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**APPENDIX J**

**Utility Conflict Report**

Submitted Under Separate Cover

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100th Avenue to Dimond Boulevard

# Utility Conflict Report



**ADOT & PF Project No: STP-001 (232)/55027**



Department of Transportation:  
4111 Aviation Drive  
Anchorage, Alaska 99519



## NOTICE TO USERS

This report is intended to document the methodologies, findings, and conclusions at the time of publication. Changes frequently occur during the evolution of the design process. Persons who may rely on the information contained in this document should consult with the Alaska Department of Transportation and Public Facilities for the most current design decisions. Please contact Mr. Jim Amundsen, Project Manager at 269-0595 for this information.

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## TABLE OF CONTENTS

<b>COVER</b> .....	<b>1</b>
<b>NOTICE TO USERS</b> .....	<b>i</b>
<b>TABLE OF CONTENTS</b> .....	<b>ii</b>
<b>1.0 Executive Summary</b> .....	<b>1</b>
<b>2.0 Introduction</b> .....	<b>2</b>
2.1 <i>Location and Existing Conditions</i> .....	2
<b>3.0 Overhead Utilities</b> .....	<b>5</b>
3.1 <i>Existing Conditions:</i> .....	5
3.2 <i>Discussion of Probable Impacts:</i> .....	5
<b>4.0 Chugach Electric Association Facilities</b> .....	<b>7</b>
4.1 <i>Existing Conditions:</i> .....	7
4.2 <i>Electric Facilities Along Victor Road:</i> .....	7
4.3 <i>Side Streets:</i> .....	7
4.4 <i>Crossings:</i> .....	7
4.5 <i>Street Lights:</i> .....	7
4.6 <i>Potential Conflicts:</i> .....	8
4.7 <i>Recommendation:</i> .....	8
4.8 <i>Estimated Cost:</i> .....	8
<b>5.0 Alaska Communications Systems Facilities</b> .....	<b>9</b>
5.1 <i>Existing Conditions:</i> .....	9
5.2 <i>Telephone Facilities Along Victor Road:</i> .....	9
5.3 <i>Side Streets:</i> .....	9
5.4 <i>Crossings:</i> .....	9
5.5 <i>Services:</i> .....	9
5.6 <i>Potential Conflicts:</i> .....	9
5.7 <i>Estimated Cost:</i> .....	10
<b>6.0 GCI Facilities</b> .....	<b>11</b>
6.1 <i>Existing Conditions:</i> .....	11
6.2 <i>Cable Facilities Along Victor Road:</i> .....	11
6.3 <i>Side Streets:</i> .....	11
6.4 <i>Crossings:</i> .....	11
6.5 <i>Potential Conflicts:</i> .....	11
6.6 <i>Estimated Cost:</i> .....	11
<b>7.0 Anchorage Water and Wastewater Utility Water Distribution</b> .....	<b>12</b>
7.1 <i>Existing Conditions Along Victor Road:</i> .....	12
7.2 <i>Side Street Distribution System:</i> .....	12
7.3 <i>Laterals:</i> .....	12
7.4 <i>Potential Conflicts:</i> .....	13
7.5 <i>Estimated Cost:</i> .....	13
<b>8.0 Anchorage Water and Wastewater Utility Wastewater Collection</b> .....	<b>14</b>
8.1 <i>Existing Conditions Along Victor Road:</i> .....	14
8.2 <i>Side Street Collection Systems:</i> .....	14
8.3 <i>Laterals:</i> .....	14
8.4 <i>Potential Conflicts:</i> .....	15
8.5 <i>Estimated Cost:</i> .....	15

**9.0 ENSTAR Natural Gas Facilities..... 16**

9.1 Existing Conditions Along Victor Road:..... 16

9.2 Side Streets:..... 16

9.3 Crossings: ..... 16

9.4 Potential Conflicts:..... 16

9.5 Estimated Cost:..... 16

**APPENDICES ..... 1**

**APPENDIX A..... A**

Project Photo's..... A

**APPENDIX B..... B**

Utility Facilities..... B

**APPENDIX C..... C**

Plan & Profile Drawings..... C

**APPENDIX D..... D**

Opinion of Probable Construction Cost..... D

**LIST OF FIGURES**

Figure 2-1 Location Map.....2

Figure 2-2 Typical Section.....4

**LIST OF TABLES**

Table 1-1 Utility Impacts ..... 1

Table 7-1 Water Laterals ..... 13

Table 8-1 Sewer Laterals ..... 15

## 1.0 Executive Summary

Improvements to Victor Road have been planned for many years. Victor Road does not meet current standards and is currently a narrow, two-lane street without shoulders. All of the major utilities are present within the Victor Road corridor. This report identifies the many utility conflicts and potential solutions. The proposed enhancements to Victor Road will likely result in the following utility impacts:

