hazard
- S Small
- M Medium
- G Great

D- Potential Construction Damage
N- Nuisance
R- System Reliability

SOURCE: U.S. Department of the Interior, 1975, The Need for a National System of Transportation and Utility Corridors.

As seen from Table 3-1, utility compatibility from one system to another, aside from electric transmission lines, is adequate. As reported in the Department of the Interior's 1975 report:

> "The type and degree of incompatibility depends on such variables as the design characteristics of each system, the separation between systems, the length of parallel, the resistance of the soil to the flow of electricity, and climatic conditions."

Normal practice in joint use corridors has been to simply provide enough space to avoid any adverse impact such as powerline-induced currents in an underlying gas pipeline. In flat rural land with suitable soils, a minimum corridor width for an electric transmission line, four-lane highway, communication line, pipeline, and a mainline railroad is 1,925 feet, given no mitigation measures. With a number of feasible mitigation measures employed to optimize technical compatibility, this corridor width can be reduced to 745 feet for the same utilities and transportation modes under the same conditions.

## 3. ECONOMIC CONSIDERATIONS

Joint use utility corridors can involve added costs due to a less-than-ideal route, but may be more than offset by the cost savings in corridor acquisition and construction maintenance operations. The mitigation measures necessary to prevent construction and maintenance damage to adjacent systems in the corridor result in higher construction costs than that of a single system corridor. Moreover, special construction costs might be encountered for individual utility systems given the less-than-ideal route for a joint use corridor. These special costs could include solid rock trenching for pipelines, or special footings for transmission towers in wetland areas. These costs may be offset, however, by joint use corridor savings resulting from shared access roads and reduced land area requirements.

## 4. RELIABILITY

Reliability refers to the probability of system failure. In joint use corridors, system reliability is said to be "degraded" because of the increased probability of system hazard/damage from other parallel and adjacent systems in the corridor. Examples of system disruptions that produce degraded reliability are:

1. Persons and equipment working on one system damaging adjacent facilities;

2. A train derailment or highway accident damaging adjoining systems;

3. Explosion from a gas pipeline rupture damaging adjacent systems; or

4. An accident, sabotage, or natural disaster disrupting all systems in close proximity (Department of the Interior, 1975).

Electric transmission lines must be protected so that the loss of power in a joint use corridor through accident, natural disaster, or sabotage does not lead to widespread outages. Similarly, gas pipelines must be protected so that widespread service disruptions are avoided. Start-up costs after such disruptions are high, particularly for gas service.

All joint use utility corridors are subject to degraded reliability due to necessary construction and periodic maintenance. The spacing and mitigation measures mentioned above, as well as cooperation and communication between utilities, can maximize system reliability, but with a probable increase in costs.

## 5. ENVIRONMENTAL CRITERIA

Of all the utility services, overhead electric transmission lines have the greatest impact on the environment. They require the most right-of-way and they are, of course, visible. Concealment of transmission towers and lines is virtually impossible, but much can be done to make them less obtrusive and more attractive. Proper corridor site location, landscaping, and screening are needed in both rural and urban settings.

Constraints upon the location of transmission lines are, however, usually greater in urban areas. Existing development, and the lack of sufficient right-of-way, may require less than optimum locations. In rural areas, greater flexibility exists in locating the utility corridor because wider right-of-way easements are usually available. The dissimiliarities between rural and urban areas results in the application of different criteria for siting transmission lines. A joint publication by the U.S. Department of Agriculture and Interior has been used extensively in this section (U.S. Department of Agriculture and Interior, 1970).

### Electric Transmission Lines--Rural

1. Rights-of-way should be planned to preserve the landscape and minimize land use conflicts. This means the avoidance of heavily timbered areas, steep slopes, main highways, and scenic areas, including parks or monuments. If the corridor must pass through a recreation area, a thorough evaluation of an undergrounding alternative should be made.

2. Where possible, retirement or upgrading of existing lower voltage transmission circuits should be required to allow

the construction of higher voltage, higher capacity circuits on the existing right-of-way.

3. Joint use utility corridors with properly sited rights-of-way should be encouraged where feasible.

4. Care should be taken to screen corridors from view by the selection of routes that take advantage of natural contours or landscapes. Deflection of right-of-way strips through heavily timbered areas should be made to avoid "tunnel" appearances.

5. Avoid crossing open expanses of water and wetlands. Where this habitat is crossed by the flight lanes of migratory waterfowl and heavily used by other birds, the need for avoidance is particularly great.

6. Any areas of wildlife concentration, such as nesting and rearing areas, should be avoided.

Electric Transmission Lines--Urban

1. In the selection of rights-of-way, care should be exercised to avoid high visibility areas. Where high visibility corridors are unavoidable, screening should be used wherever possible to minimize views of the utility corridor.

2. Use of existing rights-of-way should be examined for the potential siting of new transmission lines.

3. Joint use of rights-of-way by two or more utilities, where not in conflict with identified transportation needs, should be encouraged.

4. Aesthetic considerations need to be balanced with land requirements for utility corridors. Ideally, utility lines should be completely screened within a very narrow corridor. Where sufficient right-of-way width is available, consideration should be given to using double pole structures which are shorter and hence more easily screened than the taller single pole structures. (This technique should only be used in rural areas where the necessary right-of-way for double pole structures is usually available.) Alternatively, the height of the pole lines should be minimized through the prohibition of distribution underbuilding on transmission lines.

### Underground Transmission Lines

The environmental impact of underground utility location may be minimal compared to overhead electric transmission lines. Whether such facilities should be constructed, however, depends on environmental, cost, and system reliability criteria--and must be evaluated on a case-by-case basis. The following environmental considerations can ensure that these lines will be an unobstructive part of the landscape.

1. The joint use of rights-of-way with other types of utilities should be coordinated in a common corridor whenever utility uses are compatible.

2. Clearing for construction and excavation should be kept to a minimum.

## 6. SENSITIVE LANDS

Sensitive lands may be defined as those areas where eco-systems are particularly vulnerable, or where development constraints and/or hazards are present. Table 3-2 lists those factors by general category which are sufficient to identify sensitive lands. Single factors alone (e.g., wetlands or the presence of rare and endangered species) may be sufficient to classify an area as sensitive, particularly where state or federal regulation, as in the above two examples, are involved. The clustering of several factors from different problem groups for a given locale is an indicator of the land's sensitivity.

Transmission lines should be diverted around these sensitive areas. However, where no alternatives to proposed corridors across small areas of sensitive lands are available, thorough consideration should be given to undergrounding transmission lines. In earthquake problem areas, however, such undergrounding is not advisable.

## 7. VISUAL IMPACTS

Major electrical transmission facilities can have a major visual impact, especially within the densely built-up portions of urban areas. These facilities can affect a person's feelings about the quality of life and livability of the area where he works and lives. To the extent that the outline of these facilities can be obscured or obstructed, the compatibility with adjacent sensitive uses can be greatly enhanced. Facilities that must be upgraded or replaced should utilize existing rights-of-way where not in conflict with identified transportation improvements, and careful consideration should be given to the actual type of transmission tower design used in order to provide the least visually obstructive facility. The use of compact construction should be encouraged by the utilities.

**TABLE 3-2**

**SENSITIVE LANDS CRITERIA**

Earthquake Problems
- ground shaking potential
- fault rupture areas
- tsunami or seiche potential

Slope Stability Problems
- avalanche hazard
- landslide hazard
- solifluction potential
- creep potential

Water Problems
- stream flooding frequency
- floodplain areas
- aquifer recharge areas
- wetland areas

Soil Problems
- subsidence potential
- liquefaction potential
- settlement potential
- shrink/swell potential
- frost heave potential
- soil loss potential
- sedimentation potential

Ecological Problems
- unique habitat areas
- wildlife nesting or rearing areas
- rare or endangered species present
- bird flightway areas

Weather Problems
- high wind areas
- ice damage potential

Cultural Problems
- land use conflict areas
- scenic opportunities/landscape vistas
- noise (loudness, duration, frequence, and perceived nuisance level)
- archeological/historic sites
- unique recreation areas (fossil beds, skiing, etc.)

SOURCE: Laird, R.T., et al, 1979, Quantitative Land Compatibility Analysis, USGS, Washington, D.C.
McHarb, Ian, 1971, Design with Nature, Doubleday Press, New York

## IV. RECOMMENDATIONS: UTILITY CORRIDORS

The UCP is intended to serve both as a planning tool and as a means for its own implementation. It is intended to provide guidance to both the municipality and the affected utilities as to the type and location of major utilities to be developed over the next ten to twenty years. It is also designed to express the most appropriate location for facility improvements in order to provide predictability in utility development and yet minimize neighborhood and community impacts.

The UCP, once adopted, is expected to be self-executing. That is, with the approval of the plan map and the associated ordinance amendments, future platting and building decisions are intended to implement the recommendations of this plan through specific plat, conditional use, and building permit approvals, and other public facility and development reviews. These actions shall be generally consistent with the corridor location and corridor width recommendations of this plan.

### 1. PROCESS OF PLAN DEVELOPMENT

The recommendations included herein are the result of extensive discussions with both the affected utilities and the public. The process of plan development included the following sequential steps:

a. Identification of current major transmission corridors;
b. Identification of probable future major transmission corridors;
c. Identification of impacts of probable alignments relative to environmental, community, and fiscal considerations, including costs (if any) to road construction agencies if a joint road/utility corridor is to be considered;
d. Realignment and/or elimination of potential utility corridors;
e. Utility and public review of initial plan recommendations, including modifications to initial plan recommendations; and
f. Finalization of the draft UCP, and review of its recommendations by the public and affected agencies.

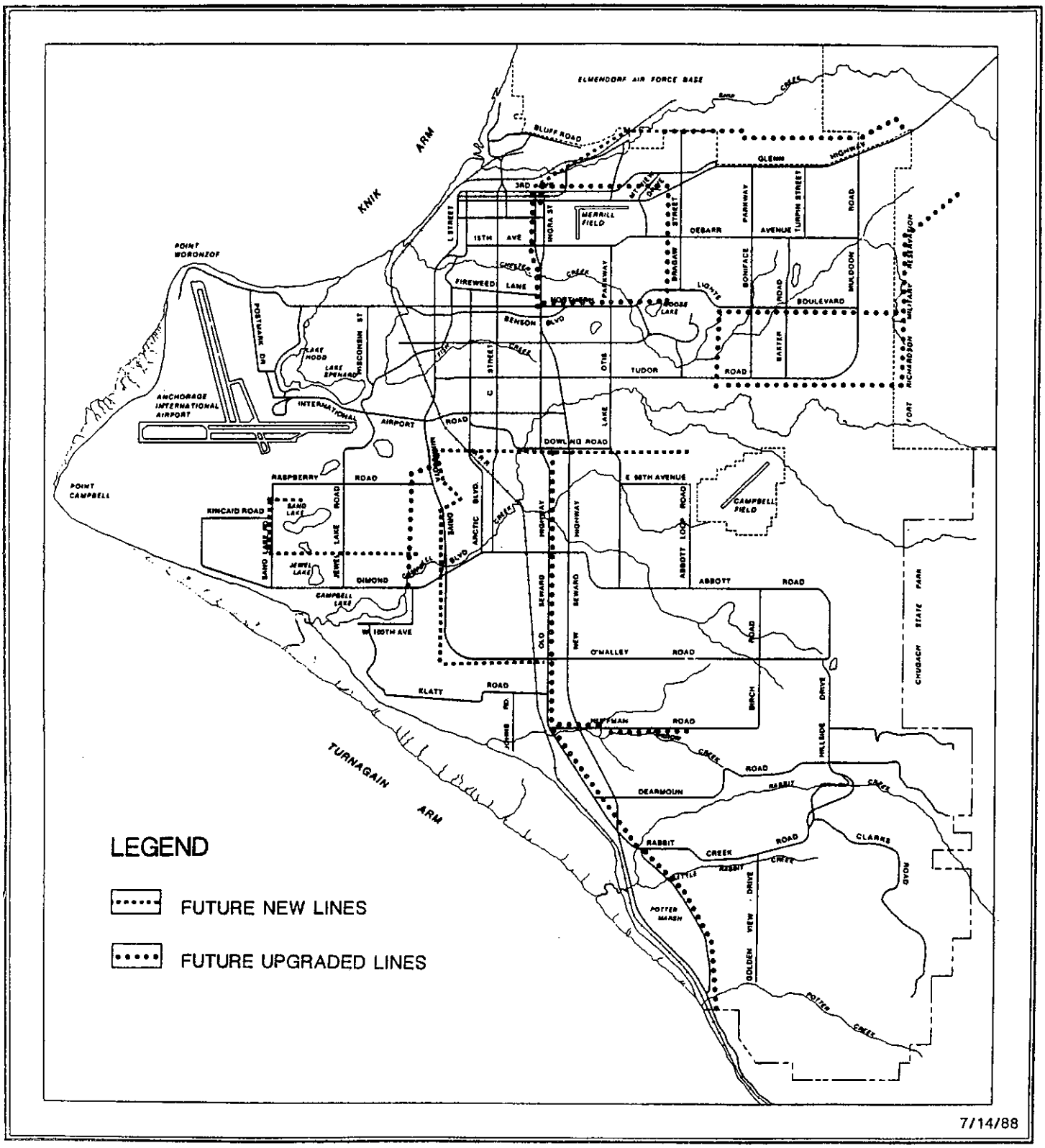
### 2. PLAN RECOMMENDATIONS

#### Utility Corridor Map

The alignment recommendations of the UCP are identified in Maps 4-1, 4-2, and 4-3. These maps identify the future major water, sewer, petroleum products, natural gas, and electrical

MAP 4-1

# PROPOSED ELECTRIC TRANSMISSION FACILITIES

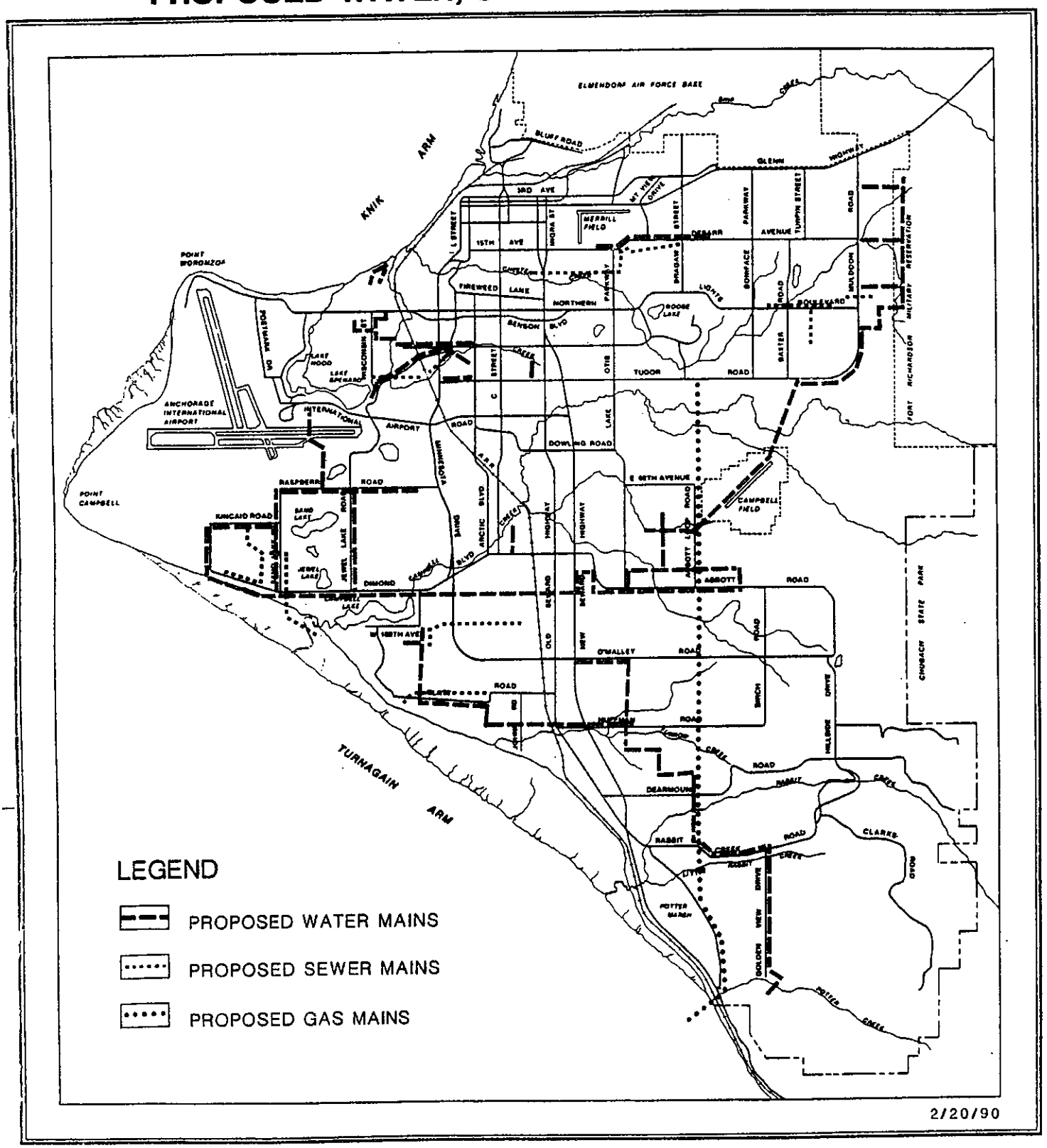





077

MAP 4-2

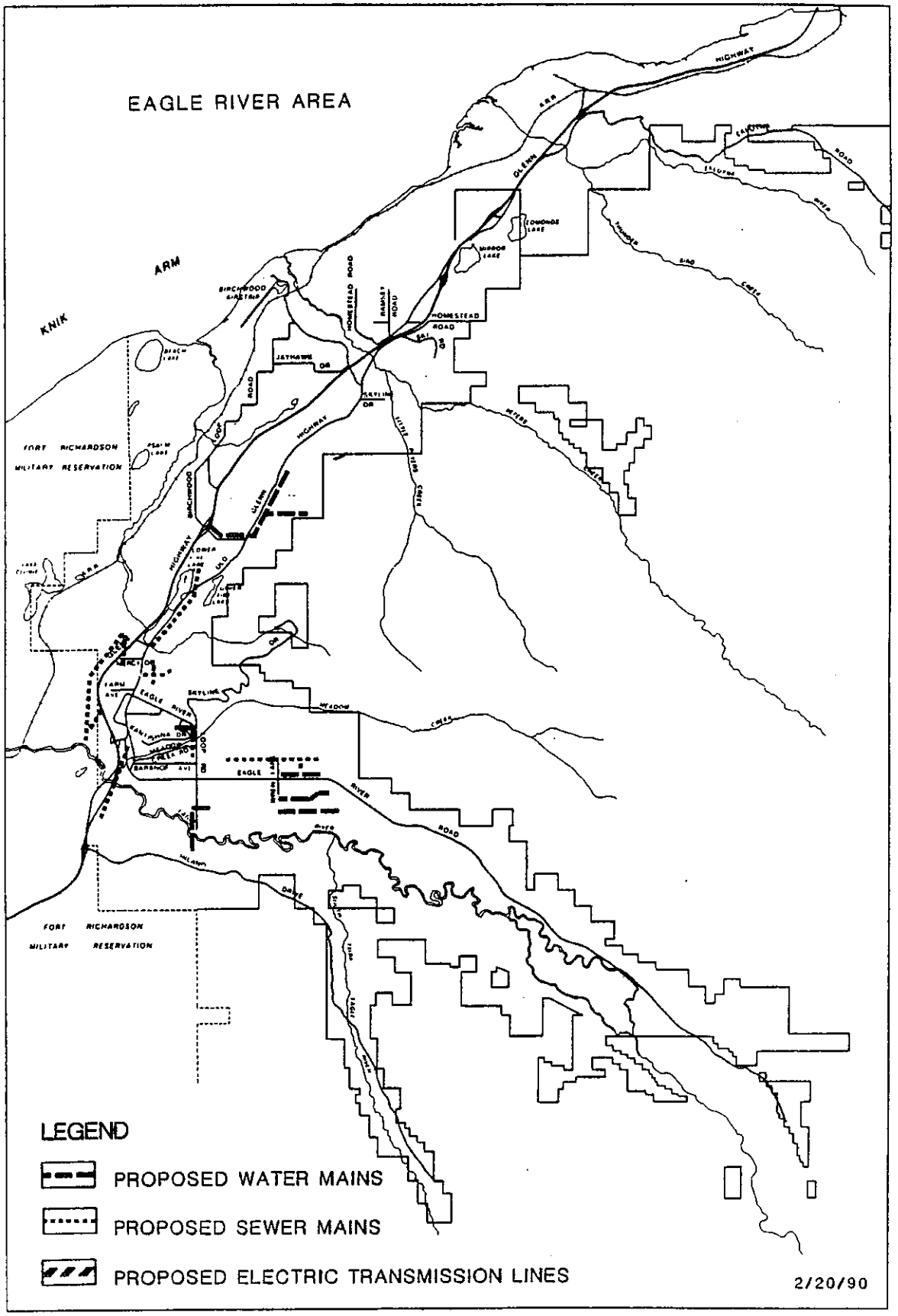
# PROPOSED WATER, SEWER & GAS FACILITIES




078

MAP 4-3

# PROPOSED ELECTRIC TRANSMISSION, WATER & SEWER FACILITIES




079

power transmission within the Municipality of Anchorage that are expected to be developed over the next ten to twenty years. These recommendations reflect the utilities' best estimates regarding facility development, while the corridor alignments reflect a balance between the competing values of technical and engineering feasibility, economics, and both community and land use considerations. The facilities identified on Map 4-1 are derived from load generation and transmission evaluations prepared by the utilities. The municipality's master development plans for water and sewerage facilities are used as the basis for the recommendations given in Maps 4-2 and 4-3.

The alignments depicted in these maps are intended to be followed in subsequent platting, building permits, and related land use decisions. Minor departures from the precise alignments depicted in this plan may be authorized at the time of platting, conditional use, or other developmental or siting approvals, including detailed engineering routing studies conducted by the utilities. Changes to these alignments are also possible through either the plan amendment or plan revision procedures described subsequently in this chapter. When a modification of a corridor has been determined, this route will become the official corridor and the original alignment will be deleted from the plan map.

Interpretation of Plan Map--Electric Transmission Facilities

The alignments depicted in the plan maps are not precise, but rather identify a general location that may/will be further refined through subsequent engineering evaluations and permitting actions. Because of the sensitive nature of electric transmission facilities, it is appropriate to clarify how this plan implements the general alignments given in Maps 4-1 through 4-3 for these structures.

The location of electric transmission facilities specified in the UCP is the edge of the right-of-way of a proposed road and/or the outside edge of the existing road right-of-way. In the former, the location coincides with that situation where a road is intended to be enlarged, consistent with either the Long Range Transportation Plan or the OSHP, but right-of-way is not yet fully available. In this instance, the utility would locate at the edge of the eventual road right-of-way. In the instance where right-of-way has been acquired for the road, and it is presumed that the road will not be widened in the future, it is expected that the location of the utility would be at the outside edge of the road right-of-way. It is anticipated, because of the placement at the edge of the road right-of-way, that portions of the road's airspace would be utilized. To this extent, the road right-of-way is utilized; however, in terms of the actual

placement of utility towers, the location of these facilities will be dependent upon the design requirements and specifications of the municipality and/or ADOT/PF[1]. These design requirements vary, but in general, for limited access facilities, the location of towers must occur outside the road right-of-way. Under municipal design requirements, it is possible to locate utility towers within the road right-of-way near the private property line.

## 3. RECOMMENDED REVISIONS--LAND USE REGULATIONS

While each of the aforementioned strategies for electrical transmission facilities appears sufficient, certain modifications to these methods should be made in order to resolve specific problems that have arisen.

### Revision of Anchorage Municipal Code 21.80

This authority (AMC 21.80.050) now authorizes the platting authority to require (particular) dimensional easements adjacent to side and rear yards. This authority should be expanded to include a similar authority statement for front yards, since it is apparent that dedicated rights-of-way are often insufficient to accommodate all necessary electrical transmission improvements.

A new "design" section of AMC 21.80 is also recommended. This section would be a simple authority statement authorizing the platting authority to require all future subdivisions to conform to the recommendations of this plan, including the authority to preclude structures within areas of aerial or ground easements designed to protect electrical transmission facilities. This authority statement would ensure that the alignment, easement width, and related recommendations of the UCP are followed.

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1 It should be noted that in the case of state right-of-way, permits for placement of aerial and/or ground utility facilities will be reviewed on a case-by-case basis. However, permits are intended to be issued in existing rights-of-way only where roads are fully constructed to AMATS Long Range Transportation Plan and Transportation Improvements Program recommendations. Outside the AMATS area, the ADOT/PF six-year CIP and long-range plans will determine future roadway needs.

Addition to Supplementary District Regulations (21.45)

AMC 21.45 currently prohibits all structures within the area of road setback. Generally, this is sufficient to ensure the placement of structures outside of the area of expected, probable right-of-way. However, if a transmission facility must be relocated with a road widening, and does not meet the requirements of utility undergrounding in AMC 21.90, the relocated utility structures may be in conflict with authorized structure at the edge of the road setback area. This relationship is depicted in Figure 4-1. Under AMC 21.45.140, structures (D) shall be located beyond the area of road setback (B) and the yard area (C). However, structures may be located at the edge of the road setback (B) under AMC 21.45.140, but the easement requirements for the various types of electrical transmission easements (X and Y) conflict with authorized structure locations.

For this reason, this code section should be revised to preclude uses of land that are not compatible with these easement requirements. This authority would be used in combination with the revision to the subdivision authority. Specifically, it will ensure the proper placement of structures within areas not requiring subdivision (commercial tracts), or that have already been subdivided but now allow structures inconsistent with the utility easement requirements described previously.