**Table 1-1 Utility Impacts**

Utility	Item	Quantity
Electric	Relocate Power Poles	3 ea
	Relocate Underground Electric	2800 lf
	Relocate/Adjust Pad-Mount Electrical Equipment	2 ea
	Adjust Electrical Vault	1 ea
Traffic	Relocate/Adjust Signal Control Box	2 ea
	Relocate/Adjust Signal Pole w/ mast arm	1 ea
Illumination	Reconstruct Electrolier	6 ea
Telephone	Relocate Overhead Telephone	400 lf
	Relocate Underground Telephone	2410 lf
	Relocate/Adjust Telephone Splice Cabinet	2 lf
	Relocate/Adjust Pedestal	4 ea
	Adjust Manhole	2 ea
Cable TV	Relocate Overhead Cable	400 lf
	Relocate Underground Cable	500 lf
Water	Adjust Water Valves & Key Boxes	23 ea
	Fire Hydrant Adjustment	2 ea
Sewer	Adjust Manholes	3 ea
	Reconstruct Manholes	4 ea
	Reconstruct 8-inch Sanitary Sewer	430 lf
Gas	Relocate/Adjust Main & Services	3700 lf

The total cost of resolving utility impacts is estimated at approximately \$1,220,000.

## 2.0 Introduction

This Utility Conflict Report (UCR) was prepared in conjunction with a Design Study Report (DSR) for the Victor Road Project. The DSR will describe the alternatives for reconstructing Victor Road. The UCR was developed to evaluate conflicts and provide recommendations with the proposed upgrade of the existing roadway.

Victor Road is a State-owned road located between 100th Avenue and Dimond Boulevard. Improvements to Victor Road have been planned for many years. The surface condition is poor. The road is narrow with steep grades and poor sight distance. The road lacks shoulders and left-turn channelization is needed at key intersections.

The State of Alaska Department of Transportation and Public Facilities (ADOT&PF) will complete the construction with the assistance of federal funding. Victor Road will be reconstructed as a 3-lane section in compliance with current minor arterial standards. The existing horizontal alignment will be retained but the vertical alignment will be extensively modified. The wider section and the changes in the vertical alignment will result in many utility impacts.

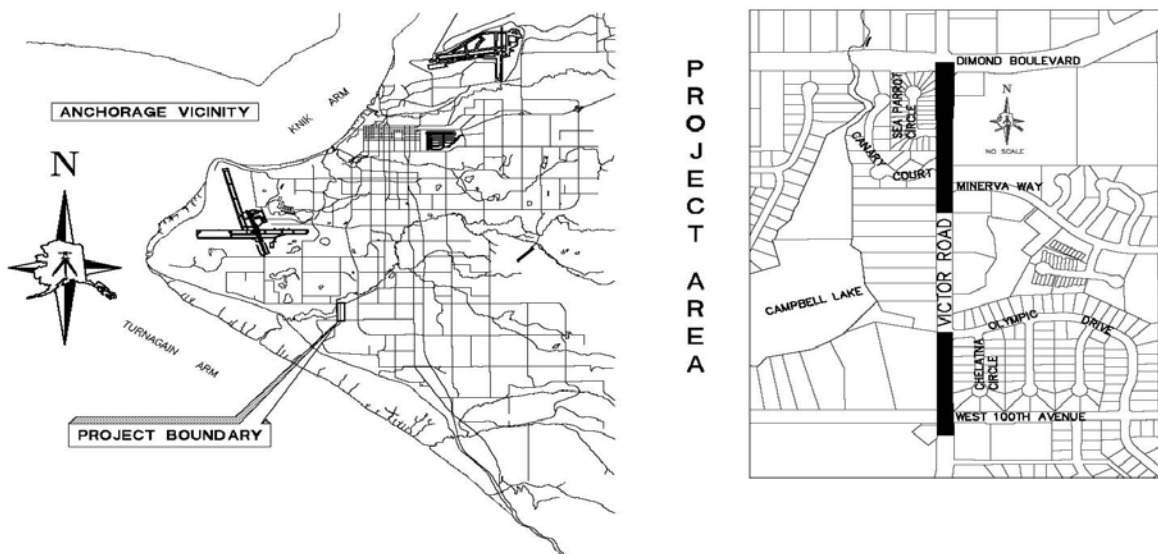
The purpose of this report is to:

- Identify the existing utilities within the project area.
- Investigate relocation/construction alternatives to minimize cost.
- Anticipate and resolve conflicts to facilitate roadway and utility relocation/construction.