4. DESIGN STANDARDS--ELECTRIC TRANSMISSION LINES

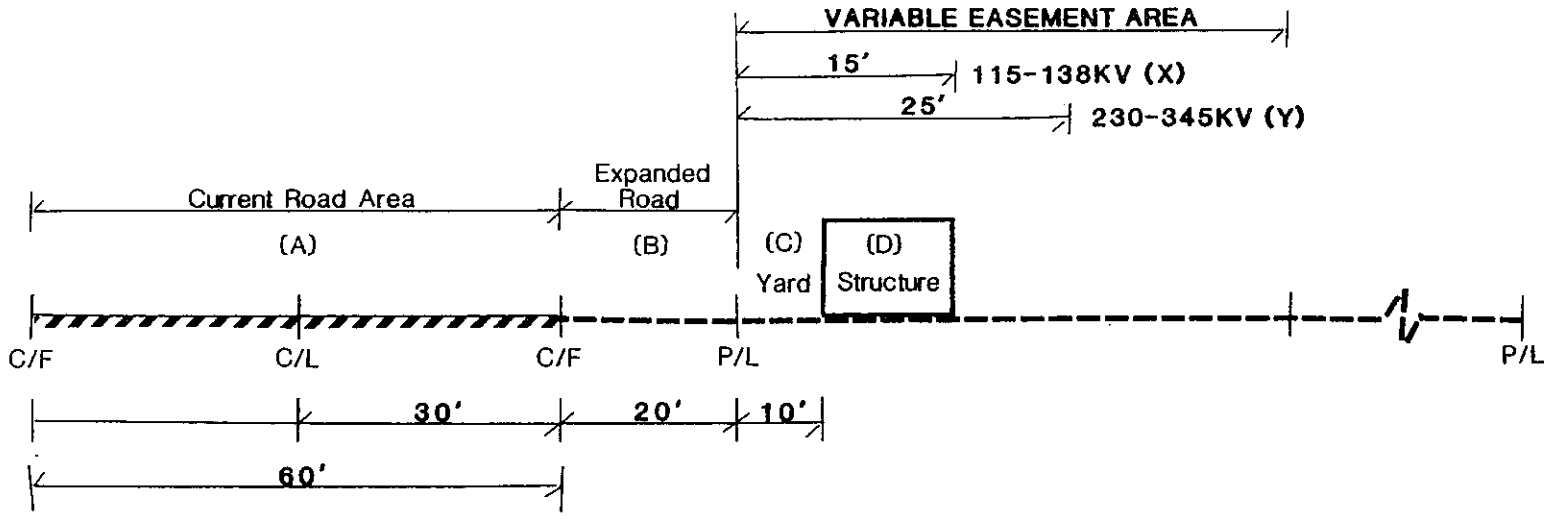
The most visible user of the utility transmission corridors will be the electric utilities. Because of their impact upon aesthetics and views, this section sets forth the general guidelines under which these facilities are to be constructed. It is not the intent of this section to place undue restrictions on the design of the facilities to be placed in these corridors, but to set forth standards to be adopted in their design. The goal is to insure compatibility with the communities where the facilities are located, and to help achieve the objectives of the UCP.

Establishment of Utility Corridor Use

The first utility to occupy a segment of a corridor shall have an affirmative obligation to seek the advice of other potential users of the corridor to insure compatibility and effective space utilization. If there is a persuasive reason to modify the location of the corridor, the other utilities shall be so informed, and have an opportunity to comment. If the parties are unable to agree over joint use of the corridor, the Department of Economic Development and Planning shall seek to mediate the dispute. The factors that are to be considered in this mediation effort should include the

FIGURE: 4-1

# STRUCTURE PLACEMENT & ROAD DESIGN




C/F : CURB FACE
C/L : CENTER LINE
P/L : PROPERTY LINE





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relative costs of alternative routings between the parties, the conclusions of environmental studies, and technical design considerations which may preclude the use of alternative routings. Should the mediation process fail, the Department of Economic Development and Planning shall refer the dispute to a technical committee for a binding decision. This committee shall be formed by Department of Economic Development and Planning, and shall consist of professionals knowledgeable of electric utility routing decisions but not directly involved in the dispute.

## Undergrounding of Existing Lines

When a transmission facility is to be constructed on a route presently occupied by existing distribution voltage lines of the same utility, the undergrounding of these lines shall be considered. If lines below 69KV are not to be placed underground at the time when the transmission facilities are constructed, the utility shall be required to demonstrate one or more of the following:

1. That the differential between the cost of undergrounding and allowing the lines to be constructed as underbuilds on the new transmission structure lines exceeds a factor of three. This cost differential shall consider all of the expenses involved, including the savings resulting from the use of smaller transmission structures, if the lines are placed underground.

2. That there are particular, demonstrable technical or reliability reasons that the facilities should not, or may not, be placed underground.

3. That the environmental damage will be significantly greater with the installation of underground lines than that caused by allowing the lines to remain overhead.

If the utility can demonstrate that one or more of these criteria are met, it shall not be required to install the facility underground. This does not excuse the utility from reasonable mitigation measures which may be imposed for the overhead construction.

## Aesthetic Design Considerations

All transmission structures shall be designed to meet reasonably aesthetic criteria, consistent with good utility practice. Transmission lines will be designed to occupy a minimal width of right-of-way at minimum heights, unless it can be demonstrated that for safety or sufficient engineering reasons a taller structure must be used. Of course, the use of narrow right-of-way is dependent upon the acquisition of satisfactory aerial easements.

Underground Transmission Lines in Scenic Areas

In areas of high scenic value to the community, the use of underground transmission lines shall be considered. Utilities not wishing to place the line underground shall demonstrate that the undergrounding of the transmission line satisfies one or more of the following reasons:

1. If the cost differential between underground and overhead facilities is greater than 1.5 for projects costing $500,000.01 or more, or 2.0 for projects costing $500,000.00 or less, the cost comparison shall include all anticipated costs, including the expense of condemnation and other reasonable mitigation measures imposed for overhead line construction.

2. There are demonstrable technical or reliability reasons the facilities should not, or may not, be placed underground. The utility will not be required to place short sections of transmission circuitry underground if this will substantially impact reliability.

3. The environmental damage will be greater with the installation of underground facilities than that caused by installing the lines overhead.

4. An accepted environmental report of the utility has concluded that the undergrounding of the circuit in question is not feasible.

If the utility demonstrates that one or more of these criteria can be met, it shall not be required to install the facilities underground. This shall not excuse the utility from reasonable mitigation measures which may be imposed for overhead construction or from the consideration of alternate routings.

## 5. INCORPORATION OF THE UTILITY CORRIDOR PLAN IN UTILITY STUDIES

It is recognized that the utilities will, for their own purposes, perform, or have performed, studies to determine the need for future transmission lines. An integral part of these studies is the selection of routings of such lines. Each of the utilities shall incorporate the design, width, and alignment recommendations of the UCP in its transmission studies.

## 6. PLAN AMENDMENT AND REVISION

This plan specifies future utility corridors given competing environmental, social, technical, and land use considerations. It is inevitable that departures from these recommended corridors will occur over time as conditions, technologies, and social

objectives change. To account for this, both plan amendment and plan revision processes are recommended.

It should be emphasized that plan amendment or revision procedures are for major deviations from the proposed utility corridor. Deviations resulting from the detailed engineering analysis of a utility corridor, and generally consistent with the geographic alignment depicted on Maps 4-1 through 4-3, shall be considered to fall under the "flexibility-in-alignment" criterion discussed previously. If the Department of Economic Development and Planning review of a proposed corridor alignment reveals a significant departure from the corridor depicted in Maps 4-1 through 4-3, the decision to process a plan amendment will be confirmed by the Planning Commission under the consent agenda before such an amendment process will actually be initiated.

### Plan Amendment Process

Should transmission routes other than those identified on the plan map be requested, including routes not depicted at all on the plan map, an evaluation of alternative routes shall be required. Although there is a presumption of preference for the plan map route(s) alternative routes can be selected, but the utility must identify and document the advantages of the alternative route relative to the one identified on the plan map. The considerations described in Appendix B shall be addressed in a report submitted to the Department of Economic Development and Planning for review prior to a public hearing. The Planning Commission shall be that municipal entity authorized to grant major deviations from the corridors specified in the plan map. Appeals of these decisions shall be made to the Anchorage Municipal Assembly, similar to the manner described in Anchorage Municipal Code 21.15.015.

### Plan Revision

The UCP shall be updated at least every five years in order to maintain consistency with current utility planning as well as land use and transportation plans. This revision process is dissimilar from the plan amendment procedure. The amendment procedure is intended to focus on specific utility corridors, while the revision process is designed to thoroughly reevaluate all of the corridors identified in the plan map. It is recommended that a joint utility/planning committee representing all affected state, municipal, and utility interests, be formed to assist in the revision of the UCP. This organization would also function as a working group that would perform an annual review of the recommendations of this plan in order to expedite the revision process.

## APPENDIX A

## Utility System Descriptions

### Electric Power Systems

Electric power systems include all of the installations and functions required to deliver electric power from source to customer. The principal features include:

1. Generation Systems: the source of electric energy produced by hydroelectric and thermal generating plants.

2. Transmission Systems: the circuits carrying bulk electric power from the source to one or more centers of distribution. Delivery points may be distribution substations or transmission switching substations where further delivery is made to subtransmission systems.

3. Subtransmission Systems: the circuits carrying bulk power from transmission switching and substations to the distribution system substations.

4. Distribution Systems: those elements of an electric power system between the transmission or subtransmission system and the customer's meter. Components of the distribution system include the following:

    a. Distribution Substation: a facility where bulk power is reduced in voltage for distribution to a specific service area.

    b. Primary Distribution System: a system of conductors serving distribution transformers from distribution substations.

    c. Distribution Transformers: systems of transformers for the purpose of reducing primary distribution voltages to those acceptable for customers' services.

    d. Secondary Distribution System: a system of conductors serving customers' premises from distribution transformers.

Although there is no uniform standard of voltages for the various elements of electric power systems, general practice and the requirement to interconnect systems have resulted in "preferred voltages," which have been adopted by the electric utility industry. Representative voltage ranges include:

1. Transmission--69KV and up
2. Sub-Transmission--34.5 to 69KV

3. Primary Distribution--2.4 to 34.5KV
4. Secondary Distribution--600 Volts

Gas Systems

Gas systems include those installations and functions required to carry gas from source to customer. These systems normally utilize natural gas piped at considerable distances from well fields (e.g., Alaska Gas and Service Company pipes their gas from the Kenai). The primary elements of gas systems include:

1. Gathering system facilities, including processing and compression stations.

2. Transmission lines which transmit gas to one or more distribution centers. Transmission pipes are generally 12 to 36 inches in diameter.

3. Distribution systems which carry and control gas supply from distribution centers to the customers' meters. Distribution systems may be further defined as:

   a. High or medium pressure, which operate at pressures higher than the standard service pressure delivered to customers. Pipe sizes range from 1¼ to 20 inches.

   b. Low pressure, in which pressures are substantially the same as those required by customers' appliances, thus not requiring pressure regulations at customers' premises. Pipe sizes range from four to 24 inches.

Water Systems

A water supply system consists of all the necessary installations required to obtain, treat, and distribute water to the eventual user. Principal features of water supply systems include:

1. Sources, including rivers, lakes, wells, and the facilities associated therewith.

2. Transmission mains, used to transmit water to treatment facilities and/or to distribution systems.

3. Treatment facilities, which improve the water quality when necessary.

4. Distribution systems, for conveying water to the customers' premises.

## Sewer Systems

A sewer system includes collection, treatment, and disposal functions. Sewer collection systems in urban areas are generally arranged in networks permitting gravity flow to treatment or disposal points. Grades of sewers are kept constant, depending on size and capacity, and are sufficient to provide velocities to transport solid materials. Pump stations are used when the grade is too steep. Features include:

1. Collection networks, which are dictated by topographical conditions. However, as in water supply systems, a grid pattern is associated with the street layout.

2. Sewer mains, which are generally installed ten feet from the center of the street, although there may be one on each side in high-density districts. The standard location for sewer lines is a minimum of ten feet east or north of the right-of-way center line. Due to topographical constraints, interceptors and laterals may be located outside of street rights-of-way.

3. Treatment plants, which vary in terms of the method used to treat sewage.

## Telephone and Other Wire Communications Systems

Telephone and other wire communications systems--including telegraph, fire, traffic signal control, and security service--are sufficiently similar to be considered collectively. The telephone system is by far the largest to be considered and will serve as the basis for discussion.

A telephone system is an assemblage of telephone stations, lines, channels, and switching arrangements for their interconnection, together will all accessories for providing telephone communication. The major features of the telephone system in an urban area include:

1. Central plant, consisting of switching gear located at central offices.

2. Outside plant, consisting of:

    a. Intercity trunk circuits connecting central offices to central offices in other cities (Alaskan cities are connected by satellite).

    b. Interoffice local trunk circuits connecting central offices.

    c. Local customer loop circuits connecting each customer to a local central office.

Intercity and local interoffice trunk circuits have a defined pattern, seeking primarily the shortest distance between central offices. Telephone and other communication systems use cable less than three inches in diameter to transmit. The cable has traditionally been hung on existing electrical poles. However, there is a trend towards placing these lines underground.

## APPENDIX B

### Plan Amendment Process

The plan amendment process shall include the following considerations, which shall be documented within a report submitted to the Planning and Zoning Commission at least four weeks prior to the public hearing or the proposed plan amendment. Alternatively, a utility that has developed a detailed engineering and environmental study which evaluates the need for, and routing of, particular facilities, may use this analysis in fulfillment of the subsequent information requirements, providing alternative routings are evaluated and the same scope of information is provided. These studies must, however, include consideration of the preferred routing identified in the UCP.

#### Alternatives to be Considered

A range of alternative utility transmission line corridors must be submitted which identifies:

1. the utility's preferred route;
2. a route within an already identified corridor on the UCP map;
3. at least one other alternative route; and
4. the impacts of a "do-nothing" alternative.

#### Alternative Description

For each of these alternatives requiring amendment to the UCP, information on the following factors must be submitted: both a narrative and graphic description of the route is required, accompanied by route maps for both plan and profile views at a scale of 1"=500' or larger. Engineering design detail and representative cross sections should be provided.

#### Impacts

The effects of each alternative upon the community must be evaluated. The information required for this evaluation shall consist of, but not necessarily be limited to, the following items:

1. Environmental: the project effects upon eco-systems must be quantified. The environmental criteria contained in the UCP, particularly those criteria pertaining to sensitive lands, should be consulted. The policies, criteria, and guidance described in the Coastal Zone Management Plan, the Wetlands Management Plan, and the Comprehensive Plan should be analyzed.

2. Costs: all costs of land easement acquisition, both public and private, must be fully detailed and described. The costs

of a do-nothing alternative must be addressed along with the costs of an alternative route within an already identified corridor on the UCP map.

3. Community/Land Use: the project's effects on neighborhoods and the community as a whole in terms of constraints or opportunities for both growth and amenity must be articulated. A description of how each alternative serves projected community growth patterns is required. For the preferred route, a description is needed of how the wider public interest is served in granting this plan amendment.

4. Visual Impacts: the impacts of a proposed electrical transmission facility upon the views of adjacent affected properties and upon the predominant scenic resources of an area shall be evaluated. The utility shall submit analyses of the view impacts of a proposed facility from such properties and upon these scenic vistas. The applicant shall consult with the Department of Economic Development and Planning to determine both the location of significant scenic resources and affected properties, and the type of methodology to be used in the visual assessment.

**Coordination**

The plan amendment report shall document the process of consultation and coordination with municipal land use plans and state and federal programs and policies. Consistency with the comprehensive plan and the criteria and recommendations of the UCP will be a key review criterion.

**Mitigation**

Information on how the impacts for each alternative above can be minimized or eliminated is required. This information should provide the detail on what specific steps are necessary to reduce these impacts.

## APPENDIX C

### Specific Corridor Descriptions

This appendix provides additional clarification as to the location and design characteristics of certain facilities depicted in the recommended plan maps.

Map 4-2: The alignment of the proposed water line depicted on Map 4-2 between Huffman Road and Goldenview Drive shall be re-evaluated prior to the installation of this facility. Departure from the alignment shown on Map 4-2 shall be based upon the results of this study, consistent with the possible need to provide water service throughout the South Anchorage area.

Map 4-1: The utility corridor map does not identify an alignment for a possible 230KV electrical transmission facility originating from Bradley Lake in the southern Kenai Peninsula. It was determined that the installation of this facility within the South Anchorage area generally east and northeast of Potter Marsh would have a significant impact upon the visual resources of this area. These impacts would occur regardless of the alternative corridor location chosen since each possible alignment affects residences and the area's scenic resources. For this reason, and since the feasibility of this line is uncertain at this time, this facility is not included in the plan map. The development of this facility will require the amendment of this map, following the procedures in Appendix B.

APPENDIX D

Submitted by: Chairman of the Assembly at the Request of the Mayor
Prepared by: Department of Economic Development and Planning
For reading: February 27, 1990

2-27-90

ANCHORAGE, ALASKA
AO NO. 90-13(S)

AN ORDINANCE AMENDING SECTION 21.80.050 OF THE ANCHORAGE MUNICIPAL CODE PERTAINING TO THE DEDICATION OF UTILITY EASEMENTS ENACTING A NEW SECTION 21.80.400 PERTAINING TO UTILITY DESIGN IN SUBDIVISIONS, ENACTING A NEW SECTION 21.05.030 PERTAINING TO THE COMPREHENSIVE PLAN, AND ENACTING A NEW SECTION 21.45.240 PERTAINING TO SETBACKS FROM PROJECTED UTILITY ALIGNMENTS.

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THE ANCHORAGE ASSEMBLY ORDAINS:

Section 1. Section 21.80.050 of the Anchorage Municipal Code is amended to read as follows:

21.80.050 Dedication -- Utility Easements

The Platting Authority may require a dedication of utility easements when a utility company demonstrates a specific need for them or an easement is needed to accommodate the routing included in the Utility Corridor Plan.

Whenever possible, utilities shall be placed in dedicated rights-of-way except where that placement conflicts with a Municipal or State transportation project identified in the Long-Range Transportation Plan. Utility easements along rear lot lines shall be at least 10 feet wide, or a total of 20 feet wide along adjoining rear lots. Utility easements along side lot lines shall be 5 feet wide, or a total of 10 feet wide along adjoining side lots. Where a front-yard easement is needed to accommodate a transmission utility, which is included in the Utility Corridor Plan, the easement shall generally be 10 feet wide. The Platting Authority may require wider utility easements along the rear lot lines of hillside lots. (Adapted from GAAB 21.10.040C, H, AMC 21.80.075A, .175, am AO83-142.)

Section 2. The Anchorage Municipal Code is Amended by the addition of a new subsection to read as follows:

21.80.400 Design - Electrical and Telecommunication Utilities

The width and alignment of transmission easements within subdivisions shall conform to the Utility Corridor Plan. The Platting Authority shall preclude structures or uses of land within or beneath areas of electrical or telecommunications ground or aerial easements that are incompatible with electrical distribution or transmission facilities.

Section 3. Section 21.05.030 of the Anchorage Municipal Code is amended to read as follows:

21.05.030 Comprehensive Plan--Elements

The Comprehensive Plan consists of the following elements, which are incorporated in this chapter by reference:

. . . .

P. Utility Corridor Plan.

. . . .

Section 4. The Anchorage Municipal Code is amended by the addition of a subsection to read as follows:

21.45.270. Setbacks from Projected Utility Alignments

A. No new structural or land development activity requiring a building or land use permit shall be permitted within the minimum area stated in the Utility Corridor Plan for planned electrical or telecommunication transmission facilities for which there is a projected easement or right-of-way, except as allowed under subsection B.

B. The following uses and activities are permitted, with written acknowledgement of coordination with the affected utility(ies), within the setbacks described in Subsection A of this Section.

1. sidewalks and pathways;

2. trails and bicycle paths;

3. bus shelters and bus turnouts;

4. kiosks and seating units;

5. utilities, utility easements, and utility-related structures;

6. landscaping required by Chapters 21.40, 21.50, and 21.80, and consisting of ground cover, shrubs, and/or understory trees whose maximum height does not exceed 30 feet;

7. parking required under AMC 21.45.080;

8. temporary parking as described in Subsection D of AMC 21.45.140.

9. additional parking to that required by this Title;

10. open space and usable yards;

11. fences and signs;

12. retaining walls;

13. remodeling of or addition to structures existing as of (date this ordinance is enacted), so long as it does not further intrude within the setback area after that date; and

14. driveways and vehicular access points.

C. Applicable yard requirements stated elsewhere in this Title may include the area of setback for electrical transmission facilities.

Section 5. This ordinance becomes effective upon passage and approval.

PASSED AND APPROVED by the Anchorage Assembly this 27th day of February, 1990.

Chairman

ATTEST:

Municipal Clerk

Note: The Assembly amended the Corridor Plan by the addition of Figure 1-2, Figure 1-5, and Figure 1-6 all dated 2/20/90.

## 17.24.050 Footnotes to the land use charts.

**CodeAlert:** This item has been affected by 2006-024. Please refer to the CodeAlert Ordinance List for the most current provisions.

The following footnotes apply to the land use indicated by corresponding number in the Land Use Charts.

1. Residential Minimum Lot Area (Density) Requirement. This residential use is allowed in this zone if the minimum lot area (density) requirement specified in the height and area chart, Section 17.60.020 of this title, is met. If the main entrance to a unit faces an interior side yard or rear yard property line, a minimum ten (10) foot wide clear path of travel (courtyard) is required to the main entrance from the front yard property line or street side yard property line. The access to the main entrance can be from an alley if the alley is improved and a minimum of twenty (20) feet wide. The clear path of travel may be reduced to the required building setback for that portion of the building adjacent to the twenty (20) foot wide improved alley.

2. Rooming and Boarding House. In a single-family dwelling unit, duplex unit, or halfplex unit, the rooming and boarding of not more than two guests is permitted. The primary use of the dwelling is for the occupancy by one family, with rooming and boarding as an ancillary use.

3. Conversions to Condominiums. Any conversion of an existing structure to a residential condominium in this zone must comply with the regulations outlined in Chapter 17.192.

4. Entire business shall be conducted within a building. No outdoor storage or display of new and/or used merchandise is permitted in this zone. Outdoor display and storage shall include but not be limited to new and used tires, appliances, furniture, auto parts, equipment, planting and landscaping supplies.

5. A special permit is required to locate the use in this particular zone.

6. A home occupation permit is required to operate a business in a residence. Chapter 17.224 of this title specifies the regulations pertaining to home occupations.

7. Offices or commercial retail uses, limited only to ground floor of a building are permitted subject to granting of a special permit. The residential component of mixed use projects is subject to the following development standards:

a. Noise Standards. The building design of all new residential structures within an area of the city above sixty (60) dB Ldn shall incorporate the following construction standards in order to reduce interior noise levels:

i. All penetrations of interior walls shall include a one-half inch airspace. This space shall be filled loosely with fiberglass insulation. The space shall then be sealed airtight on both sides of the wall with a resilient, non-hardening caulking or mastic.

ii. The roof shall be finished with a minimum seven-sixteenths inch OSB or plyboard of equivalent surface weight, minimum thirty (30) lb. felt paper and minimum two hundred forty (240) lb/square foot composition shingles or equivalent.

iii. Skylights shall not be used unless they have an STC rating of twenty-nine (29) or better.

iv. Windows shall have a minimum STC rating of twenty-nine (29).

iii. Minimum Rear Yard Setback. Fifteen (15) feet.

iv. Screen Planting. All minimum interior side yard and rear yard setbacks shall consist of a minimum of a ten (10) foot wide planting area of groundcover, trees and

shrubs to act as a screen between the mobilehome park and abutting residential uses.

v. Access Points. Access points shall be controlled through review of plans submitted on each individual special permit application.

vi. Signs. Notwithstanding the provisions of Chapter 15.148 of this code no sign or other form of advertising shall be permitted other than that necessary to identify the mobilehome park. The design of said sign shall be submitted as part of the special permit application.

vii. Lighting. Lighting shall consist of street electrolier type rather than flood lighting.

viii. Driveways. All driveways or interior access streets shall be surfaced with a minimum of three inches of portland cement or with hard, durable plant mix asphalt paving at least two inches thick, after compaction over four inches of aggregate base rock in accordance with standard specifications adopted by the city. All such driveways or interior access streets shall be surfaced and graded in such a manner that the drainage for the mobilehome park shall drain to a centrally located drain or system of drains which shall be connected to the nearest storm sewer or other such system of drainage as may be approved by the city engineer.

ix. Fencing. A fence not less than five feet in height shall be erected along all interior side and rear lot lines and along street setback lines.

x. Accessory Buildings or Structures. No accessory building or structure shall be erected or maintained in any required minimum setback area for the mobilehome park.

e. Mobilehome Space Standards. The following site standards are adopted for each mobilehome space within a mobilehome park:

i. Size. The average mobilehome space shall not be less than one thousand seven hundred fifty (1,750) square feet with no space to be less than one thousand (1,000) square feet.

ii. Minimum Front, Side and Rear Yard Setback. Each five feet.

iii. Landscaping. All minimum setback areas shall be permanently landscaped and maintained with groundcover, trees and shrubs.

iv. Accessory Buildings or Structures. No accessory building or structure shall be erected or maintained in any required minimum setback area for any individual mobilehome space.

60. Veterinarian Clinic/Hospital. A veterinarian clinic or hospital is allowed in this zone subject to the following conditions: (1) no outdoor boarding of animals; and (2) the business shall be conducted entirely within the building. If conditions (1) and (2) of this section cannot be met, a special permit is required.

61. ~~High Voltage Transmission Facilities.~~

a. Purpose. It is the intent of this section to implement with a single procedure Section 12808.5 of the California Public Utilities Code and Sections 53091 and 53096 of the California Government Code which authorizes the city to review and to approve or disapprove the location and construction of facilities for the transmission of electrical energy, operating at one hundred thousand (1[redacted]ore, such as substations, transmission lines and poles, and accessory structures, by the Sacramento municipal utility district (SMUD).[redacted]
least ob[redacted]
procedural rules set forth herein are designed to insure that sufficient information is provided in a timely manner to allow the city to make a reasonable and informed decision on applications submitted. The provisions of this

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section shall not be construed as to interfere with the use of property in any zone for public underground and aerial transmission or supply lines or transmission structures required to provide a service to the immediate area, provided that such transmission structures and lines do not carry one hundred thousand (100,000) or more volts of electricity.

b. Definitions. For purposes of this section, the following definitions shall apply:

i. "Direct impact" means interference with the use of enjoyment of a person's property, real or personal, such as visual impacts, noise impacts, and interference with antenna reception.

ii. "Feasible" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors.

iii. "High voltage transmission facilities" means electrical transmission lines, **poles**, accessory structures operated at the electrical potential of one hundred thousand (100,000) volts or greater, and substations where at least one of the transmission lines connecting with the facility is operated at the electrical potential of one hundred thousand (100,000) volts or greater.

iv. "SMUD" means the Sacramento municipal **utility** district.

v. "Substation" means a facility which transforms electrical energy to a lesser voltage for the purposes of subregional or localized distribution, or which functions as a transition point from overhead to underground electrical transmission lines, or which acts as the point of convergence for two or more transmission lines.

c. Procedures. High voltage transmission facilities may be located in any zone subject to the provisions of this section.

i. Permits Required. A transmission facilities permit is required to construct and locate a high voltage transmission facility in any zone. Application for a transmission facility permit shall be filed with the planning commission and shall be subject to a filing and investigation fee pursuant to the fee and charge report. Fees for a transmission line shall be the same as special permit fees and fees for a substation shall be the same as rezoning fees.

ii. Information to Accompany Permit Application. An application for a transmission facility permit shall be accompanied by plans and the environmental document prepared and certified pursuant to the California Environmental Quality Act, Public Resources Code Section 21,000 et seq., sufficient in detail to allow the planning commission and the city council to determine the exact nature and extent of the use. The application shall include at a minimum the following information:

(A) The expected electrical requirements, as determined by SMUD, of the areas within the district which will be affected by the project;

(B) The locations and capacities of the high voltage transmission facilities proposed, together with a description of basic technical and design concepts that favor the selection of the chosen locations and a list of feasible alternative sites;

(C) An assessment of the type and magnitude of the direct impacts of the proposed project and of each alternative;

(D) Mitigation measures:

(1) The measures to be implemented by SMUD to compensate for or mitigate the direct impacts of the project,

(2) Where any portion of a proposed project is adjacent to residentially zoned or residentially used property, a discussion of feasible routing alternative,

(3) Any other information the planning director deems necessary to allow the planning commission and city council to determine the exact nature and extent of the proposed project and any impacts of the projects.