### 2.1 Location and Existing Conditions

Victor Road is located in Southwest Anchorage near Campbell Lake. The project is located one-half mile west of Minnesota Drive and connects 100th Avenue with Dimond Boulevard. Figure 2-1 depicts the Location and Vicinity Map.

**Figure 2-1 Location Map**

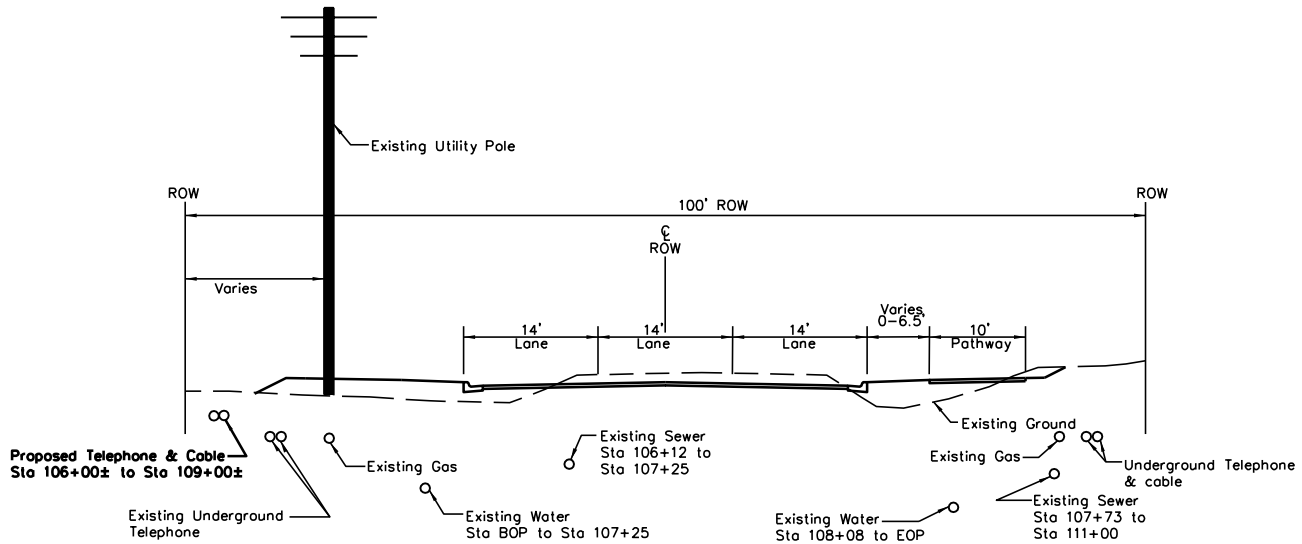


Currently, electrical transmission and distribution, telephone, cable TV, water distribution, sewer collection, and natural gas distribution occupy the Victor Road corridor. Figures U-1 through U-5 in Appendix C shows a schematic representation of these utilities. All utilities will have a varying degree of conflict with any proposed construction activity. Traffic, illumination, and storm drain facilities are considered to be appurtenances of the roadway and are only discussed in this utility report when conflicting with other utilities.

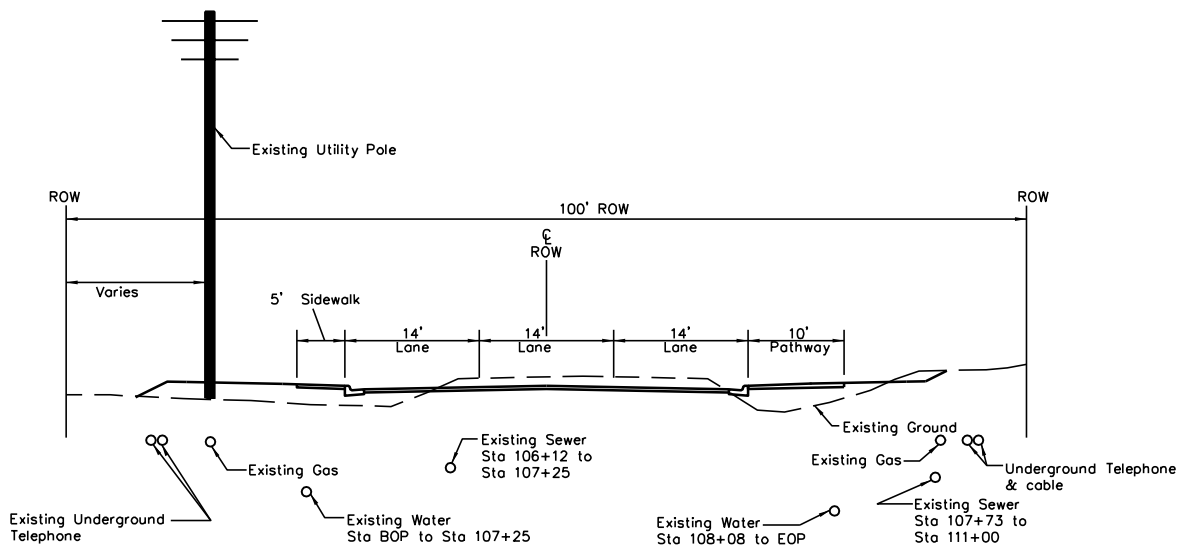
Figure 2-2 presents a typical-section of the proposed improvements superimposed on the existing utilities. As shown, reconstructing Victor Road can be expected to impact the existing utilities. Refer to Figure U-1 for a diagram of existing utilities shown in locate color designations. Figure U-2 represents the existing utility conflicts with the proposed improvements to Victor Road.