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d. Hearings. Within thirty (30) days after an application for a transmission facilities permit is filed and accepted as complete, the planning commission shall hold a public hearing thereon. The procedural requirements for the hearing shall be governed by Chapter 17.200 of this title; provided, that said hearing may be initiated only by the permit applicant.

i. Mailed notice of the hearing shall be provided at least ten (10) days prior to the hearing to the owners of all property within five hundred (500) feet of the property subject to the permit; provided, that if such mailed notice would result in notice to more than two hundred fifty (250) persons, as an alternative to such mailed notice, notice may be given by placing an advertisement in a newspaper of general circulation within the area affected by the proposed facilities.

ii. The planning commission shall recommend approval, approval of an alternative or disapproval of the permit and transmit said recommendation to the city council.

iii. Upon receipt of a recommendation of the permit from the planning commission, the city council shall set the matter for hearing and give notice thereof as provided in this section. The hearing shall be conducted within sixty (60) days of the date the application and environmental document was filed and accepted as complete; and the city council shall adopt a resolution approving, approving an alternative or disapproving the permit.

e. Review Criteria and Findings. The planning commission and the city council shall evaluate applications for transmission facilities permits in accordance with the intent and purpose statement contained in subsection (61)(a) of this section and any applicable land use plans and policies adopted by the city council. Any decision of the city council on a transmission facilities permit application shall be based on findings concerning:

i. The consistency of the proposed facilities with the city's general plan and applicable redevelopment and specific plans.

ii. Whether there are feasible alternatives to the proposal.

iii. Such other factors related to the public health, safety, and welfare as are included within the policies set forth below for assessing transmission facilities permits.

f. Policies. The city adopts the following policies for reviewing transmission facilities permit applications:

i. To discourage within the city lattice towers along new transmission lines right-of-way or along portions of existing right-of-way utilized for expansion of the transmission system.

ii. To incorporate into a project mitigation measures appropriate to the site of a particular project and each transmission line segment of a project whenever feasible, such as undergrounding or rerouting transmission lines to reduce visual impacts and antenna reception interference, reducing the number of poles or towers used for a project, using landscaping to screen or soften the visual impacts of projects, and incorporating sound attenuation measures into projects.

iii. To locate substations on other than local or collector streets.

iv. The following routing preferences are adopted:

(A) Preference shall be given to the location of transmission lines in the rank order specified below:

(1) Within existing SMUD transmission rights-of-way or rights-of-way anticipated for other projects proposed pursuant to this section.

(2) Adjacent to railroads or adopted freeway routes.

(3) Along or adjacent to major arterial streets where existing or planned uses are commercial or industrial.

(4) Adjacent to or through existing or planned commercial, industrial or agricultural uses.

(5) Along arterial streets where residential uses designated in an adopted plan are R-2 or greater density.

(6) Through areas where land uses in an adopted plan are predominantly commercial, but include residential uses.

(7) Through residential areas, including side and rear yards, irrespective of density.

(B) Preference shall be given to the location of substations in the following rank order:

(1) Areas designated for industrial or commercial land uses in an adopted plan.

(2) Undeveloped areas designated for residential use in an adopted plan.

(3) Areas designated agricultural-urban reserve in an adopted plan.

(4) Sites designated for residential use in an adopted plan and surrounded by existing residential uses.

62. Deep Lot Development Regulations. All deep lot development in this zone shall be required to obtain a zoning administrator's special permit pursuant to Chapter 17.212 of this title. Within the urbanized area of the city, there are a number of deep lots which only support one residential structure. In order to encourage the full development potential of deep lots, the following regulations are adopted.

a. Lot Area—R-1 Zone. There shall be a minimum of five thousand two hundred (5,200) square feet of lot area for each dwelling unit.

b. Lot Area—R-2 Zone. There shall be a minimum of five thousand two hundred (5,200) square feet of lot area for the first two dwelling units. For each additional five thousand two hundred (5,200) square feet of lot area, one additional dwelling unit may be erected.

c. Lot Area Variation/Dwelling Unit Density. A deep lot for which a reduction in the minimum lot area specified in subsections (62)(a) and (b) of this section is sought, shall require a special permit issued by the planning commission. The planning commission shall have the authority to approve the special permit when such action is warranted by the shape, size and location of the parcel; or the location of the buildings proposed or existing on the property at the time of the application; provided that the density shall not materially and adversely affect the public welfare or be injurious to property and improvements in the neighborhood. A deep lot which also meets the definition of an infill site shall be governed by the provisions of Chapter 17.84 of this title.

d. Driveways and Parking Areas. All access driveways and parking areas shall be constructed and available for use prior to occupancy of any dwelling unit within the development. All access driveways and parking areas shall be storm drained in accordance with the requirements of the city engineer. All private access driveways and parking areas shall be constructed of a minimum of three inches of portland cement paving or shall be surfaced with hard durable plant mix asphaltic paving at least two inches thick after compaction, over four inches of aggregate base rock. If asphaltic surfacing is used, there shall be a header curbing of concrete at least six inches in width or a three foot wide raised concrete sidewalk. All materials shall comply with standard specifications adopted by the city. The following shall be minimum widths of private access driveways:

i. Serving one to three dwelling units, ten (10) feet;

ii. Serving four to seven dwelling units, fifteen (15) feet;

iii. Serving eight or more dwelling units, twenty (20) feet.

e. Sewer and Water Installation. Installation of sewer and water service to and on the property must meet special requirements established for this particular type of development by the city utilities department.

f. Size and Type of Dwelling Unit. Unless otherwise approved by the zoning administrator or planning commission, all dwelling units shall consist of either detached single-family dwellings or duplex units, or both. A review of preliminary plans by the planning department shall be made to determine the appropriate combination or types of units. No dwelling unit to be erected under the terms of this permit shall contain less than seven hundred (700) square feet of gross floor area. Notwithstanding the preceding, the zoning administrator or planning commission may waive the minimum seven hundred (700) square feet per dwelling

# CHAPTER 23
# Tower Siting Ordinance

23.01 Purpose
23.02 Definitions
23.03 Jurisdiction
23.04 Applicability
23.05 General Requirements
23.06 Prohibitions
23.07 District Requirements
23.08 Performance Standards
23.09 Permit Requirements
23.10 Transferability
23.11 Appeals
23.12 Severability
23.13 Enforcement and Penalties

## 23.01 Purpose

The purposes of the regulations and requirements of this chapter are to:

1. Accommodate the communication needs of residents and businesses while protecting the public health, safety and general welfare. This ordinance is not intended to have the effect of prohibiting wireless services to or within the County.
2. Facilitate the provision of wireless communication facilities through careful siting and design standards.
3. Minimize adverse visual effects of wireless communication facilities through careful siting and design standards.
4. Avoid potential damage to adjacent properties from the placement, construction and operation of wireless communication facilities through structural standards and setback requirements.
5. Maximize the use of existing and approved towers and structures to accommodate new wireless communication antennas, to reduce the number of towers needed to serve the industry.
6. To allow for open competition and substantially equal opportunity for providers of functionally equivalent services to establish such services within the County.

## 23.02 Definitions

1. **ANS/TIA/EIA**. American National Standard/Telecommunication Industry Association/Electronic Industrial Association.
2. **ANTENNA**. Any device or equipment used for the transmission or reception of electromagnetic waves, which may include an onmi-directional antenna, directional antenna or parabolic antenna.
3. **APPLICANT**. Any person, provider, firm, partnership or company who files an application for any permit required by this ordinance for the construction, replacement, or alteration of a wireless communication facility or any component thereof.
4. **COLLOCATION**. The location of more than one (1) antenna or set of antennas of more than one (1) government or commercial wireless communication service provider on the same tower structure.
5. **FAA**. Federal Aviation Administration.
6. **FCC**. Federal Communications Commission.
7. **HEIGHT**. The distance measured from ground level to the highest point on any tower or structure, including any antenna.

8. **HIGH POWER TRANSMISSION LINE.** A 68 kV or greater electric transmission line with towers at least 75 feet in height.
9. **TOWER.** Any structure that is designed and constructed primarily for the purpose of supporting one (1) or more antennas, including guy towers, monopole towers and self-supporting lattice towers, including any support thereto.
10. **TOWER ACCESSORY STRUCTURE.** Any structure located at the base of a tower for housing base receiving or transmitting equipment.
11. **WIRELESS COMMUNICATION.** Any wireless services as defined in the Federal Telecommunications Act of 1996, including FCC licensed commercial wireless telecommunications services such as cellular, personal communication services (PCS), specialized mobile radio (SMR), enhanced specialized mobile radio (ESMR), global system of mobile communication (GSM), paging, television broadcast or commercial radio facilities and similar services that currently exist or may be developed.
12. **ZONING ADMINISTRATOR.** The Director of Planning and Zoning or his or her designee.

## 23.03 Jurisdiction

The jurisdiction of this Chapter shall be limited to the unincorporated areas of Sauk County. The effective date of this ordinance shall be pursuant to §59.69(5) Stats. Any town which has adopted a zoning ordinance pursuant to §60.61 or §60.62 Stats., may elect to render this Chapter unenforceable in said town by ordinance as herein provided. An ordinance passed by a town pursuant to this section must be considered and passed at a regular meeting of the town board, by a majority vote of all town board members entitled to a seat on the board, and after passage, a certified copy of the ordinance must be filed with the Sauk County Clerk on or before April 1, 2000. No town may exercise this option after April 1, 2000.

## 23.04 Applicability

1. Preexisting towers and antenna support structures.
   a. Any tower or antenna supporting structure for which a permit has been issued prior to the effective date of this chapter shall not be required to meet the requirements of this chapter, other than the requirements of Section 23.05, Subsections (1) and (6).
   b. Any addition, reduction or modification to any preexisting tower or antenna supporting structure that substantially modifies the number, placement or types of antennas on that tower or structure shall make such tower or structure subject to all applicable requirements of this ordinance. A substantial change is one in which fifty percent (50%) or more of the antenna design capacity upon the tower or structure is modified. It is the intention of this subsection that the owner/operator of the tower or structure not be required to move the physical structure, unless said modification is determined by the Zoning Administrator to create a physical threat to the public safety.
   c. Any preexisting tower or antenna supporting structure that fails, or becomes structurally unsound such that the tower or antenna supporting structure must be replaced or requires repairs costing greater than fifty percent (50%) of the value of said tower or antenna support structure, shall be required to meet all provisions of this ordinance.
   d. The provisions of this Chapter shall not apply to the replacement of an existing lawful tower with a height of seventy-five (75) feet or more providing communication services for the State of Wisconsin or any of the State's political subdivisions on the same property as the existing tower provided that both the existing tower and the replacement tower provide communication services for the State of Wisconsin or any of its political subdivisions. The

existing tower must be completely removed from the site upon construction of the replacement tower and the replacement tower shall not exceed three-hundred (300) feet in height. The replacement tower must continue to provide communication services for the State of Wisconsin and/or any of its political subdivisions during the life of said tower or the tower shall be promptly removed or come into full compliance with all requirements of this ordinance. Any tower in excess of three-hundred (300) feet shall fully comply with this Chapter.

2. District height limitation. The requirements set forth in this chapter shall govern the design and siting of towers that exceed the height limitations specified for each zoning district under Chapter 7, SCCO.
3. Amateur radio. This ordinance shall not govern the installation of any tower or antenna support structure that is owned and/or operated by a federally licensed amateur radio operator, that is less than 75 feet in height and is placed at a distance equal to or more than one and one-half the height of the tower from any adjacent property line.
4. Towers or additions of minimal height.
   a. This ordinance shall not govern the installation or maintenance of any tower not more than 75 feet in height, other than as required in (c) below.
   b. This ordinance shall not govern the installation or maintenance of any addition to an existing structure, the purpose of which is to attach an antenna, which does not raise the overall height of that structure by more than 20 feet in height, other than as required in (c) below.
   c. A land use permit must be acquired prior to the construction or modification of any tower or structure if otherwise required by any law, administrative rule or ordinance.

## 23.05 General Requirements

1. All towers and antennas shall comply with all FCC and FAA regulations.
2. Applications to construct or modify a telecommunications facility shall be acted on within a reasonable period of time. This provision is intended to ensure due course processing and review of such applications and does not establish any right to preferential treatment.
3. Design and installation of all towers shall comply with the manufacturers' specifications and with ANS/TIA/EIA standards. Plans shall be approved and stamped by a professional engineer registered in the State of Wisconsin.
4. Installation of all towers shall comply with applicable state and local building and electrical codes.
5. For leased sites, written authorization for siting the wireless communication facilities from the property owner must be provided as set forth in Section 23.09(2)(c).
6. All wireless communication facilities must be adequately insured for injury and property damage, proof of which shall be provided with the application.
7. All unused towers must be removed within six (6) months of cessation of operation or use, unless a written exemption is provided by the Zoning Administrator. After the facilities are removed, the site shall be restored to its original condition or as close as possible. If removal and/or restoration is not completed within 90 days of the expiration of the six (6) month period specified herein, the County may complete removal and site restoration and any cost shall be assessed against the property as a special assessment.
8. Proposals to erect new towers shall be accompanied by any required federal, state or local agency licenses or applications for such licenses.
9. Only one (1) tower is allowed on a parcel of land. Positioning of multiple users upon a single tower is the preferred method of siting multiple antennas. Applications to place multiple towers upon a single parcel (collocation) shall require credible evidence that multiple positioning is not

practical. Additional towers upon a single parcel may be allowed with a special exception permit, and such towers shall be placed as close together as is technically feasible.

10. No application to place a telecommunications tower may be denied based upon the potential effects of non-ionizing electromagnetic radiation, providing such tower's emission complies with applicable FCC emission standards.

## 23.06 Prohibitions

1. No tower shall be over 300 feet in height.
2. No tower may be installed on a parcel within a subdivision or any property with a Single Family Residential zoning designation, created for residential purposes or within an area designated for future residential development in an adopted town or County land use plan.
3. No advertising message or sign shall be affixed to any tower .
4. Towers shall be illuminated only as provided for by FCC and FAA regulations.
5. No part of any tower, including guy-wires, shall extend across, over or into the setback of any right-of-way, public street, highway, sidewalk or other property beyond the siting parcel without written permission of the Zoning Administrator and that adjacent property owner(s). The setback provisions of Chapter 7, SCCO, are hereby expressly incorporated into this ordinance.
6. No temporary mobile communication sites are permitted except in the case of equipment failure, equipment testing, equipment replacement or in the case of emergency situations. Placement of temporary equipment shall be limited to 90 days unless extended in writing by the Zoning Administrator.

## 23.07 District Requirements

1. Agricultural, Exclusive-Agricultural, Commercial, Recreational-Commercial, Industrial, Resource Conservancy District-5 and Resource Conservancy District-35 zoning districts.
    a. The following are permitted with a land use permit from the Zoning Administrator issued under this chapter:
        1. A new tower greater than 75 feet but less than 150 feet in height.
        2. The modification to any structure such that any attached antenna does not extend more than 20 feet above the highest point of the preexisting tower or structure.
    b. The following are authorized with a special exception permit issued by the Sauk County Sauk County Board of Adjustment pursuant to Section 23.09(1)(b):
        1. Attachments to existing towers or structures extending more than 20 feet above the highest point of the tower or structure, provided that the overall height of the tower or structure exceeds 75 feet.
        2. Any new tower not otherwise covered, to a maximum of 300 feet.
2. Single-Family Residential, Multiple-Family Residential and Wetland Districts.
    a. Siting of towers greater than 75 feet in height within these districts shall not be permitted.
    b. If this prohibition leads to areas which can not receive any wireless telecommunication service, an applicant may petition the Sauk County Board of Adjustment for a variance from this ordinance.

## 23.08 Performance Standards

1. General. Except as provided in this ordinance, all wireless communication facilities shall meet the dimensional standards of the zoning district in which they are located. Where the facilities are the principal use on a separate parcel, the parcel shall meet the minimum lot size requirements of

the respective zoning district. On a parcel of land that already has a principal use, the facilities shall be considered as an accessory use and a smaller area of and may be leased provided that all requirements of this chapter can be met.

2. Setbacks and separation. Generally, tower structures, including guy-wires, shall be set back from the nearest property line a distance of two (2) times the height of the tower; provided however, that the towers shall not be located within 500 feet of any residence other than the residence on the parcel on which the tower is to be located, and shall not be located with 1,000 feet of any single family dwelling in a platted subdivision. Setback reductions may be had by obtaining the written agreement of the adjacent property owner(s) and the Zoning Administrator, but shall not be reduced below the actual height of the tower. The setback requirements contained in this subsection shall not apply to the replacement of an existing lawful tower with a height of seventy-five (75) feet or more on the same property as the existing tower. The existing tower must be completely removed from the site upon construction of the replacement tower and the replacement tower shall not exceed three-hundred (300) feet in height. The replacement tower shall comply with all other provisions of this ordinance.
3. Collocation/sharing of facilities.
    a. No new tower shall be permitted unless the applicant demonstrates by reasonable and credible evidence that no existing tower or structure can accommodate the applicant's proposed antenna. Supporting evidence may consist of any of the following conditions:
        1. No existing towers or structures are located within the geographic area required to meet the applicant's engineering requirements.
        2. Existing towers or structures are not of sufficient height to meet the applicant's engineering requirements, and modification of existing towers or structures can not be made at a reasonable cost .
        3. Existing towers or structures do not have sufficient structural strength to support the applicant's proposed antenna and related equipment, and modification of existing towers or structures can not be made at a reasonable cost.
        4. The applicant's proposed system would cause electromagnetic interference with the system on the existing tower or structure, or the system on the existing tower or structure would cause interference with the applicant's proposed system, and the interference can not be eliminated at a reasonable cost.
        5. The fees, cost or contractual provisions required by the owner to share an existing tower or structure or to adapt an existing tower or structure for sharing are unreasonable.
        6. The applicant demonstrates that there are other limiting factors that render existing towers or structures unsuitable.
        7. Costs are considered reasonable if they conform to contractual terms standard in the industry and do not exceed the cost of new tower development by more than twenty-five percent (25%).
    b. New commercial towers shall be designed structurally and electrically to accommodate the applicant's antennas and comparable antennas for at least three (3) additional users. Towers must also be designed to allow for future rearrangement of antennas on the tower and accept antennas mounted at different heights.
    c. The holder of a permit for a tower shall not make access to the tower and tower site for the additional users economically unfeasible. If additional user(s) demonstrate (through an independent arbitrator or other pertinent means, with the cost to be shared by the holder of the permit and the proposed additional user) that the holder of a tower permit has made access to such tower and tower site economically unfeasible, then the permit shall become null and void.
    d. County and local governmental agencies shall have the right to reserve sites upon any new tower or upon any tower being substantially modified. Reservation of the accommodation

upon the structure shall be acquired during the permit approval process. The governmental agency shall promptly utilize the reserved space, negotiate a delay in the use of the reserved space, or surrender such space back to the tower owner/operator.

4. Screening and landscaping.
   a. The tower and facility location shall provide for the maximum amount of natural screening as possible. The site shall be landscaped and maintained with a buffer of plant materials that effectively screens the view of all tower accessory structures, guy-wire anchors, equipment and other improvements at ground level.
   b. If the tower facility is in a wooded area, a natural vegetated buffer strip of undisturbed trees shall be retained for at least one hundred feet (100') in depth, and at least six feet (6') in height, around the perimeter of the tower facility. The area should remain undisturbed in appearance, except where minimally necessary to allow for an access drive.
   c. If the tower facility is not in a naturally wooded area, a vegetated barrier at least four feet (4') in depth and at least six feet (6') in height, shall be planted around the perimeter of the facility. The area should be made to appear as natural and undisturbed, preserving natural vegetation as much as possible.
   d. If the tower facility is located in an area that is under cultivation during the growing season, the planting of additional screening vegetation is not required. The intent of this subsection is to allow for the maximum use of productive farmland.
   e. In locations where the visual impact of the tower would be minimal, or where the requirements of this section are otherwise impracticable, the landscaping and screening requirements of this section may be reduced or waived by the Zoning Administrator. Existing mature vegetation and natural landforms on the site shall be preserved to the maximum extent possible, or replaced to present a natural, undisturbed appearance in keeping with the intent of this section.
5. Security fencing, lighting and signs.
   a. All towers shall be reasonably protected against unauthorized access. The bottom of the tower from ground level to 12 feet above ground shall be designed to preclude unauthorized climbing or access to the tower or structure. A chain link security fence of no less than six (6) feet in height surrounding the tower or structure is required to prevent unauthorized access This requirement may be waived if anti-climbing devices or equipment is placed on the tower or structure that completely precludes unauthorized access. Such waiver shall be in writing and issued by the Zoning Administrator.
   b. Security lighting for on-ground facilities and equipment is permitted, as long as it is down shielded to keep light within the boundaries of the site.
   c. Signs shall be displayed on or adjacent to the tower or structure prohibiting entry without authorization, warning of the danger from electrical equipment and/or unauthorized climbing of the tower, and identifying the owner of the tower and telephone number for 24 hour contact in case of emergency.
6. Color and materials.
   a. All towers, antennas and accessory structures shall use building materials, colors, textures, screening and landscaping that blend the facilities with the surrounding natural features and built environment to the greatest extent possible. The tower shall be a color that minimizes visibility or as required by FCC or FAA regulations.
   b. All metal towers shall be constructed or treated with corrosion resistant material.
7. Parking and access. Adequate parking spaces shall be provided on each site so that parking on public road right-of-way will not be necessary. Additional parking may be required by the Zoning Administrator if the minimum parking proves to be inadequate. Access must be provided by a gated, all-weather gravel or paved driveway.
8. Operators of communication facilities governed pursuant to this ordinance shall be required to submit to the Department of Planning and Zoning accurate copies of all pertinent licensing or

certification documentation from or required by federal or state licensing authorities, which are required for said operators to said tower or facility. This shall be provided on an annual basis or as provided to the licensing authority, and shall include all monitoring reports required by the FCC.

## 23.09 Permit Requirements

1. The construction or installation of any wireless communication facility requires the issuance of a land use permit or special exception permit under this ordinance.
   a. Land use permit. Land use permits may be obtained from the Zoning Administrator or designated representative of the Planning and Zoning Department.
   b. Special exception permits. Uses and facilities requiring a special exception permit under this chapter may be authorized by the Sauk County Board of Adjustment upon the submittal and approval of a properly completed application for a special exception permit under this section and Chapter 7 of the SCCO.
2. Applications. Applications for land use permits or special exception permits for new wireless communication facilities shall include the following information:
   a. A report stamped and signed by a professional engineer registered in the State of Wisconsin which:
      1. Certifies that a detailed engineering soils report has been completed and that the design of the tower foundation is based on that report.
      2. Describes the tower height and design, including a cross section elevation and foundation design.
      3. Certifies the facility's compliance with structural and electrical standards.
      4. Describes the tower's capacity, including the potential number and type of antennas that can be accommodated, and the type of equipment proposed to be used on the tower.
      5. Identifies the location of all sites that were considered as possible alternates to the site being applied for.
      6. Describes the lighting and/or painting to be placed on the tower .
      7. Certifies that the applicant or tenant has a valid license from the FCC to operate the proposed facilities, and identifies both the class of the license and the license holder.
      8. Describes how the requirements and standards of this chapter will be met by the proposed facilities.
   b. Each application shall include a facility plan. The County will maintain an inventory of all existing and proposed wireless communication site installations and all providers shall provide the following information in each plan. The plan must be updated with each submittal as necessary.
      1. Written description of the type of consumer services each provider will provide to its customers (cellular, PCS, SMR, ESMR, paging or other anticipated wireless communication services).
      2. Provide a list of all existing sites, existing sites to be upgraded or replaced and proposed telecommunication sites within the County for these services to be provided by the provider. The intent of this requirement is to obtain the provider's current five-year plan for providing service within the County.
      3. Provide a map which shows the geographic service areas of the existing and proposed telecommunications sites in the County and the nearest sites in adjacent counties.
   c. Landowner acknowledgment. Written acknowledgment by the landowner of a leased site that he/she will abide by all applicable terms and conditions of the land use permit or

special exception permit, including the restoration and reclamation requirements of this chapter. Such acknowledgment shall be made applicable to all successors, heirs and assignees.

d. Additional information and analysis.
    1. The Zoning Administrator or Sauk County Board of Adjustment may, at his/her or its discretion, require visual impact demonstrations, including mock-ups and/or photo montages, screening and painting plans, network maps, alternative site analysis, lists of other nearby wireless communication facilities, or facility design alternatives for the proposed facilities.
    2. The Zoning Administrator or Sauk County Board of Adjustment may employ, on behalf of the County, an independent technical expert to review technical materials submitted by the applicant or to prepare any technical materials required but not submitted by the applicant. The applicant shall pay the reasonable costs of such review and/or independent analysis. The applicant may provide a list of consultants for the Board of Adjustment's consideration, but the Sauk County Board of Adjustment is not thereby required to use any consultant from that list.

3. Denial of an application for a permit shall be in writing and shall be supported by substantial evidence in a written record prepared by the appropriate permit approval authority.
4. The applicant may be required to provide detailed engineering documentation or pay for an independent evaluation of the proposed tower facility to assist the Board of Adjustment in the evaluation of an application for a proposed facility or to show the existence of a hardship, to a preponderance of the evidence standard

## 23.10 Transferability

All permits issued under this chapter shall be transferable, and all subsequent holders of such permits shall be subject to all applicable requirements of this chapter and any permit conditions that may exist. Written notice shall be made to the Zoning Administrator within 30 days of such transfer.

## 23.11 Appeals

Appeals to the Sauk County Board of Adjustment may be taken by any person aggrieved or by any officer, department, board or bureau of Sauk County affected by any decision of the Zoning Administrator as provided for by Chapter 7, SCCO.

## 23.12 Severability

If any portion of this chapter is adjudged unconstitutional or invalid by a court of competent jurisdiction, the remainder of this chapter shall not be affected.

## 23.13 Enforcement and Penalties

1. The provisions of this chapter shall be enforced under the direction of the Sauk County Board of Supervisors, through the Planning and Zoning and Land Records Committee, the Planning and Zoning Department and County law enforcement officers. The Sauk County Corporation Counsel is authorized to commence legal action to enforce the terms of this ordinance. Any person, firm, company or corporation who violates, disobeys, omits, neglects or refuses to comply with or who resists the enforcement of any of the provisions of this chapter shall be subject to a fine of not

less than one hundred dollars ($100) nor more than five hundred dollars ($500) or by forfeiture as set forth in Chapter 20, Sauk County Code of Ordinances. Each day of violation shall constitute a separate offense.

2. Compliance with this ordinance may also be enforced by injunctional order at the suit of the County or the owner or owners of land affected by the provisions of this chapter.
3. The Zoning Administrator or his or her designee may enter property at any reasonable time to conduct inspections to determine if all provisions of this chapter have been met.