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**3 - LANE ALTERNATIVE  
SUPERIMPOSED ON EXISTING UTILITIES  
STA BOP TO STA 120+72**



**3 - LANE ALTERNATIVE  
SUPERIMPOSED ON EXISTING UTILITIES  
STA 120+72 TO STA EOP**



VICTOR ROAD RECONSTRUCTION

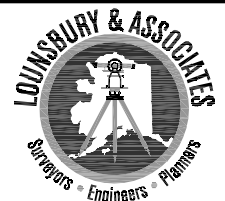
**TYPICAL SECTIONS**

DATE: SEPT 2007

DRAWN: SAM

CHECKED: CW

FIGURE: 2-2



### 3.0 Overhead Utilities

#### 3.1 Existing Conditions:

A shared-use line of timber poles with overhead utilities runs along the entire length of the west side of Victor Road. An electrical system comprised of transmission and distribution lines is owned by Chugach Electric Association (CEA). Communication cables on the poles are owned by Anchorage Communication Systems (ACS) and GCI Inc. (GCI).

#### 3.2 Discussion of Probable Impacts:

Conflicts are present throughout the project limits. The most difficult conflicts are at the north end of the project. It appears that some of the utility lines were relocated in the 1980's for the Dimond Boulevard reconstruction project. Refer to Appendix A for the project photos showing the most probable impacts.

Auxiliary lane, pathway, and sidewalk improvements will encroach on the existing utilities. Sight distance triangles must be considered. In order to retain the overhead utilities, a new multi-use pathway on the west side of Victor Road must not conflict with the existing poles. A new pathway would likely be in conflict with all but two of the existing poles due to the combination of the irregular distance between the poles and the Right-of-Way (ROW) line. To avoid these conflicts, a pathway will not be included on the west side of Victor Road. A five-foot sidewalk is proposed as the only pedestrian facilities on the west side of Victor Road between Sea Parrott Circle and Dimond Boulevard.

Near the south end of the project, the utility pole at station 100+47 (see photo 1 & photo 2) is likely in conflict with the proposed 100<sup>th</sup> Avenue intersection improvements. In addition the traffic control equipment may also be in conflict with the proposed improvements. The utility pole could possibly be relocated straight north along the current overhead wire alignment and not be a detriment to the Victor project. The traffic control equipment could also be relocated without detriment to the Victor project.

At the bottom of the sag curve near Olympic Drive between station 106+00 and station 109+00 (see photo 3), a fill section is required that would reduce the clearance to the existing overhead wires. The existing distance between the ground and the overhead telephone wire is approximately 19.5-feet (see photo 4). The existing distance between the ground and the overhead electric wire is approximately 32-feet. As shown in photo 5, those wires can not be raised because they are in the landing path of the float planes based at Campbell Lake. It is unknown if the telephone wires can be raised due to clearance requirements to the overhead electric lines. The vertical separation needed between electric and telephone will depend on the number of wires as well as voltage.

South of Canary Court, the utility pole and attached guy wire at station 118+28 (see photo 6) is probably the southern-most pole retained during the Dimond Boulevard project. Between Canary Court and Sea Parrott Circle, station 118+00 and station 122+00, several guy wires, poles, and a large overhead switch are in place. These facilities (see photo's 7, 8, and 9) are

located within the region where a taper<sup>1</sup> is needed to transition traffic from the multiple lanes at the Dimond Boulevard intersection to a single southbound lane on Victor Road. The only way to avoid these conflicts is to significantly reduce the taper length. A complete discussion of the taper length is included in the DSR.

Partial underground and overhead relocation is the most likely outcome of the existing utilities along the west side of Victor Road. Under-grounding may be the only solution where new utility easements are not obtainable. The feasibility of the reconstruction efforts related to utility-specific issues must be weighed with overall design.