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As adopted by the Sauk County Board of Supervisors on July20, 1999, by Ordinance 115-99. Amended Section 23.03 by Ordinance 209-99, passed by the Sauk County Board of Supervisors on December 21, 1999. Sections 23.04 and 23.08 amended by the Sauk County Board of Supervisors on February 14, 2000 - Ordinance No. 19-00.

Section 23.08(2) amended by the Sauk County Board of Supervisors on July 15, 2003 - Ordinance No. 106-03.

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**Kittitas County**
**ORDINANCE NO. 2001- [12]**
**IN THE MATTER OF AMENDING COUNTY CODE TITLE 17 ZONING**

**WHEREAS,** Kittitas County recognizes the value of facilitating the construction and operation of both alternative and conventional energy producing facilities in reducing the disruption of commerce and governmental services caused by potential regional energy shortages, all of which adversely affect the economy, public health, safety, and general welfare; and,

**WHEREAS,** the Kittitas County Planning Department has received numerous inquiries regarding development regulations concerning the construction and operation of such power generating facilities; and,

**WHEREAS,** the Board of County Commissioners desire a reasonable local process by which Kittitas County?s citizens might actively participate in the siting of such facilities; and,

**WHEREAS,** according to Kittitas County Code Title 15B, relating to amendments to development regulations, an open record hearing was held by the Kittitas County Planning Commission on April 23, 2001, May 21, 2001, and June 25, 2001 for the purpose of considering certain amendments to Chapter 17.61 of the Kittitas County Code; and,

**WHEREAS,** testimony was taken from those persons present who wished to be heard during said open record hearing before the Planning Commission; and,

**WHEREAS,** due notice of the hearing had been given as required by law, and the necessary inquiry has been made into the public interest to be served by amending said enactments; and,

**WHEREAS,** the Planning Commission recommended approval of amending said ordinance in a 4-0 decision; and,

**WHEREAS,** A public study session was held by the Kittitas County Board of Commissioners on July 2, 2001 to discuss said recommendation from the Planning Commission; and,

**WHEREAS,** The Board directed the Planning Department to complete required environmental documentation pursuant to SEPA for the text amendments herein; and,

**WHEREAS,** A SEPA threshold determination was issued by the Planning Department on July 2, 2001; and,

**WHEREAS,** Said threshold determination solicited additional written testimony to be incorporated into the record from the public; and,

**WHEREAS,** an open record hearing was held by the Board of County Commissioners on August 7, 2001 to consider the adoption of this ordinance; and,

**NOW, THEREFORE BE IT ORDAINED**, that Chapter 17.61 of the Kittitas County Code be amended as follows:

## CHAPTER 17.61
## UTILITIES

### 17.61.010 DEFINITIONS

A. Utility. "Utility" or "utilities" means the supply, treatment and distribution, as appropriate, of gas, gas meter stations, municipal domestic and irrigation water, sewage, storm water, electricity, telephone, fiber-optic and cable television. Such utilities consist of both the service activity along with the physical facilities necessary for the utilities to be supplied, except for Associated Facilities and Special Utilities as defined herein.

B. Special Utility. "Special Utility" or "special utilities" shall mean the following:

(1) Natural gas, synthetic fuel gas, or liquefied petroleum gas pipelines operating at a pressure which results in a hoop stress of twenty percent or more of the specified minimum yield strength;
(2) Electrical transmission lines exceeding one-hundred fifteen thousand volts;
(3) Electrical substations;
(4) Cellular, mobile or fiber-optic telecommunication facilities;
(5) Geothermal Power Facilities
(6) Minor Thermal Power Plant Facilities
(7) Minor Alternative Energy Facilities

C. Antenna. "Antenna" or "Antennas" means any system of poles, panels, rods, dishes, reflecting discs or similar devices used for the transmission or reception of radio frequency signals.

D. Associated Facility. "Associated Facility" or "associated facilities" means a land use whose principle purpose involves the distribution, processing, storage, handling, or other related and supporting activities necessary for a Special Utility, not including administrative activities or offices.

E. Communication Facility. "Communication facility" or "communication facilities" means any real property or portion thereof used for the reception, transmission and/or regeneration of electromagnetic and light signals, including, but not limited to cellular, fiber-optic, microwave, mobile radio, radio, satellite, and television mediums. The term does not include poles or lattice-work towers supporting above-ground distribution or transmission lines for utility services such as electricity, telephone, or cable television. Communication facilities consist of all buildings, transmission structures, and other appurtenant improvements necessary for the support, shelter and operation of applicable communication equipment.

F. Fuel Cell. "Fuel cell" or "fuel cells" means a device which uses an electrochemical process to produce electrical energy using as its fuel source natural gas, methanol, propane, or like fuel.

G. Geothermal Power Facility. "Geothermal power facility" or "geothermal facility" means a facility used to produce electricity by extracting and converting the natural thermal energy of the earth. The term does not include ground-source heat pumps or the direct use of geothermal energy for the heating of buildings located on or adjacent to the subject property.

H. Hydroelectric Plant. "Hydroelectric plant" or "hydroelectric plants" means a facility used to produce electricity by converting the kinetic energy of flowing water to electric power. Hydroelectric facilities include but may not be limited to a dam, powerhouse apparatus (penstock, turbines and generators), step-up transformers, and any other buildings, support structures, or other related improvements necessary for the generation of electric power. The term does not include irrigation diversion dams, electrical distribution or transmission lines, or electrical substations otherwise regulated by this chapter.

I. Major Alternative Energy Facility. "Major alternative energy facility" means a hydroelectric plant, solar farm, or wind farm that is not a minor alternative energy facility.

J. Major Thermal Power Plant Facility. "Major thermal power plant facility" or "major thermal power plant facilities" means an electrical generating facility that utilizes nuclear or fossil fuels with output exceeding 10 mva.

K. Minor Alternative Energy Facility. "Minor alternative energy facility" or "minor alternative energy system" means a fuel cell or a facility for the production of electrical energy that:

(1) (a) Uses as its fuel either solar, wind, or hydropower; (b) Is located on the power beneficiary?s premises; (c) Is intended primarily to offset part or all of the beneficiary's requirements for electricity; and (d) is secondary to the beneficiary?s use of the premises for other lawful purpose(s); or,
(2) Is intended to mitigate electrical system improvement requirements.

L. Minor Thermal Power Plant Facility. "Minor thermal power plant facility" or "minor thermal power plant facilities" means an electrical generating facility that utilizes nuclear or fossil fuels with an output of at least 1 mva but equal to or less than 10 mva.

M. Normal Maintenance and Repair. "Normal Maintenance" includes those usual acts to prevent a decline, lapse, or cessation from a lawfully established condition. "Normal Repair" means to restore a development to a state comparable to its original condition within a reasonable period after decay or partial destruction.

N. Utility Corridor. "Utility Corridor" or "utility corridors" means a lineal transportation route utilized by one or more Special Utilities.

O. Solar Farm. "Solar farm" or solar farms" means a facility or area of land principally used to convert solar radiation to electricity. The term does not include devices or combination of devices which rely upon direct sunlight as an energy source for a minor alternative energy system.

P. Wind Farm. "Wind Farm" means a single wind turbine exceeding one hundred twenty (120) feet in height above grade or more than one wind turbine of any size proposed and/or constructed by the same person or group of persons on the same or adjoining tax parcels. The term does not include turbines mounted to existing structures principally used for other lawful purposes (such as buildings or electric utility poles) provided the nacelle does not extend more than twenty (20) feet above the uppermost portion of the structure to which it is mounted or attached.

Q. Wind Turbine. "Wind Turbine" or "wind turbines" means any of various machines used to produce electricity by converting the kinetic energy of wind to rotational, mechanical and electrical energy. Wind turbines consist of the turbine apparatus (rotor, nacelle and tower) and any other buildings, support structures, or other related improvements necessary for the generation of electric power. The term does not include electrical distribution or transmission lines, or electrical substations otherwise regulated by this chapter.

**17.61.020 PERMITTED AND CONDITIONAL USES**

A. Utilities shall be a permitted use in all zoning districts.

B. Minor Alternative Energy Facilities shall be a permitted use in all zoning districts, provided the following limitations shall apply to wind turbines located within urban growth areas:
(1) Wind turbines shall not exceed a total height of seventy-five (75) feet above grade; and,
(2) Rotors shall not exceed thirty (30) feet in diameter.

C. Minor Thermal Power Plant Facilities may be authorized by the Planning Director as an administrative

conditional use in all zoning districts, pursuant to the criteria and procedures of this Chapter and Title 15A of the Kittitas County Code.

D. Major Alternative Energy Facilities may be authorized by the Board of Adjustment as a conditional use in the Agriculture-20, Forest & Range, Commercial Agriculture, and Commercial Forest Zones.

E. Major Thermal Power Plant Facilities may be authorized by the Board of Adjustment as a conditional use in the Agriculture-20, Forest & Range, Commercial Agriculture, and Commercial Forest Zones.

F. Special Utilities may be authorized by the Board of Adjustment as a conditional use in all zoning districts, except for minor thermal power plant facilities as provided in Section 17.61.020(c), and communication facilities as provided in Section 17.61.040. Normal maintenance and repair of existing developments shall be a permitted use for both non-conforming and lawfully established special utilities.

G. Associated Facilities may be authorized by the Board of Adjustment as a conditional use in the General Industrial Zone (Chapter 17.52).

H. The Board of Adjustment shall review all conditional use requests and administrative appeals subject pursuant to the procedures contained in Title 15A (Project Permit Application Process), and the criteria and procedure contained in Chapter 17.60 (Conditional Uses), Chapter 17.61 (Utilities), and other applicable law.

I. Nothing in this Chapter is intended to interfere with the storage and/or distribution of products associated with on-site natural resource activities, including but not limited to fossil fuels.

**17.61.030 REVIEW CRITERIA - SPECIAL UTILITIES AND ASSOCIATED FACILITIES**

A. The Board of Adjustment shall determine that adequate measures have been undertaken by the proponent of the Special Utility and/or Associated Facility to reduce the risk of accidents caused by hazardous materials.

B. The Board of Adjustment, as required by existing statutes, shall determine that the proposed Special Utility and/or Associated Facilities are essential or desirable to the public convenience and/or not detrimental or injurious to the public health or safety, or to the character of the surrounding neighborhood.

C. The Board of Adjustment shall determine that the proposed Special Utility and/or Associated Facilities will not be unreasonably detrimental to the economic welfare of the county and/or that it will not create excessive public cost for public services by finding that (1) it will be adequately serviced by existing services such as highways, roads, police and fire protection, emergency response, and drainage structures, refuse disposal, water and sewers, and schools; or (2) that the applicant shall provide such services or facilities.

D. Special utilities and /or associated facilities as defined by this Chapter shall use public right-of-ways or established utility corridors when reasonable. Although Kittitas County may map utility corridors, it is recognized and reaffirmed that the use of such corridors is subject to conditional use approval and just compensation to the landowner for the use of such corridor. While a utility corridor may be used for more than one utility or purpose, each utility or use should be negotiated with the landowner as a separate easement, right-of-way, or other agreement, or other arrangement between the landowner and any other party all owners of interests in the property. Any county map which shows utility corridors shall designate such corridors as "private land closed to trespass and public use" where such corridors are on private land. Nothing in this paragraph is intended to conflict with the right of eminent domain.

E. The Board of Adjustment shall consider industry standards, available technology, and proposed design technology for special utilities and associated facilities in promulgating conditions of approval.

F. The construction and installation of utilities and special utilities may necessitate the importation of fill material which may result in the displacement of native material. The incidental generation of earthen spoils resulting from the construction and/or installment of a utility or special utility, and the removal of said material from the development site shall not require a separate zoning conditional use permit.

G. The operation of some utilities and special utilities identified within this Chapter may necessitate unusual parcel configurations and/or parcel sizes. Such parcels (1) need not conform with applicable zoning requirements provided they comply with the procedures provided in KCC Title 16 (subdivision code) and so long as used for a utility or special utility; (2) are not eligible for any other use or any rights allowed to nonconforming lots in the event the utility or special utility use ceases; (3) shall continue to be aggregated to the area of the parent parcel for all other zoning and subdivision requirements applicable to the parent parcel.

**17.61.040 COMMUNICATION FACILITIES - ADMINISTRATIVE REVIEW ? GENERAL REQUIREMENTS**

A. Communication Facilities may be authorized by the Planning Director as an administrative conditional use in all zoning districts, pursuant to the criteria and procedures of this Chapter and Title 15A of the Kittitas County Code. An administrative conditional use permit is not required for the operation of amateur or non-commercial communication equipment as defined by FCC regulations under Part 95D and Part 97 CFR (i.e. citizen band, ham radio).

B. Construction of all improvements shall be completed within one year of the date of permit issuance except as provided for in Sub-Sections 17.61.040(E) and 17.61.040(F).

C. The lot line setback requirements of this Title may be waived by the Planning Director, in order to improve the facilities reception and/or transmission capabilities or to achieve greater levels of audible or visual screening than that which would be available by using the applicable zone?s yard requirements.

D. Communication Facilities shall be designed to blend with existing surroundings, provided no conflicts exist with existing Federal Communication Commission and the Federal Aviation Administration regulations relating to aircraft safety. This should be achieved through the use of compatible colors and materials, and alternative site placement to allow the use of topography, existing vegetation or other structures to screen the proposed transmission support structure from adjacent lands.

E. The co-location of antennas on both existing and proposed transmission structures is encouraged. Communication antennas shall be permitted outright in all zoning districts provided the following:
1. An antenna shall not extend more than six feet horizontally from any structure to which it is attached.
2. An antenna shall not extend vertically more than fifteen feet above the uppermost portion of the structure to which it is mounted or attached.

F. Modifications to, including the expansion of existing approved communication facilities shall be outright permitted, provided there is no increase in the height of the transmission tower. For purposes of this sub-section, "transmission tower" means a pole or lattice-work structure specifically designed and intended to support antenna and related communication equipment.

DATED this [7] day of [August], 2001, at Ellensburg, Washington.

**BOARD OF COUNTY COMMISSIONERS**
**KITTITAS COUNTY, WASHINGTON**

ATTEST: _____
Perry D. Huston, Chairman

_____
Clerk of the Board _____
Bill R. Hinkle, Vice-Chairman
APPROVED AS TO FORM:

_____ _____
Gregory L. Zempel, Prosecuting Attorney Max A. Golladay, Commissioner
WSBA #19125

Resolution No. _____

Ordinance No. _____

The County Board of Supervisors of the County of Polk does ordain as follows:

Telecommunication Towers, Antennas and Related Facilities

**Article I Purpose and Intent**

The purpose of the regulations and requirements of this Ordinance is to:

A. Accommodate communication, radio, and television needs while protecting the public health, safety and general welfare;
B. Minimize adverse visual impacts of wireless communication service and other transmission facilities through careful site and design standards;
C. Avoid potential damage to adjacent properties from the construction, location and operation of wireless communication service and other transmission facilities through structural standards and setback requirements;
D. Maximize the use of existing and approved towers, buildings or structures to accommodate new wireless communication service and other transmission antennas to minimize the number of towers needed to serve the county and adverse visual impacts; and
E. Minimize hazards to birds.

**Article II Definitions**

The following definitions apply to the provisions of this ordinance:

**"Abandoned Facility"** Any Transmission Facility that is unused for the purpose for which the permit was granted for 18 consecutive months shall be considered abandoned.

**"Antenna"** Any device or equipment used for the transmission or reception of electromagnetic waves, which may include omni-directional Antenna (rod), directional Antenna (panel) or parabolic Antenna (disc).

**"Co-location"** The location of more than one Antenna or set of Antennas on the same Tower or structure.

**"Committee"** A subcommittee of the Polk County Board known as the Revolving Loan Fund, Planning, Zoning, and Land Records Committee, and is the permitting authority under this ordinance where required.

**"Conditional Use Permit" or "CUP"** A Land Use Permit issued by the Committee after a public hearing.

**"Department"** The Polk County Zoning Department, and is the permitting authority under this ordinance where required.

**"FAA"** Federal Aviation Administration.

**"FCC"** Federal Communications Commission.

**"Guyed Tower"** A telecommunication Tower that is supported in whole or in part by guy wires and ground anchors or other means of support besides the superstructure of the Tower itself.

**"Height"** The distance measured from ground level to the highest point on a Tower or structure, including any antenna.

**"High Power Transmission Line"** A 69 kV or greater electric transmission line with Towers at least 75 feet in height.

**"Lattice Tower"** A telecommunication Tower that consists of vertical and horizontal supports and crossed metal braces.

**"Monopole"** A telecommunication Tower of a single pole design.

**"Non-Conforming"** Any pre-existing telecommunication facility that was in existence prior to January 26, 1999, and that has not been issued a Conditional Use Permit or was issued a Conditional Use Permit prior to January 26, 1999. This definition shall only apply to this ordinance and shall not apply to the Polk County Comprehensive Land Use Ordinance.

**"Pre-existing Transmission Facility"** Any Transmission Facility constructed prior to January 26, 1999.

**"St. Croix River Buffer Zone"** The St. Croix River Buffer Zone is the area located outside the St. Croix Riverway District and within two miles of the St. Croix River, measured from the ordinary high water mark.

**"Stealth Facility"** A Wireless Communication Service Facility or other Transmission Facility which appropriately models or mimics in size, shape, scale and color something which exists in the immediate landscape, which could legally be placed there or already exists there at the time an application is submitted, (e.g., a silo in farm settings or a tree in forested lands), and which is unrecognizable to a casual observer as a Transmission Facility.

**"Tower"** Any structure that is designed and constructed primarily for the purpose of supporting one or more Antennas including Guy Towers, Monopole towers and Lattice Towers.

**"Tower Accessory Structure"** Any structure located at the base of a Tower for housing base receiving or transmitting equipment.

**"Transmission Facility"** Any Wireless Communication Service Facility, radio or television Tower, or any WCSF equipment or accessory structure other than an electric transmission line.

**"Wireless Communication"** Any wireless telecommunication service as defined in the Telecommunications Act of 1996, including FCC licensed commercial wireless telecommunications services such as cellular, personal communication services (PCS), specialized mobile radio (SMR), enhanced specialized mobile radio (ESMR), paging and similar services that currently exist or may be developed.

**"Wireless Communication Service Facility (WCSF)"** All equipment, buildings, structures and Towers with which a Wireless Communication service carrier or provider broadcasts and receives the radio frequency waves that carry its services, and all locations of said equipment, buildings and structures.

## Article III Special Provisions: Pre-existing or Non-Conforming Transmission Facilities and Exceptions to this Ordinance

A. Any Pre-existing or Non-Conforming Transmission Facility shall not be required to meet the requirements of this Ordinance, except for the provisions of Article X - Biennial Report.

B. Any Pre-existing or Non-Conforming Transmission Facility shall comply with all FCC and FAA rules and regulations.

C. Any addition or change to a Pre-existing or Non-Conforming Transmission Facility shall comply with all applicable requirements of this Ordinance, provided that such modifications that make the Transmission Facility less visible or add a Co-location Antenna without increasing the height of the Transmission Facility are exempt from requirements adopted after January 26, 1999.

D. Exceptions from this Ordinance. The following are permitted without Committee approval (no permit required):
   1. Television Antennas, satellite dishes, receive-only Antennas and free standing Antennas 45 feet or less in height; provided however, that the primary use of such equipment is not part of a Transmission Facility and that such equipment is only ancillary to the primary use of the site where located.
   2. Antenna and associated Towers, poles and masts that are owned or operated by federally licensed amateur radio operators, or citizen band radio operators.
   3. Antennas mounted on utility poles where the Antenna is 30 feet or less in height above the highest part of the utility pole.

E. Any owner of a Pre-existing Transmission Facility shall accept all additional Co-location Antennas on reasonable terms, so long as adverse visual impacts do not result.

F. Transmission Facilities approved by the Department with a Land Use Permit may be modified if the modification is in compliance with the provisions of this Ordinance. The Department may approve the modification only after the applicant submits a modified Land Use Permit application and the appropriate fee under the current fee schedule as adopted by the Polk County Board.

G. Transmission Facilities approved by the Committee under a CUP may be modified only after a public hearing by the Committee. The Committee may approve the application and the Department may issue a Land Use Permit only after the applicant submits a modified CUP application and the appropriate fee under the current fee schedule as adopted by the Polk County Board.

**Article IV General Requirements**

A. Any Transmission Facility shall comply with all FCC and FAA rules and regulations.

B. Design and installation of any Transmission Facility shall comply with the manufacturer's specifications. Plans shall be approved and certified by a registered professional engineer.

C. Installation of any Transmission Facility shall comply with all applicable state and local building and electrical codes.

D. For leased sites, written authorization for siting a Transmission Facility must be obtained from the property owner and indicate the duration of the lease term.

E. Any Transmission Facility must be adequately insured against personal injury, wrongful death, and property damage claims.

F. Any Abandoned Facility must be removed and site restored within a reasonable time, but not more than three months after removal is requested by the County. Upon removal, the site shall be restored to its original or an improved condition. Any below grade anchoring elements used to secure the structure, shall be removed to a depth of at least 8 feet below ground level. If removal or restoration is not completed, the County is authorized to complete the removal and site restoration and charge the cost to the performance bond.

G. Proposals to erect a new Transmission Facility shall be accompanied by any required federal, state or local agency license or application for such license.

H. Only one Tower is permitted on a parcel of land. Additional Towers may be permitted on a parcel of land with a CUP if the additional Tower is located within 200 feet of the existing Tower(s) and all other requirements of this Ordinance are met.

I. The Monopole is the required Tower structure for non-Stealth Facilities. Guy or Lattice Towers are prohibited. Antennas must be contained within or mounted flush with the Monopole.

J. Transmission Facility Height.

1. All Transmission Facilities shall be built to the minimum Height required to meet the applicant's needs and are not to exceed a maximum Height of 200 feet.
2. District Height Limitations. The requirements set forth in this Ordinance shall govern the design and siting of a Transmission Facility that exceeds the Height limitations specified for the zoning district in which the Transmission Facility is located.

K. Applications for Structures on Publicly-owned Lands.
   1.The applicant must provide documentation to the permitting authority proof of acceptance (either by approved permit or other documentation) by the applicable governing authority that has jurisdiction over the publicly-owned land.
   2.For applications within the St Croix Riverway District, the permitting authority may allow location of a Stealth Facility on National Park Service-owned lands within the Riverway provided that the applicant is able to show by clear and convincing evidence that there is no viable location outside the Riverway Boundary for locating a Stealth Facility that can accommodate the applicant's requirements.

L. Adequate parking for maintenance of Transmission Facilities must be available.

## Article V Provisions for Non-Wireless Communication Service Facilities

In the event that an applicant has received a license from the FCC, has applied or intends to apply to the FCC for a license to build a Transmission Facility that does not meet the standards and requirements of this Ordinance, the Committee shall consider the application under the following conditions:

A. The application shall meet all the requirements under Article IX (with respect to the content of the application), shall include a copy of the license granted by the FCC, a copy of the application pending or a copy of the application that the applicant intends to make to the FCC and shall include any further information that the Committee may reasonably deem necessary for its consideration.
B. The applicant must show by clear and convincing evidence that:
   1. the public would be uniquely and materially benefited by the service that the applicant proposes to provide and that it is not one of the services defined as Wireless Communication; or,
   2. the public health or safety will be substantially and materially benefited should the application be permitted and that it is not one of the services defined as Wireless Communication.
C. The applicant must show that there is no feasible alternative to the proposed non-Wireless Communication Service Facility that would meet all of the standards and requirements of this Ordinance.
D. Any permit granted under the provisions of this Ordinance for a non-Wireless Communication Service Facility for which a license has not yet been issued by the FCC shall be conditioned upon the granting of such license on the same terms and conditions as are represented in the application made under this Ordinance within one year's time. A copy of the FCC license when granted shall be immediately delivered to the Committee for review and any substantial deviation from said terms and conditions shall invalidate the permit granted under this Ordinance.
E. Permits for Non-Wireless Communication Service Facility shall not be granted without notice to the public in a legal newspaper of record and to owners of contiguous property by certified mail at least 60 days prior to the first public hearing on the application. The Committee shall hold no less than two public hearings on an application for a Non-

Wireless Communication Service Facility permit.

## Article VI Prohibitions

A. No Transmission Facility may be installed on a parcel within a major subdivision (as defined in the Polk County Subdivision Ordinance) created for residential purposes.
B. No advertising message or sign shall be affixed to any Transmission Facility.
C. No Transmission Facility shall be artificially illuminated unless required by FCC or FAA regulations.
D. No part of any Transmission Facility shall extend across or over any right-of-way, public street, highway, sidewalk, or property line.
E. A temporary mobile Transmission Facility site is not permitted except in the case of equipment failure, equipment testing, equipment replacement, or emergency, and provided that prior authorization is obtained from the Department. Use of a temporary site for testing purposes shall be limited to 24 hours, and the use of a temporary site for equipment failure, equipment replacement, or emergency shall be limited to 30 days, unless extended for good cause in writing by the Department.

## Article VII District Requirements

A. A County Land Use Permit may be issued by the Department. The Department shall not issue such a county Land Use Permit prior to ten working days after mailing notice of the application to the town in which the Transmission Facility is proposed to be located. Any other Transmission Facility shall be regulated in accordance with the regulations applicable to the zoning district (as defined in the Polk County Comprehensive Land Use Ordinance) in which the facility is located. All requirements of the zoning district other than the standards provided in this Ordinance must be met. A Stealth Facility is permitted with a County Land Use Permit within any zoning district and any area not zoned by any County Zoning Ordinance. The following are the use standards for the various districts:

1. Agricultural, Exclusive Agricultural, Commercial, Restricted Commercial, Industrial, Restricted Industrial Districts, and any area not zoned by a County Zoning Ordinance.
   a. The following are permitted with a County Land Use Permit from the Department issued under this Ordinance:
      (1) Any Antenna attached to an existing Tower or structure and not extending more than 20 feet above the highest point of the Tower or structure and where the total height of the addition would not increase the maximum height to over 200 feet.
      (2) Any Transmission Facility within the easement of a high power transmission line or within 50 feet of the transmission line easement on the same side of the road up to a maximum height of 200 feet.
      (3) Any Stealth Facility.
   b. The following may be permitted with a Conditional Use Permit issued by the Committee under the provisions of this Ordinance:
      (1) Any Antennas attached to an existing Tower or structure extending more than 20 feet above the highest point of the tower or structure and where the height of the addition would not increase the total height to over 200 feet.
      (2) Any Transmission Facility to a maximum height of 200 feet.

2. Residential District
   a. The following are permitted with a County Land Use Permit issued by the Department under the provisions of this Ordinance:
      (1) Any Antenna attached to an existing Tower or structure and not extending more than 20 feet above the highest point of the Tower or structure and where the height of the addition would not increase the total height to over 200 feet.
      (2) Any Transmission Facility within the easement of a high power transmission line or within 50 feet of the transmission line easement on the same side of the road up to a maximum height of 200 feet.
      (3) Any Stealth Facility.

3. Shoreland, Floodplain, Forestry, Recreational, Conservancy, St. Croix River Buffer Zone and St. Croix Riverway Districts. No Transmission Facility except a Stealth Facility is allowed in these districts except:
   a. With a Conditional Use Permit issued by the Committee under the provisions of this Ordinance, an Antenna attached to an existing Tower or structure and not extending more than 20 feet above the highest point of the Tower or structure and where the height of the addition would not increase the total height to over 200 feet.
   b. With a County Land Use Permit issued by the Department under the provisions of this Ordinance, a Stealth Facility in the St. Croix Riverway District, only after Wisconsin Administrative Code Chapter NR 118 is amended to permit a Stealth Facility.