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<sup>1</sup> For guidance on acceleration and deceleration auxiliary lanes refer to American Association of State Highway Transportation Officials (AASHTO). A Policy on Geometric Design of Highways and Streets. Washington D.C.

## 4.0 Chugach Electric Association Facilities

### 4.1 Existing Conditions:

Overhead electric transmission and distribution lines exist on the west side of Victor Road for the entire length of this project. Underground primary and secondary electric lines are also present within the Victor Road corridor, and run parallel to the street for most of the project length. Refer to Figure U-3 in Appendix C for a diagram of the existing electrical system.

### 4.2 Electric Facilities Along Victor Road:

The overhead electric lines are supported by timber utility poles. The poles carry a 34.5 kv transmission, 12.5 kv under mount, three-phase, and secondary electric lines. This electric line continues south to the substation located at the southwest corner of 100th Avenue and Victor Road.

A 7.2 kv underground electric line runs along the west side of Victor Road for most of the project. Between station 114+00 and Canary Court, the utility poles carry this 7.2 kv electric line. Also, a 7.2 kv underground electric line runs along the east side of Victor Road. This line extends from 100<sup>th</sup> Avenue to approximately station 102+50 and crosses over to the west side of the road. This line continues on the west side to approximately station 107+50 and crosses Victor Road to the east side. This electric line continues north to Minerva Way and then turns east. Refer to Tables U-1 and U-2 in Appendix B for an inventory of the existing electrical facilities.

### 4.3 Side Streets:

At the south end of the project, an overhead electric line runs along the north side of 100th Avenue to the west of Victor Road. Low voltage underground electric lines are present on the south side of Olympic Drive and on the west side of Chelatna Circle. A 7.2 kv underground electric line extends east along the south side of Minerva Way. An underground secondary electric line extends west along the north side of Canary Court. Also, underground electric lines extend to the west along both the north and south sides of Sea Parrot Circle. A 7.2 kv and 12.47 kv underground electric line runs both east and west along the south side of Dimond Boulevard.

### 4.4 Crossings:

In addition to the power lines that parallel the road, three-phase and secondary electric lines cross the corridor in several locations. Underground electric lines cross the roadway near stations 102+75, 107+15, 107+65, 111+50, and station 125+60. Overhead electric lines cross the roadway in the vicinity of station 118+40. Also, an overhead crossing near station 117+90 supplies power to a street light on a wood pole at Minerva Way.

### 4.5 Street Lights:

Street lighting in the project area is a mixture of lighting types. Near 100th Avenue, MOA provides power for the street lights. Underground street light power extends north on the east side of Victor Road to an electrolier at Olympic Drive. Between Olympic Drive and Canary Court, a pair of flat-rate lights are mounted on the overhead utility poles. An overhead crossing near station 117+90 supplies power to a street light on a wood pole at

Minerva Way. North of Canary Court, street lighting was constructed on the east side of Victor Road as a portion of the Dimond Boulevard project in the late 1980's. Table U-3 in Appendix B presents an inventory of the traffic and illumination facilities. Refer to the Preliminary Engineering Report for the Illumination Study<sup>2</sup>.

#### 4.6 *Potential Conflicts:*

The existing electric facilities along Victor Road are in conflict with the proposed construction. Relocation of at least some of the electric lines and facilities is required. Care will be needed to avoid damaging underground electric facilities during construction. The Contractor's excavation activities should follow the safety watch, continuous support and clearance requirements established by CEA. The following identifies the potential impacts to the electrical facilities:

- The power pole at the northwest corner of Victor and 100th station 100+46.97, 49.27 left. (Refer to Photo's 1 & 2 in Appendix A)
- The extensive fill required to raise the grade of the sag vertical curve will reduce clearance to the overhead utilities. Raising the overhead utilities would likely interfere with the aircraft flight path to Campbell Lake. (Refer to Photo's 3, 4, & 5 in Appendix A)
- The utility poles and guy wires on the west side of Victor Road between Canary Court and Sea Parrot Circle are likely to conflict with the proposed improvements if pedestrian facilities are included.
- Similarly, the utility poles and guy wires on the west side of Victor Road between Canary Court and Sea Parrot Circle are likely to conflict with the proposed improvements if the taper length is utilized as described in the DSR. (Refer to Photo's 6, 7, 8, & 9 in Appendix A)
- The proposed construction is likely to conflict with the electrical equipment at the southwest corner of Victor and Dimond station 125+68.22, 43.14 left.

The conflicts pertaining to the proposed construction are identified in Tables U-1 and U-2.