Chart of District Requirements

| | Agricultural, Exclusive Agricultural, Commercial, Restricted Commercial, Industrial, Restricted Industrial, and any area not under County Zoning | | Residential | | Shoreland, Floodplain, Forestry, Recreational, Conservancy, St. Croix River Buffer Zone, St. Croix Riverway | |
|---|---|---|---|---|---|---|
| Facility Type | Allow | Permit | Allowed | Permit | Allowed | Permit |
| Monopole, 200' max. adjacent to trans-mission line | Yes | Land Use | Yes | Land Use | ----- | ----- |
| Stealth | Yes | Land Use | Yes | Land Use | Yes | Land Use |
| Co-locate antenna >20' | Yes | CUP | ----- | ----- | ----- | ----- |
| Co-Locate, antenna = or < 20' | Yes | Land Use | Yes | Land Use. | Yes | CUP |
| Monopole, 200' max. | Yes | CUP | ----- | ----- | ----- | ----- |

## Article VIII Performance Standards

A. Except as provided in this Ordinance, any Transmission Facility must meet the dimensional standards applicable to the parcel within the zoning district in which it is located. Where the Transmission Facility is the principal use on a parcel, the parcel shall meet the minimum lot size requirements of the zoning district in which the parcel is located. On a parcel of land that already has a principal use, the Transmission Facility shall be considered an accessory use and a smaller area of land may be leased for it, provided that all requirements of this Ordinance are met.

B. Setbacks and Separation

1. Generally, any Tower shall be set back from the nearest property line a distance equal to 125% of the Height of the Tower. This setback may be reduced up to one-half the Height of the tower if the applicant submits an engineering report from a registered professional engineer that certifies that the Tower is designed and engineered to collapse upon failure within the distance from the Tower to the property line.
2. No Tower shall be located within 500 feet of any residence unless the owner of the residence agrees in writing.

C. Screening and Landscaping. The Transmission Facility shall be located on the site so as to have the least visual impact. The site shall be landscaped and maintained with a buffer of plant materials that effectively screens the view of all Tower accessory structures, equipment and improvements at ground level from adjacent properties year around. Existing mature vegetation and natural landforms on the site shall be preserved to the maximum extent possible.

D. Security Fencing and Lighting.
1. Any Transmission Facility shall be reasonably protected against unauthorized access. The bottom of the Tower from ground level to 12 feet above ground shall be designed to prevent unauthorized climbing and shall be enclosed with a minimum of a 6 feet high chain link fence with a locked gate.
2. Security lighting for on-ground structures and equipment is permitted, as long as it is down-shielded to keep light within the boundaries of the site.

E. Color and Materials. Any Transmission Facility shall use building materials, colors, textures, screening, and landscaping that blend the Transmission Facility with the surrounding natural features and built environment to the greatest extent possible.

## Article IX Permit Requirements and Conditional Use Application

The construction or installation of any Transmission Facility requires a County Land Use Permit or Conditional Use Permit under this ordinance. The permit will specify the use or uses allowed. Within ninety (90) days from the date of submittal of the Conditional Use Permit application, the Committee shall consider and decide upon the question of issuance of the Conditional Use Permit. Action by the Committee may be postponed past the 90-day limit by written agreement between the Committee and the applicant, or upon determination by the Committee that additional information is required. On behalf of the County, the Department or Committee will employ independent technical experts to review materials submitted by the applicant. The applicant shall pay the costs of such review and/or independent analysis. The Polk County Land Information Department may issue a Conditional Use Permit after review and a public hearing of the Committee, provided that the Committee has determined that such conditional use is in accordance with the purpose and intent of this Ordinance. Before a public hearing is scheduled, the applicant shall conduct an informational presentation to the Town Board in the Town in which the proposed Transmission Facility is to be located. Subsequent to the presentation, the Town Board shall provide the Department with notification of an advisory recommendation. The Town Board is encouraged to participate in an advisory role in the public hearing with the Committee to review material presented by the applicant and independent technical expert.

A. Application Submittal Information
1. A completed County Land Use Permit or Conditional Use Permit application and appropriate fee under the current fee schedule as adopted by the Polk County Board.
2. Applications. In addition to the application requirements of Section XVI of the Polk County Comprehensive Land Use Ordinance, all applications for County Land Use

Permits or Conditional Use Permits for new Transmission Facilities shall include the following information: (applications for land use permits for Stealth Facilities may omit the requirements of section g., below)

a. A report from a registered professional engineer and other professionals which:
   1. describes the Transmission Facility's height and design, including a cross section and elevation;
   2. certifies the Transmission Facility's compliance with structural and electrical standards;
   3. describes the Transmission Facility's capacity, including the potential number and type of antennas that it can accommodate;
   4. describes the lighting to be placed on the Transmission Facility if required by the FCC or FAA;
   5. certifies that the Transmission Facility will not cause destructive interference with previously established public safety communications systems; and
   6. describes how the requirements of Articles IV, VI, VII, and VIII of this Ordinance will be met by the proposed Transmission Facility.

b. Each application shall include a facility plan containing the following information:
   1. Written description of the type of consumer services each applicant will provide to its customers (radio, television, cellular, PCS, SMR, ESMR, paging or other anticipated Wireless Communication services).
   2. A list of all of the applicant's existing sites, existing sites to be upgraded or replaced, and proposed sites within the County.
   3. Map of the County that shows the applicant's existing and proposed geographic service areas.

c. Landowner Acknowledgement. Written acknowledgement by the landowner and lessee of a leased site that they will abide by all applicable terms and conditions of the County Land Use Permit or Conditional Use Permit, including the restoration and reclamation requirements of Article IV F. of this Ordinance, and a copy of the lease.

d. A performance bond in a form acceptable to the Department in an amount sufficient to provide for removal of the Transmission Facility and restoration of the site.

e. Copies of letters informing each government unit (City, Village, Town or Township) in which the proposed site is located and the adjacent government units (in Wisconsin and Minnesota) of the application.

f. Copies of letters informing contiguous landowners by certified mail and publication of notice in the County's newspaper of record as appointed by the County Board.

g. Additional Information and Analysis: The Department or Committee may, at their discretion, require a visual analysis of the proposed Transmission Facility, including photo simulations of the view of the vicinity of the Transmission Facility before and after the proposed Transmission Facility is built. The photos shall be taken from approximately one mile north, south, east, and west from the proposed Transmission Facility. The simulation may include a photo montage, field mock-up, view-shed analysis, or other techniques, which identify the potential visual impacts of the proposed Transmission Facility. Consideration shall be given to views from public areas as well as from private residences. The analysis shall assess the cumulative impacts of the proposed Transmission Facility and other existing transmission facilities in the area. The analysis shall identify and include all feasible mitigation measures consistent with the technological requirements of the proposed service.

3. Co-location/Sharing of Facilities. Prior to setting a public hearing, the applicant must

review Co-location alternatives with the independent technical expert. No new Tower shall be permitted unless the applicant demonstrates to the reasonable satisfaction of the Committee and independent technical expert that no existing Tower or structure can accommodate the applicant's proposed Antenna. Examples of supporting evidence are:

a. No Tower or structure is located within the geographic area that meets the applicant's engineering requirements.
b. No existing Tower or structure is of sufficient Height to meet the applicant's engineering requirements.
c. No existing Tower or structure can be modified at reasonable cost to support applicant's proposed Antenna.
d. Electromagnetic interference would interfere with an existing or proposed system.
e. The fees, cost, or contractual provisions required by the applicant to share an existing Tower or structure or to adapt an existing Tower or structure for sharing are substantially more expensive than new construction considering factors such as, without limitation, depreciation, technical obsolescence, maintenance and land acquisition.
f. The applicant establishes other facts that render co-location unsuitable.

**Article X Biennial Report**

Owners, providers or permittees shall submit each even numbered year on or before January 31, a Transmission Facility information report, on a County form provided by the County. The report shall detail the use, maintenance and condition of the Transmission Facility since the previous report, availability of the Transmission Facility for added co-location and other information reasonably deemed necessary by the Department. The report shall be accompanied by a two-year renewal of the performance bond in a form acceptable to the Department in an amount sufficient to provide for removal of the Transmission Facility and restoration of the site. Failure to submit the report, or a delay longer than sixty days after the County sends the Transmission Facilities Information Report form to the owner/provider or permittee shall result in a late fee of $200.00 per week until received. Failure to submit the report by July 1 of each even-numbered year, shall result in the County taking Revocation Enforcement action under Article XIII.

**Article XI Safety Inspection**

If the County has reason to believe that a Transmission Facility is a safety risk, it may require the permit holder to perform an inspection by a registered engineer and provide a copy of the inspection results to the Department within sixty days. The County shall provide the owner with information forming the basis for belief that the Transmission Facility is a safety risk before requiring inspection.

**Article XII Appeal Procedures**

Any person aggrieved by any decision of the Committee regarding its evaluation of the appeal must, within 30 days after the filing of the decision of the Committee in the Office of the Department, commence an action in the circuit court seeking any remedy available by certiorari.

**Article XIII Enforcement and Penalties**

A. Revocation. Grounds for revocation of the Conditional Use Permit, or County Land Use

Permit, shall be limited to one of the following findings as determined by the Department:

1. The owner of such site, service provider and/or tower owner fails to comply with the requirements of this Ordinance as it existed at the time of the issuance of the permit.
2. The permittee has failed to comply with the conditions of approval.
3. The facility has not been properly maintained.

B. Revocation Process.

1. The owner of such site, service provider and/or tower owner shall be notified by certified mail of non-compliance by the Committee or Department.
2. The owner may bring the site into compliance to the satisfaction of the Committee within thirty (30) days from the date the notice was mailed.
3. If compliance is not obtained within thirty (30) days, the Department shall notify the Committee of non-compliance and request permission to proceed with the revocation process (this time period may be extended by staff to adjust for seasonal limitations).
4. The Department shall petition the Committee for a public hearing before the Committee upon publication of a Class 2 notice in the legal newspaper of Polk County.
5. A copy of hearing notice shall be mail by certified mail to the owner of record of the Transmission Facility site at least two weeks prior to the hearing date.
6. A representative of the Department shall appear at the hearing before the Committee to present the evidence of non-compliance. All other interested parties may also give testimony to the Committee.
7. A written decision of the Committee will be made within thirty (30) days of the hearing.

**Article XIV Severability**

If any section, subsection, clause or phrase of this Ordinance is for any reason held to be unconstitutional or invalid, such a decision shall not affect the remaining portions of this Ordinance. The Polk County Board of Supervisors declares that it would have passed this Ordinance and each section, subsection, sentence, clause and phrase thereof irrespective of the fact that any one or more such provisions be declared unconstitutional or invalid.

**Article XV Fee Schedules**

Upon recommendation of the Committee, the Polk County Board of Supervisors shall, from time to time, establish and review fees that are applicable to this Ordinance. No application shall be considered filed with the County unless and until said application is accompanied by the appropriate application fee.

**Article XVI County Zoning Ordinances**

Any reference in this Ordinance to a Polk County Zoning Ordinance includes the Comprehensive Land Use Ordinance, Floodplain Zoning Ordinance, Lower St Croix Scenic Riverway Ordinance, Shoreland Protection Zoning Ordinance, and Subdivision Ordinance, as each existed at the time this Ordinance went into effect and any amendments made subsequently to any of these Polk County Ordinances. Each said Ordinance is applicable and incorporated to the extent referenced herein.

# ST. CROIX COUNTY
# CODE OF ORDINANCES
# LAND USE AND DEVELOPMENT

## CHAPTER 17
## ZONING

Subchapter VIII
Wireless Communication Service
And Other Transmission Facilities
17.80-17.90

ST. CROIX COUNTY PLANNING AND ZONING DEPARTMENT
GOVERNMENT CENTER
1101 CARMICHAEL ROAD
HUDSON, WI 54016
715-386-4680
715-386-4686 FAX
WWW.CO.SAINT-CROIX.WI.US

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## SUBCHAPTER VIII

## WIRELESS COMMUNICATION SERVICE AND OTHER TRANSMISSION FACILITIES REGULATIONS

17.80 PURPOSE.

The purposes of the regulations and requirements of this subchapter are to:

(1) Accommodate the communication, radio, television, and electric generation needs while protecting the public health, safety and general welfare;

(2) Minimize adverse visual impacts of wireless communication service and other transmission facilities through careful site and design standards;

(3) Avoid potential damage to adjacent properties from the construction and location and operation of wireless communication service and other transmission facilities through structural standards and setback requirements; and

(4) Maximize the use of existing and approved towers, buildings or structures to accommodate new wireless communication service and other transmission antennas to minimize the number of towers needed to serve the county, while minimizing adverse visual impacts.

(5) Minimize hazards to birds.

17.81 DEFINITIONS.

(1) Antenna. Any device or equipment used for the transmission or reception of electromagnetic waves, which may include omni-directional antenna (rod), directional antenna (panel) or parabolic antenna (disc).

(2) Colocation. The location of more than one antenna or set of antennas on the same tower or structure.

(3) FAA. Federal Aviation Administration.

(4) FCC. Federal Communications Commission.

(5) Height. The distance measured from ground level to the highest point on a tower or structure, including any antenna.

(6) High power transmission line. A 69 kv or greater electric transmission line with towers at least 75 feet in height.

(7) Stealth facility. A wireless communication service or other transmission facility which appropriately models or mimics in size, shape, scale and color something which exists in the immediate landscape or which could legally be placed there, or already exists there, at the time the application is submitted, such as a silo in farm settings or a tree in forested lands, and which is unrecognizable to a casual observer as a transmission facility

(8) Tower. Any structure that is designed and constructed primarily for the purpose of supporting one or more antennas or wind generators, including guy towers, monopole towers and self-supporting lattice towers.

(9) Tower accessory structure. Any structure located at the base of a tower for housing base receiving or transmitting equipment.

(10) Transmission Facility. Any WCSF, radio, television or electric generation tower, equipment and accessory structure other than an electric transmission line.

(11) Wireless communication. Any wireless communication services as defined in the Telecommunications Act of 1996, including FCC licensed commercial wireless telecommunications services such as cellular, personal communication services (PCS), specialized mobile radio (SMR), enhanced specialized mobile radio (ESMR), paging and similar services that currently exist or may be developed.

(12) Wireless communication service facility (WCSF). All equipment, buildings and structures with which a wireless communication service carrier or provider broadcasts and receives the radio frequency waves which carry its services, and all locations of said equipment, buildings and structures.

17.82 APPLICABILITY.

(1) Preexisting Transmission Facilities.

(a) Any transmission facility for which a permit has been issued prior to August 28, 1997 shall not be required to meet the requirements of this subchapter exceeding those in effect at the time the permit was granted, section 17.88, and:

1. Any preexisting transmission facility shall comply with all FCC and FAA rules and regulations.
2. Any transmission facility which is unused for the use for which the permit was granted for 12 consecutive months must be removed and site restored within a reasonable time, but not more than three months after removal is requested by the County. Upon removal, the site shall be restored to its original or an improved condition, and anchoring elements shall be removed from the ground to a depth of at least 8 feet. If removal and/or restoration is not completed, the County is authorized to complete the removal and site restoration and charge the cost to the performance bond.
3. Any addition or change to a preexisting transmission facility shall comply with all applicable requirements of this subchapter, provided that such modifications which make the transmission facility less visible or add a colocating antenna or wind generator without increasing its height are exempt from requirements adopted after August 28, 1997.

(b) Any transmission facility for which a permit has been issued prior to the effective date of this subchapter and after August 28, 1997 shall not be required to meet the requirements of this subchapter exceeding those in effect at the time the permit was granted, section 17.88, and:

1. Any preexisting transmission facility shall comply with all FCC and FAA rules and regulations.
2. Design and installation of any transmission facility shall comply with the manufacturer's specifications. Plans shall be approved and certified by a registered professional engineer.
3. Installation of any transmission facility shall comply with all applicable state and local building and electrical codes.
4. For leased sites, written authorization for siting the transmission facility must be obtained from the property owner.
5. Any transmission facilities must be adequately insured against personal injury, wrongful death, and property damage claims.
6. Any transmission facility which is unused for the use for which the permit was granted for 12 consecutive months must be removed and site restored within a reasonable time,

but not more than three months after removal is requested by the County. Upon removal, the site shall be restored to its original or an improved condition, and anchoring elements shall be removed from the ground to a depth of at least 8 feet. If removal and/or restoration is not completed, the County is authorized to complete the removal and site restoration and charge the cost to the performance bond.

7. Only one tower is permitted on a parcel of land. Additional towers may be permitted on a parcel of land with a special exception permit if the additional tower is located within 200 feet of the existing tower(s) and all other requirements of this subchapter are met.
8. Any addition or change to a preexisting transmission facility shall comply with all applicable requirements of this subchapter, provided that such modifications which make the transmission facility less visible or add a colocating antenna or wind generator without increasing its height are exempt from requirements adopted after August 28, 1997.

(2) District Height Limitations. The requirements set forth in this subchapter shall govern the design and siting of a transmission facility that exceeds the height limitations specified for the zoning district in which the transmission facility is located.

17.83 GENERAL REQUIREMENTS.

(1) Any transmission facility shall comply with all FCC and FAA rules and regulations.
(2) Design and installation of any transmission facility shall comply with the manufacturer's specifications. Plans shall be approved and certified by a registered professional engineer.
(3) Installation of any transmission facility shall comply with all applicable state and local building and electrical codes.
(4) For leased sites, written authorization for siting a transmission facility must be obtained from the property owner.
(5) Any transmission facility must be adequately insured against personal injury, wrongful death, and property damage claims.
(6) Any transmission facility which is unused for the use for which the permit was granted for 12 consecutive months must be removed and site restored within a reasonable time, but not more than three months after removal is requested by the County. Upon removal, the site shall be restored to its original or an improved condition, and anchoring elements shall be removed from the ground to a depth of at least 8 feet. If removal and/or restoration is not completed, the County is authorized to complete the removal and site restoration and charge the cost to the performance bond.
(7) Proposals to erect a new transmission facility shall be accompanied by any required federal, state or local agency license or application for such license.
(8) Only one tower is permitted on a parcel of land. Additional towers may be permitted on a parcel of land with a special exception permit if the additional tower is located within 200 feet of the existing tower(s) and all other requirements of this subchapter are met.
(9) The monopole is the required tower structure. Guy or lattice towers are prohibited. Antennas must be contained within or mounted flush with the monopole.
(10) Any owner of a pre-existing transmission facility for which a permit has been issued shall accept at least two additional colocations on reasonable terms, so long as adverse visual impacts do not result.

17.84 PROHIBITIONS.

(1) No transmission facility shall be over 200 feet in height.

(2) No transmission facility may be installed on a parcel within a major subdivision created for residential purposes.

(3) No advertising message or sign shall be affixed to any transmission facility.

(4) No transmission facility shall be artificially illuminated unless required by FCC or FAA regulations.

(5) No part of any transmission facility shall extend across or over any right-of-way, public street, highway, sidewalk or property line.

(6) A temporary mobile transmission facility site is not permitted except in the case of equipment failure, equipment testing, equipment replacement, or emergency and prior authorization is obtained from the Zoning Administrator. Use of a temporary site for testing purposes shall be limited to 24 hours, and the use of a temporary site for equipment failure, equipment replacement, or emergency shall be limited to 30 days, unless extended for good cause in writing by the Zoning Administrator.

17.85 DISTRICT REQUIREMENTS.

A stealth facility is permitted with a county land use permit, which may be issued by the Zoning Administrator; a county land use permit may not be issued by a deputy zoning administrator. The Zoning Administrator shall not issue such a county land use permit prior to ten days after mailing notice of the application to the town in which the transmission facility is proposed to be located. Any other transmission facility shall be regulated in accordance with the regulations applicable to the zoning district in which the facility is located. All requirements of the zoning district other than the standards provided in this subchapter must be met. Following are the use standards for the various districts:

(1) Commercial, Restricted Commercial and Industrial Districts.

(a) The following are permitted with a county land use permit from the Zoning Administrator issued under this subchapter and section 17.70(3):

1. Any antenna or generator attached to an existing tower or structure and not extending more than 20 feet above the highest point of the tower or structure and where the total height of the addition would not increase the maximum height to over 200 feet.
2. Any transmission facility within the easement of a high power transmission line or within 50 feet of the transmission line easement on the same side of the road up to a maximum height of 200 feet.

(b) The following may be permitted with a special exception permit issued under this subchapter and section 17.70(7):

1. Any antennas or generator attached to an existing tower or structure extending more than 20 feet above the highest point of the tower or structure and where the total height of the addition would not increase the maximum height to over 200 feet.
2. Any transmission facility to a maximum height of 200 feet.

(2) Agricultural, Agricultural Two and Agricultural Residential Districts.

(a) The following are permitted with a county land use permit from the Zoning Administrator issued under this subchapter and section 17.70(3):

1. Any antenna or generator attached to an existing tower or structure and not extending more than 20 feet above the highest point of the tower or structure and where the total height of the addition would not increase the maximum height to over 200 feet.

2. Any Transmission Facilities within the easement of a high power transmission line or within 50 feet of the transmission line easement on the same side of the road up to a maximum height of 200 feet.

(b) The following may be permitted with a special exception permit issued under this subchapter and section 17.70(7):

1. Any antennas or generator attached to an existing tower or structure extending more than 20 feet above the highest point of the tower or structure and where the total height of the addition would not increase the maximum height to over 200 feet.
2. Any transmission facility to a maximum height of 200 feet.

(3) Residence and Conservancy Districts.

(a) The following are permitted with a special exception permit issued under this subchapter and section 17.70(7):

1. Any antennas or generator attached to an existing tower or structure and not extending more than 20 feet above the highest point of the tower or structure and where the total height of the addition would not increase the maximum height to over 200 feet.
2. Any transmission facility within the easement of a high power transmission line or within 50 feet of the transmission line easement on the same side of the road up to a maximum height of 200 feet.

(b) No other transmission facility is permitted in these districts.

(4) Shoreland, Floodplain and St. Croix Riverway Districts. No transmission facility is allowed in these districts except:

(a) With a special exception permit issued under this subchapter and section 17.70(7), an antenna or generator attached to an existing tower or structure and not extending more than 20 feet above the highest point of the tower or structure and where the total height of the addition would not increase the maximum height to over 200 feet.

(b) With a county land use permit, a stealth facility in the Shoreland District and Floodplain District. With a county land use permit, a stealth facility in the St. Croix Riverway District, after Wisconsin Administrative Code Chapter NR 118 is amended to permit a stealth facility.

(5) St. Croix River Buffer Zone. The St. Croix River Buffer Zone is the area located outside the St. Croix Riverway District and within two miles of the St. Croix River, measured from the ordinary high water mark. No transmission facility is allowed within the St. Croix River Buffer Zone, with the exception of a stealth facility.

17.86 PERFORMANCE STANDARDS

(1) Except as provided in this subchapter, any transmission facility must meet the dimensional standards applicable to the parcel within the zoning district in which it is located. Where the transmission facility is the principal use on a parcel, the parcel shall meet the minimum lot size requirements of the zoning district in which the parcel is located. On a parcel of land that already has a principal use, the transmission facility shall be considered an accessory use and a smaller area of land may be leased for it, provided that all requirements of this ordinance are met.

(2) Setbacks and Separation.

(a) Generally, any tower shall be set back from the nearest property line a distance equal to the height of the tower. This setback may be reduced up to one-half the height of the tower if the applicant submits an engineering report from a registered professional

engineer that certifies that the tower is designed and engineered to collapse upon failure within the distance from the tower to the property line.

(b) No tower shall be located within 500 feet of any residence unless the owner of the residence agrees in writing.

(3) Colocation/Sharing of Facilities.

(a) No new tower shall be permitted unless the applicant demonstrates to the reasonable satisfaction of the permitting authority that no existing tower or structure can accommodate the applicant's proposed antenna or generator. Examples of supporting evidence are:

1. No tower or structure is located within the geographic area required to meet the applicant's engineering requirements.
2. No existing tower or structure is of sufficient height to meet the applicant's engineering requirements.
3. No existing tower or structure can be rebuilt to support applicant's proposed antenna or generator.
4. Electromagnetic interference would interfere with an existing or proposed system.
5. The fees, cost, or contractual provisions required by the applicant to share an existing tower or structure or to adapt an existing tower or structure for sharing are much more expensive considering factors such as, without limitation, depreciation, technical obsolescence, wear and land acquisition.
6. The applicant establishes other facts that render colocation unsuitable.

(4) Screening and Landscaping. The transmission facility is to be located on the site so as to have the least visual impact. The site shall be landscaped and maintained with a buffer of plant materials that effectively screens the view of all tower accessory structures, equipment and improvements at ground level from adjacent properties year around. Existing mature vegetation and natural landforms on the site shall be preserved to the maximum extent possible.

(5) Security Fencing and Lighting.

(a) Any transmission facility shall be reasonably protected against unauthorized access. The bottom of the tower from ground level to 12 feet above ground shall be designed to prevent unauthorized climbing and shall be enclosed with a minimum of a 6 feet high chain link fence with a locked gate.

(b) Security lighting for on-ground structures and equipment is permitted, as long as it is down shielded to keep light within the boundaries of the site.

(6) Color and Materials. Any transmission facility shall use building materials, colors, textures, screening, and landscaping that blend the transmission facility with the surrounding natural features and built environment to the greatest extent possible. The tower and everything attached to it shall be painted and maintained light blue to minimize visibility, except for those stealth facilities where light blue would not be appropriate.

(7) Parking and Access. Adequate parking spaces shall be provided on each site so that parking on public road right-of-way will not be necessary. Additional parking may be required by the permitting authority if the minimum parking proves to be inadequate. Access must be provided by a gated, all-weather driveway.

17.87 PERMIT REQUIREMENTS.

(1) The construction or installation of any transmission facility requires a county land use permit or special exception permit under this ordinance. The permit will specify the use or uses allowed.

(2) County Land Use Permits. Any stealth facility or the addition of an antenna or generator to an existing structure permitted under this subchapter may be authorized by the Zoning Administrator, as indicated above, upon the submission and approval of a properly completed application and the fee for a county land use permit under this section and section 17.70(3). A county land use permit may be issued by the Zoning Administrator, but may not be issued by a deputy zoning administrator. The Zoning Administrator shall not issue such a county land use permit prior to ten days after mailing notice of the application to the town in which the transmission facility is proposed to be built.

(3) Special Exception Permits. Any other transmission facility requires a special exception permit under this subchapter authorized by the Board of Adjustment upon the submission and approval of a properly completed application for a special exception under this section and section 17.70(7) and the fee.

(4) Applications. In addition to the application requirements of section 17.70(3) or section 17.70(7), any application for a county land use permit or special exception permit for a new transmission facility shall include the following information. Applications for land use permits may omit (b) 4 below.