#### 4.7 *Recommendation:*

The method and location of electrical facilities affects the project construction cost, ROW requirements, and should be considered in selecting the preferred alternative. Retaining the existing utility location scheme is the most likely outcome. In utility-specific areas, ROW/easements for switch cabinets, transformers, and other pedestals may be required.

#### 4.8 *Estimated Cost:*

A budget of \$530,600 is suggested for the relocation of electrical facilities.

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<sup>2</sup> Victor Road: 100<sup>th</sup> Avenue to Dimond Boulevard, Preliminary Engineering Report. Municipality of Anchorage, Project Management & Engineering, June 2003.

## 5.0 Alaska Communications Systems Facilities

### 5.1 Existing Conditions:

Alaska Communications Systems (ACS) provides telephone service in the project vicinity. Several overhead and underground crossings exist along the alignment. Refer to Figure U-3 in Appendix C for a diagram of the existing telephone system and Table U-4 in Appendix B for an inventory of the existing facilities.

### 5.2 Telephone Facilities Along Victor Road:

ACS has both overhead and underground telephone cables throughout the corridor. Overhead telephone cables are mounted on the electrical utility poles for most of the corridor. In one instance, the telephone line is attached to a telephone-only pole along the overhead alignment. An underground telephone cable and two 1-inch & one 1-1/4-inch underground inner ducts run adjacent to Victor Road along the west side from 100th Avenue to Dimond Boulevard. Another underground telephone cable runs along the east side of Victor Road from the 100th Avenue intersection to Minerva Way. A telephone manhole is located on the west side of Victor Road near Dimond Boulevard (station 123+80±).

### 5.3 Side Streets:

Overhead and underground telephone lines continue to the west along the north side of 100th Avenue. An underground telephone cable runs to the east of Victor Road along the north side of 100th Avenue. Also, underground telephone cable runs along the south side of 100th Avenue to both the east and the west of the 100th/Victor intersection. A buried cable runs along the south side of Minerva Way. An underground telephone cable extends westward along the south side of Sea Parrot Circle. Along Dimond Boulevard, a underground duct system runs both east and west on the south side of the street.

### 5.4 Crossings:

Underground telephone lines cross the roadway in the vicinity of stations 107+50, 109+50, 114+50, 118+70 and station 125+60.

### 5.5 Services:

Numerous telephone services are present throughout the corridor. Refer to Figure U-3 for a diagram of the existing telephone system and Table U-4 for an inventory of the existing facilities.

### 5.6 Potential Conflicts:

The telephone lines along Victor Road are in conflict with the proposed construction. Reconstructing Victor Road may require relocation of the telecommunication cables within the proposed road prism or cut/fill limits.

Impacts and conflicts to overhead utilities were identified in section 3.2. Additionally, the proposed improvements will likely conflict with the telephone equipment at the northwest corner of Victor and 100th Avenue station 100+56, 45' left. (Refer to photo's 1 & 2 in Appendix A) Due to these potential impacts, possible relocation options should be explored

with ACS. The overhead telephone cables will likely be relocated to follow a joint-use trench on the west side of Victor Road. Figure 2-2 shows the proposed telephone relocation.

5.7 *Estimated Cost:*

A budget of \$282,000 is suggested for the relocation of telephone facilities.

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## 6.0 GCI Facilities

### 6.1 Existing Conditions:

GCI provides residential cable service to the housing areas adjacent to the project. Overhead and underground cable lines are present within the Victor Road corridor. Refer to Figure U-3 in Appendix C for a diagram of the existing cable system and Table U-5 in Appendix B for an inventory of the existing facilities.

In addition, GCI owns fiber optic cables that are connected to power poles for most of the project. The fiber optic cable runs underground near the south and north ends of the project. A fiber-optic splice cabinet is located on the west side of Victor Road near station 123+70±.

### 6.2 Cable Facilities Along Victor Road:

Existing cable distribution follows the overhead electrical facilities on the west side of Victor Road. An underground cable also runs adjacent to Victor Road along the west side from 100th Avenue to about station 105+00 south of Olympic Drive. A underground cable line runs in several places along the east side of Victor Road from 100th Avenue to Minerva Way.

### 6.3 Side Streets:

A buried cable runs adjacent to 100th Avenue to both the east and west from the Victor intersection. An underground cable runs through the lots north of Olympic Drive and continues to the east. Also, an additional buried cable runs eastbound adjacent to Minerva Way along the south side. At Dimond Boulevard, an underground cable runs both east and west along the south side of the street.

### 6.4 Crossings:

Underground cable lines cross the roadway in the vicinity of station 101+75 and station 111+10.

### 6.5 Potential Conflicts:

The cable lines along Victor Road are in conflict with the proposed construction. Reconstructing Victor Road may require relocation of the cable distribution within the proposed road prism or cut/fill limits.

Impacts and conflicts to overhead utilities were identified in section 3.2. Due to these potential impacts, possible relocation options should be explored with GCI. The overhead cable facilities that exist on the west side will likely be relocated to follow a joint-use trench on the west side of Victor Road. Figure 2-2 shows the proposed cable relocation.

### 6.6 Estimated Cost:

A budget of \$49,500 is suggested for the relocation of GCI facilities.

## 7.0 Anchorage Water and Wastewater Utility Water Distribution

### 7.1 Existing Conditions Along Victor Road:

A 10-inch ductile iron water main runs along the entire length of project from 100th Avenue to Dimond Boulevard and continues north along Northwood Drive.

From 100th Avenue to approximately station 107+30, the water main is aligned parallel to, and approximately 25-feet west of, the Victor Road centerline. At this point, the water main turns in a northeasterly direction to approximately station 108+08 and 30-feet east of the centerline. The main continues north to Dimond Boulevard at the 30-foot offset. At Dimond Boulevard, the 10-inch line jogs approximately 10 feet to the west as it crosses the intersection to Northwood Drive. This line continues north and parallel along the Northwood Drive ROW centerline approximately 20 feet to the east. Refer to Figure U-4 in Appendix C for a plan and profile of the water system and Table U-6 in Appendix B for an inventory of the existing facilities.

### 7.2 Side Street Distribution System:

An 8-inch ductile iron water main extends to the west along 100th Avenue. This line parallels the ROW centerline approximately 32-feet to the north. East of Victor Road, a 10-inch water main is located approximately 10-feet north of the 100th Avenue centerline. The 10-inch main extends approximately 72-feet and then ties into a 16-inch water main. This 16-inch ductile iron water main continues to the east parallel to the 100th Avenue centerline. At Victor Road, the 16-inch line also runs southwest as it crosses the intersection to approximately 30-feet west of the Southport Drive right of way center line. This water main continues south, aligned parallel with the centerline, to Maritime Loop where it turns west.

An 8-inch ductile iron water line extends eastward along Olympic Drive. This line parallels the ROW centerline approximately 11-feet to the north. An 8-inch ductile iron water main extends to the east along Minerva Way. This line parallels the ROW centerline approximately 41-feet to the north. A 6-inch ductile iron water line extends westward along Canary Court. This line parallels the ROW centerline approximately 23-feet to the north. An 8-inch ductile iron water main extends to the west along Sea Parrott Circle. This line parallels the ROW centerline approximately 10-feet to the north. At Dimond Boulevard a 30-inch ductile iron water main extends both east and west. This main is aligned approximately 47-feet north of the ROW centerline.

### 7.3 Laterals:

Numerous laterals are connected to the main line. The following table identifies the laterals known to exist:

**Table 7-1 Water Laterals**

Lateral	Pipe Size	Material
Olympic Drive	8-inch	Ductile Iron
Chelatna Circle	6-inch	Ductile Iron
Easement (Sta 112+36)	8-inch	Ductile Iron
Minerva Way	8-inch	Ductile Iron
Canary Court	6-inch	Ductile Iron
Sea Parrott Circle	8-inch	Ductile Iron
Easement (Sta 119+07)	10-inch	Ductile Iron
Dimond Blvd. (west)	30-inch	Ductile Iron
Dimond Blvd. (east)	30-inch	Ductile Iron

#### 7.4 *Potential Conflicts:*

For this project, water pipes are located much deeper than any work to be completed. The construction activity should not have any impacts on the water main in this area. It is anticipated that all 14 valve boxes within the construction limits will require adjustment. It is also anticipated that one fire hydrant will require adjustment, one may require relocation, and one fire hydrant will be abandoned with this project. As many as 15 residential/commercial service key boxes may be impacted by the project. These work items are inherent to roadway reconstruction and have been included in the estimates of construction costs shown in the DSR.

#### 7.5 *Estimated Cost:*

Water utility conflicts are expected to be limited to those common to projects of this type, such as valve adjustments, etc. No additional costs to resolve water utility conflicts are anticipated.

## 8.0 Anchorage Water and Wastewater Utility Wastewater Collection

### 8.1 Existing Conditions Along Victor Road:

An 8-inch asbestos concrete (AC) sanitary sewer main, with gravity flow from south to north, runs along Victor Road from Olympic Drive to a 24-inch reinforced concrete trunk line at approximately station 107+40. The 8-inch sewer line is aligned parallel and approximately 10-feet west of the Victor Road centerline. This trunk line continues to the west within a 10-foot sanitary sewer easement with gravity flow from east to west.