(a) A report from a registered professional engineer and other professionals which:

1. describes the tower height and design, including a cross section and elevation;
2. certifies the transmission facility's compliance with structural and electrical standards;
3. describes the tower's capacity, including the potential number and type of antennas or generators that it can accommodate;
4. describes the lighting to be placed on the tower if required by the FCC or FAA;
5. certifies that the transmission facility will not cause destructive interference with previously established public safety communications systems; and
6. describes how the requirements and standards of this ordinance will be met by the proposed transmission facility.

(b) Each application shall include a facility plan containing the following information:

1. Written description of the type of consumer services each provider will provide to its customers (radio, television, electric generation, cellular, PCS, SMR, ESMR, paging or other anticipated wireless communication services).
2. List of all existing sites, existing sites to be upgraded or replaced, and proposed sites within the County for services to be provided by the provider.
3. Map of the County which shows the geographic service areas of the applicant's existing and proposed sites.
4. Copies of letters informing each government unit adjacent to the unit and the unit itself in which the transmission facility is proposed to be located, in Wisconsin and Minnesota, of the application.
5. A visual analysis, including photo simulations of the view of the vicinity of the transmission facility before and after the proposed transmission facility is built, taken from approximately a mile from the transmission facility, north, south, east and west of the proposed site, and which may include photo montage, field mock up or other

techniques, which identifies the potential visual impacts of the proposed transmission facility. Consideration shall be given to views from public areas as well as from private residences. The analysis shall assess the cumulative impacts of the proposed transmission facility and other existing and foreseeable transmission facilities in the area, and shall identify and include all feasible mitigation measures consistent with the technological requirements of the proposed service.

(c) Landowner Acknowledgement. Written acknowledgement by the landowner of a leased site that he/she will abide by all applicable terms and conditions of the land use permit or special exception permit, including the restoration and reclamation requirements of section 17.83(6) of this ordinance.

(d) A performance bond in a form acceptable to the Zoning Administrator in an amount sufficient to provide for removal of the transmission facility.

(e) Additional Information and Analysis.

1. The Zoning Administrator or Board of Adjustment may, at his/her or its discretion, require visual impact demonstrations, including mock-ups and/or photo montages; screening and painting plans; network maps; alternative site analysis; lists of other nearby transmission facilities; or facility design alternatives for the proposed transmission facilities.
2. The Zoning Administrator or Board of Adjustment may employ on behalf of the County independent technical experts to review materials submitted by the applicant or to prepare any materials required but not submitted by the applicant. The applicant shall pay the costs of such review and/or independent analysis.

17.88 BIENNIAL REPORT.

Owners, providers or permittees shall submit each even numbered year on or before January 31, a transmission facility information report, on a County form. The report shall detail the use, maintenance and condition of the transmission facility since the previous report, availability of the Transmission Facility for added colocation and other information reasonably deemed necessary by the Zoning Administrator. The report shall be accompanied by a two-year renewal of the performance bond in a form acceptable to the Zoning Administrator in an amount sufficient to provide for removal of the transmission facility.

17.89 SAFETY INSPECTION.

If the County has reason to believe that a transmission facility is a safety risk, it may require the permit holder to perform an inspection by a registered engineer and provide a copy of the inspection results to the Zoning Administrator within sixty days. The County shall provide the owner with information forming the basis for belief that the transmission facility is a safety risk before requiring inspection.

17.90 ENFORCEMENT AND PENALTIES

In addition to all other enforcement and penalty remedies available in sec. 17.71, a county permit issued under this subchapter may be revoked under 17.71(6)(a). Failure or delay longer than sixty days after the County mails the blank Transmission Facilities information report form to the owner/provider or permittee shall result in a late fee of $200.00 per week until received.

CHAPTER 17, ST. CROIX COUNTY ZONING CODE, WIRELESS COMMUNICATION SERVICE AND OTHER TRANSMISSION FACILITIES REGULATIONS

WHEREAS, the Federal Communications Commission (FCC) has issued wireless communication licenses for personal communications services and other wireless technologies in order for those license holders to provide wireless services throughout the United States; and

WHEREAS, the growing demand from citizens and businesses for new wireless communications services has produced an increased need for the installation of wireless communication service facilities; and

WHEREAS, the location, siting, design and construction of wireless communication service and other transmission facilities can have adverse impacts on the surrounding area; and

WHEREAS, tall structures pose hazards to birds which collide with them and the St. Croix River valley is a migratory corridor; and

WHEREAS, new technologies such as wind generation of electricity and digital television, use towers; and

WHEREAS, the scenic vistas are important attributes of St. Croix County, contributing to the tourism industry and contributing to the rural ambience which attracts and holds residents; and

WHEREAS, a working group of representatives of St. Croix valley governments and interests developed a master plan in March, 2001 called "Protecting Scenic Resources While Providing For Wireless Communication Facilities;" and

WHEREAS, the County is authorized to enact zoning regulations to promote the public health, safety and general welfare of the citizens of St. Croix County as provided under section 59.69, Wisconsin Statutes; and

WHEREAS, on April 15, 1997, the St. Croix County Board of Supervisors adopted Ordinance No. 420 (97) establishing a temporary moratorium on construction of telecommunication towers to allow the County to complete studies, make plans and develop ordinance amendments to provide for the orderly development of wireless communication service facilities; and

WHEREAS, on August 19, 1997, the St. Croix County Board of Supervisors adopted Ordinance 440 (97) regulating wireless communication service facilities.

NOW, THEREFORE, to accommodate communication needs while protecting health, safety and welfare, to minimize adverse visual impacts of wireless communication service and other transmission facilities, to avoid potential hazards or damage to adjacent properties from tower structural failure, to maximize the use of existing and approved towers and structures, and to minimize the number of tall towers needed to serve the County, the St. Croix County Board of Supervisors does amend Subchapter VIII of Chapter 17, St. Croix County Zoning Code, as follows:

SUBCHAPTER VIII WIRELESS COMMUNICATION SERVICE AND OTHER TRANSMISSION FACILITIES

17.80 PURPOSE.

The purposes of the regulations and requirements of this subchapter are to:

(1) Accommodate the communication, radio, television, and electric generation needs while protecting the public health, safety and general welfare;

(2) Minimize adverse visual impacts of wireless communication service and other transmission facilities through careful site and design standards;

(3) Avoid potential damage to adjacent properties from the construction and location and operation of wireless communication service and other transmission facilities through structural standards and setback requirements; and

(4) Maximize the use of existing and approved towers, buildings or structures to accommo-

date new wireless communication service and other transmission antennas to minimize the number of towers needed to serve the county, while minimizing adverse visual impacts.

(5) Minimize hazards to birds.

17.81 DEFINITIONS.

(1) Antenna. Any device or equipment used for the transmission or reception of electromagnetic waves, which may include omni-directional antenna (rod), directional antenna (panel) or parabolic antenna (disc).

(2) Colocation. The location of more than one antenna or set of antennas on the same tower or structure.

(3) FAA. Federal Aviation Administration.

(4) FCC. Federal Communications Commission.

(5) Height. The distance measured from ground level to the highest point on a tower or structure, including any antenna.

(6) High power transmission line. A 69 kv or greater electric transmission line with towers at least 75 feet in height.

(7) Stealth facility. A wireless communication service or other transmission facility which appropriately models or mimics in size, shape, scale and color something which exists in the immediate landscape or which could legally be placed there, or already exists there, at the time the application is submitted, such as a silo in farm settings or a tree in forested lands, and which is unrecognizable to a casual observer as a transmission facility

(8) Tower. Any structure that is designed and constructed primarily for the purpose of supporting one or more antennas or wind generators, including guy towers, monopole towers and self-supporting lattice towers.

(9) Tower accessory structure. Any structure located at the base of a tower for housing base receiving or transmitting equipment.

(10) Transmission Facility. Any WCSF, radio, television or electric generation tower, equipment and accessory structure other than an electric transmission line.

(11) Wireless communication. Any wireless communication services as defined in the Telecommunications Act of 1996, including FCC licensed commercial wireless telecommunications services such as cellular, personal communication services (PCS), specialized mobile radio (SMR), enhanced specialized mobile radio (ESMR), paging and similar services that currently exist or may be developed.

(12) Wireless communication service facility (WCSF). All equipment, buildings and structures with which a wireless communication service carrier or provider broadcasts and receives the radio frequency waves which carry its services, and all locations of said equipment, buildings and structures.

17.82 APPLICABILITY.

(1) Preexisting Transmission Facilities.

(a) Any transmission facility for which a permit has been issued prior to August 28, 1997 shall not be required to meet the requirements of this subchapter exceeding those in

effect at the time the permit was granted, section 17.88, and:

1. Any preexisting transmission facility shall comply with all FCC and FAA rules and regulations.
2. Any transmission facility which is unused for the use for which the permit was granted for 12 consecutive months must be removed and site restored within a reasonable time, but not more than three months after removal is requested by the County. Upon removal, the site shall be restored to its original or an improved condition, and anchoring elements shall be removed from the ground to a depth of at least 8 feet. If removal and/or restoration is not completed, the County is authorized to complete the removal and site restoration and charge the cost to the performance bond.
3. Any addition or change to a preexisting transmission facility shall comply with all applicable requirements of this subchapter, provided that such modifications which make the transmission facility less visible or add a colocating antenna or wind generator without increasing its height are exempt from requirements adopted after August 28, 1997.

(b) Any transmission facility for which a permit has been issued prior to the effective date of this subchapter and after August 28, 1997 shall not be required to meet the requirements of this subchapter exceeding those in effect at the time the permit was granted, section 17.88, and:

1. Any preexisting transmission facility shall comply with all FCC and FAA rules and regulations.
2. Design and installation of any transmission facility shall comply with the manufacturer's specifications. Plans shall be approved and certified by a registered professional engineer.
3. Installation of any transmission facility shall comply with all applicable state and local building and electrical codes.
4. For leased sites, written authorization for siting the transmission facility must be obtained from the property owner.
5. Any transmission facilities must be adequately insured against personal injury, wrongful death, and property damage claims.
6. Any transmission facility which is unused for the use for which the permit was granted for 12 consecutive months must be removed and site restored within a reasonable time, but not more than three months after removal is requested by the County. Upon removal, the site shall be restored to its original or an improved condition, and anchoring elements shall be removed from the ground to a depth of at least 8 feet. If removal and/or restoration is not completed, the County is authorized to complete the removal and site restoration and charge the cost to the performance bond.
7. Only one tower is permitted on a parcel of land. Additional towers may be permitted on a parcel of land with a special exception permit if the additional tower is located within 200 feet of the existing tower(s) and all other requirements of this subchapter are met.
8. Any addition or change to a preexisting transmission facility shall comply with all applicable requirements of this subchapter, provided that such modifications which make the transmission facility less visible or add a colocating antenna or

wind generator without increasing its height are exempt from requirements adopted after August 28, 1997.

(2) District Height Limitations. The requirements set forth in this subchapter shall govern the design and siting of a transmission facility that exceeds the height limitations specified for the zoning district in which the transmission facility is located.

17.83 GENERAL REQUIREMENTS.

(1) Any transmission facility shall comply with all FCC and FAA rules and regulations.

(2) Design and installation of any transmission facility shall comply with the manufacturer's specifications. Plans shall be approved and certified by a registered professional engineer.

(3) Installation of any transmission facility shall comply with all applicable state and local building and electrical codes.

(4) For leased sites, written authorization for siting a transmission facility must be obtained from the property owner.

(5) Any transmission facility must be adequately insured against personal injury, wrongful death, and property damage claims.

(6) Any transmission facility which is unused for the use for which the permit was granted for 12 consecutive months must be removed and site restored within a reasonable time, but not more than three months after removal is requested by the County. Upon removal, the site shall be restored to its original or an improved condition, and anchoring elements shall be removed from the ground to a depth of at least 8 feet. If removal and/or restoration is not completed, the County is authorized to complete the removal and site restoration and charge the cost to the performance bond.

(7) Proposals to erect a new transmission facility shall be accompanied by any required federal, state or local agency license or application for such license.

(8) Only one tower is permitted on a parcel of land. Additional towers may be permitted on a parcel of land with a special exception permit if the additional tower is located within 200 feet of the existing tower(s) and all other requirements of this subchapter are met.

(9) The monopole is the required tower structure. Guy or lattice towers are prohibited. Antennas must be contained within or mounted flush with the monopole.

(10) Any owner of a pre-existing transmission facility for which a permit has been issued shall accept at least two additional colocations on reasonable terms, so long as adverse visual impacts do not result.

17.84 PROHIBITIONS.

(1) No transmission facility shall be over 200 feet in height.

(2) No transmission facility may be installed on a parcel within a major subdivision created for residential purposes.

(3) No advertising message or sign shall be affixed to any transmission facility.

(4) No transmission facility shall be artificially illuminated unless required by FCC or FAA regulations.

(5) No part of any transmission facility shall extend across or over any right-of-way, public street, highway, sidewalk or property line.

(6) A temporary mobile transmission facility site is not permitted except in the case of equipment failure, equipment testing, equipment replacement, or emergency and

prior authorization is obtained from the Zoning Administrator. Use of a temporary site for testing purposes shall be limited to 24 hours, and the use of a temporary site for equipment failure, equipment replacement, or emergency shall be limited to 30 days, unless extended for good cause in writing by the Zoning Administrator.

17.85 DISTRICT REQUIREMENTS.

A stealth facility is permitted with a county land use permit, which may be issued by the Zoning Administrator; a county land use permit may not be issued by a deputy zoning administrator. The Zoning Administrator shall not issue such a county land use permit prior to ten days after mailing notice of the application to the town in which the transmission facility is proposed to be located. Any other transmission facility shall be regulated in accordance with the regulations applicable to the zoning district in which the facility is located. All requirements of the zoning district other than the standards provided in this subchapter must be met. Following are the use standards for the various districts:

(1) Commercial, Restricted Commercial and Industrial Districts.

(a) The following are permitted with a county land use permit from the Zoning Administrator issued under this subchapter and section 17.70(3):

1. Any antenna or generator attached to an existing tower or structure and not extending more than 20 feet above the highest point of the tower or structure and where the total height of the addition would not increase the maximum height to over 200 feet.
2. Any transmission facility within the easement of a high power transmission line or within 50 feet of the transmission line easement on the same side of the road up to a maximum height of 200 feet.

(b) The following may be permitted with a special exception permit issued under this subchapter and section 17.70(7):

1. Any antennas or generator attached to an existing tower or structure extending more than 20 feet above the highest point of the tower or structure and where the total height of the addition would not increase the maximum height to over 200 feet.
2. Any transmission facility to a maximum height of 200 feet.

(2) Agricultural, Agricultural Two and Agricultural Residential Districts.

(a) The following are permitted with a county land use permit from the Zoning Administrator issued under this subchapter and section 17.70(3):

1. Any antenna or generator attached to an existing tower or structure and not extending more than 20 feet above the highest point of the tower or structure and where the total height of the addition would not increase the maximum height to over 200 feet.
2. Any Transmission Facilities within the easement of a high power transmission line or within 50 feet of the transmission line easement on the same side of the road up to a maximum height of 200 feet.

(b) The following may be permitted with a special exception permit issued under this subchapter and section 17.70(7):

1. Any antennas or generator attached to an existing tower or structure extending more than 20 feet above the highest point of the tower or structure and where the total height of the addition would not increase the maximum height to over 200 feet.
2. Any transmission facility to a maximum height of 200 feet.

(3) Residence and Conservancy Districts.

(a) The following are permitted with a special exception permit issued under this subchapter

and section 17.70(7):

1. Any antennas or generator attached to an existing tower or structure and not extending more than 20 feet above the highest point of the tower or structure and where the total height of the addition would not increase the maximum height to over 200 feet.
2. Any transmission facility within the easement of a high power transmission line or within 50 feet of the transmission line easement on the same side of the road up to a maximum height of 200 feet.

(b) No other transmission facility is permitted in these districts.

(4) Shoreland, Floodplain and St. Croix Riverway Districts. No transmission facility is allowed in these districts except:

(a) With a special exception permit issued under this subchapter and section 17.70(7), an antenna or generator attached to an existing tower or structure and not extending more than 20 feet above the highest point of the tower or structure and where the total height of the addition would not increase the maximum height to over 200 feet.

(b) With a county land use permit, a stealth facility in the Shoreland District and Floodplain District. With a county land use permit, a stealth facility in the St. Croix Riverway District, after Wisconsin Administrative Code Chapter NR 118 is amended to permit a stealth facility.

(5) St. Croix River Buffer Zone. The St. Croix River Buffer Zone is the area located outside the St. Croix Riverway District and within two miles of the St. Croix River, measured from the ordinary high water mark. No transmission facility is allowed within the St. Croix River Buffer Zone, with the exception of a stealth facility.

**17.86 PERFORMANCE STANDARDS**

(1) Except as provided in this subchapter, any transmission facility must meet the dimensional standards applicable to the parcel within the zoning district in which it is located. Where the transmission facility is the principal use on a parcel, the parcel shall meet the minimum lot size requirements of the zoning district in which the parcel is located. On a parcel of land that already has a principal use, the transmission facility shall be considered an accessory use and a smaller area of land may be leased for it, provided that all requirements of this ordinance are met.

(2) Setbacks and Separation.

(a) Generally, any tower shall be set back from the nearest property line a distance equal to the height of the tower. This setback may be reduced up to one-half the height of the tower if the applicant submits an engineering report from a registered professional engineer that certifies that the tower is designed and engineered to collapse upon failure within the distance from the tower to the property line.

(b) No tower shall be located within 500 feet of any residence unless the owner of the residence agrees in writing.

(3) Colocation/Sharing of Facilities.

(a) No new tower shall be permitted unless the applicant demonstrates to the reasonable satisfaction of the permitting authority that no existing tower or structure can accommodate the applicant's proposed antenna or generator. Examples of supporting evidence are:

1. No tower or structure is located within the geographic area required to meet the applicant's engineering requirements.

2. No existing tower or structure is of sufficient height to meet the applicant's engineering requirements.
3. No existing tower or structure can be rebuilt to support applicant's proposed antenna or generator.
4. Electromagnetic interference would interfere with an existing or proposed system.
5. The fees, cost, or contractual provisions required by the applicant to share an existing tower or structure or to adapt an existing tower or structure for sharing are much more expensive considering factors such as, without limitation, depreciation, technical obsolescence, wear and land acquisition.
6. The applicant establishes other facts that render colocation unsuitable.

(4) Screening and Landscaping. The transmission facility is to be located on the site so as to have the least visual impact. The site shall be landscaped and maintained with a buffer of plant materials that effectively screens the view of all tower accessory structures, equipment and improvements at ground level from adjacent properties year around. Existing mature vegetation and natural landforms on the site shall be preserved to the maximum extent possible.

(5) Security Fencing and Lighting.

(a) Any transmission facility shall be reasonably protected against unauthorized access. The bottom of the tower from ground level to 12 feet above ground shall be designed to prevent unauthorized climbing and shall be enclosed with a minimum of a 6 feet high chain link fence with a locked gate.

(b) Security lighting for on-ground structures and equipment is permitted, as long as it is down shielded to keep light within the boundaries of the site.

(6) Color and Materials. Any transmission facility shall use building materials, colors, textures, screening, and landscaping that blend the transmission facility with the surrounding natural features and built environment to the greatest extent possible. The tower and everything attached to it shall be painted and maintained light blue to minimize visibility, except for those stealth facilities where light blue would not be appropriate.

(7) Parking and Access. Adequate parking spaces shall be provided on each site so that parking on public road right-of-way will not be necessary. Additional parking may be required by the permitting authority if the minimum parking proves to be inadequate. Access must be provided by a gated, all-weather driveway.

17.87 PERMIT REQUIREMENTS.

(1) The construction or installation of any transmission facility requires a county land use permit or special exception permit under this ordinance. The permit will specify the use or uses allowed.

(2) County Land Use Permits. Any stealth facility or the addition of an antenna or generator to an existing structure permitted under this subchapter may be authorized by the Zoning Administrator, as indicated above, upon the submission and approval of a properly completed application and the fee for a county land use permit under this section and section 17.70(3). A county land use permit may be issued by the Zoning Administrator, but may not be issued by a deputy zoning administrator. The Zoning Administrator shall not issue such a county land use permit prior to ten days after mailing notice of the application to the town in which the transmission facility is proposed to be built.

(3) Special Exception Permits. Any other transmission facility requires a special exception permit under this subchapter authorized by the Board of Adjustment upon the submission and approval of a properly completed application for a special exception under this section and section 17.70(7) and the fee.

(4) Applications. In addition to the application requirements of section 17.70(3) or section 17.70(7), any application for a county land use permit or special exception permit for a new transmission facility shall include the following information. Applications for land use permits may omit (b) 4 below.

(a) A report from a registered professional engineer and other professionals which:

1. describes the tower height and design, including a cross section and elevation;
2. certifies the transmission facility's compliance with structural and electrical standards;
3. describes the tower's capacity, including the potential number and type of antennas or generators that it can accommodate;
4. describes the lighting to be placed on the tower if required by the FCC or FAA;
5. certifies that the transmission facility will not cause destructive interference with previously established public safety communications systems; and
6. describes how the requirements and standards of this ordinance will be met by the proposed transmission facility.

(b) Each application shall include a facility plan containing the following information:

1. Written description of the type of consumer services each provider will provide to its customers (radio, television, electric generation, cellular, PCS, SMR, ESMR, paging or other anticipated wireless communication services).
2. List of all existing sites, existing sites to be upgraded or replaced, and proposed sites within the County for services to be provided by the provider.
3. Map of the County which shows the geographic service areas of the applicant's existing and proposed sites.
4. Copies of letters informing each government unit adjacent to the unit and the unit itself in which the transmission facility is proposed to be located, in Wisconsin and Minnesota, of the application.
5. A visual analysis, including photo simulations of the view of the vicinity of the transmission facility before and after the proposed transmission facility is built, taken from approximately a mile from the transmission facility, north, south, east and west of the proposed site, and which may include photo montage, field mock up or other techniques, which identifies the potential visual impacts of the proposed transmission facility. Consideration shall be given to views from public areas as well as from private residences. The analysis shall assess the cumulative impacts of the proposed transmission facility and other existing and foreseeable transmission facilities in the area, and shall identify and include all feasible mitigation measures consistent with the technological requirements of the proposed service.

(c) Landowner Acknowledgement. Written acknowledgement by the landowner of a leased site that he/she will abide by all applicable terms and conditions of the land use permit or special exception permit, including the restoration and reclamation requirements of section 17.83(6) of this ordinance.

(d) A performance bond in a form acceptable to the Zoning Administrator in an amount sufficient to provide for removal of the transmission facility.

(e) Additional Information and Analysis.

1. The Zoning Administrator or Board of Adjustment may, at his/her or its discretion, require visual impact demonstrations, including mock-ups and/or photo montages; screening and painting plans; network maps; alternative site analysis; lists of other nearby transmission facilities; or facility design alternatives for the proposed transmission facilities.
2. The Zoning Administrator or Board of Adjustment may employ on behalf of the County independent technical experts to review materials submitted by the applicant or to prepare any materials required but not submitted by the applicant. The applicant shall pay the costs of such review and/or independent analysis.

17.88 BIENNIAL REPORT.

Owners, providers or permittees shall submit each even numbered year on or before January 31, a transmission facility information report, on a County form. The report shall detail the use, maintenance and condition of the transmission facility since the previous report, availability of the Transmission Facility for added colocation and other information reasonably deemed necessary by the Zoning Administrator. The report shall be accompanied by a two-year renewal of the performance bond in a form acceptable to the Zoning Administrator in an amount sufficient to provide for removal of the transmission facility.

17.89 SAFETY INSPECTION.

If the County has reason to believe that a transmission facility is a safety risk, it may require the permit holder to perform an inspection by a registered engineer and provide a copy of the inspection results to the Zoning Administrator within sixty days. The County shall provide the owner with information forming the basis for belief that the transmission facility is a safety risk before requiring inspection.

17.90 ENFORCEMENT AND PENALTIES

In addition to all other enforcement and penalty remedies available in sec. 17.71, a county permit issued under this subchapter may be revoked under 17.71(6)(a). Failure or delay longer than sixty days after the County mails the blank Transmission Facilities information report form to the owner/provider or permittee shall result in a late fee of $200.00 per week until received.

The PUCO website will be unavailable for most of Saturday April 22 due to maintenance.

# THE OHIO POWER SITING BOARD



## Power Lines, Rights of Way and Development

This information provides planners, developers and the individual property owners with guidance in land development and property uses in and around electric transmission rights of ways. While the power line easement may restrict some types of property uses or development, opportunities still exist for the developer and land owner to take advantage of the adjacent land. This information is designed to let you know that your local electric utility, the Ohio Power Siting Board and the Public Utilities Commission of Ohio are ready to provide further direction or answer any questions you might have.

Electric Transmission lines are a common and necessary part of our life. The lines bring huge quantities of electric power from generating plants to our homes. Some of the largest lines carry up to 2000 megawatts of power - enough to supply a large city with all of its electric energy needs. These transmission lines deliver electrical energy to substations - complex collections of transformers surrounded by a chain link fence or behind a brick wall. From the substations, where the power is transformed into 3000-, 7000- or 13000-volt power, smaller distribution lines disperse the electricity throughout the community. The final transformer, located just outside the home or business, transforms the power to 110 or 220 volts that are used in most homes. More and more, these distribution lines are buried beneath the ground.

### Transmission Lines

The transmission lines may take various forms - towers, single or double poles, and sometimes underground lines. Stretching throughout Ohio, these lines make up the power grid and form the "backbone" of the electrical supply system.

Transmission lines are designed and constructed for safety to the general public, particularly with respect to the area surrounding the lines. This area, called the easement or right of way, includes the spaces directly beneath and to each side of a transmission line. These easements give the electric company the right to construct and maintain a transmission line. They also restrict the uses of the property within the boundary to protect the line from any construction that may pose a safety or reliability problem.

### Easement Size

The size of the easement depends on the type of transmission line and the voltage it carries. Generally the higher the line voltage, the wider the easement. Typical easement widths vary from around 65 feet to 200 feet. The easement

width provides for all design and code clearances, under all operating conditions. While electric transmission lines may be static in appearance, they do undergo subtle changes. For instance, a line may sag 20 feet or more in hot weather. Under heavy wind, the transmission lines may stretch an additional 50 feet or more. The size of the easement is determined to ensure the safest operation and maintenance of the line under all foreseeable operating conditions.

Your electric utility's transmission easement prohibits certain uses within the easement limits. Typically, this includes restrictions on some construction, mobile home placement, well digging, advertising devices, lighting and flag poles, antennas, trash dumpsters and the storage of materials and other objects that reduce code clearances or may be flammable.

**Permissible land use within the easement**

Permitted or compatible uses within the right of way can be considered as anything not specifically excluded in the easement. In general, land uses that do not conflict with National Electrical Safety Code, local zoning or other code requirements are permitted. Examples include storm water control basins, park areas, streets, walkways, parking, bike paths, leach beds, yards, landscaping, farming and pasture.

**Encroachments onto existing easement areas**

A property owner's construction or property improvement within an existing easement may concern the local utility company. Encroachment onto existing rights of way can first be avoided by proper planning during the home's original construction, positioning the home so that future additions will avoid pre-existing rights of way. Common encroachments include decks, garages, house additions, swimming pools, antennas and sheds. The removal of an encroachment may be at the property owner's expense.