From the 24-inch concrete pipe to the north, another 8-inch line extends to an easement that leads into the Kingsford Park development. That pipe has gravity flow from north to south. At approximately station 107+40; 10' LT, the line turns northeast, crosses Victor Road to a manhole at station 107+64; 44' RT, and proceeds north to station 110+94. From station 107+64 to station 110+94, the 8-inch sewer line is offset approximately 44-feet east of the Victor Road centerline. At station 110+94, this sewer line turns east into Kingsford Park.

Near the southeast corner of Victor/Dimond intersection (station 125+30), an 8-inch ductile iron sewer main runs north to Northwood Drive. The line crosses Dimond Boulevard in northwesterly direction to station 127+03±. This line continues to the north approximately 10-feet west of the Northwood Drive centerline.

### 8.2 Side Street Collection Systems:

An 8-inch asbestos concrete pipe extends eastward along the south side of Olympic Drive. At station 121+05; 75' LT, the end of the 8-inch ductile iron sewer main in Sea Parrot Circle encroaches on the project area. The pipe is aligned 10-feet south of the Sea Parrot Circle centerline.

### 8.3 Laterals:

Laterals connect to the Victor Road sewer main at Olympic Drive, station 107+64 (easement to the northeast), and station 110+94 (easement east into Kingsford Park). Refer to Figure U-4 in Appendix C for a plan and profile of the sewer system and Table U-7 in Appendix B for a listing of the existing facilities. Refer to table 8-1 for an inventory of the existing sanitary sewer mains:

**Table 8-1 Sewer Laterals**

Lateral	Pipe Size	Material
Sta 106+11 to Sta 110+94	8-inch	Asbestos Concrete
Olympic Drive	8-inch	Asbestos Concrete
Chelatna Circle	8-inch	Asbestos Concrete
Outfall Easement (Sta 107+45)	24-inch	Reinforced Concrete
Easement (Sta 107+64)	8-inch (Abandoned)	Asbestos Concrete
Easement (Sta 107+64)	16-inch	Ductile Iron
Easement (Sta 110+94)	8-inch	Ductile Iron
Sea Parrott Circle	8-inch	Ductile Iron
Northwood Drive	8-inch	Ductile Iron

#### 8.4 Potential Conflicts:

Reconstructing the sag vertical curve near Olympic Drive will result in an insufficient depth of bury for the Kingsford Park main. From approximate station 107+64 to station 110+94, the sewer main will need to be reconstructed to achieve adequate depth. Raising the grade of the sag vertical curve near Olympic Drive could also have detrimental effects on the existing AC pipe in the area. Possible replacement options should be discussed with AWWU.

No other impacts to the sewer pipes are expected as a result of the construction activity along Victor Road. It is anticipated that five manholes & one sewer cleanout within the construction limits will require adjustment and four manholes may require reconstruction as a result of the proposed final grade. The sanitary sewer work items are inherent to roadway reconstruction and have been included in the construction cost estimates shown in the DSR.

#### 8.5 Estimated Cost:

The estimated cost for reconstructing the Kingsford Park sanitary sewer main is \$57,100.

## 9.0 ENSTAR Natural Gas Facilities

### 9.1 *Existing Conditions Along Victor Road:*

Enstar Natural Gas Company provides service in the area. Underground gas distribution extends along the entire length of the project. A 4-inch steel pipe runs along the west side of Victor Road from the north side of 100th Avenue to Dimond Boulevard. A 6-inch plastic pipe runs along the east side of Victor Road from south of 100th Avenue to Dimond Boulevard.

### 9.2 *Side Streets:*

A 2-inch steel pipe runs along the north side of Olympic Drive from Victor Road to 100th Avenue. South of Olympic Drive, a 1-1/4-inch steel pipe runs along the east side of Chelatna Circle. A 2-inch steel pipe runs along the south side of Minerva Way from Victor Road to Stonegate Drive. From Victor Road, a 2-inch plastic pipe runs along the north side of Canary Court. From Victor Road, a 2-inch plastic pipe runs along the south side of Sea Parrot Circle.

### 9.3 *Crossings:*

There are approximately 4 distribution crossings along the project corridor and 2 main crossings at 100th Avenue and Dimond Boulevard. Refer to Figure U-5 in Appendix C for a diagram of the existing gas distribution and Table U-8 in Appendix B for an inventory of the existing facilities.

### 9.4 *Potential Conflicts:*

Upgrading Victor Road may require relocation or adjustment of all gas pipes within the proposed road prism or cut/fill limits.

### 9.5 *Estimated Cost:*

Estimated cost to relocate or lower gas distribution is \$278,750.

## APPENDICES

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