**Trees and vegetation within the easement**

The utility easement requires that the area be free and clear of large trees. Large tree branches may grow into the wires or fall into the line. In either situation, the line is threatened and safety may be compromised. If the landowner wants to have trees within the easement, there are several low-growing species acceptable for planting.

**Opportunity for developers**

Many community zoning and development commissions now require green space in new projects. Often, transmission lines and their restrictive right of way corridors lend themselves to use as green space and park areas. Developer may take the initiative and explore the range of land uses crossed by existing transmission lines. Site development and a transmission line right of way can be combined to include aspects of development that are to everyone's benefit. Successful planning should enhance the marketability of the development and minimize any perceived negative effects of the transmission line.

**Electromagnetic fields (EMF)**

Any line that is energized and has an electric current produces electric and magnetic fields (EMF). The higher the voltage, the higher the electric field, and the greater the electric current, the greater the magnetic field. The fields

generated by transmission lines are also dependant on the configuration of the lines and the distance from the line.

The federal government has completed a five-year study on the health risks of exposure to EMF. All prior studies were reviewed and extensive laboratory research was performed. Final results of this and other studies are not conclusive.

If you need further information regarding:

- Land development and transmission lines
- The permitted land uses within transmission line right of ways
- Safe operation in and around transmission lines
- Codes and rules affecting work activity
- Structure placement in proximity to transmission lines
- Resolving easement or other disputes,

please contact your local electric company representative or the Ohio Power Siting Board at: 1-800-626-7826
The Power Siting Board
180 East Broad Street
Columbus, Ohio 43215

Utility Information

**Electric**

- Annual Report
- Construction & Environmental
- File With Us
- Industry Information
- Issue Contacts
- Major Cases
- Maps
- Overview
- Publications
- Smart Growth
- Stray Voltage
- Tariffs
- Utility Provider Lookup

Smart Growth Planning & Electric Transmission Facilities

Here are some suggestions for community planners and zoning officials on how to plan for electric transmission facilities in the Smart Growth planning and zoning processes.

Index

- What are electric transmission lines?
- Why are electric transmission lines an important element in land use planning?
- What land uses conflict with electric transmission line?
- What land uses are compatible with electric transmission lines?
- Why should communities be interested in planning for the location of future electric transmission lines?
- How can communities get information about the location, voltage, right-of-way width, and purpose of existing transmission lines?
- How can communities get information about which electric transmission lines need upgrading? Where new transmission lines are needed?
- What can be done to protect an existing transmission line right-of-way from conflicting land uses?
- Are there other ways to avoid conflicts between existing land uses and new electric transmission lines?
- Maps
- Related Sites

For further information on electric transmission lines and the electric industry . For further ideas on Smart Growth planning for electric lines please contact Paul Rahn at (608)267-8967 or e-mail him at paul.rahn@psc.state.wi.us .

**What are electric transmission lines?**

Electric transmission lines carry electric energy from power plants to local communities. A distribution substation reduces this high-voltage energy and transfers it to lower voltage distribution lines, which carry the energy down streets closer to individual houses and businesses. In Wisconsin, transmission lines range in size from 69 kilovolts (kV) to 345 kV. One transmission line circuit consists of three conductors (wires) and transmission structures typically carry one or two circuits. One or two static wires on top of the structures help protect the line from lightning strikes. Their rights-of-way vary from a width of 40 feet to 150 feet, or more if there are more than one set of structures on the right-of-way.

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**Why are electric transmission lines an important element in land use planning?**

Chapter 66.1001(2)(d) directs communities to map existing utilities, including electric power plants and transmission lines, and to develop objectives, policies, goals, and programs to guide their future development. Many existing transmission lines will need upgrading over the next decade. Many new transmission lines and substations will be needed to serve Wisconsin's growing electricity use.

The owners of Wisconsin's electric transmission lines are the American Transmission Company (ATC), Dairyland Power Cooperative (DPC), and Xcel Energy. When more transmission capacity or service is needed in an area, two of the main goals of these entities are: 1) to upgrade existing transmission lines whenever possible, rather than to build new transmission lines, and 2) to build new electric transmission lines where existing lines are now located. The alternative is to acquire many miles of new rights-of-way in new locations.

Electric transmission lines are generally a permanent fixture on the landscape, but in the past, they were seldom considered in land use planning. Given the need for many miles of new and upgraded transmission lines, communities may wish to fulfill the requirements of Chapter 66.1001 by identifying the location of existing transmission lines, deciding if their current location is more desirable than a new location, and taking steps to protect the existing and possible future transmission corridors from conflicting land uses.

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**What land uses conflict with electric transmission line?**

Any residence or occupied building, if located too near an existing transmission line right-of-way, may make it difficult or undesirable to site new transmission lines in that location. The Wisconsin Division of Aeronautics enforces Federal Aviation Administration rules that restrict the location of aboveground transmission lines near public airports and private airstrips. Due to concerns about the potential harmfulness of magnetic fields, many people do not want electric transmission lines located adjacent to school properties.

Top

**What land uses are compatible with electric transmission lines?**

Farming (including Christmas tree farms), gardening, greenspace or conservancy, and parking lots are compatible with transmission lines because the land under or around the transmission lines can continue to be used for these purposes. In some Wisconsin communities, electric transmission line rights-of-way are used for bike paths, horse trails, or even snowmobile trails. Industrial areas and businesses are generally considered compatible with electric transmission line corridors, so long as buildings are not so close as to restrict future corridor use. Roads and railroads are often good locations for electric transmission lines, because these are also linear land uses. In residential areas, lots adjacent to transmission lines are sometimes larger and thus may be considered more desirable by some.

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**Why should communities be interested in planning for the location of future electric transmission lines?**

Wisconsin's transmission line owners will need to make major upgrades to the electric transmission line system over the next decade. This is due to a number of factors, including the age of existing facilities, increased electricity use by a growing Wisconsin population, and the change in national regulation of utilities. Communities that have planned for new electric transmission lines (for example by protecting existing transmission line corridors) will experience less disruption and uncertainty when transmission line owners must route new

facilities.

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**How can communities get information about the location, voltage, right-of-way width, and purpose of existing transmission lines?**

A GIS database is available that shows the location of generating plants, electric substations and electric transmission lines in Wisconsin. For an electronic or paper map of electric facilities in your area contact Bill Fannucchi at William.Fannucchi@psc.state.wi.us or (608)267-3594.

For further information about a specific electric line, contact the appropriate electric line owner. The map below shows the general location of transmission lines owned by ATC, DPC, and Xcel. For the ATC counties contact Charlie Gonzales at cgonzales@atcllc.com or (262)506-6835. For counties served by DPC & Xcel contact Don Neumeyer at Don.Neumeyer@psc.state.wi.us or (608)267-9304.

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**How can communities get information about which electric transmission lines need upgrading? Where new transmission lines are needed?**

The ATC yearly develops plans for transmission line improvements in five planning zones in eastern Wisconsin. Xcel and DPC also conduct transmission line planning. For Xcel and DPC contact Don Neumeyer at (608) 267-9304 or by e-mail at Don.Neumeyer@psc.state.wi.us.

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**What can be done to protect an existing transmission line right-of-way from conflicting land uses?**

There are a number of possible means to protect rights-of-way, whether through planning or zoning activities. Once communities are aware of the existing and future electric system, they can decide what's appropriate for them. Here are some options:

- Identify a strip of land along an existing transmission line as a "transmission corridor", dedicated to future use, if needed, for an additional transmission line, or a larger replacement line. Protected corridors could vary from about 50 to 150 feet on each side of the transmission structure (or 300 feet on one side) depending on the size of the existing right-of-way or other factors.

- Define set-backs or lot sizes for new residential or other developments adjacent to transmission lines, so that buildings don't constrain future use of the right-of-way.

- If property adjacent to an existing transmission line is to be developed, require the developer to dedicate land along the line to the local government for a parkway, bike path, or buffer area.

Top

**Are there other ways to avoid conflicts between existing land uses and new electric transmission lines?**

A community may wish to identify some other linear feature than an existing transmission line as a future transmission corridor. For example, when new roads are built or existing roads widened, additional right-of-way might be purchased or reserved for possible future use for a new electric line.

New developments usually include plans for water, sewer, and roads, but seldom for electric service. It might be a good idea for each new development to include a check-in with the local distribution utility so that if a new distribution substation is needed, land for the substation can be included in development plans.

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**Maps**

*Some documents on this site are in Adobe Acrobat PDF format. To download a free version of Adobe, click here.*

| | | |
|---|---|---|
| (654kb) | 11" x 17" map showing the general location of transmission lines owned by ATC, DPC, and | 7/18/2003 |

| | | |
|---|---|---|
| | Xcel. | |
| (823kb) | 8.5" x 11" map showing the general location of transmission lines owned by ATC, DPC, and Xcel. | 7/18/2003 |

Top

**Related Sites**

American Transmission Company (ATC)
Utility Service Maps

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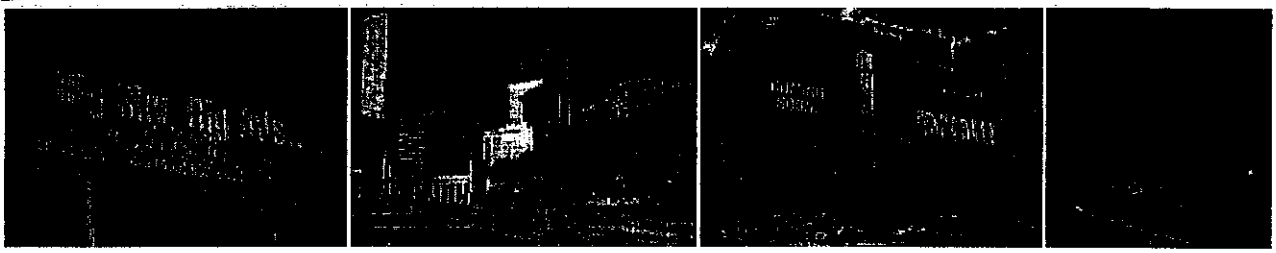
July 2003

Scenic America
Change is inevitable. Ugliness is not.

Search



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**ISSUE AREAS:**

- Billboards & Sign Control
- Community Planning & Design
- Scenic Byways
- Scenic Easements & View Protection
- Telecommunications Towers
- Transportation Planning & Design
- Tree Conservation
- Undergrounding Utility Wires


## History of Telecommunications Towers

There have been communications towers in North America since the turn of the 19th century when optical telegraphy was introduced from France to American port cities. These early facilities were modest twenty to thirty-foot structures from which flags and other signaling devices were used in line-of-sight systems to communicate in code.

In 1844, Samuel Morse built the first successful electrical telegraph line laying the groundwork for a network of 30-foot poles that would mark the margins of roads and railroads throughout the nation before the end of the century. By the time Guglielmo Marconi successfully demonstrated his wireless communications system in 1899, the horizons of most US cities were marred by a visual cacophony of electricity, telephone and telegraph wires and poles.

Marconi's wireless unbound communications from an infrastructure strung together by cables and wires. For the first two decades of the twentieth century, amateurs, the government, and inventing entrepreneurs raced to build wireless stations with increasingly higher antennas to reach and receive more distant points. Radio, which combined the technological achievements of telephony and wireless telegraphy, rapidly spread across the nation in the 1920s bringing with it taller towers in greater numbers.

With the proliferation of towers and antennas came complaints that towers adversely affect scenic and cultural resources while also reducing property values and interfering with existing radio and later television reception.

One early complaint documented in the media came in 1944 when NBC's Blue Network proposed building a 250-foot tower in suburban Fairfax County, just across the Potomac River from Washington, DC. Residents mounted a vigorous opposition effort because they believed the tower would "reduce the value of their property and desecrate the

**TELECOM TOWERS**

- History of Telecommunicatio Towers
- Towers and Land I Issues
- Strategies for Tam Telecommunicatio Towers
- Case Studies
- Model Ordinances

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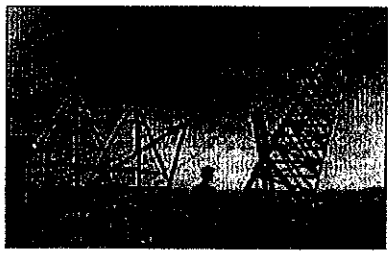
historical landmark Langley," wrote the Washington Post in June 1944.



Four years later, another proposed Arlington tower -- this time a 400-foot television tower -- spurred residents into action with concerns that the structure would "spoil the beauty of a distinctively residential area.'

In 1959 a New York City radio station proposed placing

a fifteen foot antenna atop the Gothic Revival-style Riverside Church. When a wood mockup appeared, church members complained that "the proposed antenna would spoil the appearance' of the 1927 building.

**So how does communications infrastructure impact the landscape and the people who live, work, and play in it?**

In the 1960s Congress passed several landmark environmental protection laws. Two of these, the National Historic Preservation Act of 1966 and the National Environmental Policy Act of 1969 (NEPA), are key to understanding the framework within which the FCC is required to consider visual impacts to sensitive historic properties as well as cultural and natural landscapes. In passing NEPA Congress unambiguously stated that Americans should be assured of "safe, healthful, productive, and esthetically and culturally pleasing surroundings."

Visual impacts, especially those associated with tower structures (notably, electricity transmission towers), have long been an element of NEPA compliance. Even states with strong environmental compliance laws (such as New York and California) have strong visual effects standards. But it is up to the individual federal agencies required to comply with NEPA to create compliance rules and a compliance regimen and in 1974 the FCC did just that.

"The principal, and probably the only, significant environmental effect is the visual impact of the completed facilities,' wrote the FCC about the potential environmental impacts of microwave relay stations in its 1974 order implementing NEPA rules. When the FCC amended its NEPA rules in 1986, the safeguards for "areas recognized either nationally or locally for their special scenic or recreational value' were gone. In their place was guidance noting that such aesthetic issues are best handled by local planning and zoning authorities and yet a decade later, the Telecommunications Act eliminated many local barriers to increased infrastructure.

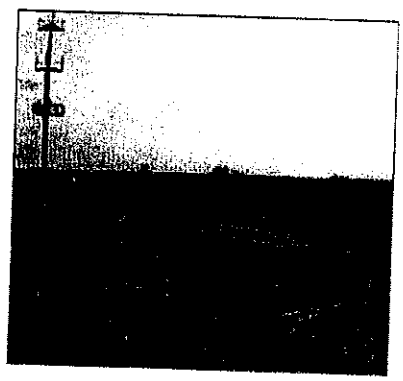
Within four years of Congress passing the Telecommunications Act of 1996, the FCC was pushed by historic preservation interests to explore how to best comply with the NHPA. The end result was yet another modification in 2005 of the FCC's NEPA rules that include a nearly 100-page report and "programmatic agreement" that dwarfs in

density the media ownership rules that federal judge Richard Posner dubbed in a 1992 landmark ruling as "Rube Goldberg complexity." One analyst of FCC policy wrote that the agency "often seems more adroit at jerry-rigging intellectually sloppy deals to appease industry factions."

Despite its verbiage and breadth, the programmatic agreement failed to define how a tower can alter the character and use of historic properties, including buildings and landscapes. In fact, the FCC and the Advisory Council on Historic Preservation approached the problem with blinders on, never once looking to the advances in visual impact assessment made in the electricity generating and transmission industries nor were they interested in successful approaches developed in Europe.

Visual blight and visual impacts are quantifiable and may be evaluated and mitigated effectively through good faith consultations with stakeholders. The outcomes of siting towers and antennas in sensitive cultural and natural landscapes without thoughtful consultation are many.

These include broadcast and wireless telecommunications towers built in farm fields and radio towers in Civil War battlefields.



They are historic former municipal water tanks that are more aptly described as telecommunications towers or historic buildings with unsympathetic alterations.

Ill-conceived "monopines" and "monopalms" line the nation's highways and towers loom large over minority neighborhoods.

Residents of rural historic districts change the ways they use their interior and exterior space to avoid beacon lights and views of poorly sited towers. And, visitors to historic urban oases where landscape photography has defined the visitor's experience for more than a century avoid photography historic buildings and landscapes because a tower now intrudes.

Contrary to arguments by communications industry lawyers and FCC functionaries, looks do matter. NEPA says so. The NHPA says so. Myriad federal court cases say so: "The character of the environment affects the quality of life and the value of property in both residential and commercial areas,' wrote Justice Stevens for the United States Supreme Court in a 1984 case. The FCC continues to raise the bar on what constitutes an impact to sensitive scenic areas. To even out the regulatory asymmetry stakeholders need to be informed about the FCC's environmental rules and know their local and state environmental laws. And, local planning and zoning officials need to be better informed about their

standing in tower siting cases. Remember, Ralph Waldo Emerson once wrote, "The health of the eye seems to demand a horizon.'

Printer-friendly version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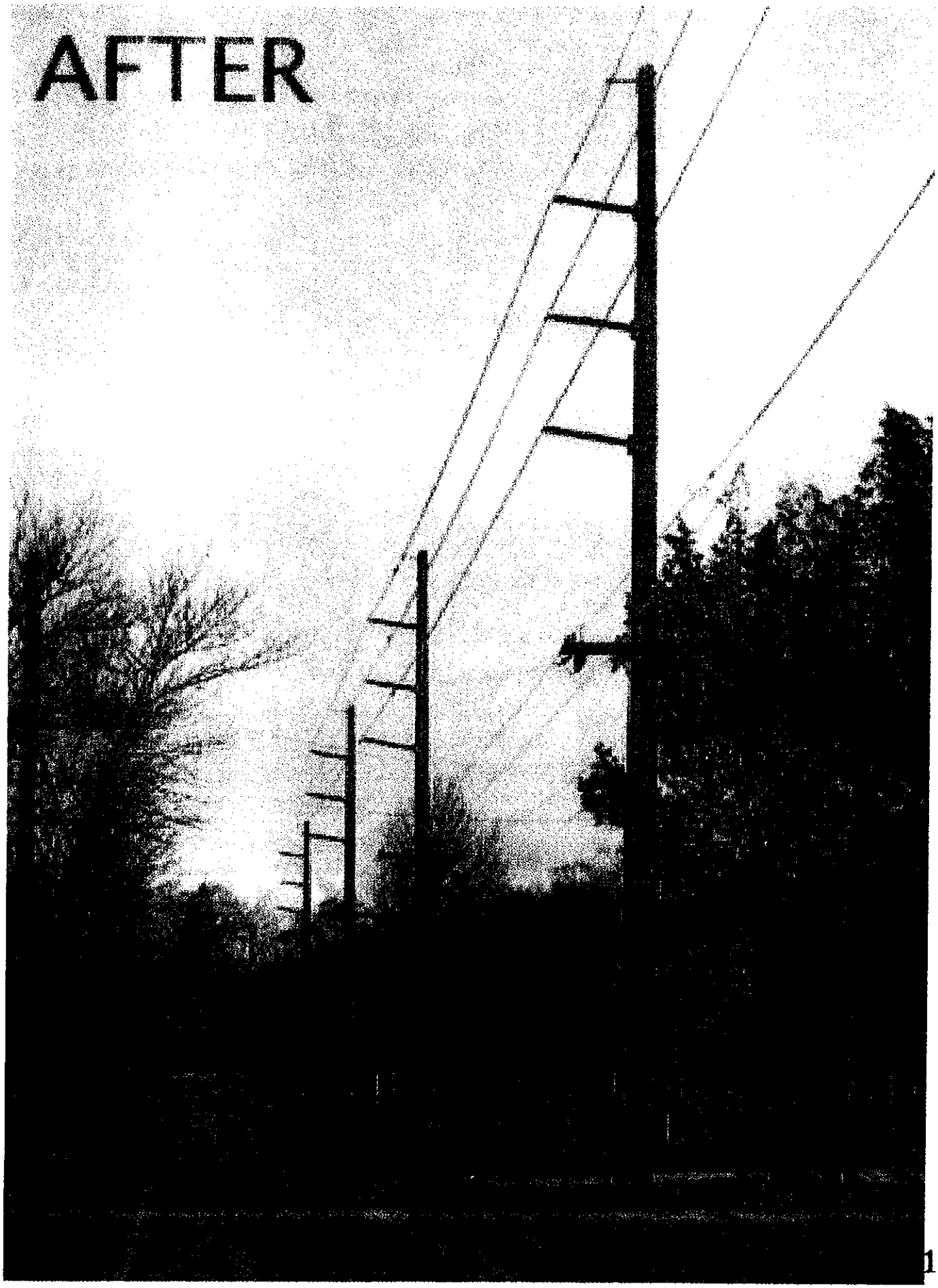
scenic@scenic.org


AFTER

## Pierce, Eileen A

RECEIVED
MAY 22 2006
Municipality of Anchorage
Zoning Division

**From:** Staff, Alton R.
**Sent:** Friday, May 19, 2006 4:52 PM
**To:** Pierce, Eileen A; Stewart, Gloria I.
**Cc:** Taylor, Gary A.
**Subject:** Platting and Zoning Comments

The Public Transportation Department has no comment on the following zoning cases:

2006-036
2006-071
2006-073
2006-074

The Public Transportation Department has no comment on the following short plats:

S11452-2
S11055-3
S11464-2
S11485-1
S11487-1
S11489-1
S11490-1
S11492-1
S11493-1
S11494-1
S11496-1
S11498-1
S11499-1
S11500-1
S11501-1
S11502-1
S11503-1

Thank you for the opportunity to review.

Alton Staff, Operations Supervisor
Public Transportation Department
People Mover
907-343-8230
Right Fax 907-249-7492

**MUNICIPALITY OF ANCHORAGE**
**Anchorage Water & Wastewater Utility**

**M E M O R A N D U M**



**DATE:** May 08, 2006

**TO:** Jerry Weaver, Zoning Division Administrator, Planning Department

**FROM:** Sandy Notestine, Engineering Technician, AWWU

**SUBJECT:** **Zoning Cases 2006-074**
Planning & Zoning Commission Hearing June 05, 2006
AGENCY COMMENTS DUE May 8, 2006

AWWU has reviewed the case material and has the following comments.

**2006-074 ORDINANCE AMENDING TITLE 21**
**Amend 21.35, 21.40, 21.45,21.50 to establish design, location & conditional use standards and to set maximum height for towers.**

1. The separation distance between AWWU facilities and High Voltage Transmission Towers should be determined on a case by case basis in the design phase of all future projects. All future High Voltage Transmission Tower project designs must be reviewed by the AWWU Engineering Division.

If you have questions pertinent to public water and sanitary sewer service, you may call me at 564-2757 or the AWWU Planning Section at 564-2739, or email sandy.notestine@awwu.biz.

**Pierce, Eileen A**

**From:** Weaver Jr., Jerry T.
**Sent:** Monday, May 08, 2006 8:50 AM
**To:** Pierce, Eileen A
**Subject:** FW: Zoning comments - Comments on letterhead will follow



-----Original Message-----
**From:** Mark Parmelee [mailto:mark_parmelee@dot.state.ak.us]
**Sent:** Sunday, May 07, 2006 11:55 AM
**To:** Weaver Jr., Jerry T.
**Subject:** Zoning comments - Comments on letterhead will follow

Jerry Weaver, Platting Officer
Planning and Development
Municipality of Anchorage
P.O. Box 196650
Anchorage, Alaska 99519-6650

Dear Mr. Weaver:

In reviewing the following conditional use applications and amendments to Title 21, the Alaska Department of Transportation and Public Facilities has no comment:

- 2006-068, Private club serving alcohol, MTAA
- 2006-065, Conditional Use for a planned unit development, SC Timber Dev. Inc.
- 2006-071, PZC Appeal for a church site plan review, Debbie Dragich
- 2006-074, Title 21: High Voltage Transmission Towers
- 2006-074, Title 21: Separation of license properties from churches and schools
- 2006-078, Title 21: Regarding Site Plans and Conditional Uses

Regarding case **2006-070, Conditional Use for a solid waste processing or transfer station**; these improvements are in the vicinity of Anchorage International's Runway 14. Please insure the improvements receive approval of an airspace study from the Federal Aviation Administration.

Sincerely,
Mark Parmelee
Area Planner

Fire
Prevention
Site plan
review

| | | | |
|---|---|---|---|
| S11492-1 | J. Weaver | Yes 05/01/06 | No Objection |
| S11055-3 | J. Weaver | Yes 05/01/06 | No Objection |
| S11464-2 | J. Weaver | Yes 05/01/06 | No Objection |
| S11485-1 | J. Weaver | Yes 05/01/06 | No Objection |
| S11493-1 | J. Weaver | Yes 05/01/06 | No Objection |
| S11494-1 | J. Weaver | Yes 05/01/06 | No Comment |
| S11495-1 | J. Weaver | Yes 05/01/06 | No Comment |
| S11487-1 | J. Weaver | Yes 05/01/06 | No Objection |
| S11488-1 | J. Weaver | Yes 05/01/06 | No Objection |
| S11489-1 | J. Weaver | Yes 05/01/06 | No Objection |
| S11490-1 | J. Weaver | Yes 05/01/06 | No Objection |
| S11498-1 | J. Weaver | Yes 05/01/06 | No Objection |
| S11499-1 | J. Weaver | Yes 05/01/06 | No Objection |
| S11500-1 | J. Weaver | Yes 05/01/06 | No Objection |
| 2006-036 | R. Cartier | Yes 05/01/06 | No Comment |
| 2006-063 | R. Cartier | Yes 05/01/06 | No Objection |
| 2006-064 | R. Cartier | Yes 05/01/06 | No Comment |
| 2006-067 | R. Cartier | Yes 05/01/06 | No Comment |
| 2006-068 | R. Cartier | Yes 05/01/06 | No Objection |
| 2006-070 | R. Cartier | Yes 05/01/06 | No Objection |
| 2006-071 | R. Cartier | Yes 05/01/06 | No Comment |
| 2006-072 | R. Cartier | Yes 05/01/06 | No Objection |
| 2006-073 | R. Cartier | Yes 05/01/06 | No Objection |
| 2006-074 | R. Cartier | Yes 05/01/06 | No Comment |
| 2006-077 | R. Cartier | Yes 05/01/06 | No Comment |
| 2006-078 | R. Cartier | Yes 05/01/06 | No Objection |

**2006-065** **R. Cartier** **Yes 05/01/06** **Comment:**
**1) Hammerhead emergency vehicle turnaround shall meet the requirements of IFC figure D103.1. Provide detail. 2) Fire Apparatus access road shall meet the requirements of IFC Section 503 and appendix D to include maximum grade allowed, minimum width, and minimum load design.**

**2006-066** **R. Cartier** **Yes 05/01/06** **Comment:**
**No Comment with respect to request for variance to allow encroachment into stream easement. 1) Number of units shown conflicts with number shown on 2006-065. Resolve. 2) Future development shall include site plan review for fire apparatus access road(s) per IFC 503 and appendix D107.**

S11491-1 J. Weaver Yes 05/01/06 Comment:
Provide Fire apparatus access roads per IFC section 503 and appendix D.

# MUNICIPALITY OF ANCHORAGE

Development Services Department
**Right of Way Division**

Development Services Department

## MEMORANDUM



**DATE:** May 1, 2006

**TO:** Planning Department, Zoning and Platting Division

**THRU:** Jack L. Frost, Jr., Right of Way Supervisor

**FROM:** Lynn McGee, Senior Plan Reviewer

**SUBJ:** Request for Comments on Planning and Zoning Commission case(s) for the Meeting of June 5, 2006.

Right of Way has reviewed the following case(s) due May 8, 2006.

06-065 **Campbell Canyon, Tract B, grid 2044**
**(Conditional Use for a Planned Unit Development)**
Enter into a Subdivision Agreement with the Private Development Section for the infrastructure improvements.
Specify the classification of the wetlands on the plan views.
Further comments will be provided during the plan review process.
Review time 15 minutes.

06-070 **Woronzof Tracts, Tract A-1, grid 1521**
**(Conditional Use for a Solid Waste Processing or Transfer Station)**
Right of Way Division has no comments at this time.
Review time 15 minutes.

06-071 **Bob West, Tract A, grid 2637**
**(Appeal to a Administrative Church Site Plan Review)**
Right of Way Division has no comments at this time.
Review time 15 minutes.

06-074 **Ordinance Amendment**
**(Title 21 for High Voltage Transmission Tower Regulations)**
Right of Way Division has no comments at this time.
Review time 15 minutes.

06-075 **Ordinance Amendment**
**(Title 21 for Stricter Separation of License Properties and Churches and Schools)**
Right of Way Division has no comments at this time.
Review time 15 minutes.

PM&E

# FLOOD HAZARD REVIEW SHEET for PLATS

Date: 04-27-06

Case: 2006-074

Flood Hazard Zone: NA

Map Number: NA

☐ Portions of this lot are located in the floodplain as determined by the Federal Emergency Management Agency.

☐ AMC 21.15.020 requires that the following note be placed on the plat:

"Portions of this subdivision are situated within the flood hazard district as it exists on the date hereof. The boundaries of the flood hazard district may be altered from time to time in accordance with the provisions of Section 21.60.020 (Anchorage Municipal Code). All construction activities and any land use within the flood hazard district shall conform to the requirements of Chapter 21.60 (Anchorage Municipal Code)."

☐ A Flood Hazard permit is required for any construction in the floodplain.

☒ I have no comments on this case.

Reviewer: Jack Puff

RECEIVED
APR 27 2006
Municipality of Anchorage
Building Safety Division

**Municipality of Anchorage**
**Development Services Department**
**Building Safety Division**

**MEMORANDUM**

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**DATE:** April 27, 2006

**TO:** Jerry Weaver, Jr., Platting Officer, CPD

**FROM:** Daniel Roth, Program Manager, On-Site Water and Wastewater Program

**SUBJECT:** Comments on Cases due May 8, 2006

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The On-Site Water & Wastewater Program has reviewed the following cases and has these comments:

2006 – 070 Zoning conditional use for a solid waste processing or transfer station

No objection

2006 – 071 PZC Appeal to an action of as admin church site plan review

No objection. ADEC will have jurisdiction on the water well & wastewater system.

2006 – 072 A variance from AMC 21.45.110.a to allow a fence to exceed the required height requirement and from AMC 21.45.020 to allow a fence in the clear vision triangle.

No objection

2006 – 074 An ordinance amending Title 21 for high voltage transmission towers regulations

No objection

2006 – 075 An ordinance amending Title 21 to create stricter separation of license properties and churches & schools

No objection

2006 – 077 A variance from AMC 21.40.80.G.2 to allow a house to encroach into the required side yard setback.

No objection

Traffic

**06-071** **Bob West; Appeal to a church site plan; at O'Malley Rd & Baronik St.**

- Point #2 of this appeal mentions that traffic impact analysis studies have not been done. The Municipal Traffic Department does not request TIA's with less than 100 trips in the peak hours. For a church, it is expected that the maximum trips would happen on weekends, and not during peak hours. Any vehicle trips from the development during peak hours would be less than 100 trips.
- According to Tucker Hern, State DOT will issue a Right of Way Permit for access from the site directly to O'Malley Road. The only access to Baronik Street from this site will be a gated emergency only access driveway.

**06-074** **Amendment to Title 21; high voltage transmission tower regulations**

Traffic Department and Transportation Planning have no comment.

# Municipality of Anchorage
# MEMORANDUM

**DATE:** April 24, 2006

**TO:** Jerry Weaver, Manager, Zoning and Platting Division

**FROM:** Brian Dean, Code Enforcement Manager

**SUBJECT:** Land Use Enforcement Review Comments, Planning and Zoning Commission case for the meeting of June 5, 2006.

**Case #:** 2006-074
**Type:** **Ordinance Amending Title 21 for high voltage transmission towers**

**Recommendations:** If approval of this case is granted, Land Use Enforcement recommends the following:

1. The last sentence of the definition reads "High voltage transmission conductors are designed to be capable of transmitting between 115 and 765 kilovolts of energy." Voltage is not a unit of energy. The sentence would be more correctly phrased "High voltage transmission conductors are designed to transmit electrical energy at a potential of 115 to 765 kilovolts."
2. Land Use Enforcement suggests that AMC 21.45.300.D read "Landscaping. All areas cleared in conjunction with the installation of a tower shall be replanted with environmentally appropriate vegetation as follows:
   1. Cleared areas originally planted by a public or private agency as part of an approved entitlement as defined in Section 21.35.020 shall be replaced in accordance with the conditions of that entitlement, except as modified by the tower location(s).
   2. Cleared areas not previously landscaped shall be planted to the buffer landscaping standard of AMC 21.45.125.C.2.
   3. Landscape plans shall be approved by the Urban Design Commission."
3. Land Use Enforcement suggests that the wording of AMC 21.50.330.A.2 could be clarified as: "Identify the magnitude of the impact on any scenic viewsheds and require mitigation measures to reduce or eliminate negative impacts."
4. Land Use Enforcement suggests that AMC 21.50.330 also require that the Planning and Zoning Commission find that an underground transmission line is impractical.

(Reviewer: Don Dolenc)

# NECC

Northeast Community Council — Resolution

TO: Chugach Electric Board of Directors
Municipality of Anchorage Assembly
Municipality of Anchorage Department of Planning and Zoning
Mayor Mark Begich

FROM: Bob Roses, President Northeast Community Council, 333-6461

THRU: Dean Syta, Secretary Northeast Community Council, 337-7331

SUBJECT: CEA Power Transmission Poles Adjacent Northern Lights Boulevard

At the well attended April 20, 2006 membership meeting of the Northeast Community Council, the Chugach Electric Association (CEA) power poles on Northern Lights Boulevard were discussed. There was considerable dissatisfaction with the poles and CEA; a general feeling that CEA had shown no consideration for urban design; disregarded the aesthetics of the installation; mislead and/or ignored the public during the CEA public involvement process; improperly impacted property values; needlessly blighted the landscape; and in general performed a substantial disservice to the community of Anchorage.

Accordingly, the following motion was made:

NECC April 20, 2006 Motion (1):

*The North East Community Council demands the removal of the recently erected CEA power poles along Northern Lights Boulevard. The cables should be located underground or in a less obtrusive location.*

The motion was voted upon, and passed: 44 in favor, 2 opposed, 3 abstaining. As the vote shows, the NECC membership is opposed to the recently erected CEA power poles.

We ask that you act upon this motion as warranted in the interests of the NECC and the community of Anchorage as a whole. Thank you for your attention to this matter.

Signed: This day:

Bob Roses 04/23/06

Bob Roses, President NECC

# Zoning and Platting Cases On-line

## View Case Comments

Submit a Comment

** These comments were submitted by citizens and are part of the public record for the cases **

**Questions?** If you have questions regarding a case, please contact Zoning at **907-343-7943** or Platting & Variances at **907-343-7942**.

RECEIVED
MAY 22 2006
Municipality of Anchorage
Zoning Division

**1. Select a Case:** 2006-074 View Comments

**2. View Comments:**

**Case Num:** 2006-074
An ordinance amending Title 21 for for high voltage transmission towers regulations

**Site Address:** MUNICIPAL WIDE
**Location:** An Ordinance amending Anchorage Municipal Code Chapters 21.35, 21.40, 21.45, and 21.50 to establish design, location, and conditional use standards, and set the maximum height for High Voltage Transmission Towers.

Details | Staff Report | submit a comment

### Public Comments

**5/21/06**
Leo Lamb
Reminds me of the old saying, "Stupid is as stupid does". There are no other words for the monstrocities brought to us by Chugach. This is a perfect example why legislation is required to keep businesses in line. Dumb,dumb,dumb.

# Zoning and Platting Cases On-line

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RECEIVED

MAY 16 2006

Municipality of Anchorage
Zoning Division

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Details | Staff Report | submit a comment

## Public Comments

**5/16/06**
Tom Flanagan
As children we learned three things: 1. "Waste not." 2. "It is better to do things right the first time." 3. "Just because you can do something doesn't mean you should." The industrial age towers on Northern Light are one sign that we didn't listen to our elders. Other indicators of poor planning standards include the numerous cell phone towers that span from Girdwood to Chugiak, the Mt. Baldy Ugliness, and our housing subdivision buffoonery. The people that live near those power lines sacrificed quality of life so that electricity can be delivered to others. As a city we lost value. Providing power in itself is good and necessary, but part of the money saved by not burying the lines near "Alaska use areas" will help developers sell more houses (cheaper power=cheaper houses) in other communities. The people on Northern Lights lowered their quality of life to help make others rich. As children, when we completed a task poorly, our teachers showed us how and made us redo the task to an appropriate standard. The standards for above ground utilities of all kinds need to be strengthened. (The towers on Northern Lights should be taken down and buried, or compensation paid to the CITY for loss of our quality value.) We need to seriously consider the total cash flows of our decisions.

# Zoning and Platting Cases On-line

## View Case Comments

Submit a Comment

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Details | Staff Report | submit a comment

## Public Comments

**4/30/06**
Leonard Lamb
I agree with Judy. Lets bury these monsters underground along with all the other lines. Buried lines for beautiful skys.

**4/28/06**
Julie Collins
272 Alaska Pl, Apt C
Anchorage AK 99504
Please set some stringent legal standards for what the utilities can do in the easements! We regulate signs -- but these monstrosities are at least as bad as billboards. It's probably too late to help what used to be a beautiful drive east bound along Northern Lights, but we've got to stop them from doing this to anyone else. I used to feel that Chugach Electric was a good citizen of Anchorage, but now I see that they will do whatever they can get by with. It's too bad, but a utility that doesn't have the residents' best interests in mind must be dealt with by laws, permits, reviews and fines.

# Zoning and Platting Cases On-line

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RECEIVED

APR 2 4 2006

Municipality of Anchorage
Zoning Division

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Details | Staff Report | submit a comment

## Public Comments

**4/22/06**
Carol Fries
16641 Virgo Ave.
Anchorage AK 99516
While I appreciate the notification that there is a proposed change, the notification is virtually useless since there is no substance provided through the link contained in the email. As I have suggested numerous times, the proposed amendment could easily (within 3 minutes) be converted from a Word document to a pdf and be posted on line for the public to view. I do not have the hour it would take to drive to Tudor Road secure a copy of this and drive back home or back to work. PLEASE upgrade your services to provide this function. Thank you.
Carol Fries

Zoning & Platting Cases On-line website

**MUNICIPALITY OF ANCHORAGE**
**PLANNING DEPARTMENT**

**MEMORANDUM**

**DATE:** June 5, 2006

**TO:** Planning and Zoning Commission

**THRU:** Jerry T. Weaver, Jr., Zoning Division Administrator

**FROM:** Angela C. Chambers, AICP, Senior Planner

**SUBJECT:** 2006-074 Postponement Request

This memorandum is to advise the Commission that the Department requests a postponement of the public hearing for Case 2006-074 in order to allow additional time to meet with affected utility companies. If approved by the Commission, the case will be rescheduled for July 10, 2006.

**MUNICIPALITY OF ANCHORAGE**
**PLANNING DEPARTMENT**

**D.5.c.**

**MEMORANDUM**

**DATE:** July 10, 2006

**TO:** Planning and Zoning Commission

**THRU:** Jerry T. Weaver, Jr., Zoning Division Administrator

**FROM:** Angela C. Chambers, AICP, Senior Planner

**SUBJECT:** 2006-074 Postponement Request

This memorandum is to advise the Commission that the Department requests a postponement of the public hearing for Case 2006-074 in order to allow additional time to meet with affected utility companies. Although this request had previously been postponed from June 5 to July 10 of 2006, it has been found that further time for review is necessary. If approved by the Commission, the case will be rescheduled for August 7, 2006.

# Zoning and Platting Cases On-line

## View Case Comments

Submit a Comment

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**Questions?** If you have questions regarding a case, please contact Zoning at **907-343-7943** or Platting & Variances at **907-343-7942**.

RECEIVED
MAY 31 2006
Municipality of Anchorage
Zoning Division

**1. Select a Case:** 2006-074 View Comments

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Details | Staff Report | submit a comment

## Public Comments

**5/31/06**
Heather Todd Rice
Anchorage
I agree with Carol Fries' comment. The full text of this ordinance needs to be easily accessible on-line. That said, if the ordinance is to put tighter restrictions on high voltage transmission towers so that we won't have more towers like those on Northern Lights then I'm all for it. Those towers are horrendously ugly. One part of the ordinance should be a requirement that ALL residents of the City of Anchorage be informed and asked to comment about potential new towers. Public comment about new towers should not be solicited solely from adjacent landowners since many many more people than that will be affected (e.g., just by having to drive by the towers).

# Zoning and Platting Cases On-line

## View Case Comments

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RECEIVED
JUN 26 2006
Municipality of Anchorage
Zoning Division

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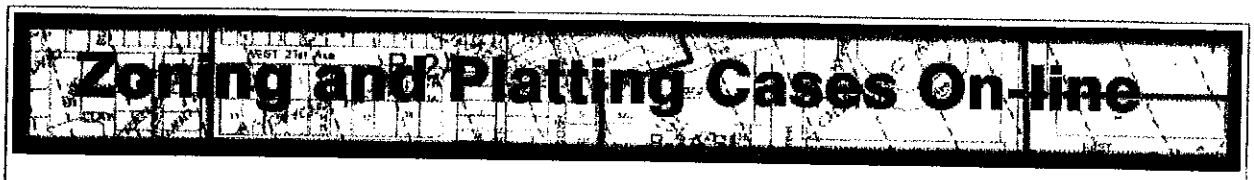
Details | Staff Report | submit a comment

## Public Comments

**6/25/06**
Peggy Robinson
1816 Westview Circle
Anchorage AK 99504
I am president of NorthEast Community Council. At our monthly meeting on April 20, we discussed in depth the CEA Transmission Towers on Northern Lights Blvd. The minutes outlining the discussion are available on the FCC website, under NECC. A motion was made to "demand the removal of the recently erected CEA power poles along Northern Lights Blvd. The cables should be located undergrown or in a less obtrusive location." The motion passed, 44 in favor, 2 opposed, 3 abstaining. Mayor Mark Begich joined the meeting and shared that CEA was meeting with the Planning Department and a landscape architect to develop mitigation measures. We have received no follow-up. NECC strongly believes that high voltage transmission towers should not be allowed in such a visible and residential locations. And mitigation should be made to soften the impact of ones currently installed.

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Submit a Comment

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RECEIVED
JUN 29 2006
Municipality of Anchorage
Zoning Division

**1. Select a Case:** 2006-074 View Comments

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An ordinance amending Title 21 for for high voltage transmission towers regulations

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Details | Staff Report | submit a comment

## Public Comments

**6/28/06**
Chugiak Community Council Linda Kovac, Secretary-Treasurer
The Chugiak Community Council discussed P&Z Case No. 2006-074 at our May 18 monthly meeting. The Council unanimously passed a motion in support of this ordinance that pertains to high voltage transmission towers.

# PLANNING & ZONING COMMISSION PUBLIC HEARING July 10, 2006

## Supplemental Information

## G.3. Case 2006-074 Ordinance for High Voltage Transmission Towers

Double-sided

# Zoning and Platting Cases On-line

## View Case Comments

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RECEIVED

JUN 26 2006

Municipality of Anchorage
Zoning Division

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9-11-2006 LAID ON TABLE BY PLANNING DEPARTMENT

AN ORDINANCE AMENDING ANCHORAGE MUNICIPAL CODE CHAPTERS 21.35, 21.40, 21.45, AND 21.50 TO ESTABLISH DESIGN, LOCATION, AND CONDITIONAL USE STANDARDS, AND SET THE MAXIMUM HEIGHT FOR HIGH VOLTAGE TRANSMISSION TOWERS.

THE ANCHORAGE ASSEMBLY ORDAINS:

**Section 1.** Anchorage Municipal Code section 21.35.020 is hereby amended to read as follows (*the remainder of the section is not affected and therefore not set out)*:

**21.35.020 Definitions and rules of construction.**

***

B. The following words, terms and phrases, when used in this title, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

***

*Towers, high voltage transmission,* means structures used to support transmission conductors transmitting electric power over relatively long distances, usually from the central generating station to main substations. The towers are also used for electric power transmission from one substation to another for load sharing or system reliability. High voltage transmission conductors are designed to be capable of transmitting from 115 kilovolts and above.

***

(GAAB 21.05.020; AO No. 77-355; AO No. 78-16; AO No. 78-28; AO No. 78-171; AO No. 78-231; AO No. 79-214; AO No. 80-42; AO No. 81-67(S); AO No. 81-97; AO No. 81-180; AO No. 82-54; AO No. 82-167; AO No. 83-91(S); AO No. 84-14; AO No. 84-52; AO No. 85-58; AO No. 85-159; AO No. 85-91, 10-1-85; AO No. 85-216; AO No. 86-19; AO No. 86-78; AO No. 86-90; AO No. 86-171; AO No. 88-172; AO No. 88-171(S-1), 12-31-88; AO No. 89-35, 4-7-89; AO No. 88-147(S-2); AO No. 90-50(S); AO No. 91-35; AO No. 90-152(S); AO No. 91-90(S); AO No. 91-184; AO No. 92-7(S-2); AO No. 92-26; AO No. 92-93; AO No. 92-128(S); AO No. 92-129(S); AO No. 93-58; AO No. 93-148, § 1, 11-16-93; AO No. 94-62, § 2, 4-12-94; AO No. 95-68(S-1), §§ 2, 3, 8-8-95; AO No. 95-173, § 1, 11-14-95; AO No. 96-41, § 1, 3-5-96; AO No. 96-131(S), § 1, 10-22-96; AO No. 98-106, § 1, 7-21-98; AO No. 98-160, § 3, 12-8-98; AO No. 99-62, § 2, 5-11-99; AO No. 2000-119(S), § 8, 2-20-01; AO No. 2001-79(S), § 1, 5-8-01; AO No. 2001-80, § 1, 5-8-01; AO No. 2002-101(S), § 2, 4-9-02; AO No. 2002-109, § 2, 9-10-02; AO No. 2002-117, § 4, 1-28-03; AO No. 2003-62(S-1), § 3, 10-1-03; AO No. 2003-97, § 1, 9-30-03; AO No. 2003-132, § 1, 10-7-03; AO No. 2003-124(S), § 1, 1-20-04; AO. No. 2004-108(S), § 2, 10-26-04; AO No. 2005-9, § 1, 3-1-05)

*Editor's note*: The definition of fallout shelters contained in this section was formerly codified in the 1977 Code as the first sentence of subsection 21.45.060A.

*Cross references*: Definitions and rules of construction generally, § 1.05.020.

**Section 2.** Anchorage Municipal Code chapter 21.40 is amended in sections .020B., .030B., .040B., .045B., .050B., .060B., .070B., .080B., .090B., .100B., .110B., .115B., .117B., .120B., .130B., .140B.6., .145B., .150B.4., .160B., .170B., .180B., .190B., 200B., .210B., .220B., .230B., .240B., .260B., .270B., and .280B. to add the following under permitted principal uses and structures (*the remainder of the section is not affected and therefore not set out)*:

***

*. Tower, high voltage transmission, maximum average tower height of 70 feet *above ground level.* The average height will be determined by adding the heights from ground level of all towers in a project and dividing by the total number of structures. The result will be the "average tower height."

***

**Section 3.** Anchorage Municipal Code chapter 21.40 is amended in sections .020D., .030D., .040D., .045D., .050D., .060D., .070D., .080D., .090D., .100D., .110D., .115D., .117D., .120D., .130D., .140D., .145D., .150D., .160D., .170D., .180D., .190D., .200D., .210D., .220D., .230D., .240D., .260D., .270D.2., and .280D., to add the following under conditional use (*the remainder of the section is not affected and therefore not set out)*:

***

*. Tower, high voltage transmission, exceeding maximum average tower height of 70 feet. Towers exceeding the maximum average of 70 feet in height that existed prior to <insert date of adoption of this ordinance> may be replaced with a like tower or a shorter tower without the requirement for a conditional use.

***

**Section 4.** Anchorage Municipal Code chapter 21.45 is amended to add a new section 21.45.XXX~~300~~ to read as follows:

**21.45.300 Towers, high voltage transmission.**

A. *Purpose.* Electric energy is required to power electrical machines, devices and lighting in our society. Electrical energy most often must be transported in high voltages from remote generation plant locations to urban centers. The structures required to support high voltage electrical

energy conductors are ~~taller and more massive~~ larger than usual ~~utility~~ distribution poles. ~~These structures may be out of scale with abutting development, especially in the residential areas. Installation of such structures may disrupt the fabric of residential neighborhoods or commercial development by the destruction of natural and planted vegetation or by substantially altering the scenic view shed.~~ The standards set forth in this section are intended to ~~avoid or~~ minimize the ~~identified negative impacts~~ impact of transmission towers on neighborhoods and commercial developments to the greatest extent reasonable. It is understood that utilities must construct facilities in compliance with the National Electrical Safety Code.

B. *Location.* The location of new transmission towers shall be in compliance with, and within existing or proposed transmission alignments or corridors identified in the latest version of the utility corridor plan. Deviations from the utility corridor plan shall require amendment to the plan before installation of any tower.

C. *Easement or right-of-way clearing.* Clearing and/or grubbing of vegetation within the easement or right-of-way shall be limited to minimum amount to allow for the safe installation of each transmission tower. Those easement or right-of-way areas to be cleared shall be replanted as set forth in paragraph D. below.

D. *Landscaping.* All areas cleared in conjunction with the installation of a tower shall be replanted with vegetation as follows:

1. Cleared areas originally planted by a public or private agency as part of an approved building permit, land use permit, or public facility project landscaping plan, shall be replaced in accordance with the plan, except as modified by the tower location(s). ~~A~~Approval of the revised landscape plan shall be by the ~~same decision maker as the original plan.~~ *Planning Department,* **except in cases where the Planning & Zoning Commission is the approving authority.**

2. Cleared areas not previously landscaped shall be landscaped in accordance with the buffer landscaping standards. The ~~Urban Design Commission~~ Planning Department may approve alternative landscaping to meet the intent and intensity of buffer landscaping, **except in cases where the Planning & Zoning Commission is the approving authority.**

E. *Exemptions from landscaping.* Exemptions for the landscaping requirements may be granted by the Planning Director if the utility can show that there

is a safety concern, that the property owner will not grant authorization in which landscaping can be placed by the utility, or for other engineering or related issues.

F. *Structure design.* The color of the transmission tower structures shall be as neutral to the immediate surroundings as possible. The Planning Director shall approve the utility's proposed structure color, **except in cases where the Planning & Zoning Commission is the approving authority.**

**Section 5.** Anchorage Municipal Code chapter 21.50 is amended to add a new section 21.50.330 to read as follows:

**21.50.330 Conditional use standards -Towers, high voltage transmission.**

A. In addition to the standards in section 21.45.XXX~~300~~, the ~~approval of~~application ~~a~~for a conditional use ~~application~~ permit for transmission tower(s) exceeding the permitted height limit shall:

1. ~~Determine~~ State the proposed height of the tower(s) is the minimum required to meet safety requirements or terrain, however it is understood that utilities must construct facilities in compliance with the National Electrical Safety Code.;
2. Identify ~~the magnitude of~~ the impact on any scenic view sheds and, if required, ~~apply~~ suggest mitigation measures to reduce or eliminate ~~negative~~ impacts if necessary;
3. Identify ~~the magnitude of~~ the aesthetic impact and relation of scale of the tower to abutting development and, if necessary, ~~apply~~ suggest mitigation measures to reduce or eliminate ~~negative~~ impacts.

**Section 6.** For amendments approved in Sections 2 and 3 above, the Code Revisor is instructed to place the new section/subsection at the end of the list in the specified section/subsection, and to number the new section accordingly.

**Section 7.** Permitted projects that are already under construction shall not be subject to this ordinance.

**Section 8.** This ordinance shall be effective immediately upon its passage and approval by the Assembly.

PASSED AND APPROVED by the Anchorage Assembly this _____ day of _____, 2006.

Chair of the Assembly

ATTEST:

Municipal Clerk

AO 2006-64(S)

## Content Information

**Content ID :** 004460

**Type:** Ordinance - AO

**Title:** Planning and Zoning Commission Recommendation of Approval for an Ordinance Amending Anchorage Municipal Code Chapters 21.35, 21.40, 21.45, and 21.50 to Establish Design, Location, and Conditional Use Standards, and Set the Maximum Height for High- Voltage

**Author:** weaverjt

**Initiating Dept:** Planning

**Description:** Ordinance Amending Anchorage Municipal Code Chapters 21.35, 21.40, 21.45, and 21.50 to Establish Design, Location, and Conditional Use Standards, and Set the Maximum Height for High- Voltage Transmission Towers.

**Date Prepared:** 9/29/06 1:33 PM

**Director Name:** Tom Nelson

**Assembly Meeting Date MM/DD/YY:** 10/10/06

**Public Hearing Date MM/DD/YY:** 10/10/06

M.O.A.
2006 OCT -9 AM 11:40
CLERK'S OFFICE

## Workflow History

| Workflow Name | Action Date | Action | User | Security Group | Content ID |
|---|---|---|---|---|---|
| AllOrdinanceWorkflow | 9/29/06 1:42 PM | Checkin | weaverjt | Public | 004460 |
| Planning_SubWorkflow | 9/29/06 1:43 PM | Approve | weaverjt | Public | 004460 |
| ECD_SubWorkflow | 9/29/06 2:10 PM | Approve | thomasm | Public | 004460 |
| OMB_SubWorkflow | 9/29/06 3:55 PM | Approve | foutzrs | Public | 004460 |
| AllOrdinanceWorkflow | 10/2/06 12:55 PM | Reject | fehlenrl | Public | 004460 |
| AllOrdinanceWorkflow | 10/2/06 4:32 PM | Checkin | weaverjt | Public | 004460 |
| Planning_SubWorkflow | 10/2/06 4:32 PM | Approve | weaverjt | Public | 004460 |
| ECD_SubWorkflow | 10/3/06 2:57 PM | Approve | barkleyva | Public | 004460 |
| OMB_SubWorkflow | 10/3/06 5:28 PM | Approve | mitsonjl | Public | 004460 |
| Legal_SubWorkflow | 10/3/06 5:49 PM | Approve | fehlenrl | Public | 004460 |
| MuniManager_SubWorkflow | 10/6/06 11:45 AM | Approve | leblancdc | Public | 004460 |

Laid on the Table — *CONTINUED PUBLIC HEARINGS*